

Contributions to Management Science

Nezameddin Faghih  
Mohammad Reza Zali *Editors*

# Entrepreneurship Ecosystem in the Middle East and North Africa (MENA)

Dynamics in Trends, Policy and Business  
Environment

 Springer

# **Contributions to Management Science**

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Editors

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Dynamics in Trends, Policy and Business  
Environment

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*This book is dedicated to the memory of Rokneddin Faghih (1926–2000), a cherished philanthropist devoted to promoting entrepreneurship in a corner of the MENA Region: Estahban (Fars, Iran), the land of figs and saffron.*

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# Introduction



Nezameddin Faghih and Mohammad Reza Zali

This book is comprised of a number of chapters focusing on the study of specific aspects of entrepreneurship ecosystem in certain countries in the Middle East and North Africa (MENA). Fostering and facilitating entrepreneurship is viewed as a key driver of economic growth, innovation, and employment creation in a society. Mankind is endowed with many talents including potential entrepreneurial flair. Interestingly, what blossoms into thriving entrepreneurial talents are the grounds and environmental influences which prevail in countries dubbed as the “**entrepreneurial ecosystem**”. In reality, the entrepreneurial ecosystem denotes the framework conditions and factors influencing the ease or severity with which the early stage or nascent businesses can be launched in a community.

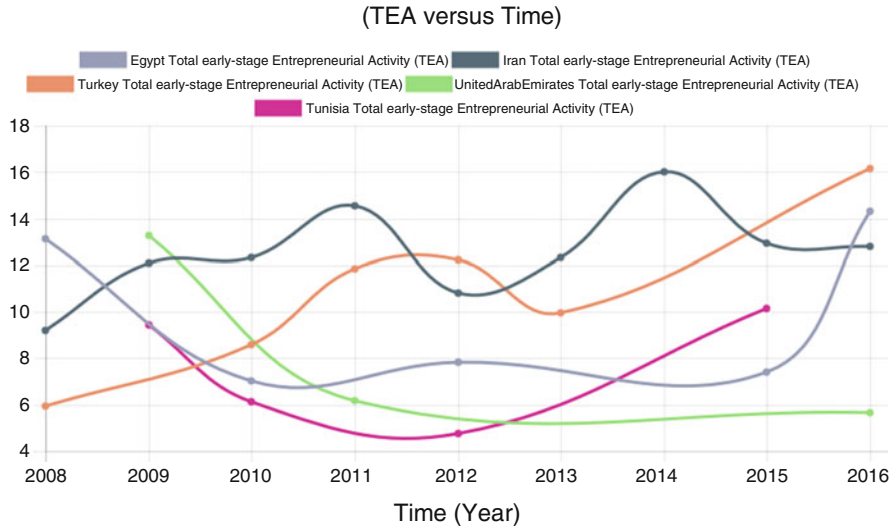
Oddly enough, entrepreneurship is contextual and regional in essence. For this great reason, the concept of entrepreneurship in the MENA Region has meaningfully sprouted and developed at various levels. For instance, as Fig. 1 shows, the Total Early-stage entrepreneurial Activities (TEA) index, regarded as the most notable and key assessment of entrepreneurship accounted for 12.8% in Iran, 16.14% in Turkey, 14.3% in Egypt, 5.66% and 10.13%, in United Arab Emirates and Tunisia, respectively (Global Entrepreneurship Monitor 2017). According to the Global Entrepreneurship Monitor (GEM) report, there are 12 major components for entrepreneurship ecosystem framework as listed below: entrepreneurship finance, government policies and supports, taxes and bureaucracy, government programs for entrepreneurship development, education and training (pre- and post-secondary education),

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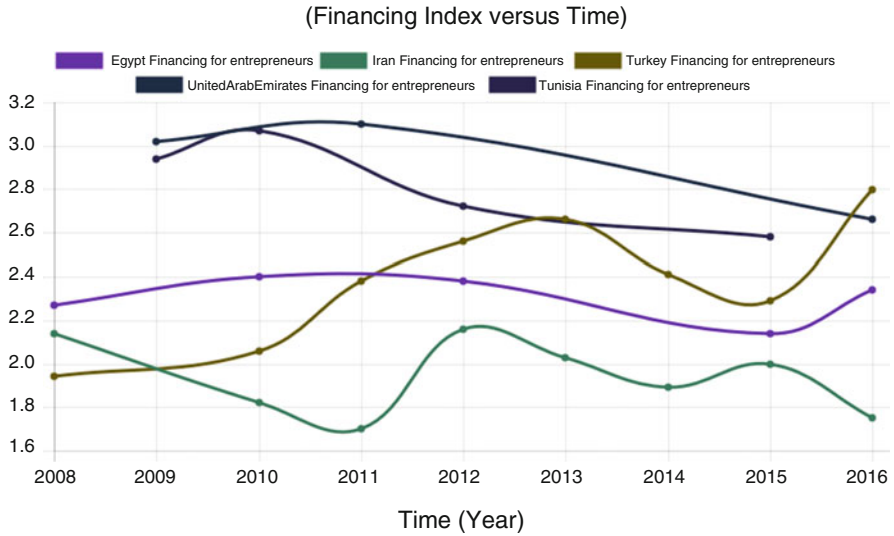


**Fig. 1** Total Early-stage entrepreneurial Activities (TEA) in some MENA countries (GEM 2017)

R&D transfer, commercial and legal infrastructures, local market dynamism and openness, physical and service infrastructures, cultural and social norms.

Remarkably, the process of entrepreneurship development in the MENA Region, which is rich in natural resources like oil and gas, demands improvement in business environment and effective expansion of entrepreneurship ecosystem. Assuredly, the predominant metaphor for fostering entrepreneurship as an economic development strategy corroborates the need for entrepreneurship ecosystem improvement. This phenomenon deemed to be a multidimensional concept stands at considerably varying degrees of developmental conditions.

For instance, as depicted in the Fig. 2, the financing index for entrepreneurs in 2016 was lower than three (middle range) in each of the above-mentioned countries. But the truth of the matter is that the robustness of entrepreneurship ecosystem may not necessarily indicate a high startup prevalence rate in a society. By way of example, according to Fig. 2, whilst Iran enjoys a high rate of early-stage entrepreneurship (including startups and entrepreneurs), the accessibility index of entrepreneurs to the capital and funds required for a new business venture is in a very weak position. A striking example in Iran which may be taken as an experience at the national level is implementation of a project named “Quick-Yield Enterprises Scheme” from 2006 to 2011 which primarily aimed to provide easy financial resources at low interest rates to entrepreneurs but in practice it did not produce any helpful and effective results as expected. It is noteworthy that the United Kingdom gained the very same experience under an Enterprise Investment Scheme in 1994. Empirical research on this scheme reveals that with the increase in the



**Fig. 2** Financing for entrepreneurs in some MENA countries (GEM 2017)

investment level in SMEs (lower than USD10,000) by the investors with scant experience, there has been a low yield on such investments (Isenberg 2014).

Nonetheless, the entrepreneurial ecosystem in the MENA Region seems to have taken the path to improvement over the past years. The key driver at this stage is not only the improvement in entrepreneurial ecosystem but also a forward-looking approach towards gaining a strong foothold in this region. The findings of the GEM 2016 report indicate that 83% of Egyptians, 81% of Turks, 75% of Emiratis, and 52% of Iranians have accepted involvement in entrepreneurial activity as a good choice (Global Entrepreneurship Monitor 2017). As it stands, the perception of entrepreneurial capabilities in 2016 in Egypt and Turkey was 46.41% and 54.19%, respectively.

Accordingly, a great number of people in the Middle East are keen on entrepreneurial activities and as evidenced by the GEM 2016 Report, 30.28% of Turks, for instance, are contemplating the launch of new businesses (having entrepreneurial intentions) in the coming year while, by comparison, 45.32% of Iranians, 48.26% of Emiratis and 63.75% of Egyptians have entrepreneurial intentions.

Recently, the knowledge-based economic policy, expansion of business accelerators, creation of innovation centers in universities, rapid pace of entrepreneurial events have been observed to be promising, e.g., measures taken by the University of Tehran (UT) to become an entrepreneurial university (UT Let’s Start Up Weekend), promotion of entrepreneurial hubs in the United Arab Emirates, Arab Startup Festival in association with the Massachusetts Institute of Technology (MIT) have all contributed to the momentum of new developments in entrepreneurial ecosystem in the MENA Region (Nazeer 2017).

This book is an attempt by a number of researchers and scholars who are teaching and conducting research in entrepreneurship and involved in entrepreneurship training, education and research in academic institutions to address and discuss the most recent issues and developments in the entrepreneurship ecosystem in the MENA Region.

The book contents have been structured to include 5 parts in 32 chapters and the stage has been set to focus on the emergence and growth of entrepreneurship mainly in most MENA countries.

**Part I** is divided into 11 chapters related to institutional environments and entrepreneurs' motivations in the MENA Region. There is much discussion today, both in academic circles and popular press, questioning why entrepreneurs are less successful in the MENA Region. Thus the need for better entrepreneurial ecosystems with characteristics and determinants that would be most beneficial to a MENA-specific ecosystem, and their effects on the entrepreneurial performance, are analyzed. Moreover, a broad view of the field of entrepreneurial ecosystem evaluation in a sample of Arab countries, emphasizing the importance of a country's status to fostering high-quality entrepreneurial activity, is also rendered.

The existing relationship between the current entrepreneurial conditions in each country and the characteristics of their entrepreneurial activities are also discussed. Then the status of the entrepreneurial ecosystem of each country and its potential impact on the creation of new business activities, identifying their strengths and weaknesses, and reflecting in depth on the elements that would have to work to progress the modernization of these ecosystems are considered.

The concepts of entrepreneurship and institutions, and different types of institutions, are described. Factors influencing entrepreneurship are identified and classified into institutional and non-institutional categories; institutional factors are taken into account, and their theoretical relationship is examined. The status of institutional quality, the entrepreneurial environment, and the relationship between them in the MENA countries are analyzed, highlighting the significance of the opportunity-driven entrepreneurs' role in creating institutional changes in these economies.

A specific way of social networking as a means of managing and conducting business in the Arab World, alongside other social networking practices that occur across the globe, are considered and a case study on entrepreneur leadership behavior in MENA is presented.

Entrepreneurial efficiency, based on GEM data, is computed and evaluated to determine the relative efficiency of one country relative to the others. This can provide a benchmark for entrepreneurial success and a new insight in the MENA region with high youth unemployment and numerous cultural barriers.

Business environment insecurity, and activities meant to disrupt governments, markets and businesses are analyzed (they can increase political risks, impact business performance and environment, have significant negative impact on indicators such as foreign investment, tourism and ease of doing business, and lead to isolation of some MENA countries from the rest of the world).

Informal entrepreneurship and firm performance in MENA is examined in order to advance understanding of the entrepreneurship process in this region. Then, in a comparative analysis, the performance of the firms that initially avoided registration for some years are compared with those who registered their business operations at the very beginning of their start-up.

Social entrepreneurs, considered as change makers of society (bringing systemic changes on a broad societal scale), can play an invaluable role in MENA countries. An overview and classification of social entrepreneurship strategies of MENA governments are given, and a strategic model for social entrepreneurship strategy formulation is provided.

**Part II** contains 8 chapters focusing on gender and entrepreneurship in the MENA region. In MENA, like in some other parts of the world, women have made significant educational gains and outpaced men in terms of higher education and college enrollment. Equipped with inspiration and know-how, they are now sources of economic hope in the region. Thus in this part of the book, recent development of early-stage entrepreneurship in the MENA region with an emphasis on the evolution of women's early stage entrepreneurship is considered. In particular, it is investigated whether an increase in female participation in enterprise could be driving an increase in entrepreneurship for the region as a whole. While the gender gap in entrepreneurial activity rates is studied, a comprehensive picture of the situation of women entrepreneurs in MENA is provided. Moreover, the impact of age and entrepreneurial age-based self-image on entrepreneurial competencies of males and females are also studied.

The rapid development in the online and e-commerce business sectors has linked different communities in global online market, and the number of entrepreneurs using e-commerce to start their own online business up is continuously growing. The study focuses on the role of culture and gender in local potential, nascent and new e-entrepreneurs through some case studies showing an increased attention and support for entrepreneurship in general and e-entrepreneurship in particular. Some regional disparities with respect to gender are also analyzed.

Since nurturing entrepreneurial activity in growing economies is vital as it leads to improved economic efficiencies, and the role of women entrepreneurs in the economic development is very crucial, a study is devoted to understanding the issues and challenges faced by micro-level women entrepreneurs in some parts of the region, including their educational and training requirements.

Despite major funding from international funding agencies to address the issues of poverty, illiteracy, social exclusion and gender inequality, some parts of the region still struggle to integrate rural women in socio-economic development.

**Part III** includes 4 chapters focusing on entrepreneurship and economic development in the MENA region. The effect of entrepreneurial activity on economic growth in the MENA region is examined, and the results of the study appear to suggest that the driving force of entrepreneurship in the MENA countries is economic necessities and that the level of education accelerates the effect of entrepreneurial activity on economic growth.

Most MENA countries are usually petro-stricken economies. Such economies are always in a state of flux between the price of oil and the supply and demand of oil products. In such a region with mostly oil-based economies, any sign of being innovation-based or even an inclination towards more innovation is worthy of scrutiny and research. Two oil-based economies of MENA that are in transition to becoming knowledge-based economies are studied.

Bearing in mind the more or less similar situations existing in some parts of MENA, lessons learnt from a country that can be useful to similar countries of the region are discussed, showing the road towards an innovative entrepreneurial economy, and stressing the importance of examining the role of institutions and how they evolve.

It is also attempted to shed light on the growing phenomenon of entrepreneurship in emerging economies in MENA, through an assessment of the entrepreneurial ecosystem and by investigating the contribution of entrepreneurship in economic development.

**Part IV**, which is divided into 3 chapters, considers Small and Medium Enterprises (SMEs) in the MENA region.

In the process of globalization and lower trade barriers, many firms, in particular SME's, and new ventures may tend to choose internationalization as their economic development strategy. Thus international entrepreneurship has emerged as a developing research field, attempting to explore factors stimulating firms to seek and exploit opportunities beyond their national boundaries. The boundary conditions of emerging international entrepreneurship theories in explaining the internationalization of some MENA firms are examined. For this purpose, the alternate template strategy is employed to assess the extent to which the behaviors undertaken by some MENA SMEs to enter international markets are consistent with the emerging theories of international entrepreneurship, namely causation, effectuation and the revised Uppsala model.

Entrepreneurial competencies of SME owners in a MENA economy and a European economy are studied. For this purpose, through a comparative exploratory analysis, competencies of business owners are explored.

It is also important to understand management and strategies of innovation in Micro, Small and Medium Enterprises (MSME) in MENA. The aim of the MENA countries has been to achieve better economic growth and development. This is only possible through focusing on innovative practices. Through active innovation culture, organizations adopt best practices. But they face many barriers in this transition. They suffer from operational and financial problems in competing with large enterprises. Addressing these challenges to MSME growth and competitiveness is central to overcoming employment and economic development.

**Part V**, comprised of 5 chapters, is devoted to a comparative study of the state of entrepreneurship and especially women entrepreneurship in the three neighboring and founding member countries of the Economic Cooperation Organization (ECO), Iran, Pakistan, and Turkey. These countries, that are also participants of Global

Entrepreneurship Monitor (GEM), have marked similarities in numerous cultural, religious, and traditional values. The levels of female entrepreneurship in these countries are very low compared to their female counterparts across the globe as well as in comparison with their male counterparts in their own economies. A comparative approach to female entrepreneurship in the aforementioned economies may provide insight into the roots of problems and challenges in the three countries.

A general perspective is provided on women's entrepreneurial intentions and motivations, business environment, gender gap, different types of capital (including financial, human, social capital and cultural capital), international dimension of entrepreneurship, and the role of women entrepreneurship in this context in the three countries.

Throughout the book the emphasis is principally on entrepreneurs, perception of entrepreneurial processes and various dimensions of entrepreneurship ecosystem. The research papers in this book can also provide new insights into an entrepreneurial ecosystem in the MENA Region for the individuals who are interested in comparative studies.

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**Part I**  
**Institutional Environment and**  
**Entrepreneurs' Motivations in MENA**

# In Search of the Ideal Entrepreneurial Ecosystem



Shahamak Rezaei, Victoria Hill, and Yipeng Liu

**Abstract** There is much discussion today questioning why entrepreneurs are not more successful throughout the Middle East and North Africa (MENA). A better entrepreneurial ecosystem is one recommendation, but this raises a question about which characteristics would be most beneficial to a MENA-specific ecosystem? This chapter surveys the most commonly cited academic literature on ecosystems and in particular, the work done by the Global Entrepreneurship Monitor. What emerges is that although entrepreneurial ecosystems are now common across MENA, they do not specifically address unique needs of MENA students wanting to become entrepreneurs.

**Keywords** Entrepreneurs in MENA · Entrepreneurial ecosystem · Developing successful entrepreneurs · Training needed for entrepreneurs in MENA

## 1 Introduction

There is much discussion in both academic circles and the popular press about the need for better entrepreneurial ecosystems throughout the Middle East North Africa (MENA) Region. While nearly all authors agree on the importance of such entities, little has been written that actually compares characteristics that are generally agreed to be contributors to successful new business ventures with characteristics that are common across most of the MENA countries. E.g. in most developed financial

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markets venture capitalists are drawn to riskier investments when interest rate returns are low across more stable investment opportunities. But how does this fit, as a potential driver of new business investment, in countries where interest itself is considered ‘haram’ (*i.e.*, forbidden by religious law)? In much of the Arabian Peninsula, new businesses are formed readily and frequently—but not with strangers. On one hand, this cultural characteristic seems at odds with what is taught in Western Business Schools about ‘perform due diligence before any serious investment’ and ‘exercise caution before getting involved in business activities outside your normal sphere of experience’. But could different solutions be found for introducing would-be entrepreneurs to potential investors far enough in advance of funding needs that would override this characteristic? At the same time, maybe there are behaviours and/or characteristics associated with decision-making by Arabian investors that could be taught to their Western counterparts?

The Research Problem:

*If a set of ecosystem characteristics that lead to entrepreneurial success could be constructed, could these characteristics then be compared to the state of entrepreneurial ecosystem development in specific MENA countries?*

To address the Research Problem, the following two research questions were considered:

- What are the characteristics that should be included when constructing the best possible entrepreneurial ecosystem?
- What is the stage of acceptance or implementation of these characteristics in specific MENA countries?

## **2 Existing Concepts of ‘Entrepreneurial Ecosystem’**

An ecosystem can be defined as, “A complex network or interconnected system: ‘Silicon Valley’s entrepreneurial ecosystem’” (Oxford Dictionary 2016).

### ***2.1 Review of Recent Perspectives on Entrepreneurial Ecosystems***

Entrepreneurial ecosystems became a vibrant research field, and received increasing scholarly attention and contemporary policy debates around the world (Mason and Brown 2014; OECD 2013; Stangler and Bell-Masterson 2015). Despite the vast amount of scholarly and practice-oriented work done on this subject, the entrepreneurial ecosystem literature still lacks strong theoretical underpinnings. The extant literature on entrepreneurial ecosystems tends to cover diverse aspects by drawing from multiple theoretical lenses, such as innovation helixes and inclusive growth

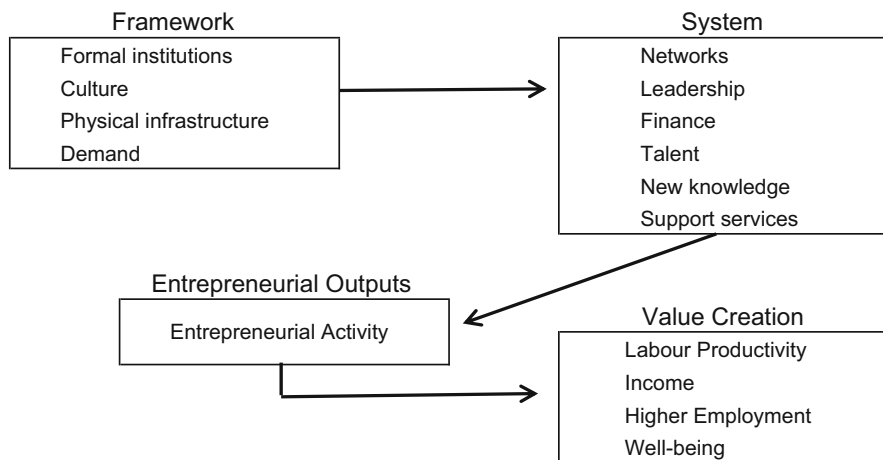
(Carayannis and Rakhmatullin 2014), national systems of entrepreneurship (Ács et al. 2014), the interaction among university, industry, and government (Etkowitz 2008). One recent study from the Kauffman Foundation suggests the health of entrepreneurial ecosystems can be measured by four indicators, namely density, diversity, fluidity, and connectivity (Stangler and Bell-Masterson 2015). One recent study built upon these four indicators while connecting the theoretical lenses of entrepreneurial intensity and organizational ambidexterity to entrepreneurial ecosystems (Liu 2017). One recent book collection compared different innovation and entrepreneurship ecosystems by drawing lessons from an international comparative perspective amidst the overarching theme of global talent mobility and their role in building entrepreneurial ecosystems (Wang and Liu 2016).

Related, the concept of entrepreneurial ecosystems vary contingent upon the different theoretical orientations. Mason and Brown (2014: 5) defines an Entrepreneurial Ecosystem as “. . . a set of interconnected entrepreneurial actors (both potential and existing), entrepreneurial organisations (e.g. firms, venture capitalists, business angels, banks), institutions (universities, public sector agencies, financial bodies) and entrepreneurial processes (e.g. the business birth rate, numbers of high growth firms, levels of ‘blockbuster entrepreneurship’, number of serial entrepreneurs, degree of sell-out mentality within firms and levels of entrepreneurial ambition)”. As a socially constructed system, entrepreneurial ecosystem involves both actors and institutions.

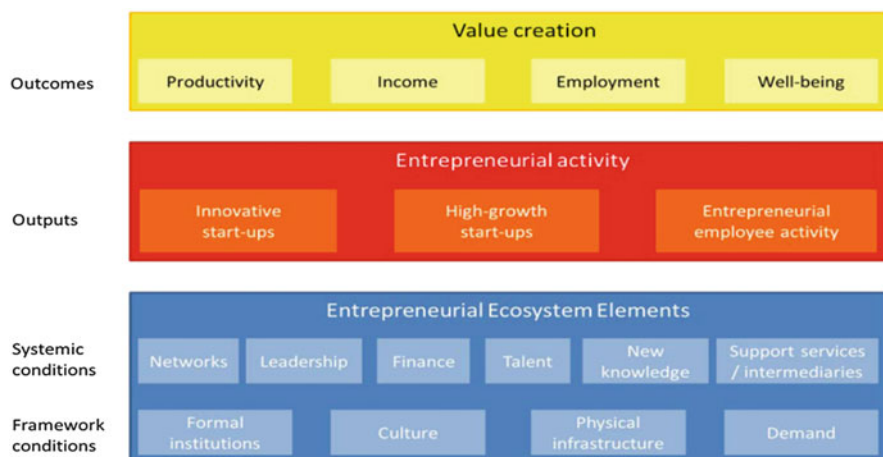
Highly developed economies see the entrepreneurial ecosystem very differently than might be the case for MENA. Academics in these highly developed economies are discouraged when they see national self-employment rising and rue the lack of innovation, all the while looking for the next ‘blockbuster’ entrepreneurial firm; e.g. Google, Facebook, Uber, Airbnb, et al. from their own population (Bosma and Stam 2012; *Entrepreneur Middle East* 2015). In a sense they are ignoring the tremendous efforts—and often courage—that it took the self-employed to strike out on their own.

A Dutch definition of the Entrepreneurial Ecosystem (EE) summarizes existing literature as a three-part model that contains framework conditions, systemic conditions and the impact of these conditions on entrepreneurial activity and value creation (Stam 2014). This definition can be configured as a diagram (Fig. 1).

In general, this summary of existing opinions seems reasonable and plausible that the sequence of ‘activity flow’ is a sort of chain of events that begins within the Framework and culminates with Value creation. However, several aspects of the model suggest it’s influenced by economic policy parameters. E.g. Labour productivity and Higher employment (seen in the Value creation box) are unlikely to be goals of most entrepreneurs, although improved Income and Well-being are more likely to be motivations for becoming an entrepreneur. Likewise, Culture and Demand in the Framework box do not seem to be fixed elements that would be considerations of the operational Framework of most entrepreneurs; Culture isn’t a fixed characteristic. It can, for example, be changed by starting a business in a different culture or even multiple cultures; and Demand is highly related to the product or service the entrepreneur offers and what sort of market strategy will be applied (i.e. ‘push’ vs. ‘pull’).



**Fig. 1** Stam’s definition of ecosystem configured as a version of input-output diagram. *Source:* Authors’ own research based on Stam (2014)



**Fig. 2** Stam revised overview of entrepreneurial ecosystem. *Source:* Stam (2014)

Stam goes on to clarify his summary of an EE as “an interdependent set of actors. . .governed. . .[so that]. . .it enables entrepreneurial action (output). . .[which] refers to the process by which individuals pursue opportunities for innovation. . . [that] involves new value creation in society, which is the ultimate outcome of an [EE]” (Stam 2014). He develops his own model, as seen in Fig. 2.

At first glance the revised diagram of the EE seems somewhat better-related to the needs of the entrepreneur, but there is still a somewhat distant, hands-off approach. E.g., Stam describes:

- “. . . framework conditions and systemic conditions interacting with one another to become the EE elements” (Stam 2014). While the statement sounds reasonable, Demand and Culture remain as framework conditions and as previously discussed, these characteristics don’t seem to represent operational characteristics for a majority of entrepreneurs;
- Networks as including the “smooth division of labour, flow of information and capital within the entrepreneurial ecosystem” (Stam 2014). While it’s likely that flow of information and capital would benefit most entrepreneurs, a smooth division of labour is not likely to be a requirement for entrepreneurial success. Stam goes on to clarify that “Perhaps the most important element . . . is the presence of a diverse and skilled workforce” (Stam 2014). This seems more like a requirement for a large industrial complex than the typical entrepreneurial start-up;
- “. . . visible entrepreneurial leaders committed to the region provide guidance and role models” (Stam 2014). Wouldn’t successful entrepreneurial examples committed to helping newcomers, or even committed to furthering a specific business sector, be more helpful than leaders committed to a geography?

## 2.2 *The OECD/Eurostat Data*

The most recent OECD report on entrepreneurship in its member countries was compiled in 2016. Nearly all countries’ entrepreneurs were adversely impacted by the 2008 recession. Interestingly, small entrepreneurs in Eurozone countries fared better than those in the U.S. But there were exceptions: Greece and Portugal were worse off than entrepreneurs in either the U.S. or the other parts of the Eurozone. These patterns suggest that the strength of the local economy—as long as it’s not too geographically large (as in the case of the U.S.) and not in long-term recession (as in the cases of Greece and Portugal)—has a sort of symbiotic effect on success of the small entrepreneurs (OECD 2016a).

Some observations from the OECD report are important for would-be entrepreneurs:

- “. . . most micro and small firms do not export; indeed, only between 10% and 40% of SMEs are direct exporters. . . . Fostering export opportunities to new, particularly emerging markets, and helping address barriers to trade, can help channel growth. . . .”;
- “. . . SMEs in the service sector [are] contributing disproportionately more to exports compared to SMEs in (tangible) capital-intensive industries such as motor vehicles and other transport equipment.”
- “. . . policies that nurture SMEs in knowledge-based (services) sectors, where investment in intangible assets such as brand, design and organisational capital provide opportunities to create comparative advantages, and that also encourage SMEs in niche manufacturing activities. . . can be a road to success.”

- “Most countries in the OECD area show gender gaps in factors that are important for entrepreneurship. On average, men are more likely than women to declare that they would have access to money to set up a business (34% for men and 27% for women) and to training to help them do so (51% for men 44% for women)”.
- “. . . despite these gender gaps, women feel as confident as men about their business and its future once it is up and running.” (OECD 2016b)

One unique feature of the OECD report is that since 2006 it matches a variety of factors that predict entrepreneurial success. Although MENA countries are not represented in the report, there are characteristics in both the structure and the data that could be predictive for entrepreneurial success. Six main types of Determinants form the backbone of predicting success: Regulatory framework, Market conditions, Access to finance, Knowledge creation and diffusion, Entrepreneurial capabilities and Culture. These six categories of Determinants then influence Entrepreneurial Performance (which is itself measured by three Metrics: Firm-based performance, Employment-based performance and Wealth creation). The final output refers to the Impact on the broader economy (rather than entrepreneurs as business persons) and is evaluated in terms of Job creation, Economic growth, Poverty reduction and Formalising the informal sector (Fig. 3).

While the main categories of Determinants would be suitable in MENA countries, many of the sub-categories are more representative of advanced economies and/or countries that have a somewhat different culture. E.g. the sub-categories in the Regulatory framework category are mostly representative of protection of rights, health and safety of workers and products, legal access to entry; these sub-categories exist across MENA countries but in a variety of stages of implementation not at the level of sophistication found in OECD economies. At the same time, sub-categories such as Bankruptcy regulation and taxes are influenced by cultural concerns. Writing a check (which is treated more as a ‘sight draft’) without sufficient funds to back it up results in an immediate jail term in most of MENA. Income taxes don’t exist in all the MENA countries. There is a range of ‘no income tax at all’ (e.g. most GCC countries) to voluntary contributions (e.g. Jordan with 5–10% of income) to progressive bands of income tax rates (e.g. Morocco). Business and capital taxes may be implemented in ways that are somewhat different than in OECD countries. E.g. in Jordan, the government charges fixed rates on ‘potential earning capacity’; i.e., if you are a landlord with ten flats, the monthly fee is based on the maximum whether none were rented or ten were.

Market conditions are a very important determinant for entrepreneurial success. But the six sub-categories shown in Fig. 3 are not very relevant to a start-up company (e.g. Antitrust laws). If the sub-categories were changed to topics such as Number of direct competitors, Potential market size for new entrants, Ease of export, et al. this would be more representative of entrepreneurs’ specific requirements for Market conditions.

The sub-categories in the Access to finance category are all pertinent to entrepreneurial needs; but additional sources of funding should include Friends and family and Crowdfunding, not only in MENA but overall. One slight variation for

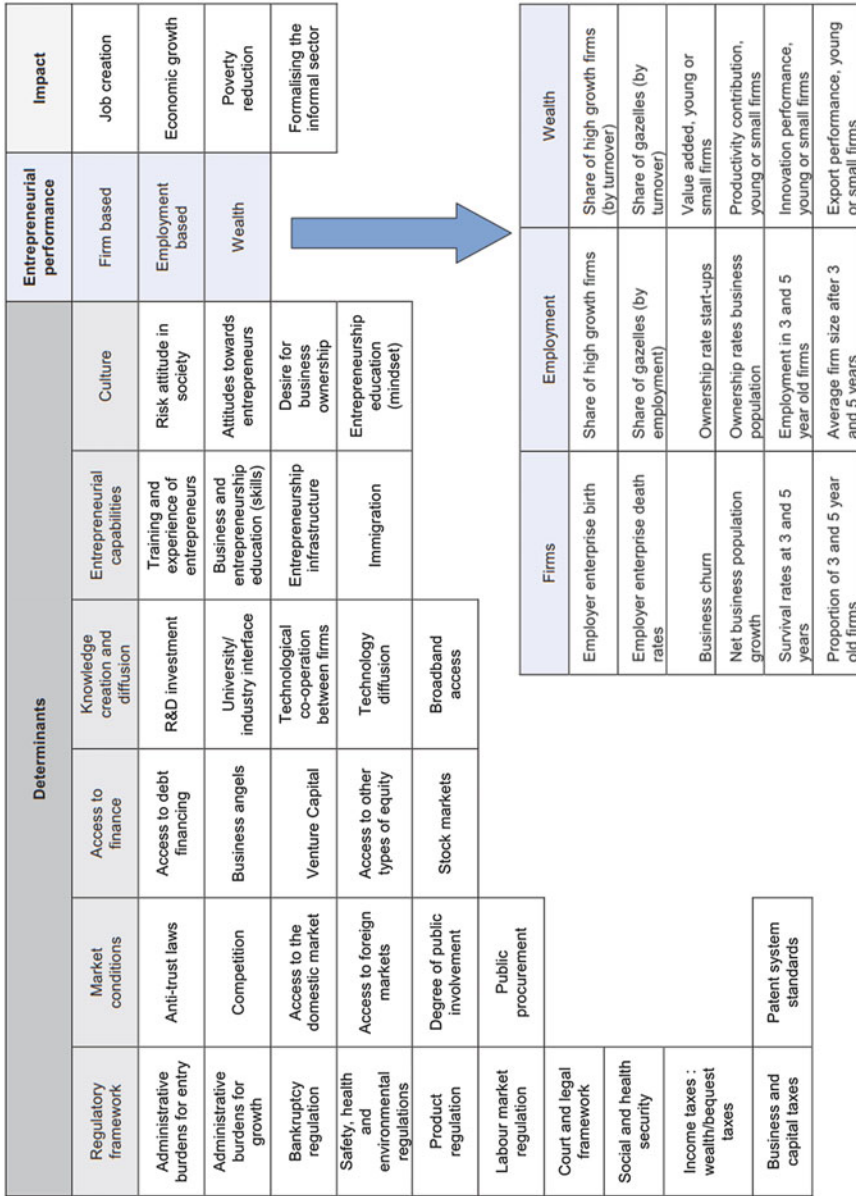


Fig. 3 OECD-Eurostat Entrepreneurship Indicators Programme (EIP). Source: OECD (2016a, b)

MENA should consider the cultural behaviour that Middle Easterners do not like to do business with strangers. They will however do business with someone new that's been recommended by a trusted friend. In the Knowledge creation and diffusion category, only Broadband access would be relevant to most entrepreneurs; the rest of the sub-categories are more pertinent to information technology start-ups. The sub-categories in the Entrepreneurial capabilities category are generally needed by entrepreneurs, although Immigration is much more specific to individuals.

All four sub-categories of the Culture category are significant to entrepreneurs, and especially in MENA. Societal attitude toward risk and toward entrepreneurs are intertwined in most of MENA. Failures of almost any type (e.g. poor grades in school, loss of job, divorce) are looked down on in most parts of MENA. Successful entrepreneurs are much admired; but usually not if they represent industrial crafts and skilled trades; it's less socially acceptable to start a business that's not 'white collar'. These types of constraints, and especially the risk of failure, might cause some potential entrepreneurs to avoid starting a business.

As for the three measurable outcomes for entrepreneurial performance, these metrics (Firms, Employment and Wealth) could be useful but probably not in the same sense that OECD intended. These relate more to the broader economy than to entrepreneurial success. E.g. changes happening to firms is an after-the-fact representation of changes mostly to the number of active-participant firms. The Employment category tells an entrepreneur about the small business environment in which they are operating. Likewise, the Wealth category provides information that could be useful to an entrepreneur.

The *Impact* category seems intended for economists or individuals setting labour policy. However, time-series data of these sub-categories could be informative to an entrepreneur seeking to compare performance across similar enterprises.

The OECD-Eurostat Entrepreneurship Indicators Programme (Fig. 3) could be reconfigured to reflect accumulated data from the point of view of an entrepreneur (rather than a policy maker). Considering that some 10 years' of data exists and that when data collection began, some of the participant countries were not very different in the broad economic sense than most MENA countries are today, this could provide a sort of 'expected path of entrepreneurial development'. While this might be a useful tool for displaying entrepreneurial experience in MENA, it doesn't actually provide an ecosystem for entrepreneurs.

### **2.3 Academic Perspective: Pre-incubator, Incubator, Market Entry**

A number of business schools across the world have implemented business incubators in hopes of increasing both the number of entrepreneurs and their skills as entrepreneurs. While business schools in MENA may be establishing incubators more slowly than in the U.S. and Europe, some very good programmes are

beginning to appear. One of the most sophisticated in the region is that of University of Qatar.

The University of Qatar (QU) Centre for Entrepreneurship (CFE) works with university students, alumni, staff and a variety of other groups including the private sector, business associations and government agencies. CFE sees its mission as supporting “students and the QU community to develop business ideas and transform them into viable start-ups. . . . [The applicant must be] either a Bachelor’s or Master’s level student, QU alumnus or a faculty member. . . . There has to be a business idea, or existing company, which has clear evidence of becoming profitable, and down the road also growth-oriented. We also emphasize innovativeness and uniqueness of the idea, as long as they seem to be profitable. A very important factor is the quality of the start-up team and the level [of] commitment and persistence towards turning the idea into a real business”. Upon acceptance, the enrollees take a 1-week pre-incubator training course (University of Qatar 2017a).

Once in the Incubator, the enrollees study/practice/experiment and help one another to get their business idea up and running. Minimum time in the Incubator is one semester; maximum is two semesters (or a total of 12 months). Office space is offered free of charge for participants and facilities are segregated by male only and female only. The training sessions aim to prepare a student for the various aspects of running an entrepreneurial business. The focus is on various business specialities: introduction to finance, accounting, marketing, management and business law are included; recently a course on ‘international intellectual property protection’ was added (University of Qatar 2017a).

While Market entry is the final stage of the incubator programme, the website does describe the incubator as “. . . a great opportunity to receive personal coaching and training for your business idea, or further develop your existing business and entrepreneurial skills.” (University of Qatar 2017b). This statement along with the earlier comment (that the Center for Entrepreneurship also works with the private sector, business associations and government agencies) suggests a long-term goal to offer entrepreneurial development to the broader community in Qatar. Over time, the number of successful and enduring start-ups will determine how successful the incubator programme has been.

## ***2.4 Global Entrepreneurship Monitor***

### **2.4.1 Entrepreneurial Framework Conditions**

The Global Entrepreneurship Monitor (GEM) is a partnership between Babson College and other international institutions committed to the furthering of entrepreneurship. “GEM has proposed that entrepreneurship dynamics can be linked to conditions that enhance (or hinder) new business creation . . . these conditions are known as Entrepreneurial Framework Conditions (EFCs) . . . The National Experts Survey (NES) is part of the standard GEM methodology and it assesses various



EFCs . . . and . . . other topics related to entrepreneurship. . . The NES questionnaire is used to collect the views of [36 or more] experts [per country] on a wide range of items, each of which was designed to capture a different dimension of a specific EFC [based on a five-point Likert scale]:

1. **Entrepreneurial Finance.** The availability of financial resources—equity and debt—for small and medium enterprises (SMEs) (including grants and subsidies).
2. **Government Policy.** The extent to which public policies support entrepreneurship. This EFC has two components: (a) Entrepreneurship as a relevant economic issue and (b) Taxes or regulations are either size-neutral or encourage new and SMEs.
3. **Government Entrepreneurship Programs.** The presence and quality of programs directly assisting SMEs at all levels of government (national, regional, municipal).
4. **Entrepreneurship Education.** The extent to which training in creating or managing SMEs is incorporated within the education and training system at all levels. This EFC has two components: (a) Entrepreneurship Education at basic school (primary and secondary) and (b) Entrepreneurship Education at post-secondary levels (higher education such as vocational, college, business schools, etc.).
5. **R&D Transfer.** The extent to which national research and development will lead to new commercial opportunities and is available to SMEs.
6. **Commercial and Legal Infrastructure.** The presence of property rights, commercial, accounting and other legal and assessment services and institutions that support or promote SMEs.
7. **Entry Regulation.** This EFC contains two components: (a) Market Dynamics: the level of change in markets from year to year, and (b) Market Openness: the extent to which new firms are free to enter existing markets.
8. **Physical Infrastructure.** Ease of access to physical resources—communication, utilities, transportation, land or space—at a price that does not discriminate against SMEs.
9. **Cultural and Social Norms.** The extent to which social and cultural norms encourage or allow actions leading to new business methods or activities that can potentially increase personal wealth and income” (GEM 2016).

Not all MENA countries have been surveyed. Of those where the NES survey *has* taken place, results are shown in Table 1. The nine general areas (shown above) are used to represent a total of 12 characteristics which, in turn, describe the state of the entrepreneurial ecosystem in a country at the time of the survey. The higher the score the better, with a range from 1 = highly insufficient to 5 = highly sufficient. Within a given country, the scores are very enlightening and give a broad view of policy priorities as well as factors that will help or hinder entrepreneurs. GEM has constructed radar charts per country (in Economy Profiles section on the [GEMconsortium.org](http://GEMconsortium.org) website) that show how the NES results for each country compare to a generic GEM set of data for a moderately developed entrepreneurial ecosystem. It’s likely not surprising that Canada, U.K. and U.S. tend to outpace the ‘moderate’ example. A few of the MENA countries do better than the example; in

**Table 1** GEM entrepreneurial framework conditions

Country	Survey year	Entrepreneurial finance	Government policy: Support and relevance	Government policy: Taxes and bureaucracy	Government entrepreneurship programmes	Entrepreneurial education: School stage	Entrepreneurial education: Post school stage	Research and development transfer	Commercial and legal infrastructure	Internal market: Dynamics	Internal market: Burdens or Entry regulation	Physical infrastructure	Cultural and social norms
Algeria	2013	3.42	3.19	2.56	2.75	2.45	3.16	2.88	2.86	4.00	2.97	3.47	3.19
Egypt	2015	2.14	2.02	1.90	2.03	1.16	1.83	1.78	2.53	3.06	2.29	3.81	2.29
Iran	2015	2.00	2.27	1.99	1.35	1.68	1.98	1.78	1.75	3.56	1.82	3.93	2.19
Israel	2015	3.07	2.21	1.68	2.40	1.83	2.59	2.70	3.33	2.40	2.14	3.82	4.40
Jordan <sup>a</sup>	2009												
Kuwait	2014	2.67	1.90	2.45	1.93	1.52	2.57	2.09	3.06	3.89	2.05	3.50	2.68
Lebanon	2015	3.14	2.03	2.49	2.51	2.58	2.98	2.50	3.39	2.57	2.54	2.69	3.77
Libya	2013	2.14	2.01	2.63	1.75	1.41	2.30	1.83	2.91	3.20	2.84	2.98	2.51
Morocco	2015	2.56	2.22	2.22	2.33	1.21	2.01	1.91	3.04	2.88	2.25	4.14	2.23
Palestine	2012	2.52	2.24	2.43	1.86	1.69	2.44	2.30	3.07	3.13	2.10	3.52	2.89
Qatar	2014	2.72	3.15	2.95	2.90	2.72	3.33	2.41	2.95	3.25	2.08	3.44	2.89
Saudi Arabia	2010	3.10	2.46	3.04	2.28	1.80	2.67	2.54	3.35	2.95	2.54	4.18	3.14
Syria	2009	2.24	2.05	1.97	1.66	1.56	2.21	1.82	2.97	3.08	2.43	3.77	3.04
Tunisia	2015	2.58	2.38	1.67	2.18	1.15	2.01	1.69	3.49	4.17	1.72	4.03	2.42
Turkey	2015	2.29	2.64	2.14	2.48	1.46	3.06	2.53	3.07	3.35	2.37	3.78	3.12
UAE	2011	3.10	3.34	3.20	3.14	2.60	3.30	2.56	3.45	3.60	2.85	4.14	3.41
Yemen <sup>a</sup>	2009												
Canada	2015	3.14	2.82	3.16	3.00	2.51	3.19	2.58	3.79	2.26	2.97	4.14	3.52
U.K.	2015	3.25	2.80	2.54	2.71	2.41	3.11	2.53	3.04	3.06	2.82	3.59	3.26
U.S.	2015	3.22	2.62	2.81	2.47	2.15	2.70	2.54	3.22	3.39	2.65	4.18	4.02

NES National Experts Survey  
 Source: GEM (2017). The Entrepreneurial Ecosystem. As assessed by the participants in the National Experts Survey  
 Comments: <sup>a</sup>There is no NES data available for Jordan or Yemen

particular, U.A.E., Saudi Arabia, Qatar are, not surprisingly, particularly well-developed. It should also be noted that two wealthy countries (Bahrain and Oman) are not included in the GEM data.

Care should be taken when comparing the scores for the same characteristics across differing countries. E.g. in the category of Internal market dynamics, Algeria and Tunisia achieved much higher scores (4.00 and 4.17) than did the U.K. and the U.S. (3.06 and 3.39). But is it really likely that Internal market dynamics could operate so well (for Tunisia) while it has a quite low score (1.67) for Government policy re taxes and bureaucracy?

Moroccan experts rated Physical infrastructure very highly (at 4.14, same as Canada), but many foreign visitors might disagree. E.g. in terms of road accidents, Moroccan deaths are estimated at 20.8 per 100,000 while France is rated 5.1 per 100,000 according to WHO data for 2013. Yet France had a population size of some 64 million in 2013 while Morocco had roughly 33 million (WHO 2013).

In the category of Entrepreneurial education during school, few of the country experts rated their countries highly. Conversely, other GEM data (Table 2) shows that the adult population surveyed disagrees and believes 'early entrepreneurial experience' in primary schools is positive in their countries. While it's possible that high scores might be a result of national experts with a bias in favour of their own country, it's more likely that their opinion reflects how the policymakers and other experts actually see the whole set of characteristics that form that particular entrepreneurial ecosystem.

#### 2.4.2 Societal Values on Entrepreneurship

GEM's Adult Population Survey (APS) data reflects attitudes and measurable entrepreneurial activities in a specific country. The data is collected from annual interviews of 2000 or more adults aged 18 to 64. The opinions explored are based on the following characteristics:

##### I. *Self-perceptions:*

- (A) **Perceived opportunities.** Percentage of 18- to 64-year olds who see good opportunities to start a firm in the area where they live.
- (B) **Perceived capabilities.** Percentage...who believe they have the required skills and knowledge to start a business.
- (C) **Fear of failure rate.** Percentage...who perceive good opportunities to start a business but indicate that fear of failure would prevent them from setting up a new business.
- (D) **Entrepreneurial intentions.** Percentage...who are latent entrepreneurs and intend to start a business within 3 years; excludes any individuals already involved in any stage of entrepreneurial activity.

**Table 2** GEM entrepreneurial behaviour and attitudes

Country	Survey year	Perceived opportunities	Perceived capabilities	Fear of failure rate	Entrepreneurial intentions	Total Early-Stage Entrepreneurial Activity (TEA)	Established business ownership	Entrepreneurial employee activity	Motivational index
Algeria	2013	61.86	55.51	32.95	36.02	4.89	5.45	0.64	2.92
Egypt	2015	46.07	41.52	29.50	36.75	7.39	2.90	1.33	0.79
Iran	2015	40.31	61.99	38.10	34.96	12.93	14.04	0.95	1.68
Israel	2015	55.50	41.56	47.76	21.59	11.82	3.90	6.55	3.29
Jordan	2009	43.80	56.94	38.79	24.91	10.24	5.28	No data	No data
Kuwait <sup>a</sup>	2014								
Lebanon	2015	45.67	69.83	17.41	43.95	30.15	17.96	3.26	2.09
Libya	2013	52.26	58.63	33.05	62.07	11.15	3.44	No data	7.41
Morocco	2015	34.25	47.56	41.08	30.18	4.44	5.16	0.37	1.52
Palestine	2012	46.14	59.37	40.19	35.61	9.84	2.98	2.46	0.63
Qatar	2014	63.38	60.94	25.54	50.36	16.38	3.54	11.47	2.53
Saudi Arabia	2010	75.84	69.31	38.95	0.98	9.40	3.86	No data	7.47
Syria	2009	54.20	61.85	18.14	54.02	8.46	6.71	No data	No data
Tunisia	2015	48.79	59.93	40.25	28.80	10.13	5.02	1.87	3.56
Turkey	2013	38.63	52.24	30.39	28.06	9.95	5.67	No data	1.77
UAE	2011	43.72	62.07	50.84	2.41	6.19	2.70	3.59	4.67
Yemen	2009	14.02	63.55	65.40	8.96	24.01	2.90	No data	No data
Canada	2015	53.19	50.49	39.47	11.64	14.72	8.85	7.06	4.14
U.K.	2015	41.55	43.57	34.93	8.16	6.93	5.26	4.08	2.14
U.S.	2015	46.63	55.71	29.36	12.35	11.88	7.33	6.96	4.82
Denmark	2014	59.66	34.88	40.99	6.92	5.47	5.09	11.43	11.09
Finland	2015	48.62	37.39	32.62	10.86	6.59	10.21	5.83	4.19
Ireland	2015	39.35	45.02	40.87	14.57	9.33	5.60	6.60	1.99

(continued)

Table 2 (continued)

Country	Survey year	Perceived opportunities	Perceived capabilities	Fear of failure rate	Entrepreneurial intentions	Total Early-Stage Entrepreneurial Activity (TEA)	Established business ownership	Entrepreneurial employee activity	Motivational index
Hong Kong	2009	14.40	18.87	36.73	7.28	3.64	2.93	No data	No data
Singapore	2014	16.71	21.35	39.40	9.44	10.96	2.88	4.84	6.21
Sweden	2015	70.22	36.70	36.45	8.44	7.16	5.20	6.36	5.71
Country	Survey year	Female/ Male TEA	Female/ Male opportunity-driven TEA	High job creation expectation	Innovation	Business services sector	High status to successful entrepreneurs	Entrepreneurship as a good career choice	
Algeria	2013	0.51	1.08	10.66	11.48	18.85	84.23	79.59	
Egypt	2015	0.33	0.73	25.70	22.28	2.40	79.57	73.56	
Iran	2015	0.48	1.00	20.60	12.10	13.50	82.30	56.27	
Israel	2015	0.65	1.02	23.60	30.78	32.90	86.24	64.48	
Jordan	2009	0.29	No data	24.54	No data	No data	84.01	80.64	
Kuwait <sup>a</sup>	2014								
Lebanon	2015	0.69	0.90	11.20	38.36	5.40	No data	No data	
Libya	2013	0.49	1.05	28.28	26.14	8.65	84.35	85.17	
Morocco	2015	0.47	0.92	16.50	12.58	3.20	54.57	70.63	
Palestine	2012	0.21	No data	25.61	21.48	8.93	80.43	84.56	
Qatar	2014	0.53	1.10	31.99	28.58	22.81	87.06	75.83	
Saudi Arabia	2010	0.49	No data	50.70	No data	10.10	92.26	86.77	
Syria	2009	0.23	No data	35.09	No data	No data	89.48	88.82	
Tunisia	2015	0.36	0.93	40.10	32.17	15.30	72.10		
Turkey	2013	0.47	0.98	52.36	31.60	20.03	73.95	64.03	
UAE	2011	0.63	No data	37.34	26.37	19.45	73.17	71.08	

Yemen	2009	0.65	No data	88.73	No data	No data	97.46	95.29
Canada	2015	0.84	1.08	24.20	36.13	21.00	No data	No data
U.K.	2015	0.53	1.09	19.00	36.01	34.50	79.24	57.85
U.S.	2015	0.63	0.91	31.70	36.01	31.20	62.86	57.82
Denmark	2014	0.53	0 0.98	19.09	46.34	43.43	No data	No data
Finland	2015	0.47	0.85	18.20	19.69	31.40	84.89	33.17
Ireland	2015	0.44	1.16	33.00	44.79	29.60	80.27	52.62
Hong Kong	2009	0.42	No data	30.08	No data	No data	55.18	44.83
Singapore	2014	0.48	0.96	35.77	20.47	22.79	62.91	51.73
Sweden	2015	0.51	0.97	16.10	32.74	30.80	69.81	52.66

APS Adult Population Survey

Source: GEM (2017). Entrepreneurial behaviour and attitudes. As assessed through the Adult Population Survey  
 Comments:<sup>a</sup>There is no APS data available for Kuwait

## II. *Activity:*

- (E) **Total Early-Stage Entrepreneurial Activity (TEA).** Percentage. . .who are either a nascent entrepreneur or owner-manager of a new business.
- (F) **Established business ownership.** Percentage. . .who are currently an owner-manager of an established business; i.e., owning and managing a running business that has paid salaries, wages, or any other payments to the owners for more than 42 months.
- (G) **Entrepreneurial employee activity.** Rate of involvement in activities of employees in entrepreneurial activities, such as developing or launching new goods or services, or setting up a new business unit, a new establishment or subsidiary.

## III. *Motivations:*

- (H) **Motivational index.** Percentage of those involved in TEA that are improvement-driven opportunity motivated divided by the percentage of TEA that is necessity-motivated.

## IV. *Gender equity:*

- (I) **Female/Male TEA.** Percentage of female 18- to 64-population who are either a nascent entrepreneur or owner-manager of a new business divided by the equivalent percentage for their male counterparts.
- (J) **Female/Male opportunity-driven TEA.** Percentage of those females who: (i) claim to be driven by opportunity as opposed to finding no other option for work; and (ii) indicate the main driver for being involved in this opportunity is being independent or increasing their income, rather than just maintaining their income, divided by the equivalent percentage for their male counterparts.

## V. *Impact:*

- (K) **High job creation expectation.** Percentage of those involved in TEA who expect to create 6 or more jobs in 5 years.
- (L) **Innovation.** Percentage of those involved in TEA who indicate their product or service is new to at least some customers *and* that few/no businesses offer the same product.
- (M) **Business services sector.** Percentage of those involved in the Business services sector Information and Communication, Financial intermediation and Real estate, Professional services or Administrative services as defined by the International Standard Industrial Classification of All Economic Activities (ISIC) Rev. 4.0 2008, codebook of productive activities.

## VI. *Societal values:*

- (N) **High status to successful entrepreneurs.** Percentage of 18- to 64-population who agree with the statement that in their country, successful entrepreneurs are regarded with high status.

- (O) **Entrepreneurship as a good career choice.** Percentage of 18- to 64-population who agree with the statement that in their country, most people consider starting a business as a desirable career choice.

Unlike the Entrepreneurial Framework Survey (Table 1), the Adult Population Survey results (Table 2) are based on the percentage of people in the general population surveyed (aged 18- to 64-years of age) who agree with the opinion question or identify with the business owner/manager/employee characteristic.

There are some interesting attitudes displayed in Table 2:

1. People in countries seeing high potential in opportunities do not necessarily perceive themselves as having the capability to be successful entrepreneurs. This raises an interesting question as to what is holding back these potential entrepreneurs? The top three MENA countries were Saudi Arabia, Qatar, and Algeria. By way of comparison, only Sweden (followed considerably less enthusiastically by Denmark) scored similarly to the three top MENA scores. But when compared to perceived capabilities, only Qatar seems fairly evenly matched; both Algeria and Saudi Arabia score capabilities some 6 points lower than opportunities. Sweden by comparison rates capabilities roughly one-half as high as opportunities; again, only Denmark shows a similar pattern. While neither Sweden nor Denmark shows a particularly high fear of failure compared to perceived capabilities, Denmark is higher than Sweden. But in MENA, there are no similar patterns: Qataris are least afraid of failing, followed by Algeria and then Saudi Arabia. Again, this tends to support the notion that in this grouping only Qatar sees opportunities, capabilities and personal fear of failure as balanced.
2. But there is another issue that begins to appear as a linkage between higher ratings for capabilities combined with lower rates of opportunities and with low-to-very low rates for fear of failure. It appears that this combination across MENA represents capable people with little access to becoming an entrepreneur. This seems to be the case in Iran, Jordan, Lebanon, Palestine, Syria and Turkey with Yemen exhibiting this set of characteristics to the extreme. A related but probably different reason for an increase to fear of failure can be seen in the most developed countries/most high-income countries; this is visible in the results for Israel, Saudi Arabia and U.A.E. This seems to be a similar pattern in the U.S., Ireland and Singapore. Possibly 'failure' is associated with considerable financial loss, potential bankruptcies and even prison sentences in some parts of MENA. In the case of Egypt, Morocco and Tunisia, Egypt has a relatively more balanced set of scores than Morocco and Tunisia. While neither Morocco nor Tunisia mete out prison sentences or have a particularly severe view of financial loss, getting access to enough money to start a business could be very difficult and even a small amount of funds could be considered substantial in either of these low-middle income countries.
3. Rates of current start-up activity (TEA) are especially interesting: Many of the MENA countries show rates that exceed those of Canada (14.72), the U.S. (11.88) and Singapore (10.96).



One key point that should be considered when reviewing the data seen in either Table 1 or 2 is that the data represents individual countries. Yet, in the most developed countries, venture capitalists, angels and other investors do not limit their activities to single countries; they seek the most interesting and financially viable start-ups, without much regard to location. Likewise, innovative entrepreneurs (more so from technology start-ups), also don't limit their activities to their home countries. Currently, the traditional 'ecosystem regions' (e.g. Silicon Valley, Boulder, Austin) incorporate these newcomers. But as digital technologies and innovation continues to advance, most of the work can be done almost anywhere. Government bureaucratic and financial regulation across MENA in general is more onerous than in the ecosystem hotspots (like parts of the U.S. and U.K.), but already young people in MENA have adopted ways around regulation by seeking investors (e.g. Crowdfunding) in the U.S. What the GEM data does offer is an indication of the level of development and sophistication likely to be found at a particular point in time in the MENA region.

## **2.5 Babson College**

### **2.5.1 Babson College Approach to Entrepreneurial Ecosystem**

Babson College describes the entrepreneurial ecosystem from the perspective of its stakeholders: "An unique approach to bringing about the 'entrepreneurial revolution.' There are several important principles:

Since one size does not fit all, the ecosystem must be adapted to local strengths and weaknesses, and engage the entrepreneurship stakeholders in the entire change process. The entrepreneurship stakeholders include government, schools, universities, private sector, family businesses, investors, banks, entrepreneurs, social leaders, research centres, military, labour representatives, students, lawyers, cooperatives, communes, multinational, private foundations, international aid agencies, and the like. Anyone who can help encourage and support more entrepreneurship and entrepreneurs in your country or city. In fact, the ecosystem can be mapped in order to more efficiently identify the stakeholders" [as seen in Fig. 4] (Isenberg 2010).

### **2.5.2 Babson College Professor Daniel Isenberg**

While each of these entities plays a role in helping an entrepreneur to succeed, the relationship to stakeholders is a little difficult to envision. In a revised version of the entrepreneurial ecosystem, Professor Daniel Isenberg of Babson College reaggregates the thirteen entities (in Fig. 4) into six different categories below of stakeholder activity/interest (Fig. 5). In contrast to the text at the beginning of this section, *i.e.*, "the domains involved in running a successful entrepreneurial business" (Sect. 3.1),

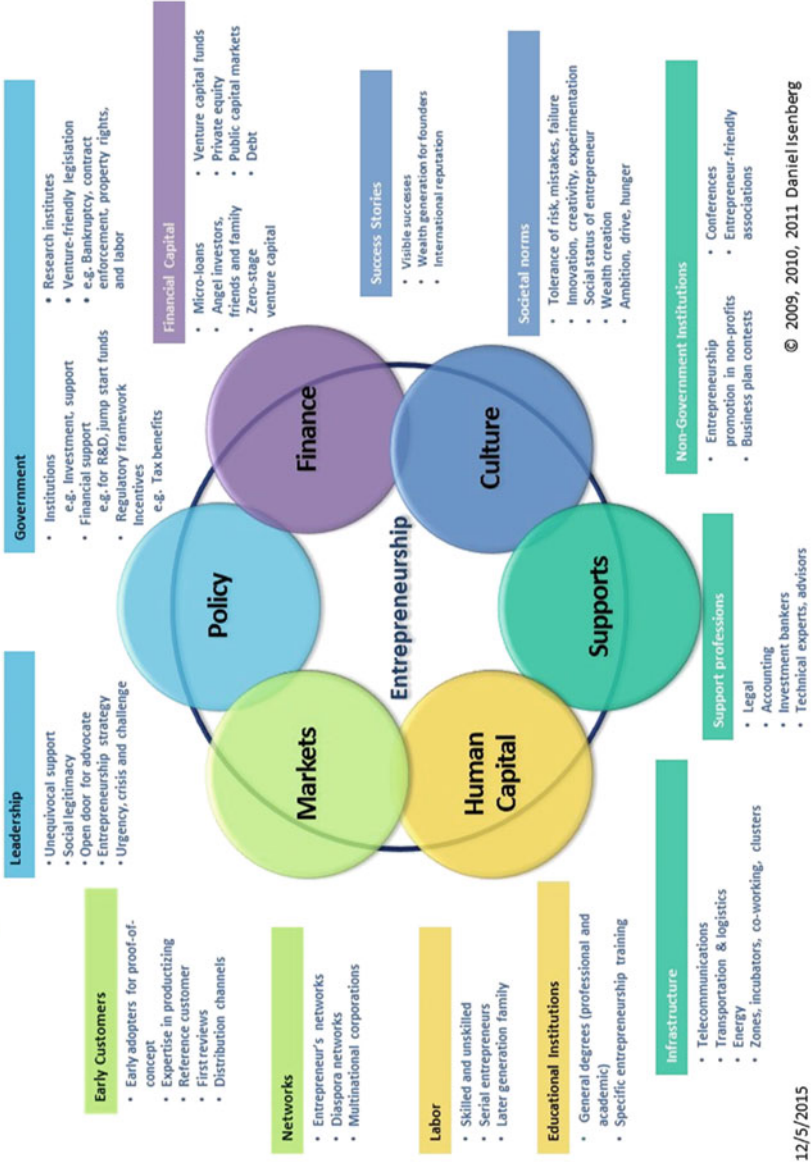


**Fig. 4** Babson College view of entrepreneurial ecosystem. *Source:* <http://web.archive.org/web/20130426134347/http://entrepreneurial-revolution.com/an-ecosystem-approach/> (Available via the World Wide Web accessed 11 January 2017)

the Babson-Isenberg model places considerably more emphasis on the external environment:

- **Government policy** toward investment, financial support for research and development, treatment of bankruptcy, contract enforcement, property rights, labour and tax issues;
- **Societal norms** that reflect a population’s preferences much like the findings that the Dutch researcher Geert Hofstede collected from 1967 to 1973 by comparing both perceived and actual national beliefs (available via the World Wide Web at <http://geerthofstede.com/research-and-vsm/> accessed 14 January 2017);
- **Support professions** are partially representative of a nation’s educational system, but also government policy and societal norms. E.g. the sheer size of the ‘legal profession’ in the United States is very different than that of Japan (3769 in the U.S. vs. 287 in Japan per one million persons) although both are very developed, wealthy countries (ABA 2016; WSJ 2016);
- **Infrastructure** development reflects the nation’s wealth as well as governmental policy;

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**Fig. 5** Isenberg view of entrepreneurial ecosystem. *Source:* <http://web.archive.org/web/20130426134347/http://entrepreneurial-revolution.com/an-ecosystem-approach/> (Available via the World Wide Web accessed 11 January 2017)

- *Educational institutions* and *labour* may influence, positively or negatively, whether or not a specific new business is able to take root and grow successfully, but here again, these two factors are strongly influenced by governmental policy;
- *Leadership* and *Early customers* are directly related to performance by the entrepreneur. But both of these areas are actually part of what's learned in most business management programmes.

### 3 The Entrepreneur's View from the Centre of the Ecosystem

#### 3.1 What Does an Entrepreneur Really Need from an Entrepreneurial Ecosystem?

Given the various perspectives on defining an entrepreneurial ecosystem (Sect. 2), what *does* the entrepreneur need? A starting point could be to list each of the domains involved in running a successful entrepreneurial business:

- Knowledge of a variety of *business management skills*; typically this would include General management, Small and/or Family business management, Finance, Marketing, Human resources, Accounting and tax, Use of information technology, Operations management and other topics specific to the particular type of business.
- But, if these skills were the primary reason for business success, there would be many more successful entrepreneurs. Granted, without some degree of competence in each of these areas, it would be a deficiency that would be difficult to overcome. However, access to *adequate funding* is more significant. While many entrepreneurs fund their business on their own (i.e., 'family and friends'), others depend on private investors, crowd-funding and even attempt floating an initial public offering (IPO).
- Just as crucial as funding is the mandatory need for having a ready supply of customers from 'Day One'. There is often confusion on this point as market surveys that identify size and scope of potential customers are mistaken for *actual customers*. A new company needs to know name, address and other contact details for real persons who have committed to buy the new product or service.
- *In-depth knowledge* of the particular industry that the business represents. This is an on-going/never-ending requirement. It's filled through reading about the industry, joining other groups of business people (e.g. chambers of commerce, organizations focused on a particular industry), attending courses, learning via MOOCs, and/or participating in continuing professional education (CPE).
- One of the most helpful resources are *role models*, especially if they are available to meet with and ask questions. Similarly, *mentors* are very important. The U.S. Commerce Department takes an interesting approach by making more

than 11,000 volunteer mentors available to would-be entrepreneurs in its Service Corps of Retired Executives (SCORE) via its Small Business Administration (SBA) website: <https://www.sba.gov/tools/local-assistance/score>.

- Likewise, *networking* of all types is both a source of information and of support.

### ***3.2 Would an Entrepreneur-Centric Ecosystem Be More Likely to Bring Success in MENA?***

As Sect. 3.1 shows, an entrepreneur needs a variety of support systems. These are necessary to get started as a ‘budding entrepreneur’ and to keep the business up and running through a variety of business life-cycle stages. Some of these needs can be categorized as pre-operational training and development activities, others are ongoing for the life of the business. This is necessary regardless of the country and culture of the business’ location. But in the case of an entrepreneur in MENA, there are additional needs.

Even identifying the business as a new start-up raises expectations that may be hard for the new entrepreneur to carry out; fear of failure and the perception that brings from society at large is very much increased in MENA compared to Western countries. Additionally, MENA’s public education system—in contrast to its private schools—is insufficient across the entire region. Teachers mostly teach using memorization. Developing students’ critical thinking skills is not part of the system. Unfortunately, in a number of regions, any education at all is an improvement over the persistence of illiteracy. E.g., youth literacy in Arab States has reached 90 per cent with 85 per cent for females and 95 per cent for males. But there are pockets of extreme disparity: female youth illiteracy in Yemen is 86 per cent. In terms of sheer numbers of (male and female) illiterate youth in the Arab States, the largest groups are in Egypt (1,705,000), Morocco (1,155,000), Iraq (1,130,000), Yemen (743,000), Algeria (611,000), Syria (201,000) and Saudi Arabia (100,000)/(UIS 2013). Not only would it be very difficult for any of these young people to become entrepreneurs, it is also difficult to be a consumer in an increasingly online world.

## **4 Findings and Discussion**

### ***4.1 Isenberg’s Ten Rules for Revolutionaries***

Daniel Isenberg, the Babson Professor of Entrepreneurship Practice (introduced in Sect. 2.5.2); “established the *Babson Entrepreneurship Ecosystem Project* to help leaders around the world create the policies, structures, programs and cultures that foster entrepreneurship. To that end, he’s also developed *Isenberg’s Ten Rules for Revolutionaries*” (Isenberg 2010). Some of Isenberg’s rules are directed to

entrepreneurs themselves, but most are meant for governmental policymakers, investors and other stakeholders in the ecosystem.

1. **“Stop emulating Silicon Valley! Even Silicon Valley could not create itself today if it were starting from scratch. Give up on thoughts of a “knowledge-based society” or “the information economy.” You don’t need to tell entrepreneurs that they need to use Internet and mobile technologies anymore than you need to tell them to use water or electricity.** The point that Isenberg is making is that entrepreneurial start-ups will, of course, be based on Information and Communications Technologies (ICT). While MENA’s populations are especially strong users of ICT, there isn’t the same urgency, though, to adopt it fully and immediately in new start-ups. The reasons for this are several: the low labour rates; preference for ‘in-person’ meetings; the myriad of people who fill the roles of ‘personal assistants’/household help/‘gofers’ found in Western countries. While begging is looked down on by most of the populations across MENA, tipping/paying people for their spontaneous help (at any time of day or night) is popular with both the requestor and the recipient.
2. **Tailor an ecosystem around your own particular characteristics. Sustainable entrepreneurship is the result of numerous forces working together, which we call the *entrepreneurship ecosystem* [and seen in Fig. 4]. Each region has a unique ecosystem with more than a dozen elements. Are there large companies that are used to interacting with small, innovative suppliers? Are there markets close by? Is the human capital technical in orientation? Does the culture support risk taking and innovative, contrarian thinking? Is leadership overtly and clearly supportive of entrepreneurship? You need to understand all of them, and how they can be strengthened and aligned.** Isenberg suggests that the most effective ecosystems are those based on mutual interests. Certainly that’s an efficient approach. If people from MENA were to answer Isenberg’s questions, only one would be likely to get a ‘no’ or ‘partial no’ in response: *“Does the culture support risk taking and innovative, contrarian thinking?”* Innovative is fine, but risk taking and contrarian thinking would not be encouraged. They wouldn’t be shunned, but they wouldn’t be considered desirable behaviours. Apart from these exceptions, the adoption of the Babson model of entrepreneurial ecosystem has been ubiquitous across MENA. E.g. Silatech in Qatar (Silatech 2013); Entrepreneurship Ecosystem Map of Jordan 2015 (Khatib 2015). For the most part the models represent the Babson perspective, but are weak on the elements related to Labor. In general, there seems to be a stronger interest in developing a new product or service and less attention to the human efforts required to develop the business itself. One website of note, though, seems to incorporate both aspects of ‘Labor’. Mohammad Abu Musa is a serial entrepreneur whose first venture failed because (in his own words), “Unfortunately, we couldn’t make deals and sustain the company, and we ended up closing it. We didn’t have any business background, and it was our first time to run a company.” [N.B. In our research for another chapter it was found that business education has been a very distant ‘second’ to engineering education in

MENA. This may have influenced how some of the ecosystem operators decided what training new entrepreneurs require.] In Mohammed Abu Musa's case, he went on to form a successful social enterprise that presently provides online training courses to 3000 women in nine Arab states; paid for via donations (Nudge Sustainability Hub 2017). This raises a question as to whether he ever received the business training he needed to run a for-profit business.

3. **Engage the entrepreneurship stakeholders early on.** *Entrepreneurship is about engagement and empowerment. Stakeholders should be engaged early in the process. This includes the various segments of the private sector, educational leaders, community leaders, government officials, entrepreneurship development organizations, leaders of diaspora networks, university officials, investors and lenders, and so on. In some communities the cooperatives, unions, and even religious organizations are influential. There are many ways to engage, but ongoing, sincere, open dialog is the most important starting point. Essentially, anyone and everyone who has even a moderate interest in the success of entrepreneurs should be involved.*

While entrepreneurial initiatives have been very popular throughout MENA, partnering, inclusiveness and striving to provide the maximum possible with the least financial resources, overall, hasn't been a goal. The primary goal is to form an organization that is devoted to 'entrepreneurship' but with little alliance-building.

4. **Support the high potential entrepreneurs.** *Although entrepreneurship is inclusive, to jumpstart an entrepreneurship ecosystem, the most impactful sector to influence is the high ambition, growth oriented, market-seeking ventures. These create the jobs, the dynamism and vitality, and the growth. This advice is related to the concerns of Stam et al. in the early part of this chapter. They were disappointed that no 'blockbuster' entrepreneurship had developed. But blockbuster entrepreneurship are not as random as they might seem. Their success can be planned (to a great degree) and furthered through the efforts of the ecosystem itself. The likelihood of a blockbuster entrepreneur appearing outside the U.S. is very slight, yet Sir Richard Branson certainly comes to mind. And some of the most famous blockbuster entrepreneurs (e.g. Sergey Brin of Google/Alphabet, Andrew Grove of Intel, Elon Musk of Tesla, SpaceX and multiple other businesses) were all born outside the U.S. but made their fortunes there. It's not very likely that they could have developed blockbuster entrepreneurship in their home countries (of Russia, Hungary and South Africa, respectively) because of the lack of a well-developed entrepreneurial ecosystem. Possibly even more importantly, they benefitted from the U.S. educational system.*

The educational system is one of the greatest barriers to developing blockbuster entrepreneurs in MENA. While some of the cultural differences discussed in this section require adaptation, it's nearly impossible to compensate for the lack of highly ranked world-class universities. University of Qatar and some of the universities in the U.A.E. have done a good job of making significant improvements, but it will take a long time. Institutions in MENA are not yet

at the stage of competing with the likes of Stanford, Berkley, and a number of other U.S. institutions. Worse, as the anecdote in Rule 2 described, even a basic business education is often overlooked in MENA.

5. **Get some visible successes, even by “brute force” if necessary.** *Success breeds success. Endeavor [<http://www.endeavor.org/>] has built its entire strategy around this principle, finding and nurturing “high impact entrepreneurs.” This happens because: (a) successful entrepreneurs like to help other entrepreneurs; (b) successful entrepreneurs become angel investors; (c) successful entrepreneurs make excellent board members; (d) success inspires latent-entrepreneurs to take the leap; and, (e) successful entrepreneurs become powerful voices for governmental reform. According to the **law of small numbers**: it only takes a few successes to change the entire game. But when you see some successes on the horizon, make sure you celebrate them! Give a medal, an award, make them visible. Isenberg presents an example of a solution to the lack of ‘blockbuster’ entrepreneurs (discussed in Rule 4). Endeavor is an organization that focuses on finding, assisting and developing potential blockbuster entrepreneurships. The group specifically looks for potentially high-impact start-ups outside the U.S. that merit financial aid and further development. They’ve opened offices in several cities in MENA since 2008, operating as [Wambda.com](http://Wambda.com). Since coming to MENA they’ve invested in 37 start-ups across the region. While that might not seem an impressive accomplishment for nearly 10 years of involvement, the obstacles in MENA require considerable patience, effort and time to affect change. Perhaps the most important fact is that they have stayed in the region.*
6. **Change the culture head on.** *Many leaders believe that this takes generations, and although much societal change is long term, there are certain social norms that can be changed in a few years: it is possible to increase tolerance for risk, the legitimacy (even nobility) of launching your own business, acceptance for honest failure. Media campaigns, annual events, and awards all help. Just think if you ran an entrepreneurship campaign as seriously as your own campaign for re-election? This rule is nearly a continuation of the comments in the previous paragraph (Rule 5). Consistent with Isenberg’s comments, change has occurred. While some 10 years of effort by [Endeavor.org](http://Endeavor.org) may seem long, it should be remembered that a decade ago the MENA region was, in general, under much more authoritarian control than in Western countries. While the Arab Spring has brought some change, perhaps the most significant impact in terms of expanding entrepreneurship is the recognition that unemployed youth account for a huge share of the population. Even the wealthier and more responsive governments cannot create enough jobs to provide for all these people; entrepreneurship is a necessity.*
7. **Stress the roots: don’t provide easy money.** *Early stage capital is always scarce, everywhere. But moving to the opposite extreme is equally disastrous. Provide funding, but insist that the entrepreneur bring in a matching investor. Keep the funding off the ventures’ balance sheets. Make sure the funds are not equity: government has no business selecting and nurturing winners. Directly*



*incentivize the financial intermediaries, not the ventures themselves: make it easier for banks, private equity, angel investors, family businesses, and leasing companies to invest in the ventures themselves. Don't be an evergreen financier: figure out a way to start the private financing markets, and get out, or focus on the highest risk areas.* Isenberg's comments here are directed at 'walking a fine line' with financing for new start-ups—not too much financial help and not too little. He suggests a variety of investment patterns that encourage both the entrepreneur and the financial entity to share roughly equal risk: neither party should give too much (whether the 'giving' is an equity share of the new start-up or expecting no financial risk at all for the new entrepreneur). He suggests to policymakers to offer attractive incentives for banks and other investors who invest in new start-ups. In Western countries, these incentives might come in the form of lowered taxes on interest earnings paid by the new entrepreneurs. That would not be acceptable in much of MENA as interest earnings are 'haram' (forbidden by religious law). But the government could provide incentives 'in kind'. E.g., financial entities will often need to spend more time than usual on new start-ups due to their lack of experience just to get their business plan (including pro forma financial statements) in good enough order to determine whether or not the new start-ups justify the risk of investment. The government could provide free training for the entrepreneurs, or help offset the cost of finance companies to provide lengthier loan examinations, or create seminars for specialized training for employees of the finance companies, etc. Lastly, Isenberg warns that if the national or local government is funding much of the initial start-up financing, they need to be sure there is a definite end point. The goal is to kick-start the growth and success of the new companies; not to become a source of permanent funding for these businesses. The goal is for the largest entrepreneurs to become an 'engine' that generates new businesses (e.g. spinoffs or related companies like Alphabet and Google, new agencies in other regions, begin franchising operations) as a result of the large, successful entrepreneurship. If some high risk areas still remain, continue to fund/work with those entrepreneurs until they can be stabilized.

8. ***Pave the footpath.*** *Don't push clusters too hard. Every government now has a cluster strategy and thinks that will get entrepreneurship going, but success is elusive and rare. Clusters don't create entrepreneurs. Entrepreneurs create clusters. Mike Porter said that in 1999, only no one listened. Watch where the entrepreneurs are walking, and then pave the footpath. Remember, entrepreneurship is inherently a contrarian activity, so wherever you decide they should be, the good entrepreneurs will always be figuring out how to do something else, do it differently, and do it better. Identify, watch, encourage, support.* Isenberg's advice in this rule is directed both at policymakers and at new entrepreneurs. On the surface, it would seem that Isenberg is saying that 'clusters' only look like they will lead to multiple entrepreneurial successes and he points to Harvard's Michael Porter having warned of the dangers of clusters. This is not quite what is meant.

“Economists explain clustering as a means for small companies to enjoy some of the economies of scale . . . usually reserved for large ones. . . . Modern high-tech clusters often gather round prestigious universities on whose research they can piggyback. Silicon Valley is near Stanford University, for example, and similar high-tech clusters are gathered around MIT near Boston. . . .” (Economist 2009). Porter wrote mostly about the advantages of clustering. E.g. “In the Netherlands, for instance, grower cooperatives built the specialized auction and handling facilities that constitute one of the Dutch flower cluster’s greatest competitive advantages. The Dutch Flower Council and the Association of Dutch Flower Growers Research Groups, in which most growers participate, have taken on other functions as well, such as applied research and marketing” (Porter 1998). It’s easy to see the advantage to a small newcomer in the industry of getting involved with this more sophisticated and experienced set of enterprises. It’s an example of scope trumping scale.

However, Porter also described less favourable outcomes: “Clusters continually evolve as new companies and industries emerge or decline and as local institutions develop and change. They can maintain vibrancy as competitive locations for centuries; most successful clusters prosper for decades at least. However, they can and do lose their competitive edge due to both external and internal forces. Technological discontinuities are perhaps the most significant of the external threats because they can neutralize many advantages simultaneously. A cluster’s assets—market information, employees’ skills, scientific and technical expertise, and supplier bases—may all become irrelevant. New England’s loss of market share in golf equipment is a good example. The New England cluster was based on steel shafts, steel irons, and wooden-headed woods. When companies in California began making golf clubs with advanced materials, East Coast producers had difficulty competing. A number of them were acquired or went out of business” (Porter 1998). Essentially, innovation overtook a long-established market. And this is the point that Isenberg makes, “*the good entrepreneurs will always be figuring out how to do something else, do it differently, and do it better.*” Clusters have a role to play, but as Porter’s example showed, they can be susceptible to ‘groupthink’ and a loss of competitiveness. We could paraphrase what Isenberg said (i.e. **Clusters don’t create entrepreneurs. Entrepreneurs create clusters**) to be ‘Clusters don’t create entrepreneurs; but entrepreneurs, and the cluster, can benefit for a limited time from a somewhat symbiotic relationship. When the entrepreneur has developed a competitive advantage that no one else can provide, the entrepreneur is in a position to start a new cluster’.

9. **Remove bureaucratic obstacles for entrepreneurs.** *Eliminate roadblocks and red tape through consolidation and streamlining. Redeploy the dozens or hundreds of clerks whose seats depend on their ability to slow everything down. Have permitting “bootcamps” to free up log jams. Make regulations transparent and provide tools for entrepreneurs to address them. Get rid of outmoded obstacles to redeploying people—support and retrain the unemployed rather than preventing their firing. Make sure tax collections are rigorous, fair,*

*but entrepreneur-friendly. As a government purchaser, buy from small suppliers, but make sure you pay on time: nothing is as demotivating as doing a good job as a new company, and waiting 3 months to get paid: this is absolutely unforgivable and has a huge dampening effect on entrepreneurship.* This rule is directed at policymakers. What Isenberg is advocating is to remove as many legal/political/unnecessary barriers as possible. There are many tasks involved in setting up any new business. It would certainly encourage more new entrepreneurs if getting the operation up and running were made as smooth as possible. When Isenberg advises to, *'Redeploy the dozens or hundreds of clerks whose seats depend on their ability to slow everything down'*, he's being facetious. He's describing regulations and/or governmental procedures that may provide little actual added value. "Dozens or hundreds of clerks" might even be true (as the MENA region has historically relied on creating an excessive number of government positions to avoid high levels of unemployment). Isenberg recommends sending the clerks to new positions, where they won't be developing new regulations and slowing processes any further. He encourages to take a pro-active approach to over-regulation by creating 'bootcamps' oriented toward development of 'smoothing processes': *'Have permitting "bootcamps" to free up log jams'*. Lastly, Isenberg advocates taking extra precautions to make sure that all businesses are treated fairly. This is especially true in instances involving money, from levied tax payments to outgoing payments from government agencies for services provided by new entrepreneurs.

10. ***Experiment relentlessly and holistically.*** *You can learn from what others have done around the world, but you have to experiment based on your own reality. Focus initially on short run experiments, small scale funding, short courses, and small numbers of entrepreneurs. Develop a norm of reflecting and learning from mistakes as well as successes. But don't expect piecemeal action to work: you need to move different elements of the ecosystem simultaneously. To use a simple example, creating private equity will be self-defeating if there is no high potential deal flow for investors to invest in, and ways for them to realize ("exit") their investment.* (Isenberg 2010). Although this Rule is directed at those providing the ecosystem, there is valuable information included for the entrepreneur, as well. Experimentation is likely to be endless; improvement is always possible. Likewise, mistakes and poor choices can also arise. Therefore, Isenberg's advice to look at the various elements of experiments as pieces of a 'whole' is important for maintaining perspective. While there is wisdom in learning from others across the world and to keep focused on one's own reality, it should be remembered that 2009 was already nearly a decade ago. With the expansion of technology, travel and interest in other cultures, it's perhaps not as much of a truism as before to say that one's own reality so different than other parts of the world. In particular, Isenberg's admonition to *'Focus initially on short run experiments, small scale funding, short courses, and small numbers of entrepreneurs. Develop a norm of reflecting and learning from mistakes as well as successes.'* is very important to entrepreneurs themselves. Not only are short

term tests easier to fund and manage, they are also easier to interpret the results and future impact if adopted. Those experiments that are not successful are just as important for ‘lessons learned’ as the highly successful ones. For providers of ecosystems, the ‘main takeaway’ is to not ‘...*expect piecemeal action to work: you need to move different elements of the ecosystem simultaneously*’. It’s an interconnected system and shouldn’t be expected to operate efficiently or correctly one piece at a time. Isenberg provides an excellent example of how focus on one part of a function without consideration of the outcome isn’t likely to work correctly: ‘*Creating private equity will be self-defeating if there is no high potential deal flow for investors to invest in, and ways for them to realize (“exit”) their investment*’. E.g. offering incentives to encourage private equity investment doesn’t work without potential for high rates of return. If government policymakers/regulators don’t allow for equity investors to keep the bulk of returns that result from their efforts to improve the business, investors lose interest and won’t invest.

## 4.2 Addressing the Research Problem

In the Introduction to this chapter, the Research Problem was posed as:

*If a set of ecosystem characteristics that lead to entrepreneurial success could be constructed, could these characteristics then be compared to the state of entrepreneurial ecosystem development in specific MENA countries?*

To address the Research Problem, the following two research questions were considered:

- What are the characteristics that should be included when constructing the best possible entrepreneurial ecosystem?
- What is the stage of acceptance or implementation of these characteristics in specific MENA countries?

These questions have been addressed in this chapter in the following two ways:

1. The characteristics that should be included when constructing the best possible entrepreneurial ecosystem have been discussed throughout this chapter. An overview of historical approaches to an entrepreneurial ecosystem was initially described, followed by the academic perspective, the GEM perspective, the Babson College approach and finally the entrepreneur-centric view. Lastly, Isenberg’s *Rules for Revolutionaries* provided some cautions based on ‘real world’ experience implementing/advising stakeholders (especially policymakers) on what works and what are some significant pitfalls.
2. As the chapter described, the MENA countries are not adopting and/or implementing the characteristics in the same way or at the same pace. In addition, the GEM data showed that the majority of MENA countries do not provide sufficient entrepreneurial training in comparison with Western counterparts. A model has been constructed that focuses on the most important elements of the

entrepreneurial ecosystem: Development of Entrepreneurs with Innovative Ideas (Fig. 6).

Using the model to represent the entrepreneur-centric ecosystem (Sect. 3.2) as the ‘heart’ of an entrepreneurial ecosystem, and by combining the vital characteristics assessed in the GEM data (Sect. 2.4), Isenberg’s *Ten Rules for Revolutionaries* and data collected by First Round.com (a very successful venture capitalist firm in San Francisco), an ecosystem assessment form has been created so that readers can determine for themselves the stage of readiness of any individual MENA country’s entrepreneurial ecosystem (Sect. 4.3).

### 4.3 Assessing the Entrepreneurial Ecosystem in Any MENA Country

Some cultural characteristics that are not represented in MENA—and have no negative influence on the effectiveness of the entrepreneurial ecosystem—are omitted from the assessment. The diagram in Fig. 6 is based on Lean Value Stream Mapping (VSM) and the Kaizen approach to process management. Both Lean and Kaizen come from the same roots and are tools used for process improvement. VSM diagrams begin on the right-hand side with the ideal version of the product or service. As Fig. 6 shows, the goal is to develop a successful entrepreneurial startup and success is dependent on an innovative product and/or service meant for

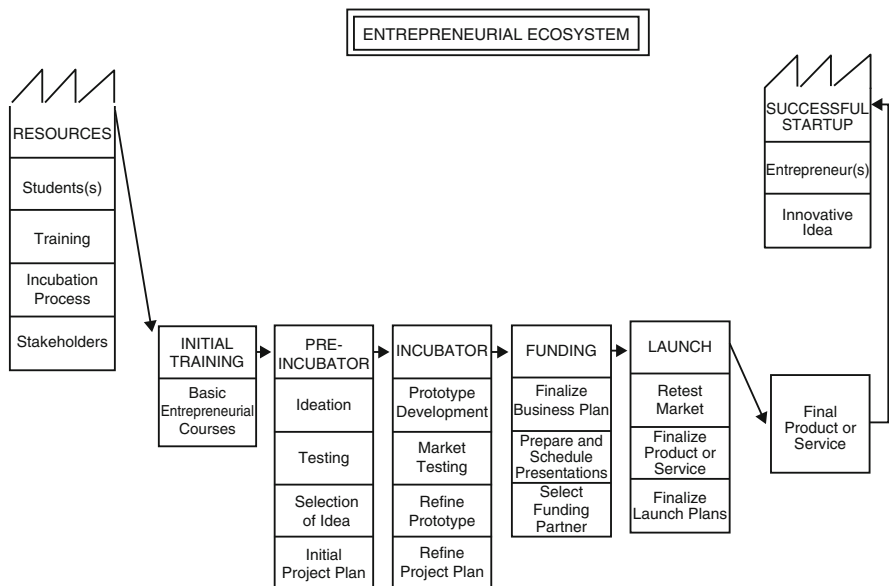


Fig. 6 Authors’ view of entrepreneurial ecosystem

businesses (i.e. enterprise or B2B start-up) or for consumers. In order to create that successful start-up, four key resources are required (Students, Training, Incubation Process and Stakeholders), as seen on the left-hand side of the diagram. The application of these resources is configured as the processes shown between the ‘Resources input’ and the ‘Successful Start-up output’. Assessment of the contributions of each individual process block (e.g. Basic Entrepreneurial Courses, Ideation, Testing) can be counted as a simple Yes or No regarding what exists in a specific MENA country. The evaluations work as follows:

1. **Initial Training** requires Student(s) and Training as its needed Resources.

The successful performance of Basic Entrepreneurial Training in any single MENA country is based on the presence of the following elements:

EXISTS:

- 1.1. All classes are taught without rote learning and using critical analysis. \_\_\_\_\_
- 1.2. All classes are taught with students in teams and teacher(s) using Active Learning (Cooperative, Collaborative and Problem-Based forms of Learning) to teach \_\_\_\_\_
- 1.3. Classes do not exceed 30 students per teacher \_\_\_\_\_
- 1.4. Minimum courses are Entrepreneurship, Project Management, Leadership, Operations Management, Innovation, Finance, Accounting (International), Marketing, Contract Law; Professional Skills development (public speaking, presentations, selling ideas, etc.) \_\_\_\_\_.
- 1.5. Additional support courses are available (e.g. Cross-Cultural Training, Quality Management, Supply Chain Management) to meet individual development needs \_\_\_\_\_
- 1.6. During the course, each team participates in at least one experiential learning project to introduce the team’s chosen product or service to the local community \_\_\_\_\_
- 1.7. Courses exist at university level \_\_\_\_\_
- 1.8. Courses exist at vocational level \_\_\_\_\_
- 1.9. Courses exist as Adult Education for skills improvement \_\_\_\_\_

Total number of YES answers: \_\_\_\_\_

2. **Pre-incubator** supports the overall Incubation process and represents the transition phase from Student to “Budding Entrepreneur” showing the first signs of future promise. This set of processes requires the ‘output’ from Initial Training. Student(s) without appropriate training will not do well. The entire Incubation process could be provided by the government or the marketplace, but it’s more likely to fit better in an educational institution (as the questions will show). In the Pre-Incubator the student makes the transition from studying concepts into applying this learning in attempts to develop an actual entrepreneurial product or service.

2.1. **Ideation** is the first process the student encounters. In this process, the student/team starts with an idea that appealed during Initial Training. The

emphasis is no longer on whether the development of the idea met classroom standards but whether or not the idea meets marketplace standards and potential consumer acceptance. It's critical that mentors from industry are available to assist the student/team, especially to identify early in development what may be obstacles or flaws when approaching the market.

EXISTS:

- 2.1.1. Sufficient number of mentors are available from industry to help with Ideation? *I.e.* one mentor per each two teams (or ten individual students) is needed \_\_\_\_\_
  - 2.1.2. The mentors have industry experience in same areas of student projects \_\_\_\_\_
  - 2.1.3. Other mentors from industry are available as audience to review student ideas \_\_\_\_\_.
  - 2.1.4. Clear and measurable indicators exist to let students know when they are close to reaching the Testing phase \_\_\_\_\_
- 2.2. **Testing** is very important to final success. Errors or weaknesses at this point can plague the project throughout its life. Improvements are needed before entry into the Incubator.
- 2.2.1. Teams' Test plans meet measurable goals for operational performance \_\_\_\_\_
  - 2.2.2. Teams' Test plans meet measurable goals for marketing objectives \_\_\_\_\_
  - 2.2.3. Teams' Test plans meet measurable goals for good project management \_\_\_\_\_
  - 2.2.4. Teams have adequate resources to revise and retest their projects \_\_\_\_\_
  - 2.2.5. Objective and measurable criteria define when testing has been completed and a solid basis exists for further development of the idea for a product/service \_\_\_\_\_
- 2.3. **Selection of Idea** is an important marker on the road to development of the product/service. It's an indicator of the completion of nearly a year's worth of effort.

EXISTS:

- 2.3.1. Presentations are made to suitable stakeholders and stakeholders provide both verbal and written feedback \_\_\_\_\_
- 2.3.2. Final configuration of teams:

It might be wise at this point to consider the findings of First Round Capital, a seed-stage investment firm who funded Uber and other success stories. First Round looked back on their initial 10 years' investments in 300 companies and 600 founders for patterns that might influence entrepreneurial success. There were some

astounding findings which are only referred to here, but can be read in full on the First Round website (First Round 2015).

- 2.3.2a. Teams with at least one female founder performed 63% better than all male teams.
- 2.3.2b. Teams with average age under 25 performed nearly 30% better. However, in First Round's Top Ten investments, average age was 31.9 years.
- 2.3.2c. Teams with at least one founder who attended Stanford University, MIT, Caltech or any of the Ivey League schools performed 220% better than all other teams.
- 2.3.2d. Teams with at least one founder who previously worked at Apple, Facebook, Google, Microsoft or Twitter obtained 50% higher first time investments than other teams.
- 2.3.2e. Investors also tended to pay 50% higher first time investments to repeat founders.
- 2.3.2f. Solo founders do much worse than teams. Teams with more than one founder performed 163% better than solo founders. Seed valuations were 25% less for solo founders than for teams.
- 2.3.2g. Technical co-founders are critical to B2B (i.e. enterprise) teams, but less necessary for consumer product/service teams. In fact, [B2B] start-ups with at least one technical co-founder perform 230% better than completely non-technical teams. Conversely, consumer start-ups with at least one technical co-founder under perform a completely non-technical team by 31%.
- 2.3.2h. Start-ups founded outside the big U.S. start-up hubs (San Francisco and New York City) perform just as well and First Round found they were actually 1.3% better performers.
- 2.3.2i. The conventional source for venture capital firms to locate winning start-ups are referrals. However, in reviewing its own records, First Round learned that self-introductions performed 23% better than referrals and new innovative ideas were discovered on Twitter, on Demo Day (open presentations for would-be start-ups to display their ideas) and other public sources. In fact, these teams performed 58.4% better than those referred to First Round.

While it could be difficult for MENA countries (outside the GCC members) to implement 2.3.2c and 2.3.2d, there is no reason not to consider scouting the talent in either or both of these categories and having them come to MENA countries to work with especially promising teams. The same kind of thinking could be applied to 2.3.2h and 2.3.2i; it's not a requirement that venture capitalists and Demonstration Days



must be inside MENA. Countries that truly want to develop their local talent will make resources available.

EXISTS:

2.3.3. Final selection of team members are made after careful consideration of First Round Capital's advice for creating successful entrepreneurs \_\_\_\_\_

2.4. **Initial Project Plan** is meant to confirm what the entrepreneurial team will undertake in the balance of the Incubation process. While the Project Plan can be revised as needed, the goal is to make it as complete and thorough as possible to help all participants and future stakeholders visualize how the new product/service will look, how it will function, what the necessary steps are to make that happen, who will perform these steps and how much will development costs be.

EXISTS:

2.4.1. Teams' Project plan meets measurable goals for operational performance \_\_\_\_\_

2.4.2. Project plan incorporates and revises as necessary the elements of the initial test plan(s). \_\_\_\_\_

2.4.3. Project plan clearly identifies and describes measurable performance criteria for each task in the plan. \_\_\_\_\_

2.4.4. All development costs (at least through prototyping stage) are clearly defined and identified alongside measurable outcomes. \_\_\_\_\_

2.4.5. Tasks to be performed by each team member are clearly described with measurable outcomes. \_\_\_\_\_

2.4.6. All team members have participated in the development of the Initial Project Plan and agreed to its final version. \_\_\_\_\_

2.4.7. The school or responsible party overseeing the Incubation process accepts the Initial Project Plan and defines its role and responsibilities for the facilities required to develop the Prototype and source(s) of funding for all associated costs. \_\_\_\_\_

3. **Incubator** is the continuation of the Pre-Incubator processes and the continuation of the prototype development. On average, the Incubator experience is likely to take a minimum of 6 months and up to 18 months for the more complex projects. There are four main sets of processes required in this stage. Successful performance of the Incubator processes should result in serious investor interest. If it does not, the student team needs to consider what might have gone wrong and the policymakers in the school need to question why things failed at such a late stage in development. While the experience may be painful for the students and their stakeholders, identifying what did not work is as important as learning what will work.

3.1. **Prototype Development** builds off of the accomplishments of the Pre-Incubator set of processes. It is the first stage that is completely focused

on building a prototype of the product or fully developing and testing a service offering. The bulk of the tasks needed for prototype development took place during the preparation of the Initial Project Plan (Stage 2.4). However, during the Incubation stage more contact with the ‘outside’ business world takes place. Refinements to the prototype design are likely to be added as the team learns more about the market place as well as what attracts investors.

EXISTS:

- 3.1.1. The team and its mentor(s) review current descriptions of the prototype requirements to identify areas that need more work or agree that it’s complete. \_\_\_\_\_
- 3.1.2. Revisions to costs, completion dates or other serious adjustments are carefully considered; particular emphasis is placed on ascertaining that the current set of product characteristics will be of interest to the largest share of potential buyers. \_\_\_\_\_
- 3.2. **Market Testing** is critical to be sure that the team will be providing the most suitable set of ‘must have’ and ‘nice to have’ characteristics. Although the primary concern is to verify that the team fully understood what buyers wanted from the new product/service, it’s equally important to begin developing acquaintances among the various venture capital companies. Some of the venture capital companies will have perspectives on the type of product/ service the team has prototyped that might have been overlooked by the team; all avenues should be considered.

EXISTS:

- 3.2.1. Teams and mentors develop plans for market testing based on clear and measurable objectives for capturing and incorporating meaningful data into the project plan. \_\_\_\_\_
- 3.2.2. Teams develop strategy for introducing/discussing the ‘must have’ vs. ‘nice to have’ characteristics. \_\_\_\_\_
- 3.2.3. Teams evaluate the information collected from potential customers for the finished version of the prototype. \_\_\_\_\_
- 3.2.4. Teams schedule and prepare as many demonstrations as possible with suitable potential investors; preparations include plans for data collection from the demonstrations. \_\_\_\_\_
- 3.3. **Refine Prototype** processes are based on the feedback collected from the Market Testing. The goal is to bring the prototype to as close to finished stage as possible without overspending funds or overly increasing the workload of the team.

EXISTS:

- 3.3.1. Project plan is updated to include the new data and new tasks. \_\_\_\_\_
- 3.3.2. Criteria are updated for measurable completion of prototype product/ service. \_\_\_\_\_.

- 3.3.3. Prototype product or service is reworked. \_\_\_\_\_
- 3.3.4. Completion of the product/service is signed off by the institution where it was developed; mentors, potential buyers and potential investors might also be asked to sign off or write a letter to be attached. \_\_\_\_\_
4. **Funding** represents the stakeholder “Investors” seen from the perspective of the team of “Budding entrepreneurs”. Again, this is a set of processes that arise from the completion of work in the previous set of processes (Incubator). The various plans that were made in Pre-Incubator and were transferred to Incubator and enlarged as well as the other outputs from Incubator are the starting point for going after Funding. Another critical element is to identify which potential investors are best suited for the project/service the team has created. Lastly, but most importantly, it must be clear to investors what makes the product/service innovative.
- 4.1. **Finalize Business Plan** is a critical document for every new business, whether they have their own funding or need to seek outside investment. The Business Plan is updated each year and completely reworked when major events occur. It’s the ‘roadmap’ that explains where the business is headed and what its strategy is. Waiting until the need for funding has arisen is too late to begin the Business Plan. (That wait could delay final preparation of the Business Plan for at least 1 to 3 months). Therefore, the students were initially introduced to the elements of a business plan in the Initial Training processes. Then during the Incubation phase, most of the elements have been prepared and revised according to the strategies and plans of the student team.
- EXISTS:
- 4.1.1. The Business Plan is based on what the students learned in Initial Training and mock business plans they developed in several courses. \_\_\_\_\_
- 4.1.2. All the various singularly-focused plans constructed during the Incubation Processes (*i.e.* Project Plan, Product Test Plan, Marketing and Market Test Plans, Prototype Refinement Plan, initial documents for presentations/demonstrations to potential investors) are fitted into the Business Plan, and updated as needed. \_\_\_\_\_
- 4.1.3. The finalized Business Plan is signed off by the team members, mentor(s) and the institution. If potential investors were already involved, their opinion is also sought. \_\_\_\_\_
- 4.2. **Prepare and Schedule Presentations** is as critical a set of processes as the finalized Business Plan is. The presentation materials tell the ‘story’ of the benefits of the prototype, its advantages over similar products/services, any potential negative characteristics need to include a suitable explanation, the most significant questions that can be anticipated need to be briefly addressed in the presentation material, but ready to be fully explored in the

question and answer periods following the presentations. In short, there shouldn't be any unanswerable questions coming during the question and answer period. Student teams who have already made presentations in front of potential investors should be asked for their input and tips about what to expect.

EXISTS:

- 4.2.1. Data is collected from key sources; (e.g. the Business Plan is used as a guide to elements that should be key points). Prototype descriptions, videos, and excerpts highlighting benefits of prototype must be included in the presentation material. \_\_\_\_\_
  - 4.2.2. Presentation materials and format will be rated more highly on content and professional speaking skills rather than whether or not the team and their material look like an advertising agency prepared them. The team should make as many mock presentations as possible to mentors, other students and teachers and collect feedback. \_\_\_\_\_
  - 4.2.3. Advice from teams who have already presented to investors is especially useful, not only to help imagine what the presentations will be like but more importantly to understand the profile of products/services that particular investors target, and why. \_\_\_\_\_
  - 4.2.4. Presentation materials are revised as necessary and modified as needed for each specific demonstration/presentation \_\_\_\_\_
- 4.3. **Select Funding Partner** may sound like the 'end of the journey'. But, in actuality it is just the beginning. The first issue that arises is whether or not any potential funding offer is in the best interests of the team. Of course, a legal relationship won't be successful if there isn't fairness and equality between two contractual parties, in this case the investor group and the team of developers. But teams of developers are often in a rush to accept the first viable offer that comes their way. That's excellent if the contractual terms and conditions are transparent and fair to both sides. But there are many instances when that isn't the case.

Some of the 'angel investors' are noted for investing in a good idea and quietly standing back during the first year, but then taking over the new enterprise, keeping the key founder and firing the rest of the team. Other times the contract rights of the investor are sold on to another firm, without any consultation with the entrepreneurs. This can lead to a contractual change that can only be challenged in court. New start-ups are not in a position to take on a legal challenge in addition to developing/launching their new product/service. And, sometimes the investors are keenly interested in helping new start-ups to develop and want to fund a group because they care about the idea as much as they care about the profitability of their investment. For a number of different reasons, considerable care must be exercised when selecting funding partners.

## EXISTS:

- 4.3.1. The team and its mentor(s) develop a list of suitable funding partners \_\_\_\_\_
  - 4.3.2. Each potential funding partner is contacted and attempts are made by the team to try to secure an appointment for a presentation \_\_\_\_\_
  - 4.3.3. Presentations are customized for each potential investment company \_\_\_\_\_
  - 4.3.4. Presentations are made to each potential investment company and positive outcomes are evaluated on the issues of going forward together \_\_\_\_\_
  - 4.3.5. Presentations that resulted in negative outcomes are evaluated carefully by the team to understand why the presentation failed. Any needed adjustments are added to the main Business Plan and also added to future presentations. \_\_\_\_\_
  - 4.3.6. If no potential funding partners were found and/or no presentations were scheduled, the team must carefully look at various elements that may be flawed. These elements include the market tests, the prototype product/service, a survey of the marketplace to ascertain whether a newly introduced product/service has taken the 'place' previously intended for the team's innovative development. \_\_\_\_\_
  - 4.3.7. Solutions must be found for any issues uncovered in Item 4.3.6. \_\_\_\_\_
  - 4.3.8. Any revisions begin where they first entered the system. (E.g. revised prototypes re-enter the system at the Market Testing stage.) \_\_\_\_\_
5. **Launch** represents the actualization of all the efforts put into getting the product/service to the marketplace. There may have been as much as 6 months or so to get from Funding into the Launch phase. Therefore, the market for the prototype product/service may have changed and a Retest should be done. Any changes in anticipated market acceptance need to be addressed before product/service launch can proceed. Following these last revisions, the product/service is finally launched.
- 5.1. **Retest Market** is done again to ensure that the prototype product/service is still at the same level of market acceptance as when the previous most recent testing was done.

## EXISTS:

- 5.1.1. The product/service prototype is tested again to verify that levels of interest from potential consumers has not changed \_\_\_\_\_
- 5.1.2. If market interest has changed, the reasons for reduced (or increased) consumer acceptance need to be investigated and fully understood so that proper responses are built into the revised product/service prototype \_\_\_\_\_
- 5.1.3. Prototype production/rollout is re-planned to address findings of Item 5.1.2 \_\_\_\_\_

5.2. **Finalize Product or Service** is exactly what it sounds like: The planned changes to the product/service prototype are carried out. Adjustments to the number of initial products needed or to the number of service workers required are carried out and the roll-out plan is revised. The number of support personnel are also adjusted.

EXISTS:

5.2.1. The production plan for product items or for the number of service providers is updated \_\_\_\_\_

5.2.2. Changes in number of support personnel needed during Launch are updated \_\_\_\_\_

5.3. **Finalize Launch Plans** refers to the specific Launch Project Plan that addresses how the tasks involved in Launch will be managed. A smooth Launch will help to ensure that follow-on activities can be managed smoothly, as well.

EXISTS:

5.3.1. Launch Project Plan is finalized. \_\_\_\_\_

5.3.2. Planned Launch activities are carried out. \_\_\_\_\_

5.3.3. Product/Service market take-up is monitored to manage effects of Launch and identify when the Final Product or Service is a favourite in the Marketplace. \_\_\_\_\_

Total number of YES answers: \_\_\_\_\_

6. **Final Product or Service** marks the end of the development and introduction of an innovative new product/service into the Marketplace.

N.B. In general, it should be noted that development efforts to get each entrepreneurial student to reach the Launch stage takes some 2 to 4 years. Remembering the First Round finding that, “Teams with average age under 25 performed nearly 30% better” suggests that entry into the Initial Training phase should take place before the student is 23 years of age. This would be consistent with the GEM findings that students should be exposed to entrepreneurial training or experience before they’ve graduated from secondary school.

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# Institutions and Entrepreneurship in MENA Countries



Ali Hussein Samadi

**Abstract** This chapter describes the concepts of entrepreneurship and institutions and reviews and categorizes the different types of institutions and entrepreneurship. After this, the factors influencing entrepreneurship are identified and classified into two categories—institutional and non-institutional. It is also known that economic, legal, managerial, educational, social, cultural, and political environments affect entrepreneurship. In this chapter, only institutional factors are taken into account, and their theoretical relationship is examined. The conclusion is that institutions are important in the entrepreneurial process. Entrepreneurs can also play an important role in the process of institutional change; thus, a bidirectional causal relationship is found between institutions and entrepreneurship. In the empirical section, the status of institutional quality, the entrepreneurial environment, and the relationship between them in Middle East and North Africa (MENA) countries are analysed. It is concluded that the status of these variables is inadequate and opportunity-driven entrepreneurs can create institutional changes in these countries.

**Keywords** Entrepreneurship · Institutions · Control of corruption · Property rights · MENA countries

## 1 Introduction

In the literature on economic growth, the question has always been present: why are some countries poorer than other countries? To answer this question, several theories have been presented. In these theories, the causes, forms, and effects of economic growth are taken into consideration. In the analysis of economic growth causes, two kinds of factors are considered—proximate causes (such as the accumulation of physical and human capital etc.) and ultimate causes (such as social capital, culture,

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property rights, entrepreneurship etc.) [Rodrick et al. (2004), pp. 131–136; and Acemoglu (2006), pp. 83–96, Samadi (2008), pp. 11–12]. Accordingly, the attention paid to the thoughts of institutional economists grew.

Moreover, in the literature on entrepreneurship economics, the question has been present: why do some countries benefit from entrepreneurial interests while others lose? To answer this question, several theories have also been proposed in regard to the causes and effects of entrepreneurship. Accordingly, especially since the release of Baumol's seminal paper (Baumol 1990), special attention has been paid to entrepreneurship economics. Baumol—by introducing various forms of entrepreneurship—shows that institutions are important determinants of the level and types of entrepreneurship.

Institutions and entrepreneurship are the two ultimate causes of economic growth. On the other hand institutions affect both entrepreneurship and entrepreneurs, which are considered to be the cause of institutional change. Economic growth is also considered as one of the causes of the growth of entrepreneurship. Thus, it can be stated that the triangle of institutions–entrepreneurship–economic growth is a more appropriate answer to the two questions posed in this introduction. The purpose of this chapter is to pay particular attention to the side of institutions–entrepreneurship. Also, in the present chapter, we try to answer the question: What factors influence entrepreneurial activities? What is the effect of formal and informal institutions on entrepreneurial activities? Are institutions also important in the formation of the entrepreneurial activities?

Given the special status of the MENA countries (high potential for growth and at the same time poor condition, the existence of poor institutional quality, especially state of corruption control, and the poor status of protection of property rights as well as the poor condition of entrepreneurship and poor governmental support etc.), it is very important to examine the relationship between institutions and entrepreneurship. There are many studies (e.g. Schumpeter 1934; Baumol 1990; Kozul-Wright and Rayment 1997; Busenitz et al. 2000; Yu 2001; Baez and Abolafia 2002; Westland and Bolton 2003; Spencer and Gómez 2004; Stephen et al. 2005; Li et al. 2006; Greenwood and Suddaby 2006; Lee et al. 2007; Sobel 2008; Bowen and De Clercq 2008; Aidis et al. 2009; Nyström 2008; Otahal 2012; Greener 2009; Mitchell and Campbell 2009; El Harbi and Anderson 2010; Henrekson and Sanandaji 2011; Kalantaridis and Fletcher 2012; Stenholm et al. 2013; Valdez and Richardson 2013; Dau and Cuervo-Cazurra 2014; Sambharya and Musteen 2014; Urbano and Alvarez 2014; Castaño et al. 2015; Williams and Vorley 2015; Kuchar 2016; Muralidharan and Pathak 2016; Lucas and Fuller 2017) in this field, which cover the effect of different types of institutions on the level and types of entrepreneurship.

But there are few studies (e.g. Simon-Moya et al. 2013; Fuentelsaz et al. 2015; Aparicio et al. 2016; Angulo-Guerrero et al. 2017; Brixiova and Egert 2017) on the effect of institutional factors on opportunity-driven and necessity-driven entrepreneurship. These studies have been conducted, respectively, for 68 countries, 63 countries over the period of 2005–2012, 43 Latin American countries during the period of 2004–2012, OECD countries over the period of 2001–2012, and 100 countries selected cross-sectionally. Aparicio et al. (2016) considers only opportunity-driven

entrepreneurship, but in the other studies, both opportunity-driven and necessity-driven entrepreneurship types have been noted. The first contribution of this study is to consider MENA countries.

Moreover, in all studies, the effect of physical property rights (as a sub-index of economic freedom index) on opportunity-driven and necessity-driven entrepreneurship has been examined. Accordingly, the second contribution in the present chapter is to examine the relationship between intellectual property rights and opportunity-driven and necessity-driven entrepreneurship.

The results of this study show that in the MENA countries and factor-driven countries, opportunity-driven entrepreneurs are able to provide an institutional change context, at least in the short run.

The rest of the chapter is organized as follows. The theoretical background—including institutional and non-institutional factors influencing entrepreneurship—is discussed in Sect. 2. Moreover, we discuss the causal link between institutions and entrepreneurship in this section. Section 3 is devoted to the research methodology. In Sect. 4, we analysis the status of entrepreneurship and its relationship with institutional quality in MENA countries. Section 5 is devoted to discussion, while Sect. 6 presents the conclusion.

## **2 Theoretical Background**

There is no clear and single definition for certain terms. Institution and entrepreneurship are no exception. There are several definitions for institutions and entrepreneurship. Moreover, several indices and criteria have been proposed to measure them. Before examining the factors affecting the level and types of entrepreneurship (Sect. 2.2) and the relationship between entrepreneurship and institutions (Sect. 2.3), the terminology and typology of institutions and entrepreneurship are discussed in the first sub-section. The purpose of the second sub-section is to identify all the factors affecting the level and types of entrepreneurship. The main purpose of this section is to address with greater depth the relationship between institutional factors and entrepreneurship. In the third sub-section, this relationship is discussed in terms of the causal relationship. After describing the relationship between institutions and entrepreneurship, the research hypotheses are expressed.

### ***2.1 Institutions and Entrepreneurship: Terminology and Typology***

#### **2.1.1 Institutions**

Important developments occurred in the theories of economic development after World War II. Development economists in different decades have given different recommendations for developing countries:

1970s: Getting prices right

1980s: Getting macro-policies right

1990s: Getting *Institutions* right

But what is an institution? What are the types of institutions? What are different schools of thought of institutional economics? These are the questions that are briefly answered in this sub-section.

The term institution was used by Batista in 1725 for the first time. This term in recent years has entered sociology, political science, management, psychology, history, geography, philosophy, and anthropology. But the first attention of economists to institutions can be attributed to the members of the German historical school—especially Schmöller (1840). The spark of the formation of institutional economics was also given in 1898 by Veblen. About the concept of institutions in the literature on institutional economics, there is a lack of clarity and no consensus. Institutional economists such as Veblen, Commons, Hamilton, Ruttan and Hayami (1984), Williamson (2000), North (1990, 2005), Dopfer (1991), Nelson and Sampat (2001), Acemoglu et al. (2003), Rodrik et al. (2004), Chong and Zanforlin (2004), Searle (2005), Brown (2005), Hodgson (2006), Aoki (2007), and Mitchel have addressed the terminology of the concept of institution and have provided a definition for it.

The definitions provided by the researchers have certain similarities and differences. The researchers' attention in most definitions (e.g. Ruttan and Hayami 1984; North 1990, 2005; Dopfer 1991; Chong and Zanforlin 2004; Aoki 2007) is focused on social interaction. The second similarity in most definitions (such as North 1990) is the focus on uncertainty and the role of institutions in reducing it.

But the disagreement between the authors can be found in their main definition ground. Some economists (e.g., Williamson 2000; Ruttan and Hayami 1984; North 1990) consider the transactions between economic agents, while others consider the authority and control of economic agents. Some economists consider reaching an agreement and coordination on issues of interest.

Some institutional economists use the term institution to refer to 'standardized behaviour pattern', while others use it to refer to the factors and forces (such as belief norms and systems, rules of the game, and governance structure) that support or restrict customary patterns. Some authors define institutions in terms of the broader social and cultural fields and others in terms of the factors related to certain behaviour patterns<sup>1</sup> (Nelson and Sampat 2001).

Scholars like North (1990) consider institutions as norms or rules (of the game), while others like Aoki (2007) consider them as the result of the balance of a game. Also, Yu (2001, p. 225) define institutions as 'the economy's total stock of knowledge'.

To avoid some mistakes in the terminology of the term institution, Lin and Nugent (1995, p. 1307) believes that a distinction should be made between

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<sup>1</sup>To further study the differences, see Nelson and Sampat (2001) p. 31ff.

institutional arrangement (a set of structural rules that govern the behaviour of individuals in a certain range) and the institutional structure (the totality of institutional arrangements, including organizations, regulations, customs, and ideology).<sup>2</sup> These researchers believe that the term, considered by economists, is mainly related to institutional arrangements. From their point of view, when the term institutional change is used, it mainly refers to a change in the institutional arrangement rather than in the institutional structure.

North considers institutions as ‘rules of the game in society’ (1990, p. 19), composed of ‘informal constraints such as fines, sanctions, customs, traditions and code of conducts, and formal rules such as constitution, rules, and property rights. Also, he defines institutions as restrictions imposed by human beings on the interaction among them. In this definition, he uses restrictions instead of rules, while in 1997 (North 1997, p. 6), he used the rules of the game.

Nelson and Sampat (2001, p. 3) also defines institutions as social technologies in the operation of productive activities. These two definitions (North 1990; Nelson and Sampat 2001) are considered in this chapter.

There are several categories of institutions. In a general classification, institutions can be divided into three categories—*social institutions* (such as family institutions, governmental institutions, religious institutions, and educational institutions), *economic institutions* (such as property rights and contracts), and *political institutions* including the government form (such as democracy, dictatorship, monarchy, republic, aristocracy, theocracy, and oligarchy) and the restrictions imposed on politicians, the political elite, etc. (Acemoglu et al. 2005, p. 391).

Another category is given by Manger. He classifies institutions as *designed* and *un-designed* (Yu 2001). From the perspective of Longloise, institutions can also be *pragmatic* or *organic* (*ibid.*, p. 233). But Bowen and De Clercq (2008) classifies institutions as *proximate* (or *formal*) and *background* (or *informal*). The conventional classification in institutional economics—*formal* and *informal institutions*—is considered in this chapter. These classifications and some examples are given in Table 1.

There are several classifications of institutionalism. Conventional classifications are *original* (*old*) *institutionalism* (including the works of Veblen, Commons, Mitchel, Ayres, etc.) and *New Institutionalism* (including *historical*, *rational choice*, and *sociological* or *organizational institutionalism*). Some researchers have also mentioned *New Old*, *cognitive*, and *discursive institutionalism*.

From the above, it is clear that in any institutional analysis, the intellectual concepts, types, and schools should be considered.

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<sup>2</sup>To further study this area, see Lin and Nugent (1995).

**Table 1** Typology of institutions and entrepreneurship

Institutions	Entrepreneurship
<p><b>I. (North 1990)</b>  <b>– Formal:</b>  Economic and Legal Environments (e.g. Rule of law, property rights),  Financial capital  Educational capital  <i>Economic freedom:</i>  (Trade freedom  Fiscal freedom  Government spending  Monetary freedom  Investment freedom  Financial freedom  Property Rights  Corruption Perception  Labor freedom  Business freedom)  <b>– Informal</b> (Business Ethics and Social Norms, Closed Social Networks, Culture, education)  <b>II. (Carl Manger)</b>  <i>Designed</i>  <i>Undesigned</i>  <b>III. (Lingloise)</b>  <i>Pragmatic</i>  <i>Organic</i>  <b>IV. (Bowen and De Clarcq 2008)</b>  <i>Proximate (or Formal)</i>  <i>Background (or Informal)</i>  <b>V. General</b>  <i>Economic</i>  <i>Social</i>  <i>Political</i></p>	<ul style="list-style-type: none"> <li>• Innovators versus Imitators (Schumpeter 1934)</li> <li>• Formal and Informal (Webb et al. 2009; Dau and Cuervo-Cazurra 2014)</li> <li>• Necessity-driven and Opportunity-driven</li> <li>• Schumpeterian/Kirznerian/Austrian entre (Cheah 1990)</li> <li>• <b><i>Institutional versus Traditional</i></b> (Li et al. 2006; Greenwood and Suddaby 2006; Montiel and Husted 2009; Greener 2009; Bruton et al. 2010; Kalantaridis and Fletcher 2012; Auplat and Zucker 2014)</li> <li>• Productive, Unproductive, and Destructive (Baumol 1990)</li> <li>• Good (constructive, and Opportunity-driven) and Bad (Destructive, and Necessity-driven)—El Harbi and Anderson 2010</li> <li>• Productive, Evasive, and Socially destructive (Sautet 2005)</li> <li>• Abiding, Evasive, and Altering (Henrekson and Sanandaji 2011)</li> <li>• Productive, Financial, Productive managerial, and Financial managerial (Marinov and Marinova 1996)</li> <li>• Public/State (Freeman 1982; Kirchheimer 1989; Chan et al. 1990; Özcan and Reichstein 2009; Smith 2012) and Private</li> </ul> <hr/> <ul style="list-style-type: none"> <li>• Academic (Lacetera 2009; Shibayama et al. 2012)</li> <li>• Bureaucratic (Baez and Abolafia 2002),</li> <li>• Business Market</li> <li>• Comparative (Thomas and Mueller 2000)</li> <li>• Corporate (Zahra 1996)</li> <li>• Cultural</li> <li>• Economic</li> <li>• Ethnic (Zhou 2004; Meir and Baskind 2006)</li> <li>• Female/women and male (Welter and Smallbone 2008)</li> <li>• High-growth-aspiration (Bowen and De Clercq 2008; Troilo 2011)</li> <li>• Hybrid (Folta et al. 2010)</li> <li>• Immigrant (Rath and Kloosterman 2000; Hjerm 2004)</li> <li>• Industrial</li> <li>• <b><i>International/Global</i></b> (McDougall and Oviatt 2000; Etemad and Lee 2003; Baker et al. 2005; Ellis 2011; Levie et al. 2014; Muralidharan and Pathak 2016; Etemad 2014)</li> <li>• Legal</li> <li>• Market-making (Kuchar 2015)</li> </ul>

(continued)

**Table 1** (continued)

Institutions	Entrepreneurship
	<ul style="list-style-type: none"> <li>• Moral</li> <li>• Nascent (Hechavarria et al. 2012; Wennekers et al. 2005)</li> <li>• Non-farm (Dutta 2012)</li> <li>• Organizational</li> <li>• Policy (Marmor 1986)</li> <li>• Political (Schneider and Teske 1992)</li> <li>• Responsible (Azmat and Samaratunge 2009)</li> <li>• Social (Tanimoto 2008; Murphy and Coombes 2009; Sud et al. 2009; Urbano et al. 2010; Mair et al. 2012; Montgomery et al. 2012)</li> <li>• Survivalist/Small-Business venturing (Mitchell and Campbell 2009)</li> <li>• Strategic (Hitt et al. 2001)</li> <li>• Technological</li> <li>• Tourism (Szivas 2001)</li> <li>• Transnational</li> </ul>

### 2.1.2 Entrepreneurship

Entrepreneurship is a multidimensional, multilevel, and interdisciplinary concept and phenomenon. The term entrepreneurship was introduced for the first time by Cantillon in 1775. The use of this concept in economics has a long history and dates back to J. B. Say. After economics, it has been taken into consideration in other disciplines as well, such as history, psychology, sociology, and anthropology. Entrepreneurship in economic literature was forgotten for a long time.<sup>3</sup> But with the pioneering work of Schumpeter (1934), it once again became the centre of economic analyses. Baumol (1990) wrote his seminal paper focussing on types (rather than levels) of entrepreneurship and presented discussions on the factors influencing it.

For a detailed understanding of the concept and factors influencing entrepreneurship, the following criteria should be considered:

1. The level of analysis: macro or micro (individuals and firms)
2. The level and type (or nature) of entrepreneurship
3. The environment of entrepreneurial activity (public or private sectors, formal or informal sectors)
4. The role and behaviour of entrepreneurs in the development process
5. The framework of the study
6. Modelling approaches

<sup>3</sup>For causes of this forgetfulness, see Ripsas (1998).

When an entrepreneur is seen at the micro level, his/its (individual's or firm's) cognitive ability and performance is emphasized. But at the macro level, people's decisions about investing in the venture are considered. Also, in terms of the nature or types, there are a variety of entrepreneurship. There are several types of entrepreneurship, as mentioned in Table 1.<sup>4</sup> The fact that an entrepreneur works in the public sector or the private sector, or that he has economic activities in the formal sector or in the informal sector, leads to several functions and tasks and different definition. Entrepreneurs play several roles in economic development process and have several positions. Wennekers and Thurik (1999) points out the roles that the entrepreneur plays in economic theory. Naudé (2010) classifies all types and definitions in three groups: *behavioural*, *occupational*, and *outcomes*.<sup>5</sup> Some important classifications and types of entrepreneurship are given in Table 1. Entrepreneurship can also be studied in the frameworks of *Evolution*, *Development*, and *Population Models*.<sup>6</sup> Also, entrepreneurial behaviours can be modelled through several approaches, such as Equilibrium, Entry/Exit, and Unified.<sup>7</sup>

But is what entrepreneurship and who is an entrepreneur<sup>8</sup>? It is clear from the above that no certain, united, and identical definition of entrepreneurship and entrepreneurial talents and efforts can be presented. But the common aspect of definitions can be found. Entrepreneurship is an economic activity in which the entrepreneur searches for 'discovery, creation, evaluation, and exploitation of opportunities based on his motivation and ability. All these activities lead to the introduction of new products and services and organizing markets, processes, and raw materials' (Nelson 1984; Cuervo et al. 2007; Parker 2004).

Here, brief definitions of opportunity-driven entrepreneurship and necessity-driven entrepreneurship are presented. From the perspective of Naudé (2010), these two types of entrepreneurship fall in the occupational category. Baumol (1990)'s conventional categories of entrepreneurs (i.e. *productive*, *unproductive*, and *destructive*) fall in the outcome category. The definition given by Schumpeter (1934) is related to the behavioural category.

Opportunity-driven entrepreneurship is based on recognizing and exploiting good business opportunities. But necessity-driven entrepreneurship is formed due to the lack of proper job opportunities. Thus, opportunity-driven entrepreneurship is productive entrepreneurship while necessity-driven entrepreneurship is unproductive entrepreneurship (Veciana and Urbano 2008; Veciana 2007; McMullen et al. 2007).

It should be noted that there is no certain boundary between the presented definitions and different types of entrepreneurship. For example, Van der Steen

<sup>4</sup>To read more about these concept and types, see the references listed in Table 2.

<sup>5</sup>To read more, see Naudé (2010, p. 87–90).

<sup>6</sup>See Greenfield and Strickon (1981).

<sup>7</sup>See Bosma et al. (2005).

<sup>8</sup>For further reading of about 23 concepts of entrepreneurship in books of principles of economics, see Kent and Rushing (1999) and for 13 separate roles of an entrepreneur, see Wennekers and Thurik (1999).



**Table 2** Proxy variables for institutions and entrepreneurship

Institutions	Entrepreneurship
<ul style="list-style-type: none"> <li>• Corruption</li> <li>• Property rights</li> <li>• Rent-seeking</li> <li>• Rule of law</li> <li>• Social capital</li> <li>• Economic freedom of the world</li> <li>• Political rights</li> <li>• Civil liberties</li> <li>• Constraints on the executive</li> <li>• Democracy</li> <li>• Autocracy</li> </ul>	<p>– <b>One-dimensional measures</b></p> <ul style="list-style-type: none"> <li>• All members that defined themselves as founders in their profile</li> <li>• Business ownership rate</li> <li>• Country level rates of creation of incorporated firms</li> <li>• Country level rates of nascent entrepreneurship</li> <li>• Count. level rates of nasc. Entre. an young bussin. Rate</li> <li>• Entrepreneur’s employment growth aspirations (EGA)</li> <li>• Entrepreneurship rates (new business ownership rate, established business ownership rate, independent new business owner rate, innovative new business owner rate)</li> <li>• Entry density (the number of newly registered limited liability companies per 1.000 working-age people)—measure for the <i>rate of entrepreneurial activity</i> in a country</li> <li>• Firm birth rates</li> <li>• Firm entry rates</li> <li>• <b>High growth aspiration</b> [high job growth (20+ jobs in 5 years), significant market expansion (4 on an increasing 0–4 scale of market expansion/technological innovation), or a combination of both)</li> <li>• Individual level indicator variable related to incorporated form</li> <li>• Industry level rates of creation of incorporated firms</li> <li>• Kauffman index of entrepreneurial activity (KIEA)</li> <li>• Large firm establishment birth rate (productive Entre.)</li> <li>• Net firm formation rate as a percentage of total firms</li> <li>• New business creation</li> <li>• New firm formation</li> <li>• Number of self-employed business owners as a proportion of the total labor force</li> <li>• Number of new businesses registered</li> <li>• Number of new registered businesses as a percent of the working-age population (formal entrepreneurship)</li> <li>• Number of new unregistered businesses as a percent of the working-age population (informal entre.)</li> <li>• Number of political and lobbying organizations (unproductive Entre.)</li> <li>• Opportunity-driven entrepreneurship and Necessity-driven entrepreneurship (Sambharya and Musteen 2014)</li> <li>• Patents per capita (productive Entre.)</li> <li>• People’s involvement in new venture creation</li> <li>• Prevalence of small businesses</li> <li>• Rates of entry and exit into and out of self-employment</li> <li>• Self-employment rate (total and excluding agriculture)—(productive Entre.)</li> <li>• Survival rates</li> <li>• Total Entrepreneurial Activity(TEA)/Start-up rate</li> <li>• TEA High growth index (HEA)/rate of high-job creation start-ups/relative HEA index (rHEA)</li> <li>• TEA opportunity (TEAOPP)</li> <li>• TEA Necessity (TEANEC)</li> <li>• TEA opportunity/TEA necessity (ratio)</li> <li>• Total establishment birth rate (productive Entre.)</li> </ul>

(continued)

**Table 2** (continued)

Institutions	Entrepreneurship
	<ul style="list-style-type: none"> <li>• Unproductive legal entrepreneurship (100 minus Harris judicial index)</li> <li>• Venture capital investment per capita (productive Entre.)</li> </ul> <p>– <i>Different dimensional measures</i></p> <ul style="list-style-type: none"> <li>• the Global Entrepreneurship Index—GEM Index/novel entrepreneurial aspirations sub-index—measure for the assessing the <i>type of entrepreneurial activity</i> (The index combines both an <i>individual-level</i> item and an <i>institutional variable</i>)</li> <li>• OECD Index</li> <li>• Stenholm et al. (2013)—four Dimensional measure</li> </ul>

and Groeneweger (2009) distinguishes between institutional, policy, and political types of entrepreneurship, but Henrekson and Sanandaji (2011) considers them as identical.

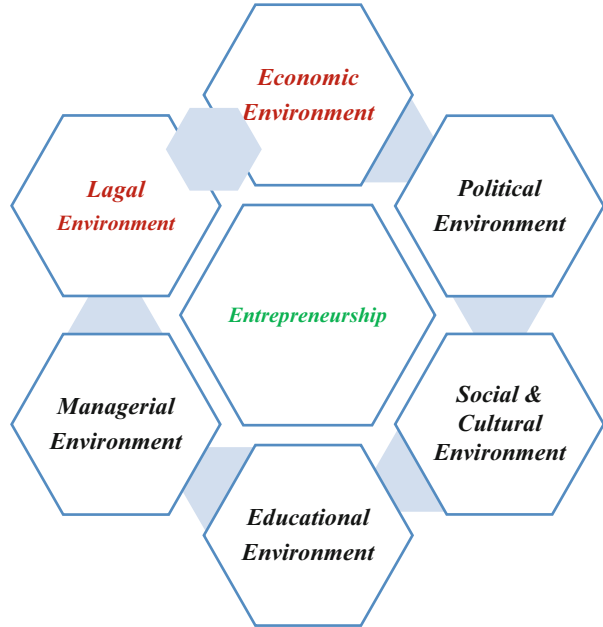
Some proxy variables for institutions and entrepreneurship are presented in Table 2.

## 2.2 *Determinants of Entrepreneurship*

Entrepreneurship is found in all communities, races, colours, religions, and economic and social conditions; it is not related to the resources available in the country. So, we are not talking about its presence or absence. The important thing is that the level and types (or nature) of entrepreneurship are not identical across societies or even within a society across time. Therefore, the speed and intensity of its growth and its effect on social performance and welfare are presented. However, to the question of which factors affect the level and types of entrepreneurship, there is no clear answer in the literature. These factors are different, depending on the level of analysis, the nature and types of entrepreneurship, and different environments.

The level (potential and actual) and type of entrepreneurship at each of these levels are influenced by various factors. The factors affecting the possibility of potential entrepreneurs to become actual entrepreneurs (changes in levels of entrepreneurship) are different from the factors affecting the choice of various activities by potential entrepreneurs (changes in the type of entrepreneurship). Some people—regardless of the choice of entrepreneurship type—attempt to describe the factors affecting the level of entrepreneurship. Many others (such as Baumol 1990)—given the level of entrepreneurship—analyse factors affecting the choice of entrepreneurship type (productive, unproductive, and destructive, or other classifications mentioned in Table 1). A more complicated mode is that we are seeking to analyse the factors that simultaneously influence the level and type of entrepreneurship. This involves determining whether new people are added to the group of actual entrepreneurs or not, and if added to this group, what type of entrepreneurship is followed.

**Fig. 1** Determinants of entrepreneurship



There are several classifications in the literature. Some of the most important classifications are:

1. Economic, technological, demographic, cultural, and institutional variables
2. Economic, technological, demographic, social/cultural, and policy determinants (e.g., Bosma et al. 2005)
3. Economic, sociological, and psychological factors (Djankov et al. 2005; Ngunjiri 2010)
4. Economic, social, and cultural factors (Castaño et al. 2015)
5. Supply-side, demand-side, governance quality, and culture (Thai and Turkina 2014)
6. The **regulatory**, **normative**, and **cognitive/cultural** pillars of institutionalization) [introduced by and adapted by: Busentiz et al. (2000), Spencer and Gómez (2004), Eunni (2010), Simon-Moya et al. (2013), Valdez and Richardson (2013), Urbano and Alvarez (2014), Sambharya and Musteen (2014)], the **conducive** dimension—a “fourth institutional pillar” [– introduced by: Stenholm et al. 2013]
7. **Macro- or national environment** (economic, institutional, regulation, culture, social) and **Micro-environment** (social capital, . . .)– Krzyzanowska (2008).

Another classification is given in Fig. 1. According to Fig. 1, the types of entrepreneurship are affected by different environments such as the *legal environment* (including property rights, rule of law, independence of the judiciary, etc.), *economic environment* (such as transaction costs, unemployment, inflation, etc.), *political environment* (e.g. the quality of governance, corruption, rent-seeking, etc.),

*social and cultural environment* (such as social capital at the macro-and micro-level etc.), *educational environment* (such as the level of education and training in entrepreneurial skills and in general the country's educational system), and *managerial environment* (such as knowledge and technology management, etc.).

In Table 3, these environments have been placed in two categories—*economic* and *institutional factors*. These variables are the ones used in most studies. There is no possibility to explain the effects of all environments on all types of entrepreneurial efforts (Table 1) at all levels. Accordingly, in the next section, based on the purpose of the present chapter, only the effect of the legal environment on entrepreneurship is described.

## **2.3 The Causal Link Between Institutions and Entrepreneurship**

### **2.3.1 The Effect of Institutions on Level and Types of Entrepreneurship**

Every society is faced with a series of institutional opportunities. Institutions are points on the set of opportunities, and this is the history that forms a set of individuals' social choices. Social choices, in turn, form institutional opportunities. The politics and political institutions of a society are involved in these choices. Thus, we can say that political and social institutions—in addition to economic institutions—play a major role in the choices of individuals. One of these choices is related to the issue of entrepreneurship and individuals' choice of entering or not entering entrepreneurial activities. If they choose to enter, it is related to productive or unproductive activities. Therefore, the institutional environment (from entrepreneurship perspective) is important (Amoros Espinosa, 2009; Estrin et al. 2013; Acs et al. 2008). The environments are shown in Fig. 1. These environments—in the form of formal and informal institutions respectively—directly and indirectly affect the economic behaviour of entrepreneurs. There is no possibility to explain the effect of all environments on all types of entrepreneurship at all levels. Accordingly, in the present chapter, only the effect of the legal environment on entrepreneurship is considered.

The effect of institutions on the level and types of entrepreneurship can be described through four channels—reducing uncertainty, reducing transaction costs, legitimizing entrepreneurial activities, and supporting against expropriation of rents. According to North, institutions are rules of the game in the society. The rules of the game have created practical limits on individuals and reduced their behaviour complexity. Due to the reduced complexity, the risk of opportunistic behaviour, uncertainty, and transaction costs are reduced.

On the other hand, institutional setup affects the structure of the individuals' incentives. Entrepreneurs and other individuals in a society face an incentive structure. They are looking to make a profit. Also, one of the duties of entrepreneurs is discovery. The discovery process also relies on profits. The rules of the game in the

**Table 3** Factors influencing entrepreneurship

Economic factors	Institutional factors
<ul style="list-style-type: none"> <li>– Demographic</li> <li>– Financial development</li> <li>– Foreign Direct Investment (FDI)</li> <li>– Government size, Government expenditures (in public and social goods), and the involvement of the public sector in the economy</li> <li>– Human capital</li> <li>– Income and economic inequality</li> <li>– Income growth</li> <li>– Industrial clustering</li> <li>– Industrial intensity</li> <li>– Inflation rate</li> <li>– Innovation</li> <li>– Investment shares</li> <li>– Market competitiveness</li> <li>– Monetary policy</li> <li>– Per capita income and level of development</li> <li>– Population density</li> <li>– Population growth</li> <li>– Poverty share</li> <li>– Recession</li> <li>– Research and Development (RandD)</li> <li>– Risk aversion</li> <li>– Saving policies</li> <li>– Tax rates and tax structure</li> <li>– The availability of venture capital and other risk capital</li> <li>– The country credit rating</li> <li>– The level of the economy openness</li> <li>– Unemployment rate</li> <li>– Urbanization level</li> <li>– Wealth and assets</li> </ul>	<ul style="list-style-type: none"> <li>– Access to finance</li> <li>– Administrative complexity/Bureaucracy</li> <li>– Bankruptcy (procedures)</li> <li>– Business freedom</li> <li>– Competition rules/laws</li> <li>– Confidence in one's skill</li> <li>– Contracts</li> <li>– Corruption (administrative, banking system, ...)</li> <li>– Court system</li> <li>– Culture (performance-based and socially-supportive/Power distance index, Individualism, Masculinity, Uncertainty avoidance index)</li> <li>– Economic freedom and its sub-indices</li> <li>– Educational capital (targeted at Entre.)</li> <li>– Employment protection legislation/Labor laws/Labor regulations/Employment rights</li> <li>– Entry costs (incorporation procedures/administrative requirements for starting a new business)</li> <li>– Ethnic composition of population</li> <li>– Financial capital (targeted at Entre.)</li> <li>– Financial freedom</li> <li>– Fiscal freedom</li> <li>– Fiscal legislation</li> <li>– Incentives</li> <li>– Independence of banks</li> <li>– Judicial independence</li> <li>– Labor freedom</li> <li>– Legal Institutions (Property rights/Intellectual property rights (IPR) laws and related variables, rule of law and entry regulations)</li> <li>– Legal origin</li> <li>– Legal protection in solving disputes</li> <li>– Length of contracting procedures</li> <li>– Levels of immigration</li> <li>– National institutional patterns, (access to research and educational institutions, access to sources of financing, availability of pools of educated labor)</li> <li>– Number of procedures to start new business</li> <li>– Political (democratic) accountability and Political Freedom</li> <li>– Private coverage to getting credit</li> <li>– Pro-market institutions (economic liberalization (Index of economic freedom)/governance levels)</li> <li>– Procedures</li> <li>– Protection of shareholders rights</li> </ul>

(continued)

**Table 3** (continued)

Economic factors	Institutional factors
	<ul style="list-style-type: none"> <li>– Quality of governance (governance index, democracy, ease of doing business)</li> <li>– Quality of life (–economic, political, environmental, health-educational and social Dimensions,)</li> <li>– Regulations (of labor markets)</li> <li>– Regulatory framework (Regu. Protection and Regu. complexity)</li> <li>– Religion</li> <li>– Rent-seeking</li> <li>– Share of unofficial economy</li> <li>– Social capital (e.g. Trust, Voluntary organization membership,)</li> <li>– Social diversity and creativity</li> <li>– Social networks</li> <li>– Social norms</li> <li>– Social security entitlements/regimes</li> <li>– Tax evasion/Tax disadvantage</li> <li>– The country minorities share</li> <li>– The participation of women in the labor force and the parliament</li> <li>– Type of legal system</li> <li>– Values</li> </ul>

field (institutions) are like the social structure of rewarding. If the rules of the game are such that profits are possible via unproductive activities, it is natural that entrepreneurs will have less incentive to enter productive activities, and vice versa. Accordingly, Baumol (1990) divides entrepreneurship into three types—*productive*, *unproductive*, and *destructive*.

Lucas and Fuller (2017) believes that under certain conditions, Bamoul’s idea can be true. These researchers suggest that social value creation occurs when the best future option for entrepreneurs is known and institutions limit the options.

Discovering and exploiting opportunities and the entrepreneurship development depend on the quality of institutions and not the presence of resources in country. Poor formal and informal institutions in the society will strengthen opportunistic behaviours. The lack of clear rules of the game and the resulting uncertainty will incentivize people to use all opportunities in their benefit in every possible way. In such an institutional space, rent-seeking and corruption (unproductive and destructive entrepreneurship) will prevail over productive activities (productive entrepreneurship). In a poor institutional environment, the transfer of wealth (unproductive entrepreneurship) takes precedence. In most factor-driven countries like MENA countries, there are many economic and natural resources. But institutional quality and structure of governing institutions are so poor that the countries cannot take advantage of the benefits of entrepreneurship.

One of institutional environments affecting the individuals’ incentive structure is the legal environment. Institutions such as property rights, the rule of law, the type of

legal system, independence of the judiciary and the courts, contracting procedures, and regulatory burden are important institutions affecting entrepreneurship in such an environment. Then, this section shows that the good quality of these institutions reduces the profitability in activities related to the transfer and destruction of wealth (unproductive and destructive entrepreneurship) and increases it in activities related to the creation of new wealth (productive entrepreneurship).

Entrepreneurs try to discover new opportunities. This is done with the profit motive. This should be done through long-term planning. When entrepreneurs enter entrepreneurial activities, they expect to benefit from the results of their own efforts and not by being expropriated. Also in the event of disputes and quarrels with others, they expect their disputes to be resolved through a strong and righteous legal system. Entrepreneurs in the process of opportunity discovery need spiritual and mental tranquillity (rule of law). They need easy laws and regulations, without any complexity. Easy administrative processes are a business-running requirement. All these indicate that the legal environment can be supportive of entrepreneurs.

In countries with weak and insecure property rights structure, there is no guarantee that benefits of investment and transactions or the results of the entrepreneurial activity are enjoyed by the entrepreneur. In such an environment, there is the possibility of vertical expropriation. So, the entrepreneur is not likely to enter entrepreneurial activities and will spend his time and energy in unproductive activities.

If there is no clear and trustworthy solution to resolve conflicts and disputes of the parties (lack of rule of law), or by weak institutions and widespread impartial corruption, are not resolved objectively (lack of judicial independence and the courts and the inadequate legal system with the structure of society), then the individual is unlikely to engage in entrepreneurial activities. In such an environment, horizontal expropriation will occur.

Another important point that prevents the vertical expropriation, facilitates doing business, and accelerates engagement in entrepreneurial activities is the government support of entrepreneurs in the form of regulations such as property rights and reduced regulatory complexity, and in general the regulatory burden. So, it is clear that the strong *property rights institution* (that prevents the vertical expropriation) and *contracts institution* (prevention of horizontal expropriation) prevent rent expropriation and enable the entrepreneur to gain profits in the process of discovering opportunities. In such a case, profitability of productive activities (activities related to the creation of new wealth) increases and profitability of unproductive activities (activities related to the transfer and destruction of wealth) reduces. Opportunity entrepreneurship has the greatest influence in this field. Generally, it can be pointed out that (weak and good) institutions affect the level and nature (or types) of entrepreneurship. Weak institutions change the combination of entrepreneurship in favour of unproductive and destructive entrepreneurship, while good institutions change it in favour of productive entrepreneurship. So, we hypothesize that:

**Hypothesis 1a** Weak institutional environment has a negative effect on the level of entrepreneurship.

**Hypothesis 1b** Weak institutional environment has a negative effect on types of entrepreneurship (opportunity and necessity).

### 2.3.2 The Role of the Entrepreneurs in Institutional Change

In the previous section, it has been explained that institutions are important. If institutions want to perform the explained tasks well, they should have two features—stability and predictability. But the question is whether institutions change and evolve over time. The answer is that they certainly do. Thus, institutions also evolve and are changing. This section shows that entrepreneurs are also important.

Various theories have been proposed for the different institutions and institutional changes (Bjerregaard and Lauring, 2012; Henrekson and Sanandaji, 2011; Yu, 2001; Li et al., 2006; Kuchar, 2015; Henrekson, 2007). These theories can be categorized into six groups:

1. Efficient institutions view or political Coase theorem (PCT).
2. Ideology or the generalized PCT.
3. The incidental institutions view.
4. The social conflict view.
5. Transaction cost theory of institutional change.
6. *Entrepreneurial view of institutional change.*

According to the theory of efficient institutions (North and the path dependency hypothesis), socially efficient societies select good (economic, etc.) institutions; if there is a need to change, they apply changes in them. In the theory of ideological difference, institutional differences among countries and their ability to change institutions are due to ideological differences among countries. Society leaders decide which institution is good and which is not, and which institutions should be changed. The cause of institutional change from the view of the theory of incidental institutions is attributed to historical events in critical situations.

The political control of a country is held by powerful political groups. So, according to the social conflicts view, economic institutions are selected and changed in a way that maximizes the expected rent of powerful political groups. Usually, institutions that maximize the total surplus of wealth and/or income of the society are not selected. If necessary, institutional changes are applied in favour of these groups.<sup>9</sup>

Mancor Olson, by presenting the theory of collective action, challenges the Coasian ideas to create an institutional change and present a new theory. North and Williamson are also among new institutional economists who seek to explain the causes of an institutional change. North presents the effect of the ideas and the theory of mental patterns and learning process, while Williamson considers this from the perspective of transaction cost economics. Also, discursive theories and discursive institutionalism theories seek to explain the causes of an institutional change. In

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<sup>9</sup>To further study the four theories, see Acemoglu et al. (2003).



addition to institutional economics, this topic has also been considered in the Austrian school of economics. Schumpeter is one of the pioneers of the Austrian School. By presenting the concept of novelty, he tries to present the role of entrepreneurs in radical changes. He introduces the entrepreneur as the agent of a change and considers him as equilibrium-disturbing.

Yu (2001) and Henrekson and Sanandaji (2011), with different attitudes, have presented an entrepreneurial theory of an institutional change.<sup>10</sup> The general view of the theory is that entrepreneurs are institutional change agents. Yu (2001) provides a new theory of the causes of an institutional change by entrepreneurs, by focusing on coordinating the role of human institutions (the theory of Schultz's human agency), incorporating Schumpeter's theory of economic responses (adaptive and creative responses) and the theory of entrepreneurial discovery of Kirzner (Kirzner's entrepreneurship), and utilizing the theory of some Austrian school economists, like Manger and Hayek. He argues that ordinary and extraordinary discoveries of entrepreneurs have different effects. Ordinary discoveries improve production methods and adjust rules (adaptive response), while extraordinary discoveries damage the stability of institutions and thus create uncertainty in the market (creative response). When the stability of the institutions is lost, coordinating economic activities by institutions (one of their main tasks) becomes difficult. Under such conditions, some actions are made in the society. Successful actions in the society are imitated, repeated, and gradually manifested in new institutions. In fact, this institutional change, occurs due to the discovery of entrepreneurs. New institutions created (or modified) again will bear the role of coordinating economic activities of the society.

From the perspective of Li et al. (2006), institutional entrepreneurs are involved in the process of economic activities by resorting to various strategies; in addition to playing the role of Schumpeterian entrepreneurs, they create pro-market institutions. The researchers believe that entrepreneurs—through explicit advocacy of changes in rules and regulations such as lobbying—suggest that their activity is an exception to the existing rules and regulations, and finally facilitate an institutional change (escaping from existing rules and regulations, doing their business, and—if successful—reporting to the government and persuading it to change the laws and rules of the game, i.e. institutions). Thus, they can effectively eliminate institutional obstacles and create better market-oriented institutions.<sup>11</sup> In fact, Li et al. (2006) and others like Kuchar (2016) and Henrekson and Sanandaji (2011) believe in market-making entrepreneurship. They consider entrepreneurs (through political processes) in accordance with the theory of new institutional economists, as an institutional

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<sup>10</sup>For more information, see these references and El Harbi and Anderson (2010), Li et al. (2006), and Kuchar (2015).

<sup>11</sup>Li et al. (2006) believe that facilitating an institutional change is the most attractive practice that can be pursued by an entrepreneur. But it should be noted that the entrepreneur in this case, in addition to market risk, is also facing institutional risk (the risk of failure of institutional change) and thus needs political understanding and skills.

change agent. This aspect of institutional change has a long history and corresponds to the discussion of political entrepreneurship in political science literature.<sup>12</sup>

Henrekson and Sanandaji (2011) believes that entrepreneurs affect institutions in at least three ways—abiding, evading and altering. The researchers have accordingly presented a new classification of entrepreneurship—abiding entrepreneurship, evading entrepreneurship, and altering entrepreneurship. Entrepreneurs can accept existing institutions and challenge existing institutional basis (abide), evade them (evade), or change and create new institutions with more effectiveness and/or through innovative political activities directly change existing institutions (alter).

In general, entrepreneurs can initiate the process of an institutional change because of confusing rules of the game and inefficient institutions. Also, any institutional change created by entrepreneurs will not necessarily be productive. Because, according to Baumol's classification of from productive entrepreneurship and unproductive/destructive entrepreneurship, it can be expected that an institutional change created by entrepreneurs is productive or unproductive. Therefore, we hypothesize that:

**Hypothesis 2a** Opportunity-driven entrepreneurs make institutional change.

**Hypothesis 2b** Necessity-driven entrepreneurs do not have an effective role in the process of institutional change.

### 2.3.3 Bidirectional Causality Between Institutions and Entrepreneurship

In Sect. 2.3.1, it is described that institutional arrangements in the economy that affect the profit and motivation of entrepreneurs also determine the level and types (or nature) of entrepreneurship. In other words, there is a causal relationship of (types of) institutions to (types of) entrepreneurs and it is concluded that *institutions are important*. Also, in Sect. 2.3.2, it is concluded that entrepreneurs can affect existing institutions in many ways, by changing and improving institutions ruling the market and other institutions. Therefore, entrepreneurs are also important in the process of an institutional change and there is a causal relationship of (types of) entrepreneurs to (types of) institutions. Accordingly, there is a feedback relationship and therefore a bidirectional causality between (types of) institutions and (types of) entrepreneurship.

The roots of this bidirectional causality lie in the advocates of public choice school—in particular, the ideas of Buchanan. He believes that the undesirable policies of governments make individuals and entrepreneurs lobby or encourage

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<sup>12</sup>Some researchers like Van der Steen and Groenewegen (2009) distinguish between Institutional, Policy, and Political entrepreneurship, but others like Henrekson and Sanandaji (2011) consider them to be the same. Some researchers also like Henrekson and Sanandaji (2011) consider business and market entrepreneurship equivalent to Schumpeterian entrepreneurship, which is different from political entrepreneurship.

them to pass laws against the government. This is done through political processes and lobbying. In this environment, entrepreneurs affect existing unfavourable economic and political institutions. Meanwhile, the efforts of individuals and entrepreneurs are affected by the institutional framework and conditions.

In general, it can be concluded that if the quality of institutions is better in the society, productive entrepreneurship is increased. Productive entrepreneurs, by creating new opportunities, provide new conditions for political, policy, and institutional entrepreneurs. These entrepreneurs, depending on the quality of institutions, can strengthen or weaken the institutional quality. If there are institutions with high (low) quality, political entrepreneurs move to productive (unproductive) activities and strengthen (weaken) the quality of existing institutions.

**Hypothesis 3** There is a bidirectional causality between opportunity entrepreneurs and institutional quality.

### 3 Research Methodology

The main purpose of the present chapter is to identify and examine the effect of entrepreneurship factors on MENA member countries. To achieve this purpose, all the factors affecting the level and types of entrepreneurship theoretically were first identified. Given the diversity of institutional factors and their classification variety (Sects. 2.1 and 2.2) the effect of formal (such as property rights) and informal (such as corruption) institutions on the level and types of entrepreneurship (opportunity-driven and necessity-driven) was examined. On the other hand, it was found that entrepreneurs can be the agent of institutional change, so overall five hypotheses were formulated.

To test the research hypotheses, depending on the type of data available (cross-section, time series, panel, spatial, and spatial-panel data), different econometric methods such as path analysis models, structural equations, single equation regression models, system of simultaneous equation model, and causality and co-integration tests can be used.

One of the features of MENA member countries is weak institutional quality and the poor status of entrepreneurship. Apart from systems of simultaneous equation models and causality tests, default by other modelling indicates that the direction of causality relationship is given. In many empirical studies, it is assumed that there is a unidirectional causality from institutions to entrepreneurship. Accordingly, single equation regression models, path analysis, etc. have been used. But based on theoretical section discussions, it is clear that a bidirectional causality is present between entrepreneurship and institutions. Accordingly, in the present chapter panel causality tests have been used.

It is necessary to perform tests of cross-sectional (in-) dependency on the panel to carry out any work in panel data econometrics. Confirming or rejecting the null and alternative hypotheses in these test types (presence or absence of cross-sectional

dependence) will determine the type of unit root test and consequently the type of cointegration and causality tests. Also, selection of a test among the tests available depends on available data volume.

In the present chapter, before performing panel causality tests, cross-sectional dependency tests are first performed, based on Breusch–Pagan LM, Pesaran Scale LM, Bias-corrected Scaled LM, and Pesaran CD tests. Then, by panel unit root tests (Levin-Lin-Chu (LLC), Im-Pesaran-shin (IPS), ADF-Fischer, and PP-Fisher), the stationarity of variables is checked. Also, Kao cointegration test and Granger causality test are used.

## 4 Institutions and Entrepreneurship in MENA Countries

The purpose of this section is to examine the status of entrepreneurship, institutional quality, and the relationship between them in Middle East and North Africa (MENA) countries. To analyse this relationship, detailed data and information are needed. But one of the limitations in these countries is the lack of sufficient and complete data. In the first part of this section, Entrepreneurial Framework Condition (EFC) data of the entrepreneurial environment in some MENA countries, as reported by Global Entrepreneurship Monitoring (GEM), have been analysed. In the second part, the institutional quality, and in the third part, the relationship between (opportunity-driven and necessity-driven) entrepreneurship and the institutional quality in some MENA countries have been analysed.

### 4.1 *Entrepreneurial Framework Condition (EFC)*

EFC data reported by GEM for the period 2008–2015 (including 12 items as described below) have been given to identify the most important factors and major obstacles of the entrepreneurial environment in MENA countries in Fig. 2a–h.

1. entrepreneurial finance
- 2a. government policies: support and relevance,
- 2b. government policies: taxes and bureaucracy  
government entrepreneurship programmes
- 4a. entrepreneurship education at school stage
- 4b. entrepreneurship education at post-school stage,
5. R&D transfer
6. commercial and legal infrastructure
- 7a. internal market dynamics
- 7b. internal market burdens or entry regulation
8. physical infrastructure
9. cultural and social norms

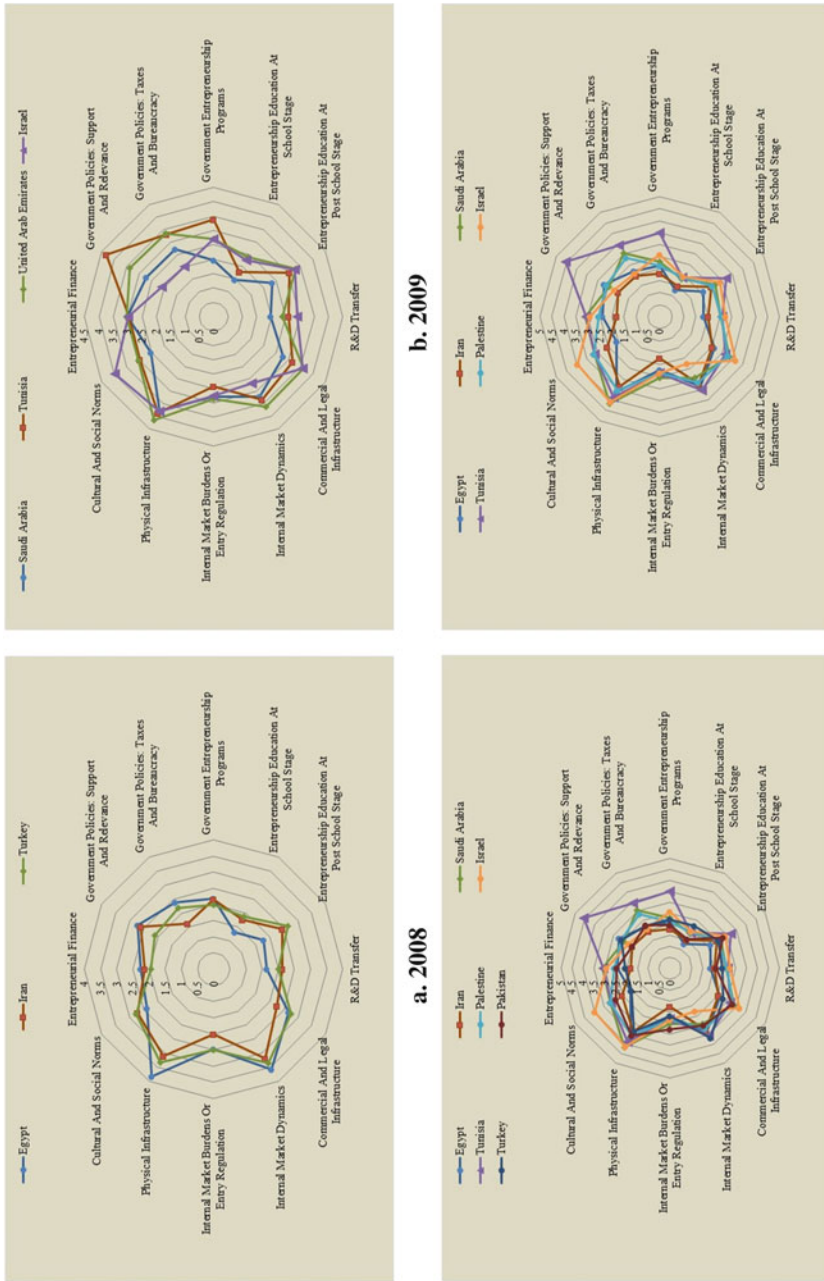


Fig. 2 Entrepreneurial Framework Condition (EFC) in some MENA countries (2008–2015)

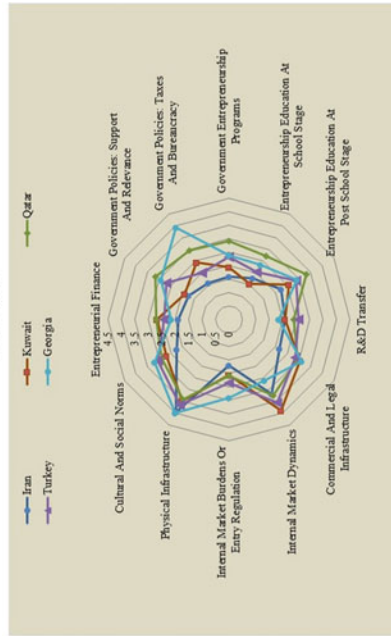
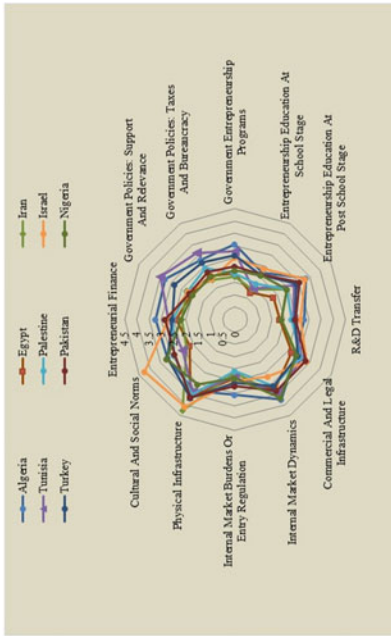
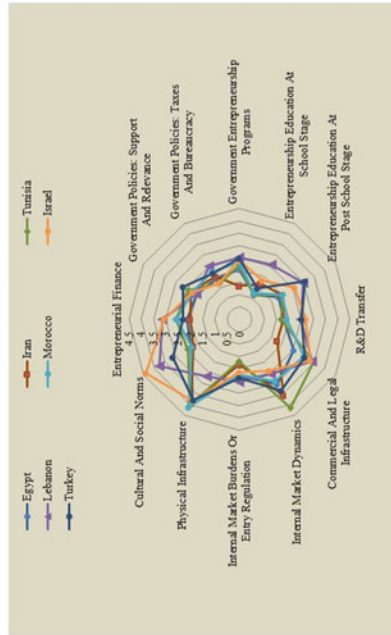
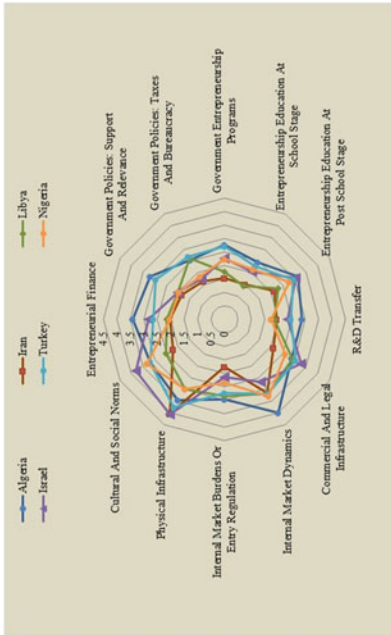


Fig. 2 (continued)

I. Iran: 2008-2015

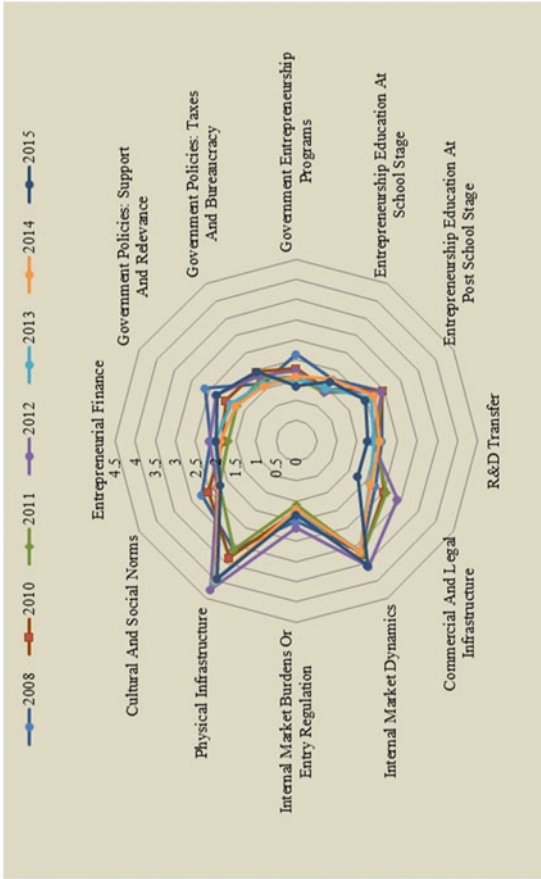


Fig. 2 (continued)

In these figures, we can see that the factors internal market dynamics and physical infrastructure have a relatively good status in all years. In 2009 and 2011, in addition to these factors, entrepreneurship education at post-school stage also had a good status. In 2009, commercial and legal infrastructure was also added. But the rest of factors' status is assessed to be undesired. However, Tunisia in 2009–2012 and Qatar in 2014 had a better status.

Then, Iran's status is examined in the period 2008–2015. In Iran (Fig. 2i), like other MENA countries, physical infrastructure status is very strong and internal market dynamics are assessed well, but other factors do not have desirable status. Also in 2012, all index statuses were relatively better than other years, while 2011 can be assessed with a relatively not-good status for all 12 indices.

The overall assessment of EFC status in some MENA countries is that there are major obstacles to support entrepreneurship, including educational (entrepreneurship education at school stage and at post school stage), cultural (cultural and social norms), legal (commercial and legal infrastructure), supportive (government policies: support and relevance, government policies: taxes and bureaucracy, and government entrepreneurship programmes), and financial (entrepreneurial finance) obstacles. The countries only have relatively good status in terms of physical infrastructure and the dynamics of internal markets.

## 4.2 *Institutional Quality*

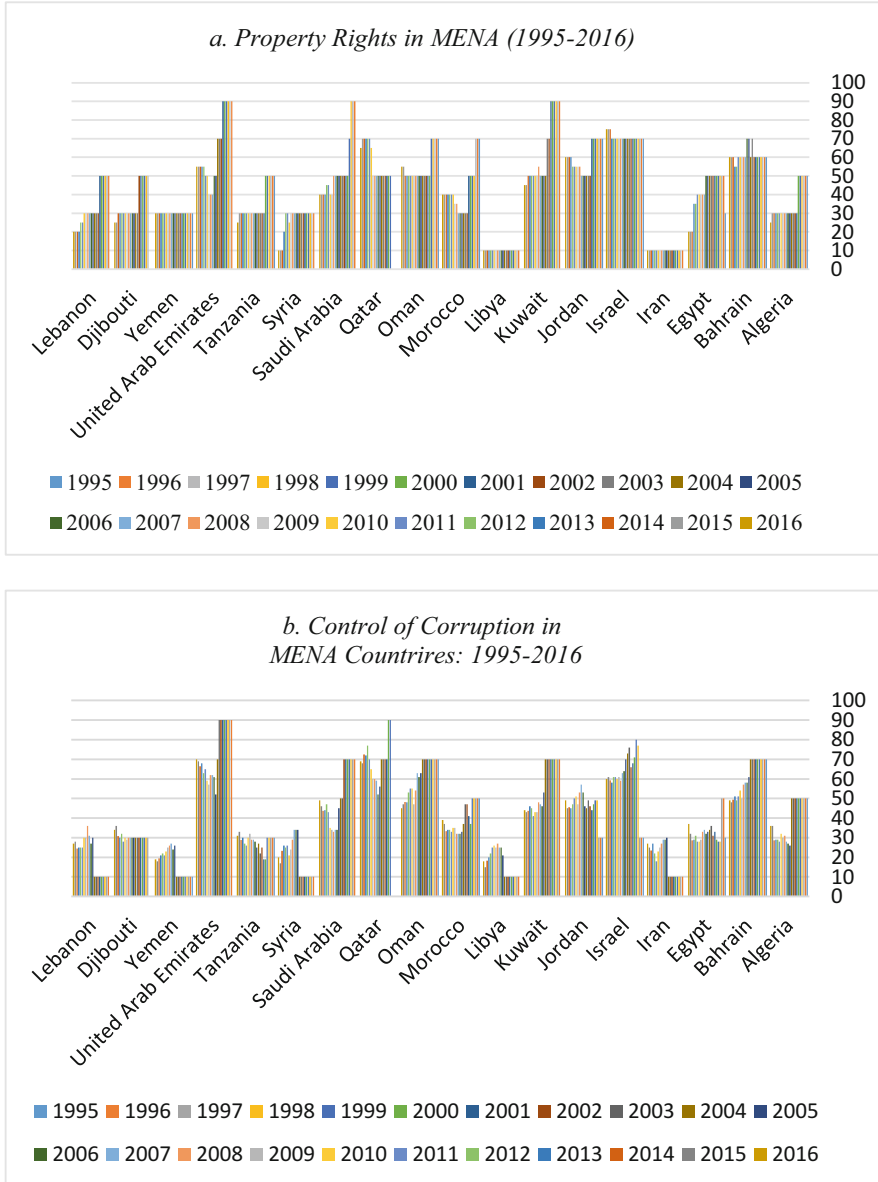
In Fig. 3, the status of indices of the institutional quality (property rights as a proxy for formal institutions and control of corruption as a proxy for informal institutions) is given. As can be seen, although the status of property rights is improving in recent years in most MENA countries, it is still undesired (except for UAE and Kuwait). This status can also be seen in the corruption control index. So, it can be concluded that MENA countries do not have a good institutional quality status.

## 4.3 *Causality*

To empirically examine the relationship between the quality of institutions and (opportunity-driven and necessity-driven) entrepreneurship, long-term data are needed. Due to the lack of data, causality test has been done between these two variables for factor-driven countries (data available for Angola, Guatemala, Iran, Jamaica, Uganda, and Algeria). The cause for choosing these countries is that Iran and Algeria are among MENA countries. Meanwhile, the characteristics of most MENA countries are almost identical with those of factor-driven countries.

The results of the aforementioned tests in the methodology section indicate cross-sectional independence between variables and countries. Accordingly, the results of





**Fig. 3** Institutional quality in some MENA countries: (1995–2016)

the unit root tests show that given variables have a unit root. Cointegration and causality test results are presented in Table 4.

The results presented in Table 4 show that short-run causality only runs from entrepreneurship to institutional quality (IPRI and IPR). This means that

**Table 4** Cointegration and causality tests between institutional quality and entrepreneurship in factor-driven countries

Variables	Cointegration	Short-run causality	Long-run causality
Lnec, lipr	No	No	–
Lnec, lipri	No	No	–
Lnec, lppr	No	No	–
Lopp, lipr	Yes	lipr→lopp	No
Lopp, lipri	Yes	lipri→lopp	No
Lopp, lppr	Yes	No	No

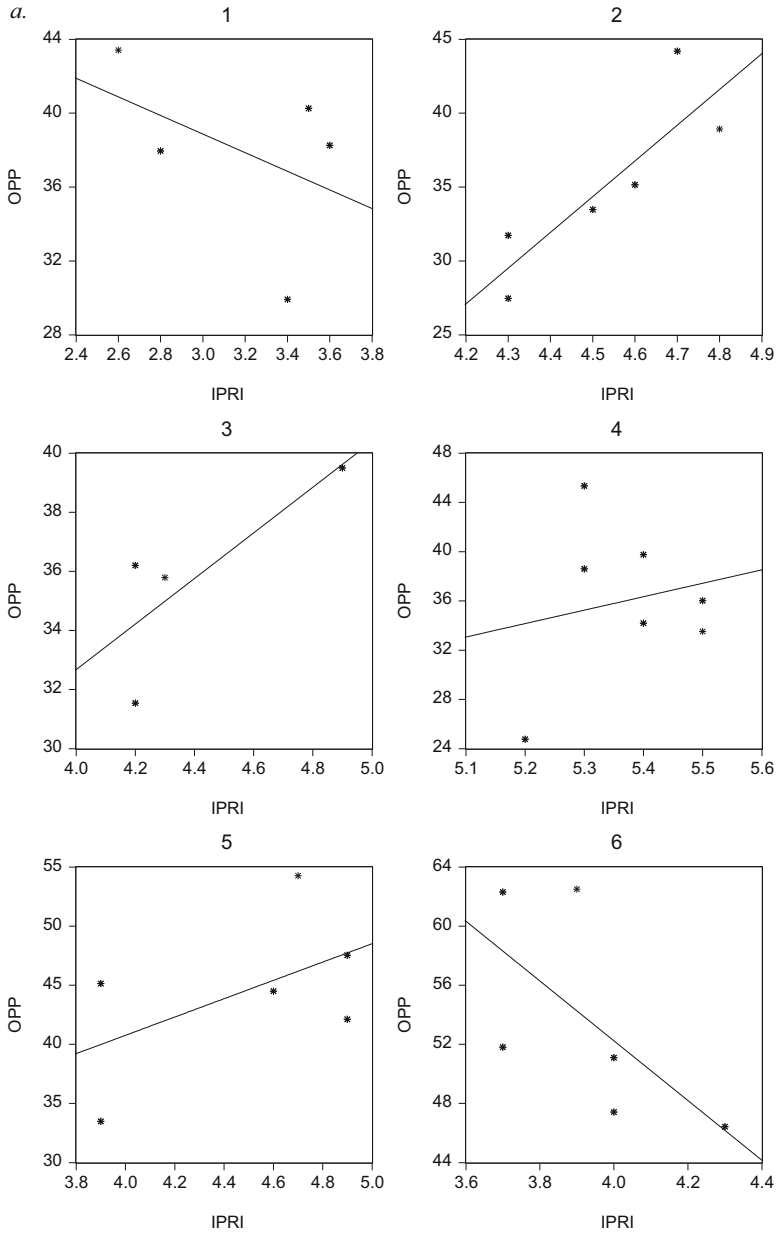
Note: opp improvement-driven opportunity entrepreneurial activity (% of TEA), nec necessity-driven entrepreneurial activity (% of TEA), ipir international property rights index, ppr physical property rights, ipr intellectual property rights

(opportunity) entrepreneurs can be a factor for changing the institutional quality in these countries.

Analysis of the relationship details with indices of opportunity-driven entrepreneurship is given in Fig. 4a–c, while indices of necessity-driven entrepreneurship are given in Fig. 4d–f. In Fig. 4a and b, the relationship between opportunity-driven entrepreneurship, international property rights index (4a), and physical property rights index (4b) is positive for Iran and negative for Algeria. But this relationship is still negative for Algeria with intellectual property rights' index, as shown in Fig. 4c. With necessity-driven entrepreneurship index, this relationship is the inverse of the previous state. For Iran, the relationship is negative, while for Algeria it is positive. In Fig. 5, the relationship is drawn between corruption control index and opportunity and necessity-driven entrepreneurship for Iran and Algeria. The relationship between control of corruption and opportunity-driven entrepreneurship index in Iran is positive and in Algeria is negative. But with necessity-driven entrepreneurship index, the relationship is negative in both countries.

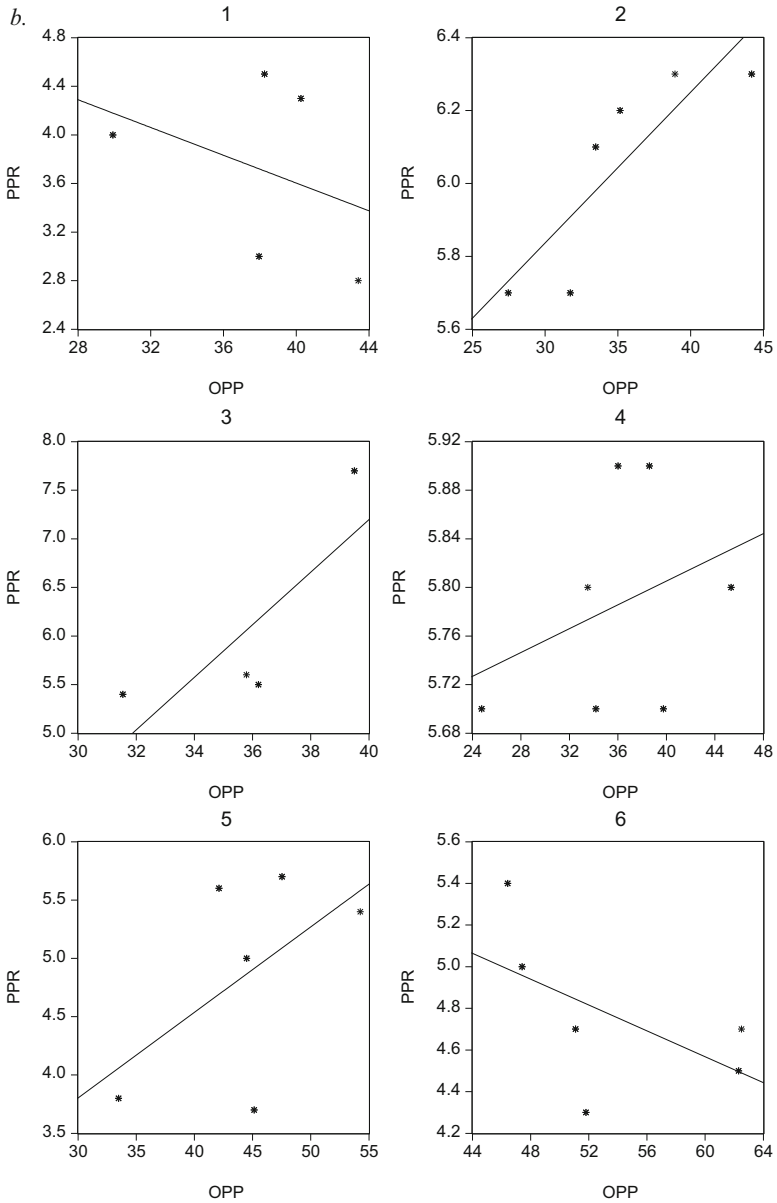
## 5 Discussion

MENA countries have a great capacity for economic growth (Bakhshi-Dastjerdi and Dallali-Isfahani 2011), but their current development status is very bad (Bhattacharya and Wolde 2010) and a great difference is found in terms of economic and social development between them (Milenkovic et al. 2014; Saha and Ben Ali 2017; Naqvi 2011). These countries have different structures. They can be divided into three categories—countries that are natural resource-rich and importing labour force, countries rich in natural resources and with a labour surplus, and countries poor in terms of natural resources (Saha and Ben Ali 2017). Most of these are developing countries and face many problems, such as high rates of youth unemployment and widespread poverty, especially in natural resource-rich countries. Accordingly, Cho and Honorati (2014) believed that demographic pressure in this area has doubled the need for job creation and entrepreneurship development. On the



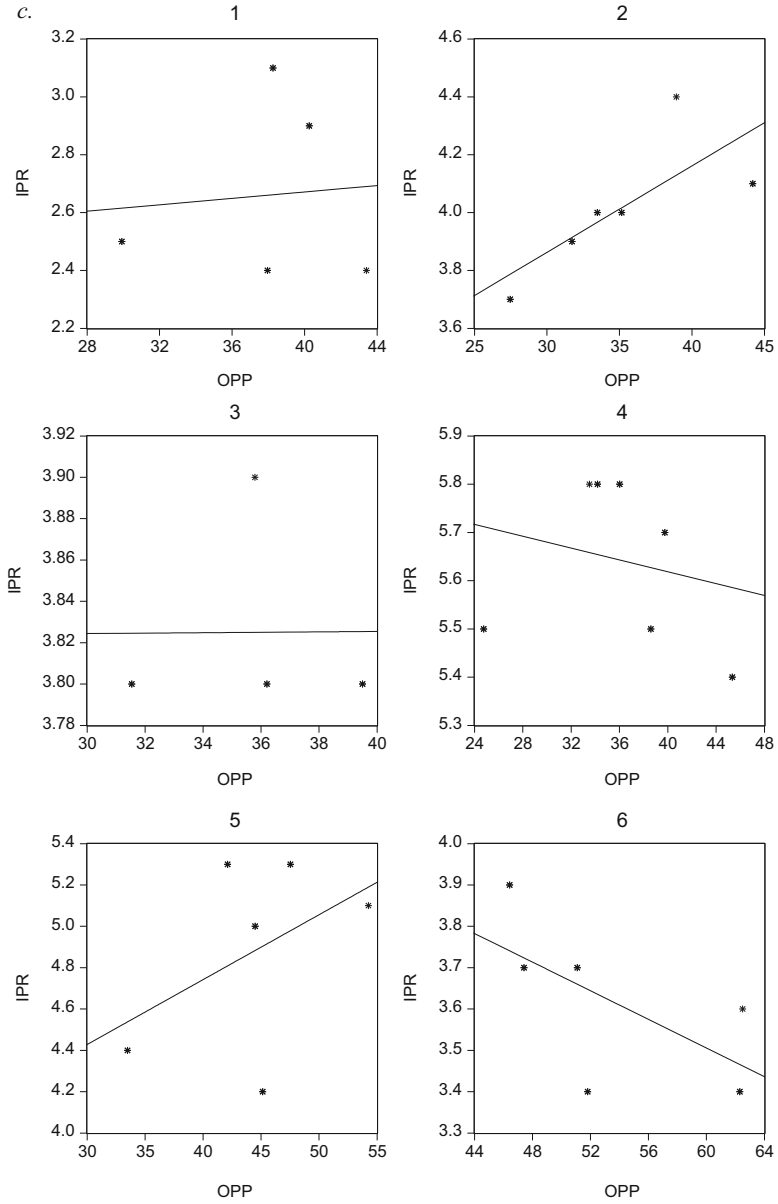
1: Angola, 2: Guatemala, 3: Iran, 4: Jamaica, 5: Uganda, 6: Algeria

**Fig. 4** Link between property rights and entrepreneurship in some factor-driven (and MENA) Countries: (2008–2014). **(a)** Opportunity Entre. and IPRI. 1: Angola, 2: Guatemala, 3: Iran, 4: Jamaica, 5: Uganda, 6: Algeria. **(b)** Opportunity Entre. and PPR. 1: Angola, 2: Guatemala, 3: Iran, 4: Jamaica, 5: Uganda, 6: Algeria. **(c)** Opportunity Entre. and IPR. 1: Angola, 2: Guatemala, 3: Iran, 4: Jamaica, 5: Uganda, 6: Algeria. **(d)** Necessity Entre. and IPRI. 1: Angola, 2: Guatemala, 3: Iran, 4: Jamaica, 5: Uganda, 6: Algeria. **(e)** Necessity Entre. and PPR in Factor-driven Countries. 1: Angola, 2: Guatemala, 3: Iran, 4: Jamaica, 5: Uganda, 6: Algeria. **(f)** Necessity Entre. and IPR in Factor-driven Countries. 1: Angola, 2: Guatemala, 3: Iran, 4: Jamaica, 5: Uganda, 6: Algeria



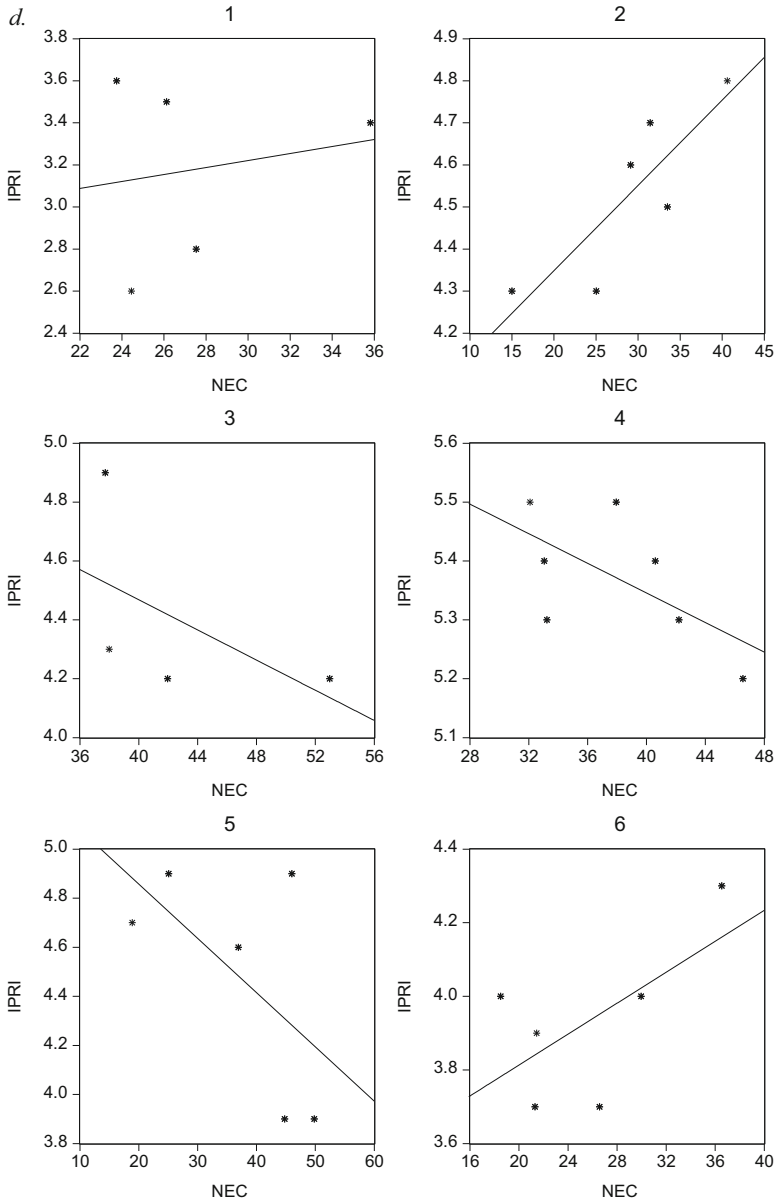
1: Angola, 2: Guatemala, 3: Iran, 4: Jamaica, 5: Uganda, 6: Algeria

Fig. 4 (continued)



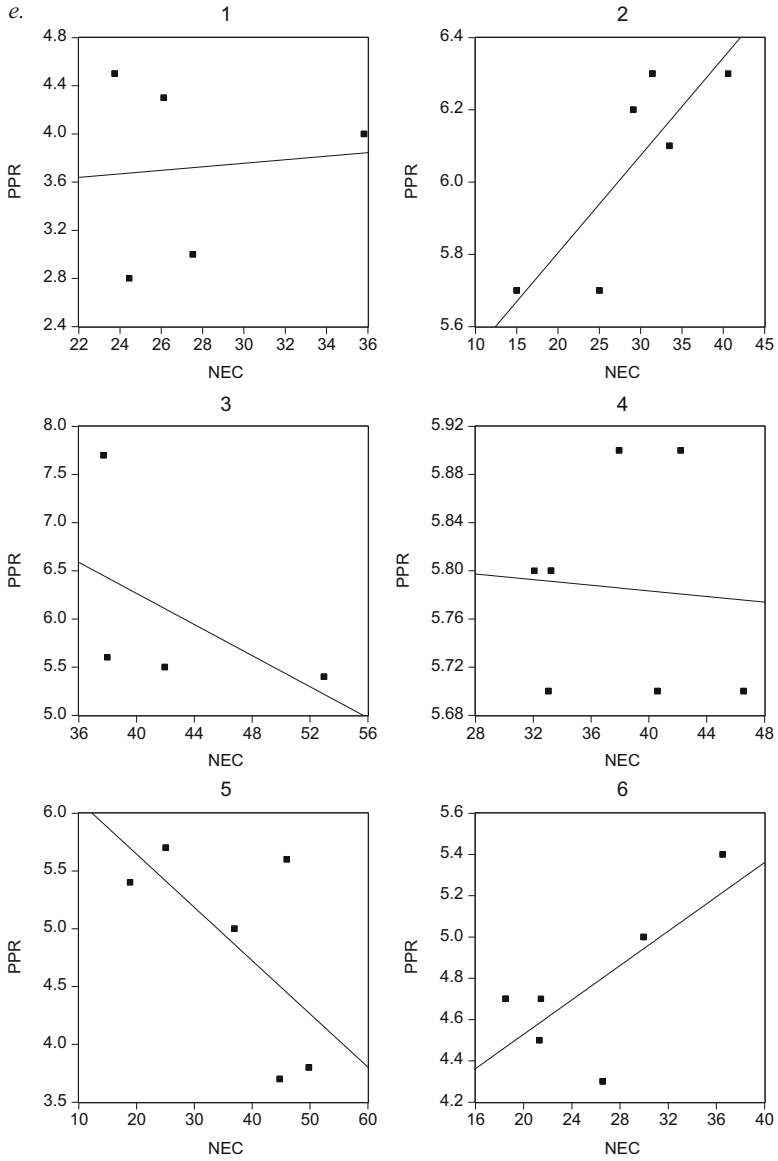
1: Angola, 2: Guatemala, 3: Iran, 4: Jamaica, 5: Uganda, 6: Algeria

Fig. 4 (continued)



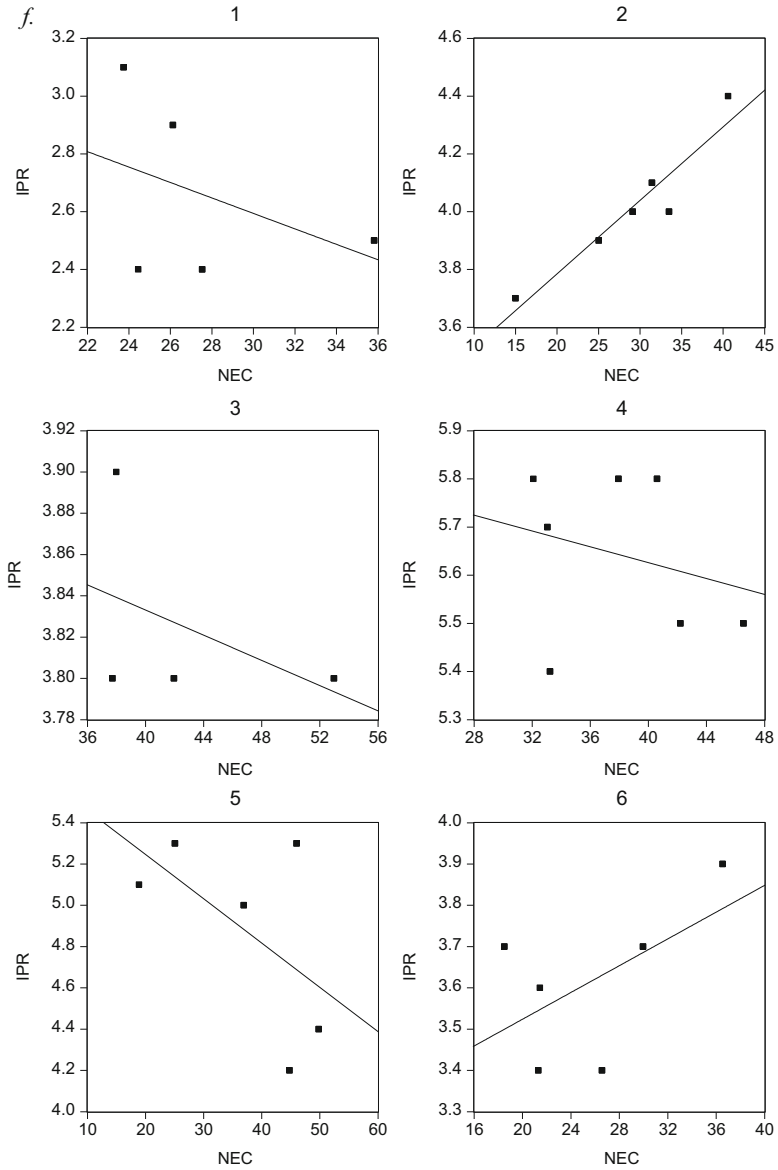
1: Angola, 2: Guatemala, 3: Iran, 4: Jamaica, 5: Uganda, 6: Algeria

**Fig. 4** (continued)



1: Angola, 2: Guatemala, 3: Iran, 4: Jamaica, 5: Uganda, 6: Algeria

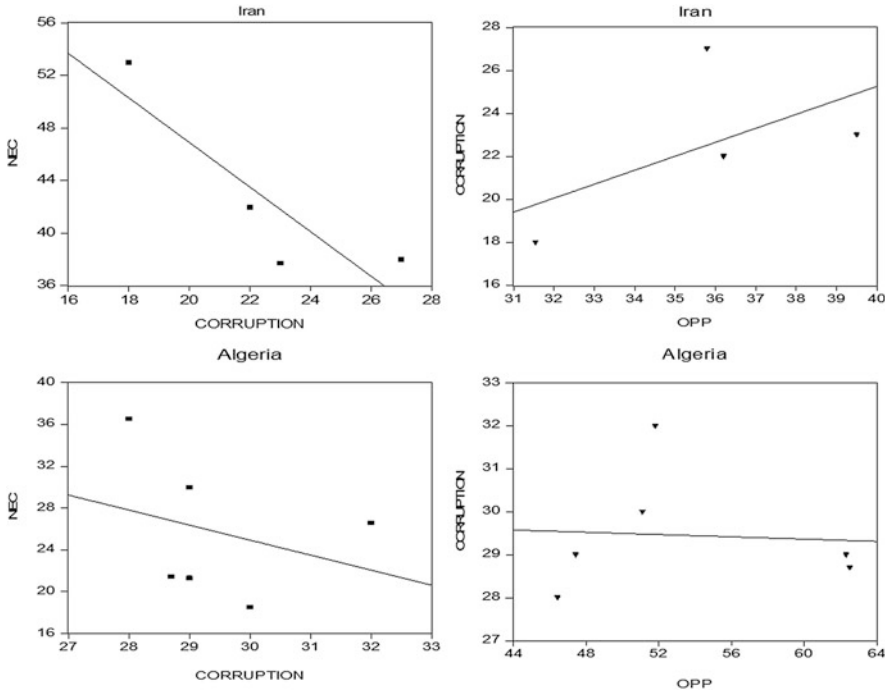
Fig. 4 (continued)



1: Angola, 2: Guatemala, 3: Iran, 4: Jamaica, 5: Uganda, 6: Algeria

Fig. 4 (continued)





**Fig. 5** Link between control of corruption and entrepreneurship in some MENA countries: (2008–2014)

other hand, the capacity and potential of economic growth of the countries are limited at the moment because of some issues, such as Arab Spring (Saha and Ben Ali 2017), and poor institutional structure (low quality of governance, high level of corruption, the inability of governments to control corruption, property rights not guaranteed, etc.) and entrepreneurship development has become difficult.

EFC data analysis over the period of 2008–2015 for MENA countries showed that only economic environment (internal market dynamics and physical infrastructure) state is appropriate for promoting entrepreneurship. The reason for this can be high population of the countries in the area, demand pressure, and the focus of most governments to provide physical infrastructure. However, the lack of serious governmental support from the entrepreneurs and the problem of firms’ finances (the administrative and financial environment) are serious obstacles faced by entrepreneurs in this area. Microfinance programmes in many countries of this area are inefficient and the banking system does not provide proper support for starting entrepreneurial activities. The risk of entrepreneurial activities in these countries is high because of low quality of institutions, and hence the banking system is reluctant to support them. Also, entrepreneurship education cannot be serious in these countries (because of the weakness of the education system in most countries in the area). Naqvi (2011) also considers entrepreneurship education necessary to improve the

entrepreneurial ecosystem function in the countries of the area. Legal and social environments (internal market burdens or entry regulation, commercial and legal infrastructure, and cultural and social norms) are another obstacle to the development of entrepreneurship. The results of Bastian et al. (2015), based on cross-sectional data of entrepreneurial firms in MENA area, also show that national and local governments do not perform their tasks well in terms of creating legal and commercial infrastructure, and are inefficient in this field. Also, in this area, individuals' views are affected by the values ruling the family and community, which increases the possibility and desirability of the self-employment.

As can be seen in Fig. 3b, during the period of 1995–2016, the status of the control of corruption index in many countries of the region is also below 50 and undesirable. In most of the countries, not only is the state of corruption in recent years inappropriate, but also no effective control is there and the corruption trend is growing. Also, the corruption in MENA is below the median global level, but still quite high (Saha and Ben Ali 2017). According to 2016 information, most people in the area believe that the corruption trend is increasing, governments are not fighting the corruption, and governmental institutions and policy-makers are corrupt and accepting bribes in public services (Pring 2016). In several studies (e.g. Anokhin and Schulze 2009; D'Agostino et al. 2016; Aparicio et al. 2016), it is concluded that corruption had a negative impact on economic growth and entrepreneurship in the countries of MENA as well as in other countries, because the corruption leads to weak foundations of institutional trust, increased investment risk, increased transaction costs, and thus reduced incentive for entrepreneurial activities.

Also, the protection of property rights in the countries of MENA has no good status similar to the corruption control. Except for a few countries, during the period of 1995–2016, property rights index was below 50 in most years and countries. According to the information of MENA countries in the period 1990–2013, Apergis and Payne (2014) examined the effect of institutional quality improvement (such as property rights, judicial independence, and business freedom) in countries with rich natural resources and abundant labour force and countries importing labour force in terms of economic growth and emphasized the importance of institutional quality in these countries.

The analysis of the relationship between the quality of institutions (property rights and control of corruption) and the types of entrepreneurship (opportunity-driven and necessity-driven) in the countries of MENA suggests that the effect of controlling corruption on opportunity-driven entrepreneurship is positive in some countries (such as Iran) and negative in others (such as Algeria), but the relationship with necessity-driven entrepreneurship in the given countries is negative.

The different effects of physical property rights and international property rights index on opportunity-driven and necessity-driven entrepreneurship in these countries is another point. A general presumption in this field cannot be true for the countries of MENA. This is because the programmes supporting property rights and innovation are different among the countries. Also, Bastian et al. (2015) concludes that the incentive of entrepreneurs is strongly correlated with institutional factors in MENA countries.

Another important point about the relationship between institutions and entrepreneurship in MENA countries is that in the short term, a unidirectional causality is found from opportunity-driven entrepreneurship to institutions (property rights). This suggests an important role of opportunity-driven entrepreneurs in changing the economic and institutional structure to improve property rights status and economic growth in MENA countries. The suggestion of using people to fight the corruption as given by Pring (2016), the suggestion to use the private sector in entrepreneurship programmes as given by Cho and Honorati (2014), and the suggestion to consider opportunity-driven entrepreneurs to increase the economic growth and entrepreneurship development as given by Aparicio et al. (2016), are consistent in this regard.

## 6 Summery and Conclusion

The level and types (or nature) of entrepreneurship among societies and even in a single society are not identical in the same time. Entrepreneurship is found in all societies, races, colours, religions, etc. and it is not a function of resources available in the countries if the speed and intensity of its growth (not its presence or absence) are considered. However, for the question of what factors influence the level and types of entrepreneurship, there is no clear answer. These factors depend on the level of analysis and the nature (or types) of entrepreneurship. The factors affecting the possibility of potential entrepreneurs to become actual entrepreneurs (changes in the levels of entrepreneurship) are different from the factors affecting the choice of various activities by potential entrepreneurs (changes in entrepreneurship). In general, these factors can be categorized into two categories—economic and institutional factors.

The types of entrepreneurship are affected by different environments such as legal, economic, social and cultural, educational, and managerial environments. There is no possibility to explain the effect of all environments and given variables on all types of entrepreneurship at all levels. Therefore, in this chapter, only the effect of the legal environment on entrepreneurship has been theoretically described. The good quality of institutions such as property rights, the rule of law, legal system, independence of the judiciary and the courts, contracting procedures, and regulatory burden (and in general legal environment), reduces profitability of activities related to the transfer and destruction of wealth (unproductive and destructive entrepreneurship) and an increase in activities related to the creation of new wealth (productive entrepreneurship).

The overall assessment of EFC status in some MENA countries shows that there are major obstacles in the path of supporting entrepreneurship, including educational, cultural, legal, supportive, and financial obstacles. These countries only have relatively good status of physical infrastructure and the dynamics of domestic markets. Also, examining the status of indices of the institutional quality (property rights as a formal institutions and control of corruption as an informal institutions) in

MENA countries shows that the status of the institutional quality in these countries is weak. Also, the empirical analysis of the relationship between the quality of institutions and (opportunity-driven and necessity-driven) entrepreneurship shows that (opportunity) entrepreneurs can be a factor for changing the institutional quality in these countries.

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# Entrepreneurial National Efficiency Based on GEM Data: Benchmarks for the MENA Countries



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**Abstract** Huge amounts of capital are spent on education and development of entrepreneurship and entrepreneurial activities in several countries, yet the tangible entrepreneurial results, as a consequence of these expenses, are not recognized at national level. A country would be on the highest level of entrepreneurial efficiency if it has gained the maximum entrepreneurial output (tangible proceedings and activities such as nascent, new, early-stage and established entrepreneurial activities) in return for entrepreneurial input (monetary capital or non-monetary capital such as human capital, social capital, national norms, and perceived capabilities). Thus the question arises that: “is any country, in regard to others, entrepreneurially efficient at national level?” Several surveys have been done to answer this question. This research seeks to evaluate entrepreneurial efficiency using GEM (Global Entrepreneurship Monitor) national data (for 1 year), including 55 countries, and DEA (Data Envelopment Analysis). Evaluating entrepreneurial efficiency, we can not only determine the relative efficiency of one country among others, but also present efficient countries in entrepreneurship \_benchmarking\_ to improve efficiency in inefficient fields.

**Keywords** Efficiency · Entrepreneurial national efficiency · Data Envelopment Analysis (DEA) · Global Entrepreneurship Monitor (GEM)

## 1 Introduction

Investigating industry efficiency is of importance for both theoreticians and economic policymakers (Seiford and Thrall 1990). A business efficiency is measured by dividing the product value by the value of each unit of resources used (Mehrgan 2004).

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Regarding the huge amounts of capital spent on education and development of entrepreneurship and entrepreneurial activities in several countries (input), yet the tangible entrepreneurial results as a consequence of these expenses (output) are not clearly recognized at national level. A country would be on the highest level of entrepreneurial efficiency if it has gained the maximum entrepreneurial output (tangible proceedings and activities such as nascent, new, early-stage and established entrepreneurial activities) in return for entrepreneurial input (monetary capital or non-monetary capital such as human capital, social capital, national norms, and perceived capabilities). Thus the question arises that is any country, in regard to others, entrepreneurially efficient at national level?

Several surveys have been done to answer this question. For instance Holtz-Eakin et al., Cressy, Taylor, Strotmann have investigated entrepreneurs' operations. Badunenko and Schäfer (2007) have sought to answer this question! How far do entrepreneurs use their human capital efficiently?

This research seeks to evaluate entrepreneurial efficiency using GEM (Global Entrepreneurship Monitor) national data (for 1 year), including 55 countries, and DEA (Data Envelopment Analysis). Data envelopment analysis is a non-parametric linear programming approach which was first presented by Charbes et al. Zbierowski and Bratnicki (2010) have used this technique in managing SME's. Anokhin et al. (2009) have also used data envelopment analysis to operationalize opportunities. Nonetheless, entrepreneurial researchers have done little effort at a national level (Anokhin et al. 2009).

Evaluating entrepreneurial efficiency we can not only determine the relative efficiency of one country among others, but also present efficient countries in entrepreneurship \_benchmarking\_ to improve efficiency in inefficient fields.

## 2 Literature Review

The issue of studying efficiency is great importance both from micro level view point (Seiford and Thrall 1990) and macro or national viewpoint. National efficiency from entrepreneurial view point is also a matter that needs high attention of policymakers and universities. The term "entrepreneurial efficiency" was first used in a research with the same title (Entrepreneurial Efficiency) by Katsuya Takii (2003). He defines entrepreneurial efficiency as: the ability of firms to react properly against unpredictable changes in the environment (in other words, firms' adaptability) (Takii 2003, 2007). Badunenko et al. also define entrepreneurial efficiency as "entrepreneurs using their own human capital efficiently".

The central issue of this research is to investigate entrepreneurial efficiency at national level. What we mean by entrepreneurial national efficiency in this research is "ratio of weighted sum of entrepreneurial outputs to entrepreneurial inputs as indexes of efficiency".

To define components of entrepreneurial inputs and outputs and derive their relationship, we have studied previous research.

The pertinence of relating entrepreneurial standpoints to entrepreneurial behavior follows from the discoveries of an upcoming set of empirical papers at several spatial levels. For instance, at national level, Wennekers et al. (2007) set up a link between uncertainty and business ownership. At regional level, Davidsson and Wiklund (1997) discovered a significant but marginal contribution of cultural dissimilarities in clarifying regional variation in a new firm establishment within Sweden. At the individual level, Lückgen et al. (2006), Arenius and Miniti (2005) and Tamásy (2006) found proof of a significant positive effect of entrepreneurial attitudes on entrepreneurial behavior. In her experimental study, Tamásy (2006) disclosed a significant contribution of several entrepreneurial attitude indices to entrepreneurial activity, along with more traditional clarifications (Bosma and Schutjens 2011).

Perceptual variables and their effect on entrepreneurship have gained less attention from economists (Arenius and Miniti 2005).

Arenius and Miniti (2005) advise that perceptual variables have an effect on new business formation among all countries in their sample. Literally, their analysis convey that subjective perceptions about one's own skills, chance of failure, presence of opportunities, and knowledge of other entrepreneurs, are all remarkably correlated to the decision to establish a new business (Arenius and Miniti 2005).

Arenius and Miniti (2005) claim that entrepreneurs tend to rely comparatively more on subjective perceptions than on objective expectations. Their research contributes to the removal of this gap in the literature by serving a more precise analysis of what variables are important in the creation of nascent entrepreneurs, and by offering that perceptual variables are of consequence and should be involved in analytical models of entrepreneurial behavior.

An increasing number of researchers are in unison that opportunity perception is the most unique and fundamental characteristic of entrepreneurial behavior (Kirzner 1973, 1979).

The connection between entrepreneurship and fear of failure has gained some concentration from economists who have taken into account the relationship between entrepreneurial decisions and risk aversion (Kihlstrom and Laffont 1979). The insight is that as most individuals are risk averse and as the perceived (rather than objective) fear of failure is a significant component of the risk fastened to starting a new business, a reduced perception of the chance of failure should enhance the likelihood that an individual will start a new business (Weber and Milliman 1997).

Opportunity perception is also positively and considerably related to being a nascent entrepreneur. The positive effect of this variable is easily adjusted with the economic theory of entrepreneurship in accordance with which watchfulness to unexploited opportunities is an essential condition for entrepreneurial action (Kirzner 1973, 1979).

Fear of failure has a negative and considerable effect on being a nascent entrepreneur. The negative relation between this variable and the chance of being a nascent entrepreneur is in harmony with Weber and Milliman's (1997) claim that an enhanced perception of the likelihood of failure reduces entrepreneurial

incentives by enhancing the perceived riskiness of starting a business (Arenius and Miniti 2005).

Arenius and Miniti (2005) propose that the effect of the perceptual variables may be greater than that of standard demo-economic variables (Arenius and Miniti 2005).

Nevertheless, entrepreneurship is about individuals and, not surprisingly, subjective and often biased perceptions arise as being highly correlated to nascent entrepreneurship (Arenius and Miniti 2005).

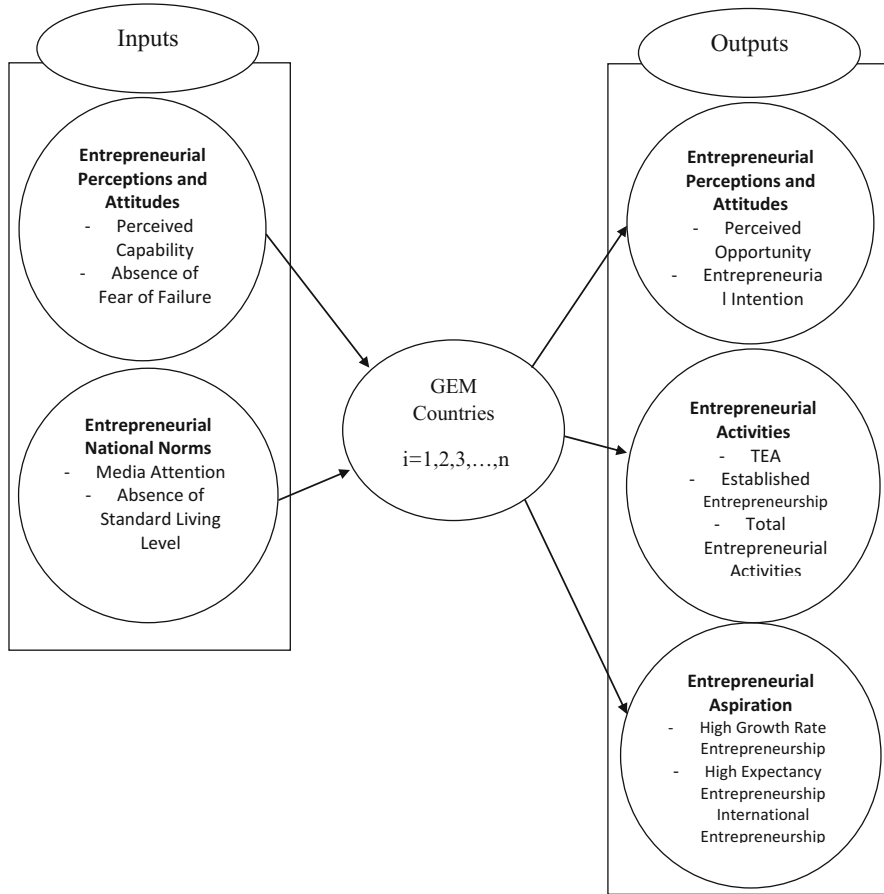
Former research describing entrepreneurial aspirations and ambitions discovered many determinants at various levels of analyses. Research looked at individual level factors such as expectancies (Davidsson 1989; Cliff 1998; Wiklund et al. 2003), ability (Davidsson 1991; Cassar 2006), opportunity costs (Cassar 2006), obstacles (Morris et al. 2006), social capital (Liao and Welsh 2003), education and household income (Autio and Acs 2007) and motives (Kolvereid 1992; Amit et al. 2001; Morris et al. 2006; Cassar 2007).

Davidsson (1991) considered opportunities and Kolvereid (1992) sector as a determinant of aspirations (Hessels et al. 2008) at the industry level.

Countries have significant differences at the level of entrepreneurial activity (Freytag and Thurik 2007; Minniti et al. 2005). Knowing the reasons for such cross-country differences is of great importance for practice as well as theory. Researchers have described differences of entrepreneurial activities across countries by economic development, institutional environment (Lee et al. 2007), and cultural values (Freytag and Thurik 2007; Morris et al. 1993). Zhao et al. (2012) have explored how national culture relates to the multifaceted entrepreneurial activities.

House et al. (2004) have defined national culture as “a country’s shared practices and values”. Hofstede (1980) believed that culture has a direct demonstration in the behavior of people belonging to a culture. Thus, national culture can support or hinder entrepreneurial behavior at the individual level (Hayton et al. 2002). Thus, culture shows the degree to which a society takes into account entrepreneurial behavior (such as opportunity recognition and exploitation) to be desirable. In this perspective, a culture that defends entrepreneurship generates more people with entrepreneurial potential and, as a result, more entrepreneurial activity (Zhao et al. 2012).

Therefore, in this research we will see entrepreneurial perception and attitudes (including perceived entrepreneurial opportunities, entrepreneurial intention), entrepreneurial activities (including total early stage entrepreneurial activity, established business, total entrepreneurial activities) and entrepreneurial aspiration (including high growth rate entrepreneurship, high expectancy entrepreneurship, international entrepreneurship) as entrepreneurial outputs, and entrepreneurial perception and attitudes (including perceived capabilities, fear of failure) and national entrepreneurial norms (including media attention for entrepreneurship, standard living level, entrepreneurship as a good career choice, high status to successful entrepreneurs) as entrepreneurial inputs. This research has attempted to evaluate entrepreneurial efficiency using GEM (Global Entrepreneurship Monitor) national data (for 1 year), including 55 countries, and DEA (Data Envelopment Analysis). Data envelopment analysis is a non-parametric linear programming approach which was first presented



**Fig. 1** Model of evaluating entrepreneurial national efficiency

by Charbes et al. Zbierowski and Bratnicki (2010) have used this technique in managing SME's. Anokhin et al. (2009) have also used data envelopment analysis to operationalize opportunities. Nonetheless, entrepreneurial researchers have done little effort at national level (Anokhin et al. 2009). Evaluating entrepreneurial efficiency, we can not only determine the relative efficiency of one country among others, but also present efficient countries in entrepreneurship \_benchmarks\_ to improve efficiency in inefficient fields. Figure 1 shows the inputs and outputs used in our model.

### 3 Research Method

In this research data envelopment analysis (DEA) has been used to evaluate entrepreneurial efficiency of GEM countries (55 countries).

The DEA approach is aimed to measure and compare the relative efficiency of decision making units (DMU's) such as schools, hospitals, branches of banks, or countries with multiple inputs and outputs which are similar.

Data envelopment analysis is a non-parametric linear programming approach which was first presented by Charbes et al. DEA has no presupposition. There is no need to allocate weight to the inputs and outputs. Weights are directly derived from the data and the user doesn't need to weigh heuristically and optionally. In another definition DEA is a mathematical programming approach to evaluate relative efficiency (named efficient DEA) of each decision making unit (DMU) with multiple inputs and outputs (Quanling 2001).

Suppose there are  $n$  units and the aim is to evaluate efficiency of the unit being surveyed (unit zero or deciding unit) which uses inputs  $x_{10}, x_{20}, \dots, x_{m0}$  to produce outputs  $y_{10}, y_{20}, \dots, y_{s0}$ . If weights allocated to the outputs (or outputs' prices) are shown by  $u_1, u_2, \dots, u_s$  and weights allocated to the inputs (or inputs' cost) are shown by  $v_1, v_2, \dots, v_m$ , then the following fraction should be maximized:

$$\frac{\sum_{r=1}^s u_r y_{r0}}{\sum_{i=1}^m v_i x_{i0}}$$

This method should be done for other units as well. As follows:

$$\begin{aligned} \text{Max } Z_0 &= (\text{unit zero's efficiency}) \\ \text{St :} & \\ \text{All units' efficiency} &\leq 1 \end{aligned}$$

Variables of the above problem are the weights and its answer provides the best and most appropriate values for the weights of unit zero and measures its efficiency.

The above model, named CCR model (Charnes, Cooper, and Rhodes), is of the constant return to scale models. These models are appropriate while all units operate in the optimum scale. In evaluating units' efficiency, whenever the situation and condition of imperfect competition impose restrictions in investment, it will cause the unit not to operate in optimum scale.

The BCC model (Banker, Charnes, and Cooper) is to evaluate the efficiency of the unit being studied (zero) as follows:

$$\text{Max } Z_0 = \frac{\sum_{r=1}^s u_r y_r + w}{\sum_{i=1}^m v_i x_i}$$

St:

$$\begin{aligned} \frac{\sum_{r=1}^s u_r y_{rj} + w}{\sum_{i=1}^m v_i x_{ij}} &\leq 1 \quad (j = 1, 2, \dots, n) \\ u_r, v_i &\geq 0 \quad w \text{ (free sign variable)} \end{aligned}$$

The difference of this model and CCR model is in the existence of the free sign variable of  $w$ . In the BCC model, the sign of variable  $w$  determines type of returns to scale for each unit.

- (a) If  $w$  is smaller than 0, then returns to scale is descending.
- (b) If  $w$  is equal to 0, then returns to scale is constant.
- (c) If  $w$  is bigger than 0, then returns to scale is ascending.

In this research analysis has been done at national zone/level. Since in the data envelopment analysis approach, the efficiency of decision making units is evaluated in relation to each other, we have classified countries into three groups: countries with factor-driven economy, countries with efficiency-driven economy and countries with innovation-driven economy. Entrepreneurial national efficiency of each country has been studied in the related group and compared to the countries of the same group to reach more accurate and reliable results.

As seen in the below framework, in this study we are supposed to evaluate entrepreneurial efficiency of GEM countries based on indicators presented by GEM (Global Entrepreneurship Monitor) and using data envelopment analysis technique. In this model, the indicators relied on increase entrepreneurship are considered as inputs and indicators with tangible and measurable results of entrepreneurship are considered as outputs of the model.

## 4 Results

Table 1 shows entrepreneurial national efficiency in GEM countries. Countries with the score of 1 are entrepreneurially efficient which means they use entrepreneurial inputs in an optimum way.

As is shown in Table 1, derived from data envelopment analysis, among the 55 countries studied, 22 are entrepreneurially efficient. Among efficient countries, in the three categories, are the following countries:

1. Factor-driven countries are Bangladesh, Nigeria, Pakistan, Colombia and Romania
2. Efficiency-driven countries are Bosnia and Herzegovina, Chile, Croatia, Hungary, Latvia, Lithuania, Thailand and Uruguay,
3. Innovation-driven countries are Australia, Greece, Ireland, Japan, Singapore, Slovenia, Taiwan, United Arab Emirates and United States

And the rest of the countries, presented in Table 2, are entrepreneurially non-efficient (i.e. their ratio of entrepreneurial outputs to entrepreneurial inputs is smaller than one, which means they do not use their inputs in an optimum way).

In Table 3, GEM countries' entrepreneurial national efficiency and benchmarked countries are presented. Based on these results, for instance, the following countries are given as benchmarked countries for Iran's entrepreneurial national efficiency:



**Table 1** Entrepreneurial national efficiency in GEM countries (efficient countries)

Grade	Efficiency Score	Country	No.
1	1	Bangladesh	1
1	1	Nigeria	2
1	1	Pakistan	3
1	1	Colombia	4
1	1	Romania	5
1	1	Bosnia and Herzegovina	6
1	1	Chile	7
1	1	Croatia	8
1	1	Hungary	9
1	1	Latvia	10
1	1	Lithuania	11
1	1	Thailand	12
1	1	Uruguay	13
1	1	Australia	14
1	1	Greece	15
1	1	Ireland	16
1	1	Japan	17
1	1	Singapore	18
1	1	Slovenia	19
1	1	Taiwan	20
1	1	United Arab Emirates	21
1	1	United States	22

### Bangladesh, Nigeria, Pakistan and Romania

Among these countries, the biggest efficiency space is that of Iran and Romania; thus, it can be the best benchmark for Iran. The same are given the benchmarked countries for each of the DMU's (GEM countries) in the above table.

As revealed in on Table 4, we can say that Argentina, Barbados, Belgium, Brazil, China, Czech Republic, Denmark, Finland, France, Germany, Guatemala, Iran, Jamaica, Korea, Malaysia, Mexico, Netherlands, Norway, Panama, Peru, Poland, Portugal, Russia, Slovakia, South Africa, Spain, Sweden, Switzerland, Trinidad and Tobago, Turkey, United Kingdom, Venezuela will not be efficient in national entrepreneurship by omitting any of the inputs or outputs. Furthermore, Colombia, Greece, Hungary, Nigeria, Taiwan and Thailand will not lose their efficiency and remain efficient by omitting any variable of the model. Other countries' entrepreneurial national efficiency changes by omitting any of the inputs or outputs.

**Table 2** Entrepreneurial national efficiency in GEM countries (non-efficient countries)

Grade	Efficiency Score	Country	No.
1	0.991358	China	23
2	0.958754	United Kingdom	24
3	0.958466	Russia	25
4	0.95603	Guatemala	26
5	0.954858	Czech Republic	27
6	0.954537	Algeria	28
7	0.950385	Germany	29
8	0.95011	Denmark	30
9	0.933021	Korea	31
10	0.927234	Spain	32
11	0.922171	France	33
12	0.920142	Peru	34
13	0.910238	Poland	35
14	0.900659	Belgium	36
15	0.878042	Portugal	37
16	0.875151	Slovakia	38
17	0.867474	Malaysia	39
18	0.864417	Iran	40
19	0.859976	Norway	41
20	0.859303	Trinidad and Tobago	42
21	0.833855	Switzerland	43
22			
23	0.820178	Venezuela	44
24	0.788496	Brazil	45
25	0.787298	Sweden	46
26	0.783593	Turkey	47
27	0.782059	Netherlands	48
28	0.773721	Finland	49
29	0.765909	South Africa	50
30	0.759805	Mexico	51
31	0.752369	Jamaica	52
32	0.739676	Argentina	53
33	0.711583	Barbados	54
34	0.703202	Panama	55

## 5 Discussion and Conclusion

Results of this research indicate that Iran is not efficient in national entrepreneurship. Moreover, closer study of these findings about each of the components related to the inputs and outputs of Iran's entrepreneurial system, highlights that this country does not show significant efficiency in any of these components. Therefore to achieve the proper level of entrepreneurial national efficiency, there is the need to have a benchmark to create an infrastructure to improve inputs and outputs, and finally

**Table 3** Benchmarked countries to improve entrepreneurial national efficiency (innovation-driven countries)

Benchmarked countries							Grade	Efficiency score		Country
			0.73174	Pakistan	0.26825	Nigeria	26	0.95603	Factor-driven countries	Guatemala
	0.40315	Colombia	0.53412	Pakistan	0.06272	Bangladesh	28	0.95454		Algeria
0.30731	Romania	Pakistan	0.28511	Nigeria	0.29417	Bangladesh	40	0.86442	Iran	
	0.10625	Colombia	0.82245	Pakistan	0.07129	Nigeria	44	0.82018		Venezuela
	0.73494	Pakistan	0.13061	Nigeria	0.13445	Bangladesh	52	0.75237	Jamaica	
	0.44517	Thailand	0.0513	Latvia	0.50353	Chile	23	0.99136		China
			0.80248	Thailand	0.19751	Lithuania	25	0.95847	Russia	
	0.23812	Uruguay	0.19979	Thailand	0.56207	Chile	34	0.92014		Peru
	0.20061	Thailand	0.4394	Lithuania	0.35998	Hungary	35	0.91024	Poland	
0.04581	Uruguay	Thailand	0.44879	Hungary	0.15962	Bosnia and Herzegovina	38	0.87515		Slovakia
					0.99999	Thailand	39	0.86747	Malaysia	
	0.4136	Uruguay	0.12937	Thailand	0.45702	Chile	42	0.8593		Trinidad and Tobago
	0.15636	Uruguay	0.54371	Thailand	0.29993	Hungary	45	0.7885	Brazil	
			0.36849	Thailand	0.6315	Hungary	47	0.78359		Turkey
	0.31305	Thailand	0.47966	Lithuania	0.20728	Hungary	50	0.76591	South Africa	
	0.14486	Uruguay	0.17317	Thailand	0.68196	Hungary	51	0.75981		Mexico
	0.36713	Uruguay	0.60995	Thailand	0.02291	Chile	53	0.73968	Argentina	
	0.02428	Thailand	0.42306	Hungary	0.55265	Bosnia and Herzegovina	54	0.71158		Barbados
0.36565	Uruguay	Thailand	0.1537	Hungary	0.16759	Bosnia and Herzegovina	55	0.7032	Panama	

0.0104	Taiwan	0.0434	Singapore	0.47167	Ireland	0.47451	Greece	24	0.95875	Innovation-driven countries	United Kingdom
0.22879	Taiwan	0.10847	Singapore	0.51967	Ireland	0.14306	Greece	27	0.95486		Czech Republic
		0.32554	Singapore	0.01258	Japan	0.66187	Greece	29	0.95039		Germany
		0.36928	Singapore	0.23194	Ireland	0.39877	Greece	30	0.95011		Denmark
0.24089	Taiwan	0.01232	Singapore	0.11916	Japan	0.62761	Greece	31	0.93302		Korea
				0.33246	Slovenia	0.66753	Greece	32	0.92723		Spain
0.39469	Taiwan	0.06944	Slovenia	0.06743	Ireland	0.46843	Greece	33	0.92217		France
		0.25639	Singapore	0.40678	Ireland	0.33682	Greece	36	0.90066		Belgium
0.16231	Taiwan	0.11134	Singapore	0.10494	Ireland	0.62141	Greece	37	0.87804		Portugal
		0.06172	Singapore	0.03612	Japan	0.90214	Greece	41	0.85998		Norway
		0.09016	Singapore	0.32102	Ireland	0.58881	Greece	43	0.83386	Switzerland	
		0.13492	Singapore	0.07847	Japan	0.7866	Greece	46	0.7873	Sweden	
		0.19363	Singapore	0.02541	Japan	0.78095	Greece	48	0.78206	Netherlands	
				0.22341	Japan	0.77658	Greece	49	0.77372	Finland	

**Table 4** Summary of sensitivity analysis

Omitting entrepreneurial aspiration	Omitting entrepreneurial activities	Omitting entrepreneurial perception and attitudes	omitting entrepreneurial national norms	Omitting entrepreneurial perception and attitudes	Before omitting any Index	Country	No.
Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Algeria	1
Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Argentina	2
Efficient	Efficient	Non-Efficient	Non-Efficient	Efficient	Efficient	Australia	3
Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Efficient	Efficient	Bangladesh	4
Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Barbados	5
Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Belgium	6
Non-Efficient	Non-Efficient	Non-Efficient	Efficient	Efficient	Efficient	Bosnia and Herzegovina	7
Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Brazil	8
Non-Efficient	Non-Efficient	Efficient	Non-Efficient	Non-Efficient	Efficient	Chile	9
Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	China	10
Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Efficient	Colombia	11
Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Efficient	Croatia	12
Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Czech Republic	13
Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Denmark	14
Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Finland	15

Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	France	16
Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Germany	17
Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Efficient	Greece	18
Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Guatemala	19
Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Efficient	Hungary	20
Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Iran	21
Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Efficient	Ireland	22
Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Jamaica	23
Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Efficient	Japan	24
Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Korea	25
Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Efficient	Latvia	26
Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Efficient	Lithuania	27
Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Malaysia	28
Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Mexico	29
Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Netherlands	30
Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Efficient	Nigeria	31
Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Norway	32
Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Efficient	Pakistan	33

(continued)

Table 4 (continued)

Omitting entrepreneurial aspiration	Omitting entrepreneurial activities	Omitting entrepreneurial perception and attitudes	omitting entrepreneurial national norms	Omitting entrepreneurial perception and attitudes	Before omitting any Index	Country	No.
Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Panama	34
Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Peru	35
Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Poland	36
Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Portugal	37
Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Efficient	Romania	38
Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Russia	39
Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Efficient	Efficient	Singapore	40
Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Slovakia	41
Non-Efficient	Non-Efficient	Non-Efficient	Efficient	Non-Efficient	Efficient	Slovenia	42
Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	South Africa	43
Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Spain	44
Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Sweden	45
Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	Switzerland	46
Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Efficient	Taiwan	47
Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Efficient	Thailand	48

Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	49
Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	50
Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Efficient	51
Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	52
Non-Efficient	Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Efficient	53
Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Non-Efficient	Efficient	54
Efficient	Efficient	Efficient	Efficient	Efficient	Efficient	Non-Efficient	55



**Table 5** Comparing entrepreneurial inputs and outputs of Iran to Romania

Space	Romania	Iran	Variable type	
17.7	56.95	74.65	Entrepreneurial Perception and Attitudes	Input
11.185	48.685	59.87	Entrepreneurial National Norms	
2.855	16.695	19.55	Entrepreneurial Perception and Attitudes	Output
7.56	9.523	17.083	Entrepreneurial Activities	
-14.175	25.376	11.201	Entrepreneurial Aspiration	

have a proper combination of these two in the country. This proper combination will result in the improvement of entrepreneurial efficiency and its expected benefits. Findings of this research suggest that Bangladesh, Nigeria, Pakistan and Romania can be considered as benchmarks to improve Iran's entrepreneurial national efficiency. Among these countries, the distance between Iran's efficiency and Bangladesh is 0.294, Nigeria is 0.285, Pakistan is 0.113, and Romania is 0.307. Having in mind that the bigger the distance of efficiency scores are, the more opportunities for enhancement exist, and thus Romania is the best benchmark for Iran. Since changes must be made in entrepreneurial inputs and outputs, the following table shows their values and the distance between them (Table 5):

According to efficiency's definition, efficiency is the ratio of outputs to the inputs of a system. Thus, to increase efficiency score and reach the benchmarked country's level, the space between inputs and outputs of Iran and the benchmarked country (which is here Romania) must be minimized.

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# Increasing Entrepreneurial Impact in the MENA Region



Victoria Hill, Shahamak Rezaei, and Silvia Carolina Lopez Rocha

**Abstract** This chapter treats countries of Middle East and of North Africa (MENA) as two similar but culturally distinct sub-regions of MENA. Using data collected by academics and international organisations (e.g. Global Entrepreneurship Monitor, OECD, UNDP), Qatar, U.A.E., Jordan in the Middle East, and Morocco in North Africa, emerge as the countries most likely to have the potential to develop a strong cadre of successful entrepreneurs. All four countries have very high youth population percentages, but MENA also has the world's highest unemployment rates. E.g. in Morocco 49% of youths aged 15–24 are not employed or in school (NEET); in Jordan, more than half the entire population is >25 years of age and 25% of these youths are unemployed. In Qatar and U.A.E., population demographics are similar, but there's greater likelihood their governments and/or foreign direct investment will provide needed resources. While economic development contributes to overall success, the ineffective and outmoded public education systems that currently exist throughout MENA not only prevent the spread of entrepreneurship, but also increase overhead for existing employers. Policies and initiatives that address these deficiencies can increase the size and/or accelerate entrepreneurial impact while improving existing businesses in Jordan and Morocco.

**Keywords** MENA · Education · Entrepreneurism/entrepreneurial/entrepreneur · NEET · Jordan · Morocco

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## 1 Introduction

In most countries today, Entrepreneurship represents an alternative for employment that in most cases puts more free choice and economic opportunity in the hands of the worker (Entrepreneur) than other careers might have done. But more crucially, this is especially necessary in countries with high youth unemployment; most of these countries are in MENA.

While entrepreneurship has been an option for some time in MENA, actual rates of entrepreneurship are quite low compared to other parts of the world. The reasons behind this are not quite clear, although outmoded public education systems are often targeted as playing a very significant role. However, before accepting public education as a major obstacle to entrepreneurship, we considered a variety of hypotheses for other possible causes behind the low rates of entrepreneurship, and with the goal of increasing entrepreneurial impact across the MENA region. This Introduction looks at four potential hypotheses: (1) Influence from cultural values; (2) Influence of necessity-driven vs. opportunity-driven TEAs; (3) Indication of society moving toward knowledge-based society; (4) Cultural factors unique to MENA may provide new insights about entrepreneurship, education and/or youth in MENA.

### Development of Hypothesis 1

GEM data can be triangulated with other reliable data collections to better predict the stage of entrepreneurial development in a nation/region. Different attitudes toward entrepreneurship can be identified based on the Inglehart–Welzel Cultural Model (IWCN) found in the World Values Survey. E.g. a significant study of cultural values from the traditional MENA region were compared to a secular-rational, stable—and very successfully entrepreneurial—Denmark. Comparisons made of 17,742 entrepreneurs' gender, age and education in MENA with Denmark found there was a notably higher effect on entrepreneurs' public sphere networks resulting from education: "The effect of education is positive, educated entrepreneurs tend to have larger networks than entrepreneurs with less education" (Ashourizadeh and Schøtt 2013). The significance is that larger networks are associated with greater collaboration and likely lead to improved entrepreneurial success.

But the IWCN can also tell us other things about potential entrepreneurial success. The Global Entrepreneurial Development Index/GEI (Ács, Szerb et al. 2017) utilizes GEM data as the basis for developing its sub-indices scores. This can be extrapolated a step further by analysing what influence the IWCN might have on GEI score outcomes. The IWCN vertical scale measures Traditional values vs. Secular-rational values (as utilized in the Ashourizadeh and Schøtt 2013 study). But it appears there may be several other important linkages related to estimating level of development of entrepreneurship in a country.

For example, the IWCN horizontal scale measures Survival values vs. Self-expression values:

*Survival values* “emphasize economic and physical security. This dimension represents a relatively ethnocentric outlook and low levels of trust and tolerance” . . . “The largest increase in existential security occurs with the *transition from agrarian to industrial societies*. Consequently, the largest shift from traditional towards secular-rational values happens in this phase” (Inglehart-Welzel 2005).

*Self-expression values* place a high level of priority on social issues. This dimension is associated with environmental protection, tolerance of out-groups (e.g. foreigners, LGBT community and gender equality) and demands for increased decision-making in economic and political life (Inglehart-Welzel 2005).

“People’s priorities shift from survival to self-expression values as their *sense of individual agency* increases or backwards from self-expression values to survival as the *sense of individual agency* decreases” (Inglehart-Welzel 2005). “The largest increase in individual agency occurs with the *transition from industrial to knowledge societies*. Consequently, the largest shift from survival to self-expression values happens in this phase” (Inglehart-Welzel 2005).

***Hypothesis 1: Given that individual agency is a surrogate for transition to a knowledge-based society, higher IWCM scores for Self-expression should correlate to higher GEI scores.***

In order to test this hypothesis, the most recent set of IWCM values were collected along with two sets of GEI scores; the most recent (2017) and the earliest available (2009). This was to support the goal of capturing any countries that might be transitioning toward/away from Self-expression values. All IWCM Self-expression values from the most recently surveyed year (2014) appear in Table 1. In addition, all Secular-rational values or Traditional values also appear for each country with a Self-expression value. The only MENA country with a Self-expression value was Qatar. All other MENA countries reported preferences that indicate they are experiencing Survival phase with no real *sense of individual agency*; nor is any MENA country in a Secular-rational phase. Each MENA country appears in Table 1 with its Survival value and Traditional value (except Qatar which appears with its Self-expression and Traditional scores). Consistent with the first definition above, the *Inglehart-Welzel* interpretation would see this set of Survival values combined with Traditional values as representative of countries that have not yet made the *transition from agrarian to industrial societies*.<sup>1</sup> This might delay the *transition from industrial to knowledge societies* for the MENA countries. Or it might be possible for the MENA countries to ‘leap-frog’ to *knowledge societies*.

Table 1 shows the 2017 and 2009 GEI rankings for all countries measured; 2016 GEI data was only available for the ‘Top 25’. Nevertheless, all three sets of rankings were included in the table and followed by columns for Survival value, Self-expression value, Secular-rational value and Traditional value. Table 1 is only

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<sup>1</sup>As of April 2017, the Jordanian Labour Ministry appealed to young Jordanians to apply for the mainly agricultural jobs (primarily done by immigrants) as there are very few other kinds of jobs available.

**Table 1** Top 37 GEI scores plus 12 MENA countries' compared with their IWCM scores

GEI 2017 Rank & Score	Top 25 GEI 2016 Rank & Score	GEI 2009 Rank & Score	Survival value 2014	Self-Expression 2014	Secular-Rational 2014	Traditional Value 2014
1 U.S. 83.4	1 U. S. 86.2	3 U.S. 0.72		+1.15		-0.20
2 Switzerland 78.0	8 Switzerland 67.8	7 Switzerland 0.63		+1.35	+0.65	
3 Canada 75.6	2 Canada 79.5	2 Canada 0.74		+2.10		-0.35
4 Sweden 75.5	5 Sweden 75.9	4 Sweden 0.69		+2.25	+1.70	
5 Denmark 74.1	4 Denmark 76.0	1 Denmark 0.76		+2.20	+1.55	
6 Iceland 73.5	7 Iceland 68.9	9 Iceland 0.62		+2.00	+0.50	
7 Australia 72.5	3 Australia 78.0	11 Australia 0.60		+1.90	+0.45	
8 U.K. 71.3	9 U.K. 67.7	14 U.K. 0.56		+1.50	+0.20	
9 Ireland 71.0	12 Ireland 65.6	6 Ireland 0.63		+1.10		-0.65
10 Netherlands 67.8	13 Netherlands 65.4	10 Netherlands 0.62		+1.30	+1.55	
11 Finland 66.9	18 Finland 61.8	13 Finland 0.56		+1.25	+1.25	
12 Germany 64.9	14 Germany 64.6	16 Germany 0.54		+0.60	+1.55	
13 France 64.1	10 France 64.4	18 France 0.50		+1.00	+0.55	
14 Austria 63.5	15 Austria 62.9	22 Austria 0.45		+0.60	+0.65	
15 Belgium 63.0	17 Belgium 62.1	12 Belgium 0.58		+1.30	+0.30	
16 Taiwan 60.7	6 Taiwan 69.7	No score	-0.70		+1.25	
17 Israel 59.1	21 Israel 57.4	21 Israel 0.47		No data		
18 Chile 58.8	16 Chile 62.1	26 Chile 0.41		+0.30		-0.40
19 U.A.E. 58.8	19 U.A.E. 61.4	24 U.A.E. 0.42		No data		
20 Luxembourg 58.1	23 Luxembourg 57.2	No score		+0.95	+0.45	
21 Qatar 58.0	24 Qatar 56.7	No score		+0.20		-2.20 <sup>a</sup>
22 Norway 55.9	20 Norway 61.1	8 Norway 0.62		+2.10	+1.20	
23 Estonia 55.5	22 Estonia 57.3	No score	-0.75		+1.25	
24 Singapore 52.2	11 Singapore 66.0	15 Singapore 0.56		No data		
25 Japan 51.7		29 Japan 0.40		+0.15	+1.80 <sup>b</sup>	
26 Slovenia 51.5		19 Slovenia 0.49		+0.12	+1.10	
27 Korea 50.5		20 Slovenia 0.49	-0.60		+1.00	
28 Lithuania 49.6	25 Lithuania 54.8	No score	-1.20		+1.20	
29 Portugal 47.2		33 Portugal 0.35	-0.10			-0.20
30 Saudi Arabia 47.2		30 Saudi Arabia 0.38		No data		
31 Poland 46.6		37 Poland .029		+0.25		-0.60
32 Hong Kong 46.4		23 Hong Kong 0.45		+0.10	+1.20	
33 Spain 45.3		28 Spain 0.40		+0.30	+0.49	
34 Bahrain 44.7		No score	-0.50			-0.10
35 Slovakia 44.1		No score	-0.15		+0.30	
36 Turkey 43.7		43 Turkey 0.27	-0.25			-1.20
37 Oman 43.6	37	No score		No data		
39 Kuwait 42.5		No score		No data		
42 Tunisia 40.5		58 Tunisia 0.22	-1.65			-0.90
56 Jordan 31.7		51 Jordan 0.23	-1.15			-1.50
63 Lebanon 28.8		No score	-0.75			-0.10
70 Morocco 25.7		59 Morocco 0.22	-1.20			-1.25
73 Algeria 24.7		61 Algeria 0.19	-0.65			-0.80
81 Egypt 22.7		50 Egypt 0.24		No data		
Palestine No GEI data		No score	-1.10			-1.00
Iraq No GEI data		No score	-1.10			-0.80
Syria No GEI data for 2014	47	68 Syria 0.16		No data		
Yemen No GEI data		No score	-1.18	2014		-1.30
			-1.20	2008		-1.35

(continued)

**Table 1** (continued)

Source: Author's own. Data compiled from: Ács, Szerb et al. (2017). The Global Entrepreneurship Index Rank of All countries 2017 Table 2.2, Chap. 2, p. 34. *The Global Entrepreneurship Index 2017*. Washington, DC

Notes: (1) 2009 GEI rank “5 New Zealand 0.68”; no current GEI data but +1.75 Self-expression and +0.35 Secular-rational values for 2014. (2) Northern Ireland, (included in Ireland GEI data) but +0.70 self-expression and -0.49 Traditional values for 2014. (3) No GEI score for Malta but +0.40 Self-expression and -1.30 for traditional values in 2014. (4) Andorra, no GEI data but +1.40 Self-expression and +0.80 Secular-rational values for 2014

<sup>a</sup>Qatar's score for traditional values is the highest of all countries

<sup>b</sup>Japan's score for secular-rational values is the highest of all countries

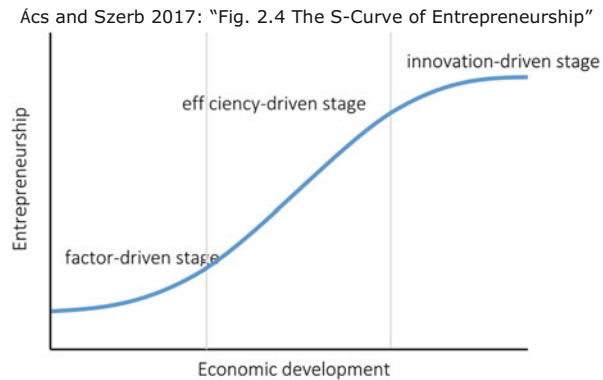
page one; the full table of countries and IWCM data appears in Appendix 1. In addition, all data for MENA countries (regardless of Self-expression scores) were also added to Table 1.

The top 15 of GEI's 'Top 25' countries all have positive Self-expression values. In total there were 44 countries with positive Self-expression values, while two more countries were exactly at midpoint (i.e.  $\pm 0.00$ ). All 46 countries were in the GEI 2017 rankings. Only two countries in GEI's 'Top 25' most highly ranked countries did not have a positive Self-expression score (i.e. Taiwan and Estonia). There were three countries in the 'Top 25' without data (i.e. Israel, U.A.E. and Singapore) so a rate of 90.9% could be associated with a positive Self-expression score. However, if the three countries without data were replaced by the next three with data (i.e. Slovenia, Korea, Lithuania), the rate of positive Self-expression scores becomes 84%. This pattern of 'dispersal' of Self-expression scores accelerates the farther the scores are away from GEI's most highly ranked countries. Four MENA countries are at the very bottom of the GEI rankings because they have no current GEI data. However, Yemen is of note due to its IWCM score improvements between 2008 and 2014. It shows that even a poverty-stricken and chaotic MENA country can improve.

Additionally, almost all 'Top 25' were also in the Secular-rational values category. There were only five exceptions in the 'Top 25' that preferred the Traditional values category (i.e. U.S., Canada, Ireland, Chile and Qatar). In fact, Qatar had the single 'highest' Traditional values rank amongst all countries in the IWCM—despite having the only positive score for Self-expression amongst the MENA countries. Overall, it appears that valuing Self-expression is a stronger correlation to a high GEI score than the other three IWCM values. Therefore, it can be said that ***Hypothesis 1 is correct: Given that individual agency is a surrogate for transition to a knowledge-based society, higher IWCM scores for Self-expression DO correlate to higher GEI scores.*** That result might be able to be extended to state that countries with Secular-rational values were more likely to have high GEI scores. But, five top-scoring countries (listed above) maintained Traditional values and still ranked very high in GEI. Considering that all MENA countries (with data) were ranked as Traditional, and Qatar had the highest Traditional score of *any* country measured, suggests that MENA countries can retain Traditional values and still become *knowledge-based societies*.



**Fig. 1** The S-curve of entrepreneurship. Source: Ács, Szerb et al. (2017)

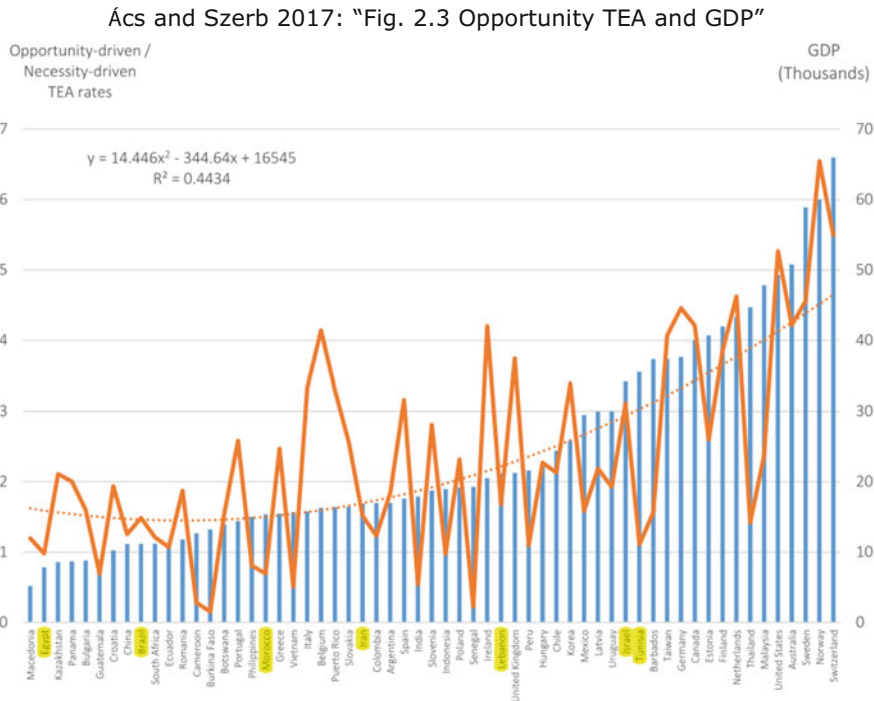


## Development of Hypothesis 2

Although Ács, Szerb et al. (2017) utilise the GEM “individual data” (*i.e.* GEM APS data appears in Table 5.3, p. 79 of *The Global Entrepreneurship Index 2017*) to construct their GEI scores, they consistently argue that ‘necessity-driven TEA’ is harmful to the growth of ‘opportunity-driven TEA’. The GEM Consortium argue that both ‘opportunity-driven’ and ‘necessity-driven TEA’ are helpful to populations. But other authors suggest that jobs and economic growth follow a specific development path *from agrarian society to industrial society to knowledge society*. The Inglehart–Welzel Cultural Model (IWCN) basis for the World Values Survey, shows that Qatar, the U.S., Canada, Ireland and Chile are all countries that lean more toward Traditional values than toward Secular-rational values but all are still able to achieve ‘Top 25’ GEI rankings. While there are secondary drawbacks to individual entrepreneurial success (as found by Ashourizadeh and Schøtt 2013), at a national level it appears Traditional values might not seriously interfere with entrepreneurial businesses’ overall national performance. This raises a question of whether other factors (such as an excess of ‘necessity-driven TEA’ vs. ‘opportunity-driven TEA’) might be involved.

**Hypothesis 2: Given the slow pace of tech start-ups in MENA region despite its more than 100 million youth, is it possible that encouraging as many TEAs as possible (regardless whether opportunity-driven or necessity-driven) could be hindering the pace of conversion to ‘knowledge societies’ across the region?**

Ács and Szerb’s argument derives from several inputs: The individual data (Table 5.3 described above); Table 5.4, pp. 81–84, *The Distribution of the Sample by Countries and the Calculation of the Individual Variables*; institutional data that Ács, Szerb et al. construct from a variety of institutions (described in Table 5.5 pp. 84–88 of *The Global Entrepreneurship Index 2017*); and from a number of statistical iterations (described in *Missing Variables and Data Imputations* and in *Calculating the Scores* pp. 90–95). Ács and Szerb primarily base their criticism of the spread of necessity-driven TEAs on a particular statistical model they’ve created: Fig. 2.4 The S-Curve of Entrepreneurship (Fig. 1):



**Fig. 2** Opportunity TEA and GDP. Source: Ács, Szerb et al. (2017)

The premise behind this model is that space above the S-curve represents economic loss due to ‘necessity-driven TEAs’ while space below the curve represents ‘opportunity-driven TEAs’. Their argument starts with the premise that self-employment is a necessary outcome of people not finding work. The argument goes on to link this to lack of Innovation that would have come with ‘opportunity-driven TEAs’, and therefore having more significant impact on the economy and society. While it’s not difficult to agree with the logic of Ács and Szerb’s S-curve (especially in the Innovation-Driven Phase), MENA countries do not seem to have been adequately represented in the original data used to develop the S-curve.

E.g. the S-curve is based on data displayed in Ács and Szerb’s “Fig. 2.3 Opportunity TEA and GDP” (Fig. 2). As Ács and Szerb describe, “Countries that have low necessity entrepreneurship are more developed and countries that have a high level of necessity entrepreneurship have a low level of development. For example, Brazil is at the bottom and Denmark is at the top”; Ács and Szerb write that their “Fig. 2.3 suggests that the relationship between entrepreneurship and economic development is positive, more is better, and that the curve is most likely an S-shaped curve” based on the GDPs seen in the diagram. But among the 50 or so GDPs represented in their Fig. 2.3, there are only four from Arab-MENA (Egypt, Lebanon, Morocco and Tunisia) plus Israel and Iran. Not a single one of the wealthy Gulf countries is included; the four Arab countries selected (and marked in yellow in “Fig. 2.3”) are

among the poorest and, excluding Egypt, smallest of Arab-MENA. This isn't likely to be representative of the MENA region in comparison with low and high levels of economic development.

Additionally, there are other discrepancies in Ács and Szerb's "Table 5.4 *The Distribution of the Sample by Countries and the Calculation of the Individual Variables*," p. 80 and in *Missing Variables and Data Imputations*, p. 90. Following are the exclusions/revisions coming from *Missing Variable and Data Imputations*:

Palestine, Yemen and Syria were excluded due to lack of institutional data; Libya, Oman and Qatar lacked data from government sources so data from "similar nearby countries provided adequate estimates".

From "Table 5.4", individual variables were developed for institutional data calculations to supplement data that was not available from GEM. There is also a caveat that states "All analyses of countries having data older than 2013 and based on estimation should be handled with caution and cannot be used for any policy suggestions" (Ács, Szerb et al. 2017, p. 80); yet we find the following in pp. 81–84:

Algeria used "data for 2012–2013";

Bahrain, Kuwait, Oman, and Qatar used "Qatar data from 2014" but according to *Missing Variables, etc.* (above) there was no available data for Qatar;

**Egypt** data was the average of 2012 and 2015, but reported as 2015 in Fig. 2.3 (Fig. 2);

Jordan used "data from 2009";

**Lebanon** used data from 2015, which seems to indicate suitable data was available;

Libya used "2013 data" but according to *Missing Variables, etc.* there was no data for Libya;

**Morocco** used data from 2015, which seems to indicate suitable data was available;

Saudi Arabia used "data from 2010";

**Tunisia** used "data from 2015";

U.A.E. used "data from 2011".

Note: The four countries in bold-face represent the four yellow values for Arab countries, plus Iran and Israel, used in Ács and Szerb's Fig. 2.3; while Ács and Szerb refer to Brazil and Denmark as being opposite ends of the economic spectrum, only Brazil was represented

Essentially, by Ács and Szerb's own guidelines: (1) Data for Jordan, Saudi Arabia and U.A.E. were too old to use; (2) Part of the data for Egypt was also too old to use. As for Bahrain, Kuwait and Oman being represented with Qatari data—even if data were somehow available—these countries are not that similar to Qatar.

*Hypothesis 2 is unable to be proven or disproven with the data provided by Ács and Szerb. Additionally, there is no proof that necessity-driven TEAs wouldn't be able to transition to becoming opportunity-driven TEAs. After all, serial entrepreneurs are more likely to be successful than an initial start-up. That should be expected to hold true even if the serial entrepreneur was moving from necessity-driven TEA to opportunity-driven TEA.*

### Development of Hypothesis 3

Although the GEI utilizes GEM data for most of its analytical work, there are some comparisons made with the GEM data that are unique to GEI. The GEI score itself is based on the sum of points assigned to three sets of entrepreneurial characteristics

that are obtained directly from GEM data and combined with data from Ács and Szerb's "14 Pillars". The combined results are referred to as sub-indices and categorized as Entrepreneurial Attitudes, Abilities and Aspirations.

**Entrepreneurial Attitudes (ATT)** represents the nation's feelings about entrepreneurs, personally knowing existing entrepreneurs, having a network that can exploit new opportunities. But we also learned from Ashourizadeh and Schøtt (2013) that education itself plays a large role in personally knowing entrepreneurs and participating in large entrepreneurial networks. Entrepreneurial Attitudes also includes GEM data related to Total Early-Stage Entrepreneurial Activity (TEA), Perceived Opportunities and Opportunity-driven TEA results (GEM 2017). GEI extends this data to reflect "cultural support, financial support, and networking benefits" to budding entrepreneurs (Ács, Szerb et al. 2017). Essentially, this sub-index could be considered as a measure of the environment in which the entrepreneur chooses to begin operations, but also the preparation of the would-be entrepreneur to have gained adequate education and developed adequate participation in entrepreneurial networks to derive potential benefit to the entrepreneur's future business(es). In essence, Entrepreneurial Attitudes represents a measurement of the existing foundation for opportunity-driven TEA, both at the business level and at the level of the would-be entrepreneur's preparedness.

**Entrepreneurial Abilities (ABT)** relate entrepreneurs' training and skills with medium- and high-technology start-ups. While GEI primarily relies on the GEM TEA Opportunity Index, GEI assigns higher qualitative values by considering post-secondary education, spinoffs vs. outright new ventures and the uniqueness of the product/service vis-à-vis the competition. GEI tends to also value Opportunity TEA more highly in that more front-end planning may have taken place when compared with Necessity TEA (Ács, Szerb et al. 2017). This sub-index is similar to what most entrepreneurs are taught to regard as their preparation for success.

**Entrepreneurial Aspirations (ASP)** is the third GEI sub-index. While Entrepreneurial Abilities focused more on the qualities and skills of the entrepreneurs themselves, the Entrepreneurial Aspirations sub-index sees "product and process innovation, internationalization . . . high growth [and] venture capital potential that is vital for innovative start-ups and high-growth firms" (Ács, Szerb et al. 2017). In terms of gaining customers—and financing—this sub-index is the most likely 'make or break' element.

*Worldwide Rankings for Sub-indices:*

Within the 'Top 25' for 2017 ranked by Entrepreneurial Attitudes (ATT), three MENA countries were ranked 18, 19 and 25; *i.e.* Saudi Arabia, Qatar and U.A.E., respectively. But a deeper review of the five components that comprise the ATT figures shows that these countries do not compare very evenly with the other nations in the sub-index. *E.g.* in the category of Risk Acceptance, these three countries have the three lowest scores. With regard to Start-up Skills, U.A.E. ranked 24 and Qatar ranked 25. The next lowest scores were 10–15 points higher. At the same time, though, Saudi Arabia was ranked the seventh highest in that category, just some 15 points below Iceland and the U.S. (the first and second ranked countries).

Within the 'Top 25' for 2017 rankings of Entrepreneurial Abilities (ABT), U.A.E. and Qatar were the only MENA countries included. Although their scores

for Opportunity Start-up were only moderately good, U.A.E. scored higher than the U.S. and Qatar was only ranked sixth lowest in the category. But in Technology Absorption, U.A.E. ranked 23 and Qatar ranked 26, just behind Puerto Rico's rank of 25. The next closest scores were 25 to 30 points higher than U.A.E. and Qatar. But in the Human Capital category, U.A.E. was one of the six countries (Denmark, U.S., Japan, Singapore and Puerto Rico) that tied for a perfect Pillar score of 1.000 while Qatar did quite well at 0.857.

Within the 'Top 25' in 2017 for Entrepreneurial Aspirations (ASP), U.A.E. and Qatar did quite well for Product Innovation with U.A.E. ranking 12th and Qatar ranking 16th. But Process Innovation scores were quite low: Qatar ranked 23rd and U.A.E. ranked 24th. At the same time, U.A.E. and Qatar shared First Place rank for High Growth with four other countries: the U.S., Taiwan, Japan and Singapore. Yet, in the category of Internationalization, U.A.E. ranked 20th position, just above Hong Kong, Taiwan and Qatar (that ranked 23rd) just ahead of Korea and Denmark. In the Risk Capital category, U.A.E. shares First Place with four other countries (the U.S., Switzerland and Canada), while Qatar comes in at second place (just above Australia).

***Hypothesis 3: Progress of Opportunity-driven Entrepreneurs in MENA can be tracked using GEI's sub-indices. In particular, the Networking Pillar (that contributes to ASP) may be a surrogate for individual agency and/or self-expression. Given that individual agency is a surrogate for transition from industrial to a knowledge-based society, could this be an indicator for MENA countries that are poised to adapt to a more knowledge-based society?***

We can compare each of the MENA countries' individual GEI scores as well as the scores for the three sub-indices (ATT/ABT/ASP). In keeping with the goal of only comparing homogeneous Arab and/or predominantly Arabic-speaking countries, Israel and Iran should be removed from the composite GEI score. In addition, Libya is not representative of a functioning country and its scores skew the results; *i. e.* as seen in line #2 vs. line #1 at the bottom of Table 2. In terms of GEI score, the results show the six GCC countries (at the top of the table) are performing much better than the five non-GCC's (at the bottom of the table in grey shading); while Tunisia, the birthplace of the Arab Spring and not a GCC country, is performing more closely to GCC than to the non-GCC MENA. Meanwhile U.A.E. and Qatar, the top-ranked GCC's, are performing as well as Israel—U.A.E. very nearly matches Israel's GEI score. When the ATT, ABT and ASP scores are considered, U.A.E.'s ABT sub-index exceeds Israel by five points and ASP comes quite close to matching Israel. The situation is similar between Qatar and Israel, and even Saudi Arabia outranks Israel and the other MENA countries for best ATT score.

The five countries with GEI scores shaded in dark grey (*i.e.* Jordan-Egypt) are considerably less wealthy than the GCCs. While some private schools exist, general public education in MENA has been quite authoritarian (*i.e.* not really conducive to entrepreneurship). Very recently, though, Jordan's King Abdullah has issued a decree for *Human Resource Development and Education Reform* effective 15 April 2017 that forbids teaching by rote learning and requires that all courses be taught using critical thinking/deductive reasoning and in-class discussions. In

**Table 2** GEI scores and sub-indices

Rank	Country	GEI	ATT	ABT	ASP
17	Israel	59.1	54.5	54.1	68.6
19	United Arab Emirates	58.8	49.9	59.4	67.0
21	Qatar	58.0	55.9	55.6	62.3
30	Saudi Arabia	47.2	56.3	40.6	44.6
34	Bahrain	44.7	45.5	45.0	43.6
37	Oman	43.6	45.4	40.3	45.2
39	Kuwait	42.5	44.9	37.6	44.9
42	Tunisia	40.5	32.7	45.2	43.7
56	Jordan	31.7	39.5	25.1	30.5
63	Lebanon	28.8	25.8	27.9	32.8
70	Morocco	25.7	23.9	20.0	33.1
73	Algeria	24.7	33.2	21.3	19.7
81	Egypt	22.7	16.0	19.9	32.3
85	Iran	22.1	21.3	25.4	19.6
104	Libya	19.2	11.9	26.5	19.3
	Total for 15 MENA countries	569.30	556.7	543.9	607.2
	AVG per MENA country (15 total)	37.9	37.1	36.3	40.5
	Total for MENA less Israel, Iran, Libya	468.9	469.0	437.9	499.7
#1	<b>AVG for 12 without Israel, Iran, Libya</b>	<b>39.1</b>	<b>39.1</b>	<b>36.5</b>	<b>41.6</b>
	Total for MENA less Israel, Iran	488.1	480.9	464.4	519.0
#2	<b>AVG for 13 without Israel, Iran</b>	<b>37.5</b>	<b>37.0</b>	<b>35.7</b>	<b>39.9</b>

Source: Author’s own adapted from Ács, Szerb et al. 2017’s Table 3.3: GEI Ranking of the Middle East and North African Countries. p. 47. ATT = Societal Attitudes; ABT = Entrepreneurs’ Abilities; ASP = Aspirations. Those countries whose scores are below MENA averages appear in grey shading; the rest are above MENA averages

July 2017, His Majesty initiated reviews of every university programme in the country and an initiative to allow students to evaluate the performance of their university presidents. It’s too soon to measure the effects, but this is the first Arab leader to take such important policy stances. With the exception of the ATT scores for Tunisia and Jordan, all of the poorer MENA countries did not perform as well as the GCCs. Tunisia, while also not a wealthy country and its ATT score notwithstanding, performed nearer to Bahrain’s performance. ABT scores do not appear very informative, but ASP scores lead to rankings of the countries that nearly reflect the GEI rankings. This raises a question of whether or not ASP might represent an alternative measurement of IWCM’s Self-expression values and/or an indicator of Individual agency.

If the five least wealthy countries (Jordan-Egypt) are compared to Ács, Szerb et al. 2017’s *Fourteen Pillars*, a more detailed comparison emerges and two important outcomes appear: MENA as a whole outpaces World scores (with the exceptions of Technology Absorption and Competition); the five selected MENA countries do not share that much in common (Table 3).

The results have the following characteristics:

MENA (as a group) has no Pillar that ranks 15 points or lower (*i.e.* dark grey) than the World Pillars. In fact, there are only two areas where MENA ranks below World data: Technology Absorption and Competition.

The five countries (from left to right) are still in their GEI ranked order. It’s possible to see that the highest ranked country (Jordan) 5 areas where it performs as well, or better, than the MENA group. The next highest ranked country (Lebanon) has

**Table 3** Fourteen Pillars compared to all MENA and to five selected countries

	Fourteen Pillars	World	MENA <sup>a</sup>	Jordan	Lebanon	Morocco	Algeria	Egypt
<b>ATT factors (below):</b>								
1	Opportunity Perception	0.41	0.43	0.45	0.18	0.30	0.34	0.23
2	Start-up Skills	0.37	0.40	0.58	0.71	0.14	0.28	0.14
3	Risk Acceptance	0.30	0.30	0.12	0.02	0.33	0.39	0.07
4	Networking	0.39	0.51	0.62	0.49	0.27	0.51	0.09
5	Cultural Support	0.38	0.48	0.62	0.22	0.21	0.32	0.32
<b>ABT factors (below):</b>								
6	Opportunity Start-up	0.40	0.50	0.35	0.38	0.39	0.17	0.16
7	Technology Absorption	0.33	0.32	0.08	0.14	0.23	0.25	0.25
8	Human Capital	0.41	0.58	0.34	0.36	0.13	0.31	0.24
9	Competition	0.35	0.32	0.34	0.43	0.10	0.16	0.19
<b>ASP factors (below):</b>								
10	Product Innovation	0.39	0.43	0.42	0.38	0.44	0.22	0.18
11	Process Innovation	0.37	0.38	0.31	0.41	0.65	0.10	0.45
12	High Growth	0.40	0.58	0.52	0.19	0.25	0.20	0.46
13	Internationalization	0.38	0.38	0.20	0.66	0.16	0.20	0.26
14	Risk Capital	0.37	0.62	0.26	0.37	0.39	0.31	0.50

Source: Author's own data

<sup>a</sup>MENA in this chart includes scores for Israel, Iran and Libya. Light red equal to or higher than MENA group; Dark grey 15 points or more lower than MENA group

four areas that outperform the MENA group. These are followed by Morocco that has three areas that outperform MENA, Algeria that has two areas that outperform MENA, while Egypt has just one area that outperforms MENA.

While results for Jordan-Algeria are consistent in that each has three areas that are neither high nor low, yet Egypt has five like that. Egypt also has two scores below 0.10 (*i.e.* 0.07 and 0.09) while Jordan and Lebanon only have one score each that falls below 0.10, and neither Morocco nor Algeria has scores below 0.10.

When the 14 Pillars are considered in terms of ATT, ABT and ASP, it's easy to see that Jordan performs extremely well in ATT (although Risk Acceptance needs improvement) and that Algeria and Egypt have problems with all of ASP and ATT, respectively.

There is, however, one particular pillar that should be considered independently:

Pillar 4: Networking combines an entrepreneur's personal knowledge with their ability to connect to others in a country and the whole world. This combination serves as a proxy for networking, which is also an important ingredient of successful venture creation and entrepreneurship. Entrepreneurs who have better networks are more successful, can identify more viable opportunities, and can access more and better resources. We define the basic networking potential of a possible entrepreneur by the percentage of the population who personally know an entrepreneur who started a business within 2 years (Know Entrepreneurs). The connectivity variable has two components: One that measures the urbanization (Urbanization) of the country and the other measuring the quality of the transport infrastructure (Infrastructure) (Ács, Szerb et al. 2017, p. 79).

The Pillar 4 Networking definition contains remarks very similar to the findings of Ashourzadeh and Schøtt (2013). The Networking definition expands the findings to also suggest support for individual agency: "Entrepreneurs who have better networks are more successful, can identify more viable opportunities, and can access more and better resources." Whether or not the Networking definition supports Self-

expression isn't directly stated, but it is at least suggested: "Networking combines an entrepreneur's personal knowledge with their ability to connect to others in a country and the whole world."

***Hypothesis 3 suggested that progress of Opportunity-driven Entrepreneurs in MENA can be tracked using GEI's sub-indices; this was shown to be correct. In particular, the Networking Pillar (that contributes to ASP) may be a surrogate for individual agency and/or self-expression. This also appears to be correct. As individual agency is a surrogate for a culture moving toward a more knowledge-based society, MENA countries should be able to use this as an indicator of when their own countries have moved in this direction.***

#### **Development of Hypothesis 4**

Although GEM data, GEI developmental index and the IWCM data tell a lot about the MENA countries, they don't clarify why MENA youth are doing so much worse than other nations' youth. Another possible source of understanding might come from Hofstede's Cultural Dimensions Theory.

Hofstede's original work compared preferences of national cultures based on data collected between 1967 and 1973 from groups of IBM managers with similar organizational preferences in more than 70 countries. Since the original data was released, additional studies have been done in other countries and with other groups of interviewees.

***Hypothesis 4: Given that Hofstede's Cultural Dimensions reflect national cultures, could these dimensions provide new insights about entrepreneurship, education and/or youth in MENA?***

#### **General Remarks Concerning Use of the Hofstede Cultural Dimensions**

The original four dimensions Professor Hofstede developed have been proven repeatedly to be statistically representative of dimensions of national cultures. These are:

Low Power Distance (PDI) versus High Power Distance

Individualism versus Collectivism (IDV)

Masculinity versus Femininity (MAS)

Weak Uncertainty Avoidance (UAI) versus Strong Uncertainty Avoidance

In 1991 an additional dimension of Long-Term Orientation (LTO) vs. Short-Term Orientation was added to reflect an important characteristic of Confucian-based societies.

In 2010 a new dimension was created to represent Indulgence (IND) vs. Restraint.

The scales used for measuring the dimensions have all been normalized now to 0-to-100. Scores that are less than 50 indicate that the preference is for the lower end-point and scores higher than 50 indicate a preference for the upper end-point. A score closer to the end-point (whether zero or 100) is considered a higher preference than scores nearer to 50. Each of the dimensions can be considered in terms of Entrepreneurism, Education systems and/or Youth. Correlations to Anglo-Saxon countries and Israel are noted following each explanation of a Hofstede Dimension.



The rationale is that Professor Hofstede himself did the interviews, interpreted the data for these particular countries. Newer country additions have been surveyed and analysed by other researchers; sometimes with agreement of Professor Hofstede, and sometimes not. By focusing on countries that are similar, have relatively close rates of entrepreneurship and have been surveyed and assessed by Professor Hofstede himself, this allows a frame of reference to be developed that is as reliable as possible.

## Entrepreneurship and Hofstede's Cultural Dimensions

### 1. Power Distance Index (PDI)

This dimension expresses the degree to which the less powerful members of a society accept an unequal distribution of power. "The fundamental issue here is how a society handles inequalities among people. People in societies exhibiting a large degree of Power Distance accept a hierarchical order in which everybody has a place and which needs no further justification. In societies with low Power Distance, people strive to equalise the distribution of power and demand justification for inequalities of power" (Hofstede et al. 2010). Therefore, it's possible to consider a **Low PDI-culture as one more likely to support Entrepreneurs**. Some examples of Low PDI scores are: US 40; UK 35; Australia 36; Canada 40 (however the Canada score is blended with Quebec, measured at 54). The lowest PDI was Israel with a very low 13 points.

### 2. Individualism versus Collectivism (IDV)

Individualism represents the upper scores of this dimension. "Individuals are expected to take care of only themselves and their immediate families. Its opposite, collectivism, represents a preference for a tightly-knit framework ... in which individuals can expect their relatives or members of a particular in-group to look after them in exchange for unquestioning loyalty. ... This dimension is reflected in whether people's self-image is defined in terms of *I* or *we*" (Hofstede et al. 2010). **Cultures with High IDV are more likely to encourage entrepreneurs than 'we'-type societies**. Some examples of High IDV scores are: US 91; UK 89; Australia 90; Canada 80 (however, the inclusion of Quebec at 73 lowers Canada's overall score). Israel has a very low 54 points, indicating a blend of individualist and collectivist.

### 3. Masculinity versus Femininity (MAS)

The upper side of this dimension represents "a preference in society for achievement, heroism, assertiveness and material rewards for success. Society at large is more competitive. Its opposite, femininity, stands for a preference for cooperation, modesty, caring for the weak and quality of life. Society at large is more consensus-oriented" (Hofstede et al. 2010). **Cultures with a High MAS are more entrepreneurial than those in the Low FEM category**. Some example scores: US 62 and "a society that aims for success and being the winner; UK is 66; Australia is 61; Canada is 52 (but that includes Quebec at 45). Israel with a score of 47 is neither a clear Masculine nor Feminine society; it exhibits both characteristics".

### 4. Uncertainty Avoidance Index (UAI)

The “Uncertainty Avoidance dimension expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. The fundamental issue . . . is how a society deals with the fact that the future can never be known: should we try to control the future or just let it happen? Countries exhibiting strong UAI maintain rigid codes of belief and behaviour and are intolerant of unorthodox behaviour and ideas. Weak UAI societies maintain a more relaxed attitude in which practice counts more than principles” (Hofstede et al. 2010). **Weak UAI is likely to be more entrepreneurial than Strong UAI.** Example scores: US is 46; UK is 35; Australia is 51, indicating no preference; Canada is 48 (including Quebec is 60). Israel is among the stronger UAI countries at 81.

5. Long Term Pragmatic Orientation versus Short Term Normative Orientation (LTO)

“Every society has to maintain some links with its own past while dealing with the challenges of the present and the future. Societies prioritize these two existential goals differently. Societies who score low on this dimension, for example, prefer to maintain time-honoured traditions and norms while viewing societal change with suspicion. Those with a culture which scores high, on the other hand, take a more pragmatic approach: they encourage thrift and efforts in modern education as a way to prepare for the future. In the business context this dimension is related to as “(short term) normative versus (long term) pragmatic” (Hofstede et al. 2010). The example scores: US is 26; UK is 51, or no clear preference; Australia is 21; Canada is 36; Israel is 38.

6. Indulgence versus Restraint (IND)

“Indulgence stands for a society that allows relatively free gratification of basic and natural human drives related to enjoying life and having fun. Restraint stands for a society that suppresses gratification of needs and regulates it by means of strict social norms” (Hofstede et al. 2010). High scores would be beneficial to entrepreneurs – both in terms of support for creativity but also in terms of a market of consumers who are open to ideas that offer new possibilities for fun. The example scores: US is 68; UK is 69; Australia is 71; Canada is 68; no score for Israel.

7. Effects of Some Combined Scores:

7a. However, when **Low UAI is combined with the very individualistic High MAS**, it indicates “an acceptance for new ideas, innovative products and a willingness to try something new or different, whether it pertains to technology, business practices or food” (Hofstede et al. 2010). This combination indicates **a highly individualistic and curious nation with a high level of creativity and strong need for innovation.** When the example scores are reconsidered to show both UAI and MAS, we see US at UAI of 46 and MAS of 62; Australia at UAI at 51 and MAS of 61; Canada at UAI of 48 and MAS of 52; Israel at UAI of 81 and MAS of 47; the UK at UAI of 35 and MAS of 66 (indicates UK sees entrepreneurship more favourably than the US, Australia, Canada and Israel): “Planning horizons will also be shorter.

What is different is attractive! This emerges throughout the society in both its humour, heavy consumerism for new and innovative products and the fast, highly creative industries it thrives in—advertising, marketing, financial engineering” (Hofstede et al. 2010).

- 7b. **Low PDI and High IDV** also indicates a preference for entrepreneurial behaviours. When the example countries’ scores are revisited, it can be seen that the US scores of low PDI 40 and high IDV of 91 would be considered as a preference for entrepreneurial behaviours. The same can be said for the UK (with low PDI of 35 and high IDV of 89), Australia (with low PDI of 36 and high IDV of 90) and Canada (with low PDI of 40 and high IDV of 80). Israel’s scores are less similar to the other countries: “VERY low PDI at 13 and a nearly neutral score of just 54 for IDV, indicating a blend of individualist and collectivist” (Hofstede et al. 2010).

### **An Example of Hofstede’s Cultural Dimensions Applied to Education and Diversity**

A recent study from the Netherlands, (*The Two Sides of Diversity—Schools as a Means for Integration*) highlights the differences in cultural expectations between Dutch teachers and Iranian immigrant parents. The study most likely represents the initial shock individuals feel when encountering very diverse cultures: “The majority of positions claim that diversity is a good thing. For the economy and business. It is said to be a good thing for innovation, creativity, for progress. . . . Immigration and diversity have long-term benefits. And short-term hurdles. Schools play a key role. . . . [As an example of the school role,] ‘Ali’s Iranian parents expect a school environment with strict discipline; teacher controlled learning situations; and respect enforced by the teachers and school management. The principles of independence and joined responsibility strongly rooted in the culture of the teacher are difficult to relate to for people like Ali’s parents. In their culture, ‘teachers always have all the answers and where students are not to initiate communications or give suggestions. Therefore, Ali’s parents may conclude that their son is attending a school with a poor education level and without discipline.’ . . . Different cultures have different views on learning styles, expectations, and norms” (Fadronc and Lauridsen 2008).

What follows are Iranian scores and their interpretations by Professor Geert Hofstede; Dutch scores are placed alongside by way of comparison and as can be seen, the Dutch data is more similar to the examples (above) for US, UK, Australia and Canada than to Iran:

- 58 PDI—*the extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally*. “Iran receives an intermediate score of 58 on this dimension so it is a hierarchical society. This means that people accept a hierarchical order in which everybody has a place and which needs no further justification. Hierarchy in an organisation is seen as reflecting inherent inequalities, centralisation is popular, subordinates expect to be told what to do and the ideal boss is a benevolent autocrat.” [The Netherlands score 38 PDI.]

- 41 IDV—The fundamental issue addressed by this dimension is *the degree of interdependence a society maintains among its members*. “Iran, with a score of 41 is considered a collectivistic society. This is manifest in a close long-term commitment to the member ‘group’, be that a family, extended family, or extended relationships. Loyalty in a collectivist culture is paramount, and overrides most other societal rules and regulations. The society fosters strong relationships where everyone takes responsibility for fellow members of their group. In collectivist societies offence leads to shame and loss of face, employer/employee relationships are perceived in moral terms (like a family link), hiring and promotion decisions take account of the employee’s in-group, management is the management of groups.” [The Netherlands score 80 IDV.]
- 43 MAS—“*The fundamental issue here is what motivates people, wanting to be the best (Masculine) or liking what you do (Feminine)*. Iran scores 43 on this dimension and is thus considered a relatively Feminine society. In Feminine countries the focus is on “working in order to live”, managers strive for consensus, people value equality, solidarity and quality in their working lives. Conflicts are resolved by compromise and negotiation. Incentives such as free time and flexibility are favoured. Focus is on well-being, status is not shown”. [The Netherlands score of 14 MAS, meaning very Feminine, is not at all similar to Iran—or US, UK, Australia and Canada.]
- 59 UAI—“*The extent to which the members of a culture feel threatened by ambiguous or unknown situations and have created beliefs and institutions that try to avoid these* is reflected in the score on Uncertainty Avoidance. Iran scores 59 on this dimension, and thus has a high preference for avoiding uncertainty. Countries exhibiting high uncertainty avoidance maintain rigid codes of belief and behaviour and are intolerant of unorthodox behaviour and ideas. In these cultures there is an emotional need for rules (even if the rules never seem to work), time is money, people have an inner urge to be busy and work hard, precision and punctuality are the norm, innovation may be resisted and security is an important element in individual motivation”. [The Netherlands score 53 UAI.]
- 14 LTO—“This dimension describes *how every society has to maintain some links with its own past while dealing with the challenges of the present and future*, and societies prioritise these two existential goals differently. Iran’s very low score of 14 indicates that it has a strongly normative cultural orientation. People in such societies have a strong concern with establishing the absolute Truth; they are normative in their thinking. They exhibit great respect for traditions, a relatively small propensity to save for the future, and a focus on achieving quick results”. [The Netherlands score of 67 LTO is not at all similar to Iran—or US, UK, Australia and Canada.]
- 40 IND—“This dimension is defined as *the extent to which people try to control their desires and impulses*, based on the way they were raised. Relatively weak control is called ‘Indulgence’ and relatively strong control is called ‘Restraint’. Cultures can, therefore, be described as Indulgent or Restrained. The low score of 40 in this dimension means that Iran has a culture of Restraint. Societies with a low score in this dimension have a tendency to cynicism and pessimism. Also, in

**Table 4** Hofstede cultural dimensions across MENA

Country	1) PDI	2) IDV	3) MAS	4) UAI	5) LTO	6) IND
<i>Iran</i>	58	41	43	59	14	40
Algeria	No data	No data	No data	No data	No data	No data
Bahrain	No data	No data	No data	No data	No data	No data
Egypt	70	25	45	80	7	4
Iraq	95	30	70	85	25	17
Jordan	70	30	45	65	16	43
Kuwait	90	25	40	80	No data	No data
Lebanon	75	40	65	50	14	25
Libya	80	38	52	68	23	34
Morocco	70	46	53	68	14	25
Qatar	No data	No data	No data	No data	No data	No data
Saudi Arabia	95	25	60	80	36	52
Syria	80	35	52	60	30	No data
Tunisia	No data	No data	No data	No data	No data	No data
U.A.E.	90	25	50	80	No data	No data
Yemen	No data	No data	No data	No data	No data	No data

Source: Author's own based on Hofstede scores and interpretations. Green shading represents pro-Entrepreneurism/Education/Youth; Red opposed. Grey is neutral

contrast to Indulgent societies, Restrained societies do not put much emphasis on leisure time and control the gratification of their desires. People with this orientation have the perception that their actions are Restrained by social norms and feel that indulging themselves is somewhat wrong". [The Netherlands score 68 IND.]

Given that Iran represents a distinctly different set of cultural standards than the Netherlands, it might be assumed that Iran is much more similar to MENA—particularly related to education and the treatment of youth in society. But despite the stark differences with the Netherlands, Iran appears much more ‘liberal’ compared with the Arab Middle East. While some data in Table 4 is unavailable, the differences are very clear: (1) All Arab MENA countries have much higher preference for Power Distance than Iran; (2) Only Lebanon shares a similar score with Iran’s Collectivist preference while Morocco reflects something closer to Individualism. The very low Arab MENA scores (indicating very strong preference for Collectivism) possibly reflect their own strong tribal roots; (3) Iran’s (MAS) preference for ‘working to live’ is shared with more of Iran’s Arab neighbours than any of the other cultural dimensions; the big differences are with Iraq, Lebanon and Saudi Arabia who all strongly prefer ‘wanting to do their best’; (4) Only Syria and Lebanon are close to sharing Iran’s moderate preference for Certainty. The other MENA countries want a much higher level of Certainty than Iran; (5) Several countries share Iran’s level of preference for maintaining traditions: Jordan, Lebanon and Morocco. Saudi Arabia and Syria prefer maintaining traditions but possibly more liberally than Iran; (6) In

terms of Indulgence vs. Restraint, all of Arab MENA (except Saudi Arabia) preferred an even greater level of Restraint than Iran.

***Hypothesis 4: Given that Hofstede’s Cultural Dimensions reflect national cultures, could these dimensions provide new insights about entrepreneurship, education and/or youth in MENA?***

While Hofstede’s scores reflect national cultures, and Table 4 indicates that Arab countries’ scores mostly represent the same general direction as Iran’s scores—but much more strongly than Iran—shows that Iran’s cultural preferences are actually more similar to Western countries than they are to Arab countries’ scores. ***Therefore, yes, it’s correct that these dimensions provide new insights about entrepreneurship, education and/or youth in MENA. At the same time these results introduce a new question of whether the educational system in MENA is capable of producing world-class entrepreneurs; and what change(s) would be needed to ensure that MENA will be able to produce more entrepreneurs that succeed and hire more people? In other words, what should be done to increase entrepreneurial impact in MENA?***

## ***1.1 Benefits of Entrepreneurism in General***

The benefits of entrepreneurship are well documented:

Entrepreneurism can lead to the creation of large-scale innovative products that grow into large, wealthy companies; certainly Intel, Dell, Microsoft, Hewlett-Packard, Apple, Google are just a small example of the kinds of wealth that hardware/firmware/software creations have generated. Not only have these companies had a profound effect on their users, they have created jobs for many people and benefitted their investors and founders, as well.

Although job creation is one of the key benefits from the standpoint of labour economists, from an individual’s perspective it represents an income and an autonomous workplace that may in and of itself be more attractive to the entrepreneur than the conventional “9-to-5” weekly rigours of a traditional job—and boss.

While the above points represent the two poles of entrepreneurial success, most entrepreneurs will fall somewhere in-between. They are likely to have tried to establish an entrepreneurial venture more than once or will try multiple times in the future. There’s evidence that this activity leads to better performance each time (Minniti and Bygrave 2001). There is also evidence that investors are likely to value “. . .successful repeat founders’ initial valuations . . . to be over 50% higher” than first-timers (First Round 2015). These studies suggest that early entrepreneurial experience could be viewed as a rehearsal for that ‘really big’ future entrepreneurial success. Other research indicates that multiple business ownerships are a strong factor in success—but not when done sequentially: “Entrepreneurs who own more than one business simultaneously (portfolio

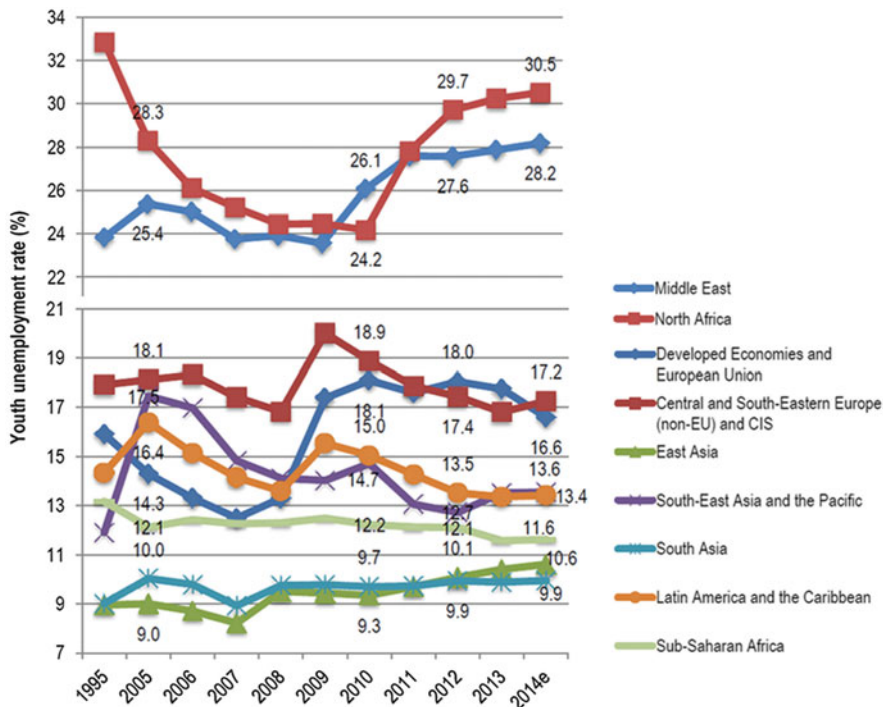


Fig. 3 Worldwide unemployment of youths. Source: ILO, Trends Econometric Models, April 2015; e=estimate

entrepreneurs) seem to perform better, in general, than . . . serial entrepreneurs” (Wright 2013). There is also evidence that even entrepreneurial games (‘faux businesses’) played by young children lead to better likelihood of future entrepreneurial success (GEM 2016).

But none of these benefits of entrepreneurship is unknown to labour economists in MENA, nor to most university professors of entrepreneurship. Yet, compared to all other regions of the world, young people in MENA are the least likely to become entrepreneurs. At the same time young people in MENA have the highest rates of unemployment in the world (ILO 2015) (Fig. 3).

Conventional thinking might come to a conclusion that unemployed youth would be the *most* interested people in becoming entrepreneurs. But that’s not happening in MENA. This chapter looks at various factors influencing new entrepreneurs. For purposes of comparison, only countries of the region which are predominantly inhabited by Arabic-speakers and Arab and/or Amazigh/Imazighen ethnicities are considered because they represent the single largest homogeneous group in MENA. It’s likely that ‘lessons learned’ regarding this large group might also apply to neighbouring countries.

While the benefits of entrepreneurship are now widely seen as achievable for any economy, they are primarily based on successes in North America/Western Europe. When entrepreneurship is advocated for MENA, there are tacit assumptions made about the ease of replicability from Western countries to MENA. As GEM data has shown, early entrepreneurial experiences, ongoing entrepreneurial education during school and continuing entrepreneurial training are closely tied to more rapid success. The North American system, in particular, includes each of these stages. It's rare to find such programmes in schools in MENA, although recently both U.A.E. and Qatar have begun to provide in-school and post-school entrepreneurial education at levels exceeding those of the U.S. (GEM 2016).

While insufficient access to each of these stages of entrepreneurial education is a serious barrier to becoming a successful entrepreneur, an even more fundamental issue is the lack of modern teaching methods for public education in general. Teaching in public education hasn't changed very much in the past 30 years or more, with the exception of private schools. Classes are large by North American standards which suggest there might not be adequate numbers of teachers and/or schools. Regardless, there are a number of other issues related to provision of education and learning outcomes.

*What are these specific issues impacting education across MENA? Here's the top four.*

### **Issue 1: National Spending for Public Education**

A closer look at national spending for education compared with TIMSS and PISA exam outcomes shows some unexpected correlations. It's very difficult, though, to collect up-to-date figures for expenditures for education in MENA. Based on the use of snowball research methodology, we found that the topic of Education has become somewhat controversial in that the individual MENA countries are now quite sensitive to how their educational expenditures are represented. Some countries provide data regularly, others don't report it at all (e.g. U.A.E) and still others continually revise their educational expenditure data (Table 5).

We found several misplaced causes behind this problem: (1) Probably the most frequent cause, and possibly the most damaging, is a lack of understanding of how to utilise the data (one's own data and that of other countries) as part of a toolset for policy planning. Rather than making comparative assessments with other countries' policy successes or failures, the data is treated as some sort of achievement if percentage expenditures are higher than other specific MENA countries. (2) While a sense of competitiveness is one issue, another factor is continual requests for changing already-reported data (i.e. "data challenges"); this may be related to the authoritarian leadership styles still in place in a number of MENA countries. While Heads of State and Ministers often represent more modern leadership styles, the opportunity for up-to-date training hasn't always 'trickled down' through the hierarchy. Fear of displeasure from higher-ups also contributes to concerns over which figures to make public. (3) In addition there is an issue of budget constraints, both on the reporting and publishing sides of maintaining such an extensive database.



**Table 5** Table of educational expenditures for selected MENA countries and U.S.

Country	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>GCC countries</b>									
Bahrain: % of GDP	2.87	2.58	2.50				2.64		2.40
% of govt. expenditure	11.92	11.03	10.56				8.95		–
Kuwait: % of GDP	3.76						3.80		
% of govt. expenditure	13.37						–		
Oman: % of GDP	3.86			4.19			4.30	5.01	
% of govt. expenditure	11.22			10.95			–	11.08	
Qatar: % of GDP	2.70	2.45	4.23	3.41	4.54	4.01	3.47	4.00	3.55
% of govt. expenditure	9.31	8.63	15.06	14.84	13.82	13.11	12.31	13.15	12.74
Saudi Arabia: % of GDP	5.89	6.40	5.14				5.60		
% of govt. expenditure	21.60	19.26	19.26				–		
U.A.E.: % of GDP	No data	Note: Although no data was reported to World Bank, U.A.E. reported spending for education of 21.2% of the 2016 govt. budget.							
% of govt. expenditure	No data								
<b>Other Eastern Mediterranean</b>									
Iraq: % of GDP	No data								
% of govt. expenditure	No data								
Jordan: % of GDP	(1999) No data							3.50	
% of govt. expenditure	14.20							9.70	
Lebanon: % of GDP	2.81	2.61	2.04	1.78	1.63	1.65	2.19	2.57	
% of govt. expenditure	7.69	7.34	5.87	5.50	5.53	5.73	7.11	8.58	
Palestine: % of GDP					1.80	1.59	1.33	1.47	
% of govt. expenditure					–	–	–	–	
Syria: % of GDP	5.35	4.87	4.60	5.13		5.10			
% of govt. expenditure	20.05	18.93	20.04	19.18		–			
Yemen: % of GDP		5.20	4.56			5.20	5.20		
% of govt. expenditure		–	12.49			–	–		
<b>North Africa</b>									
Algeria: % of GDP			4.34				4.30		

(continued)

**Table 5** (continued)

Country	2006	2007	2008	2009	2010	2011	2012	2013	2014
% of govt. expenditure			11.43				–		
Egypt: % of GDP	4.00	3.68	3.76				3.80		
% of govt. expenditure	10.60	10.45	10.51				–		
Libya: % of GDP	(1999) No data								
% of govt. expenditure	8.14								
Morocco: % of GDP			5.34	5.26			5.40		
% of govt. expenditure			17.47	17.30			–		
Tunisia: % of GDP	6.44	6.47	6.27	6.53	6.25	...	6.25		
% of govt. expenditure	27.14	27.22	25.35	26.40	24.40	...	20.65		
United States: % of GDP	5.39	5.25	5.30	5.25	5.42	5.22	5.19	4.94	
% of govt. expenditure	15.16	14.54	13.98	12.89	13.06	12.93	13.39	13.29	

Sources: World Bank Ed. Stats (2015), UIS UNESCO (2016) and UNDP (2015). U.A.E. [www.export.gov](http://www.export.gov)

There are some characteristics, though, that even the ‘lack of data’ (in Table 5) shows. *I.e.* Nearly all countries are spending less than they did nearly a decade ago; one notable exception is Qatar which appears to be increasing the percentage of government expenditure earmarked for education. Likewise, countries which seem to have reduced spending have much poorer TIMSS test results (e.g., Saudi Arabia, Kuwait and Egypt).

The lack of financial support for the public education system in MENA has directly impacted youth. This is highlighted in the following comments from the United Nations Development Programme (UNDP), “Overall, the quality of education is poor. Standardized international tests in education such as the Trends in Mathematics and Science Study (TIMSS) and the Programme for International Student Assessment [PISA] show Arab countries scoring well below the average even if results are adjusted for per capita income, particularly in the rich Gulf countries” (UNDP 2016a). These poor test results are linked to other issues (discussed in the following sections) that could result in diminished performance as an entrepreneur.

## **Issue 2: The Trends in International Mathematics and Science Study (TIMSS) Results**

The TIMSS exams are administered to fourth and eighth graders in 39 countries, reflecting students’ abilities to solve mathematics and science problems. As an

example, mathematics scores specifically related to Cognitive Mathematics Domains are indicative of three capabilities (Knowing, Applying and Reasoning<sup>2</sup>) that would be significant for critical thinking. Not only is critical thinking an important life-skill, it's a very necessary skill for entrepreneurs.

The TIMSS midpoint for eighth graders<sup>3</sup> across 39 countries was 500 in Overall Mathematics in 2015. To put this in perspective, the U.S.—not known for its high mathematics scores—achieved a mean of 518. Any national mean up to 5 points higher, or lower, than the Overall midpoint (*i.e.*  $\geq 505$  or  $\leq 495$ ) is considered to be a significantly higher or lower score. The Overall Midpoints are consolidated scores that include the Cognitive Domains. An analysis of scores from all students tested showed that 84% of students achieved or surpassed the 'Low' score of 400; some 62% were able to reach/surpass the 'Intermediate' score of 475; some 26% reached/surpassed the 'High' score of 550; and just 5% were able to reach the 'Advanced' level ranging from 551 to a perfect score of 625.

When these four categories are considered against what the tests measured: the 'Low' category required "basic knowledge of whole numbers and basic graphs"; 'Intermediate' could "apply basic mathematical knowledge in a variety of situations"; 'High' could "apply understanding and knowledge in a variety of relatively complex situations"; and 'Advanced' could "apply and reason in a variety of problem situations, solve linear equations, and make generalizations".

When the skillsets needed to reach each of the four achievement categories are compared to the Cognitive Domains, the following pattern emerges: Doing well at 'Knowing' would be enough to reach an Overall score of at least 400; skill in 'Applying' would be necessary to reach an Overall score of at least 475; skill in 'Reasoning' would be needed to reach an Overall score of at least 550; and skills needed to reach an Overall score between 550 and (highest possible) 625 would require skills not usually taught at the 8th grade level. As could be expected, just a handful of students were able to reach the Advanced level with a score between 550–625; all were from five East Asian countries (*i.e.* Singapore 621, Republic of Korea 606, Chinese Taipei 599, Hong Kong SAR 594 and Japan 586).

No MENA country approached the midpoint score of 500. The highest scores were U.A.E. (465), Bahrain (454) and Lebanon (442), followed by Qatar (437) and Oman (403). But the scores for the other MENA countries were so low that questions of statistical reliability were automatically generated; *i.e.* scores were separated into two levels of probability, those that were 15–25% lower than all other countries tested and another group that were at least 25% lower than other countries. The

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<sup>2</sup>*Knowing* involves recall of a variety of mathematical concepts from number convention to symbolic representation to solve entire classes of problems. *Applying* measures problem-solving skills and the student's ability to apply mathematical concepts to equivalent representations in language. *Reasoning* is the most complex of the cognitive skills, and involves independent, systematic thinking and the ability to make rule-based logical deductions. Appendix 2 contains more detailed explanations of Knowing, Applying and Reasoning.

<sup>3</sup>Eighth graders are usually 13 to 14 years old.

international benchmark for TIMSS lowest reliable mathematics score was 400; five MENA countries could not meet this level.

TIMSS eighth grade mathematics results are shown for 2015 and 2011 (Table 6). E.g. the 2015 Midpoint for Overall Math is a composite of scores for multiple mathematical topics (in addition to those seen in Table 6). Generally speaking, most countries performed better in 2015 than in 2011; but three countries performed more poorly: Jordan performed 20 points lower; Lebanon performed just seven points lower; and Saudi Arabia scored 26 points lower in 2015 than in 2011, and worse, Saudi Arabia had the lowest scores of all 39 countries tested. At the same time, it can be seen that some countries like Bahrain, Oman and Qatar made substantial gains at +45, +37 and +27, respectively. In fact, Bahrain made the greatest gains of any single country for eighth grade mathematics with a gain of +45 points from 2011 to 2015.

*What do the TIMSS mathematics scores tell us about the MENA countries?*

The 2015 TIMSS scores not only provide information about youths' knowledge of mathematics but also show patterns of learning in each country. The *Knowing* score requires less knowledge of mathematics than the other two Cognitive Domains, so its score is higher and is expected to be a country's highest eighth grade mathematics score. Using the U.S. as an example, the Midpoint is 518 and the *Knowing* score is 528, or ten points greater. The *Applying* score is expected to be less than or equal to *Knowing* and within 10 points of the Midpoint. The U.S. example is 515, or three points lower than the Midpoint and less than *Knowing* because of the difficulty of *Applying*. *Reasoning*, as discussed above, is likely to have the lowest score because it is the most difficult domain. For the U.S., the score is 514, or four points lower than the Midpoint and lower than *Knowing* and *Applying*. All of these scores taken together are compatible with the overall performance patterns (discussed above).

Using the logic applied to the U.S. scores, we can see other countries that match the same pattern (Group 1); these are Bahrain, Oman, Qatar, U.A.E., Egypt, Jordan and Morocco. But scores in other countries' (Group 2) *i.e.* Kuwait, Saudi Arabia and Lebanon are very inconsistent with the expected pattern, and all are most inconsistent in the *Reasoning* score. E.g. Kuwait's scores were within 6 points of the Midpoint, but *Reasoning* was 18 points lower; Saudi Arabia which had the lowest Midpoint of all countries had a *Reasoning* score that was higher than its Midpoint and Lebanon had a *Reasoning* score 36 points less than its Midpoint. Then there are two more groupings: (Group 3) a set of countries, Bahrain, Oman, Qatar, U.A.E. and Morocco who scored higher in 2015 than in 2011; (Group 4) is a set of countries, Saudi Arabia, Jordan and Lebanon, who scored lower in 2015 than in 2011.

Group 1 countries appear to have reliable data; Group 2 have questionable test results (as the TIMSS statistics noted; Group 3 countries all performed better in 2015 than in 2011; Group 4 appeared to perform more poorly in 2015 than 2011, however, two of the three countries (Saudi Arabia and Lebanon) were among the countries with questionable data. When Groups 1 through 4 are compared to the public educational expenditures (Table 5) some possible indications of spending and impact on education appear:

**Table 6** Average TIMSS eighth grade mathematics test scores 2015 and 2011 for MENA and US

Country	Midpoint for overall math 2015	Midpoint for overall math 2011	Change from 2011 to 2015	Cognitive mathematics domains 2015			Notes re cognitive domains 2015
				Knowing	Applying	Reasoning	
<b>TIMSS midpoint</b>	500	500	-	-	-	-	-
GCC countries							
Bahrain	454 <sup>a</sup>	409	<b>+45</b>	463	445	452	All within $\pm 9$ of mean
Kuwait	392 <sup>ab</sup>	No data	No data	398	389	<b>374</b>	Know & Apply within $\pm 6$ of mean; Reason - <b>18</b>
Oman	403 <sup>ab</sup>	366	<b>+37</b>	401	401	402	All within $\pm 2$ of mean
Qatar	437 <sup>ab</sup>	410	<b>+27</b>	440	435	431	All scores within $\pm 6$ of mean
Saudi Arabia	<b>368</b> <sup>ac</sup>	394	<b>-26</b>	359	364	<b>374</b>	<b>Lowest Mean; Only instance of Reasoning &gt; mean</b>
U.A.E.	465 <sup>a</sup>	456	<b>+9</b>	476	457	461	All within $\pm 11$ of mean
Eastern Mediterranean							
Jordan	386 <sup>ac</sup>	406	<b>-20</b>	391	378	380	All within $\pm 8$ of mean
Lebanon	<b>442</b> <sup>a</sup>	449	<b>-7</b>	456	439	<b>406</b>	Know & Apply within $\pm 14$ of mean; Reason - <b>36</b>
North Africa							
Egypt	392 <sup>ab</sup>	No data for 2011; 391 for 2007	No data; possibly +1?	399	385	379	Know & Apply within $\pm 7$ of mean; Reason - <b>13</b>
Morocco	384 <sup>ac</sup>	371	<b>+13</b>	382	385	374	Know & Apply within $\pm 2$ of mean; Reason - <b>10</b>
United States	518 <sup>d</sup>	509	<b>+9</b>	528	515	514	<b>Know &amp; Apply within <math>\pm 10</math> of mean; Reason -4</b>

Source: IEA et al. (2016)

<sup>a</sup>Country average significantly (<5 points) lower than TIMSS midpoint

<sup>b</sup>Reliability concerns because percentage of students with achievement too low for estimation exceeds 15% but does not exceed 25%

<sup>c</sup>Reliability concerns because percentage of students with achievement too low for estimation exceeds 25%

<sup>d</sup>Country average significantly (>5 points) higher than TIMSS midpoint

Group 1: Bahrain increased its educational spending in 2012 by just 0.14% of GDP and by 2015 achieved the greatest gain of any of the 39 countries worldwide. In 2012 and 2013, Oman began spending more; Qatar consistently spent for education every year and increased spending in 2013 and 2014; U.A.E. provided no expenditure data; Egypt didn't spend in 2009–2011 and then spent in 2012; Jordan appears to have only spent in 1999 and 2013; and Morocco only spent in 2008, 2009 and 2012.

Group 2: Spending was very erratic. Kuwait spent in 2006 and 2012; Saudi Arabia spent in 2006–2008 and 2012; and Lebanon spent every year from 2006 through 2013 but cut spending in 2009–2011 to roughly half.

Group 3: All countries (Bahrain, Oman, Qatar, U.A.E. and Morocco) scored higher in 2015 than in 2011; and all were included in Group 1. Although the U.A.E. doesn't report data, and also Morocco was unable to keep up regular spending, all of the other countries were increasing their spending.

Group 4: Of the three countries, only Jordan seemed to have results that corresponded to spending. Like Morocco, Jordan had reduced spending which appears to have had a downward effect on its results, but the test results appear to have been accurately measured. As mentioned previously, Saudi Arabia and Lebanon's results are inconsistent with other countries and their spending was also erratic.

*Summary: The TIMSS mathematics scores tell us that government spending on education appears to directly impact students' test results.*

### **Issue 3: Governance of Public School Systems**

*What do the OECD's Programme for International Student Assessment (PISA) science scores tell us about the school systems in MENA?*

According to the OECD, the PISA programme was designed "...for evaluating the quality, equity and efficiency of school systems. By identifying the characteristics of high-performing education systems, PISA allows governments and educators to identify effective policies that they can then adapt to their local contexts" (OECD 2016a). PISA fulfils its goal of being an objective tool for comparison between school systems. The most effective educational systems are publicised, and in theory, less successful educational authorities could learn from them. Whether they do or not, and particularly in MENA, is not quite certain.

More than half a million 15-year-olds took part in the 2015 examinations. PISA focuses on Science, Reading and Mathematics (SRM); all three topics are necessary for successful entrepreneurs. PISA results are considered as comparative scores (for SRM), along with data that represents educational equity of each national system. E.g. the OECD average mean score was Science (S = 493), Reading (R = 493) and Mathematics (M = 490). The U.S. scores were S (496), R (497) and M (470).

In MENA, scores were consistently lower than the OECD average or U.S. scores; and more consistent with Latin America and Southeast Asia. But there are also differences within MENA itself. E.g. Qatar's scores for S (418), R (402), M (402) and U.A.E.'s scores for S (437), R (434), M (427) are certainly lower than the OECD averages and U.S. scores, but are considerably better than the reciprocal SRM scores

in the Eastern Mediterranean and North Africa: *i.e.* Jordan's scores of S (409), R (408), M (380); Lebanon's scores of S (386), R (347), M (396); Algeria's scores of S (376), R (350), M (360) and Tunisia's scores of S (386), R (361) and M (367). Essentially, all of the MENA scores were below OECD averages and the U.S.

It could be noted that the overall MENA results for PISA are very similar to those of TIMSS. While the PISA and TIMSS results raise concerns about preparedness for future entrepreneurs, in the present, these educational deficiencies haven't gone unnoticed by employers in the MENA region: "The limited skills among the workforce are another indicator of poor human capital endowments and highlight a mismatch between supply and demand. More than a third of employers in the Middle East and North Africa region have zeroed in on inadequate skills as a major impediment to business growth, the highest such share worldwide" (UNDP 2016a).

The observations of the business community across MENA are consistent with OECD findings that link certain types of public educational systems to certain levels of PISA Science results. As Fig. 4 shows, the more distant the educational authority is from the students, the poorer the Science performance. The best results are obtained when the individual school's principal takes responsibility for school governance (OECD 2016a).

The OECD correlations are related to five specific school governance responsibilities. These can be categorized as: Resources, Curriculum, Disciplinary policies, Assessment policies and Admissions policies. As seen in Fig. 4, when all five responsibilities are managed by the administrator in the nearest proximity to the students, (*i.e.*, School principal), the students perform best. The opposite is true when a National education authority takes charge of the five policy areas. All of the MENA countries that participated in PISA received poor scores for Science performance. When matched with their system of educational governance, the following patterns emerge:

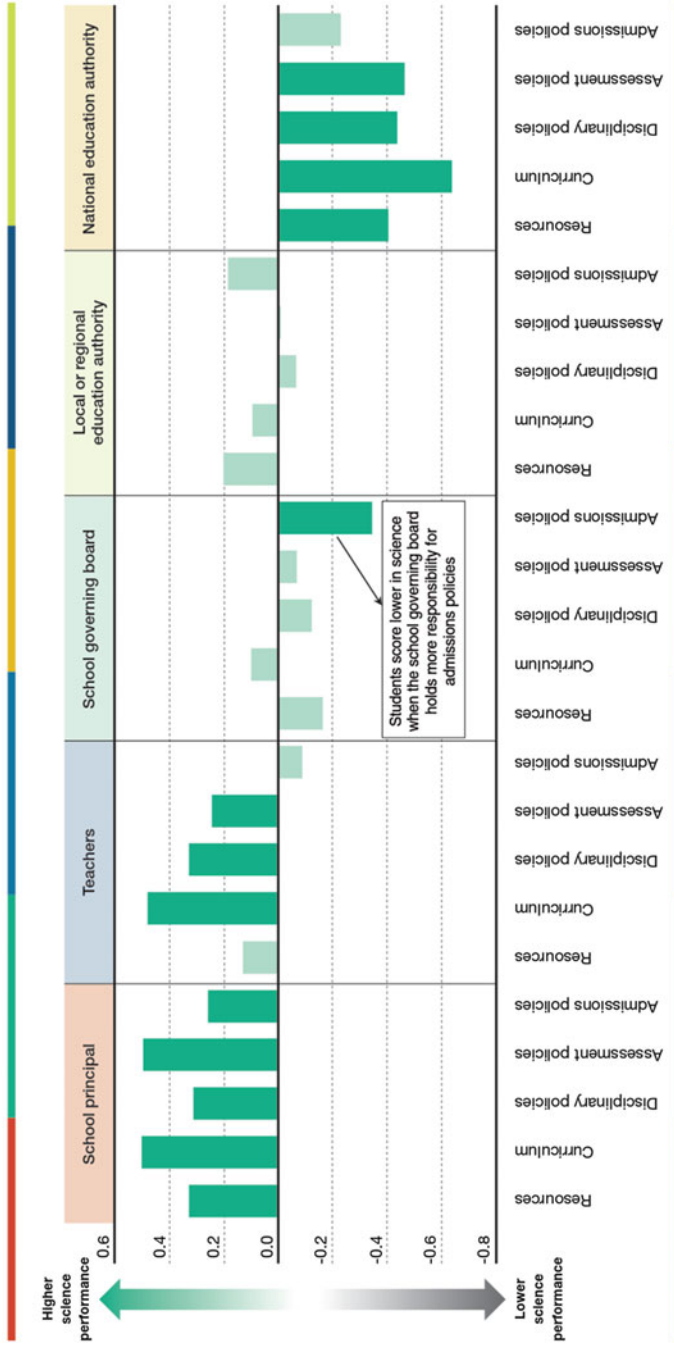
**U.A.E. score of 437.** Ministry of Education oversees the public schools. "Currently, the private school sector dominates the education landscape with 89% of Dubai's students enrolled in private schools, out of which 58% is Emirati." Source: U.S. Dept. of Commerce ITA 2016. **Result:** Consistent with OECD **National education authority** correlations.

**Qatar score of 418.** Supreme Education Council (SEC) oversees all independent schools and Ministry of Education (MOE) provides support to private and public schools. Both SEC and MOE are centralized bodies. Source: <http://www.edu.gov.qa/en/Pages/Home.aspx>. **Result:** Consistent with OECD **National education authority** correlations.

**Jordan score of 409.** Ministry of Education holds sole legal responsibility for education. However, "In practice, there is an effective communication between the Ministry, Governorates and local government units to implement education policies and programmes" [1]. **Result:** Consistent with OECD **National education authority** correlations.

**Lebanon score of 386.** Ministry of Education and Higher Education is the central authority with regional education offices that supervise the public schools while

Correlations between the responsibilities for school governance<sup>1</sup> and science performance  
Results based on system-level analyses



1. The responsibilities for school governance are measured by the share distribution of responsibilities for school governance in Table II.4.2 in PISA 2015 Results (Volume II): Policies and Practices for Successful Schools.

**Fig. 4** School governance versus science performance. Notes: Results based on 70 education systems. Statistically significant correlation coefficients are shown in a darker tone. Source: OECD, PISA 2015 Database



acting as an interface between the schools and the Ministry headquarters in Beirut. “Decisions are routed to these departments and then passed on to the schools [1]. Localized authority permits municipal councils to establish, manage, finance or support the public schools in their area. The Councils “give their consent to the creation, transfer or closure of public schools” [2]. Crucially, provision of learning resources and curriculum development remain with the central Ministry. **Result:** Consistent with a combination of OECD **National education authority and School governing boards**. Student scores reflect those OECD correlations. **Tunisia score of 386.** Ministry of Education holds authority holds all authority over education and research. Regional commissioners of education have financial autonomy under the authority of the Ministry to implement state education policy. Local authorities have no “competencies” (granted rights) in the area of education [1]. **Result:** Although Regional commissioners exist, the role of the Ministry of Education is consistent with OECD **National education authority** correlations. **Algeria score of 376.** Ministry of Education and Higher Research. While regional authorities are responsible for construction, upkeep and maintenance of secondary schools; local authorities have similar responsibilities for kindergarten and primary schools. However, overall educational authority remains with the Ministry of Education [1]. **Result:** Consistent with OECD **National education authority** correlations.

Data sources for the educational systems of the six MENA countries:

European Committee of the Regions Division of Powers website: <https://portal.cor.europa.eu/divisionpowers/>

Lebanon:

[1] International Association of Universities, Lebanon: Structure of Higher Education System, available at the following address: [http://www.iau-aiu.net/sites/all/files/Lebanon\\_LB\\_0.pdf](http://www.iau-aiu.net/sites/all/files/Lebanon_LB_0.pdf) (EN).

[2] Decree-law No 118 of 1997 governing municipalities, available at the following address: [http://www.moim.gov.lb/ui/moim/PDF/LoiMunicipalites\\_versionFr.pdf](http://www.moim.gov.lb/ui/moim/PDF/LoiMunicipalites_versionFr.pdf) (FR).

Tunisia:

[1] Authority granted to Regional commissioners is according to Article 2 of **Law No 2010-14 of 9 March 2010 on regional commissionerships of education**.

[2] <https://portal.cor.europa.eu/divisionpowers/Pages/Tunisia-Education.aspx>. EU Committee of the Regions 2010.

Algeria:

[1] <https://portal.cor.europa.eu/divisionpowers/Pages/Algeria-education.aspx>.

*Summary: The OECD correlation between school governance responsibilities and PISA science scores showed that governance by National education authorities and students' poor quality PISA science scores exist in each of the six MENA countries.*

*Despite the overall poor PISA results, there were hopeful indications in the national laws governing education in Jordan and Morocco (who doesn't participate in PISA tests, but governs education with devolved powers for Regional and Local subgroups):*

### **Jordan**

What is very unique with Jordan is the objectives set out by the government before defining the bodies that should be entrusted to carry out the law. The objectives of laws governing education should be directed at developing responsible citizens

based on the constitution and democratic relationships; develop an understanding of natural, social and cultural environments while building a sense of individual responsibility; “develop pupils physically, socially, mentally, and emotionally, taking individual differences into consideration”; to improve health standards of individuals and of groups; to raise individual economic standards and to increase national income; and perhaps most importantly, “To develop such skills as effective communication, critical and creative thinking, logical reasoning, orderly thinking, the ability to use scientific methods of investigation, and the proper engagement of relationships with others” (<https://portal.cor.europa.eu/divisionpowers/Pages/Jordan-Education.aspx>).

The Higher Education Council was founded in the Law of Higher Education No. 23 of 2009 and given the following responsibilities:

“Cooperation with EU on issues of higher education via programmes such as Tempus, Erasmus Mundus and Marie Curie Action;

Establishing and administering public schools at all levels and supervising private schools;

Providing health and counselling services;

Encouraging educational research;

Enhancing educational relations inside the kingdom and with other Arab and Islamic countries;

Establishing adult education centres;

Furthering cultural and scientific development through libraries and museums, radio and television, lectures, societies, and appropriate magazines.”

## **Morocco**

Education in Morocco is more devolved than in any other MENA country. At the national level seven different bodies oversee various aspects of learning and research, these are:

Ministry of National Education and Vocational Training: Sets education guidelines, develops laws and implements policy for preschool, primary and secondary education and oversees private schools;

Moroccan Foundation for the Promotion of Pre-School Education (Non-profit foundation created by the government): elaborates, supports and subsidizes Moroccan preschool education;

Minister for Higher Education, Scientific Research and Executive Training: Determines policies/direction and guidelines for higher education and scientific research, oversees the 14 state universities plus some 200 non-university higher education institutions of which 107 are private;

Ministry of Youth and Sports: Supports early childhood development, builds daycare centers and nurseries, licenses private day care centers, keeps training development and staff training up-to-date, and upgrades equipment/infrastructure in established centers;

National Agency for Assessment and Quality Assurance in Higher Education and Scientific Research: Assesses public/private higher education, research

institutes, doctoral study centres, training courses for accreditation, assesses effectiveness of evaluation programmes and academic cooperation projects in education/scientific research;

National Center for Scientific and Technical Research: Supports scientific research and capacity for innovation;

Ministry of Habous and Islamic Affairs: Supports study of Arabic language. At the regional level, there are 12 different bodies (nine in Mainland Morocco and three in the Southern Provinces of Morocco). The regions are subdivided into a local government network comprised of 13 prefectures and 62 provinces. Those prefectures with metropolitan areas are further divided into *arrondissements*, other municipalities are divided into *communes urbaines* and rural areas become districts (usually on the outskirts of *arrondissements*).

The local governments are responsible for implementing national, regional and local programmes to fight illiteracy; building/maintaining schools, nurseries and places of primary education.

Both of these countries are considered absolute monarchies, but in many respects they function as constitutional monarchies. In an era when the Arab Spring ushered in much unrest and even wars, Jordan and Morocco have hardly even had street demonstrations. In both countries the monarchs are well-educated, young men and genuinely well-liked by their populations. While both are criticised for not enough power-sharing at the top government levels, that criticism cannot be made when discussing their treatment of their populations. Both monarchs—as well as Queen Rania of Jordan—do all possible to improve people’s lives. (Queen Rania has worked tirelessly for several years to improve teacher education, having already retrained several thousand teachers). The laws discussed above are examples of governments that care about education for their youth. It’s particularly interesting that no other MENA governments have similarly population-focused laws.

Although Qatar and U.A.E. offer economic opportunity for their populations, there doesn’t appear to be the same degree of personal interest in outcomes for the public that’s seen in the Jordanian and Moroccan educational laws.

#### **Issue 4: Quality of Education**

There are a variety of theories about why quality of public education is so poor across MENA. Some look to history as the cause: “After the fall of colonialism and in the context of modernization, Arab governments created national education systems, which helped to promote national identity and social cohesion. They also aimed to produce employees with the skills to work in state-owned enterprises and to develop the growth of national industries and services” (Heyneman 1997). Others point out that “. . .education has come to serve a broader economic purpose of developing citizens that would contribute human capital to the development of their respective nations”.

The UNDP also goes on to describe the causes behind this situation, “Over the past four decades, many Arab governments have implemented numerous policies

and established many institutions to foster quietism and obedience among populations. Autocrats, patriarchs, mosques, schools, the media and the *mukhabarat* (intelligence agencies) became instruments for the suppression of disagreement and independent expression of opinion and, together, managed to deliver over 30 years of political stability despite limited economic growth except in the [oil-rich] GCC, often unpopular foreign policies, rising corruption and repression of civic and human rights” (UNDP 2016a). Within the education system, these policies translated to a very different kind of teaching than what a student would be exposed to in North America/Western Europe. As seen in the following comment from 1993, quality of education has been a long-term problem. “. . . in the MENA region, despite intensive governmental investments in education in order to improve the efficiency of education and raise the level of academic achievement, the quality of education remains a problem” (Heyneman 1993).

*Why is quality of education so different than other countries or regions?*

Typically, all students in North America—even primary school students—are encouraged to raise questions and participate in classroom discussions. This is not the case across MENA in public schools and some private schools, as well. For the most part, students are told not to ask questions or they risk being sent out of class. Learning is by rote. Teachers hand-out a written version of their lectures and students are expected to memorize the text. Exams are based on the same memorized material but as ‘true-false’ or multiple-choice questions; i.e. no essay questions or opinions expressed. This continues through secondary school and university. Even when nationals become university professors and have studied in Western countries, they return to their home countries and teach the ‘old way’ (Hill 2009–Present). Similar observations are described by an English teacher in Saudi Arabia who is now pursuing a PhD in Language Education, “Another factor driving teaching strategies was that memorization was highly emphasized in the Saudi national curriculum and communication was historically of very little importance; thus, teachers had little experience in this [immersion] style of teaching leading to students getting limited L2 [Level 2] practice and learning opportunities. This is the main reason touted by many as to why, after so many years of English instruction within the Saudi educational institutions, students had very little communication competence” (Francisco 2013). Other academics have noted the same:

There remains a pressing quality problem in terms of educational outcomes in the region, with pedagogical methods remaining largely focused on rote memorization rather than applied problem solving and assessment methods (Hassan and Dyer 2017).

Memorization *does* have a role in North American schools, as well, but is limited to specific topics (e.g., the meaning/spelling of English words as well as foreign languages, significant historical documents, course-specific necessities such as the periodic table of elements). But other more important differences are found in the tertiary level of education in MENA. In North American universities, students are encouraged to actively participate and to experiment. Additionally, in business and engineering schools, the students are now pushed to work in teams and taught using Active Learning methods; not surprisingly, the pressure is coming from business/

industry that see teamwork as a priority for new hires (Prince, M. 2004). To teach effectively using Active Learning with teams and be able to support ad hoc questions/discussion generally requires class size be limited to 25–30 students. This will be very difficult to establish in MENA. It's not only the difference in mindsets, but the logistics involved in teaching the sheer volume of students. Today, for the most part, tertiary class size in MENA ranges from 100 to 300 students with the teacher reading out the memorization assignment using a bullhorn to be heard across the classroom. Some tertiary business programmes in Morocco, to their credit, have introduced small workshops of 12 to 20 students that also discuss the specific issues coming from the large lectures (Hill 2016).

Despite the large discrepancy between Western educational quality and that of MENA, rote learning is not the only problem in quality of education in MENA: “Inequality in educational attainment is greater in the region than in any other group of countries. . . . children in poor households and children in rich households do not have an equal opportunity to attend school and the probability of ever attaining or even attending secondary education depends significantly on family background. . . . educational systems of the Arab countries have supported a rapid rise in average years of schooling, but have failed to ensure that students secure good results on international standardized tests.” (UNDP 2016e).

## 2 Global Entrepreneurship Monitor (GEM) Perspective on MENA

The Global Entrepreneurship Monitor (GEM) data suggests that innovative entrepreneurs may be more a product of longer entrepreneurial experience than of just creating a breakthrough innovation. GEM data shows striking differences between highly developed Western economies and MENA countries; in particular, early entrepreneurial skill-building experience is seriously lacking in most of MENA. These experiences aren't just 'early' in the student's life but in the U.S., for example, the institutions themselves providing these experiences are more than a century old. E.g., each year in 4-H, some 6 million children (as young as five, but up to eighteen) participate in experiential learning across a diverse set of activities. The organization was originally founded in 1902 to teach young people in rural communities farming and livestock raising skills. Over the years 4-H has expanded to suburban areas and cities, but it is still the youth development programme of the U.S. Cooperative Extension System and U.S. Department of Agriculture. Topics today include agriculture, but many other subject areas have been added ranging from entrepreneurship, STEM technologies, leadership, citizenship, *et al.* to more personal contemporary topics such as dealing with bullying or learning how to avoid childhood obesity (4-H 2017). 'Volunteer' programmes exist in schools in MENA. But unlike 4-H, they are not actually volunteer and students risk a bad grade for not attending or poor participation during these programmed events. Currently there is

no equivalent for public school students to experience the early entrepreneurial experiences that GEM research shows to be so vital.

## ***2.1 Entrepreneurial Role Models in MENA Vs. Internationally***

Another source of motivation for becoming an entrepreneur is closely linked to successful role models. Today with Internet and television, nearly all young people are acquainted with entrepreneurial success stories (Google, Facebook, Uber, Amazon). By and large these are all North American success stories. But MENA does have some role models.

### **2.1.1 MENA's Role Models**

Probably the earliest and most famous entrepreneur from MENA was Jesse Aweida, a Palestinian immigrant to the United States and executive with IBM. In 1969, Aweida left IBM and formed Storage Tek. By 1971, Storage Tek went public on the New York Stock Exchange. At its peak, Storage Tek had 10,000 employees, was worth \$1.58 billion; by 1991 it was the 239th ranked company in the Fortune 500 list. By 2004, the company was owned by Oracle, renamed Oracle Storage Tek with 7000 employees and valued at \$2.2 billion. Aweida holds an M.S. degree in Engineering from the University of Colorado. Today Aweida and his brother, Dan, are venture capitalists in Colorado, mostly specialising in high-tech companies.

A more recent and most famous entrepreneur from MENA is Fadi Ghandour, a Lebanese who in 1982 co-founded Aramex International, an air courier and logistics company, with Bill Kingson (now deceased). Although Ghandour was a Political Science graduate from George Washington University, he was later a Management graduate at Wharton School of the University of Pennsylvania. Wharton is a school consistently ranked in the "top 5" by Financial Times, US News and World Report, *et al.* Not only is Wharton a top-ranked business school, it was an early founder (1973) of entrepreneurial training. Today, Wharton hosts the Center for Entrepreneurship and Innovation (Wharton 2016).

Ali Ghandour, Fadi's father, attended New York University and was a Senior Advisor to King Hussein of Jordan and was the founder of Royal Jordanian Airlines. It would seem likely his father would've been a strong influence on career choices. While Fadi Ghandour might have succeeded as an entrepreneur independently of his education, it has to be assumed that studying at one of the top 5 business schools in the world, and one that emphasizes entrepreneurship and innovation, could have had a significant influence on his success. This raises the question of "to what degree might other people, especially the youth population, in MENA benefit from an exposure to the courses that usually comprise entrepreneurial training?"

### 2.1.2 International Role Models

If we return to the international role models and look at the education of some especially well-known and successful entrepreneurs (*i.e.* Phil Knight of Nike, Howard Schultz of Starbucks, Jeff Bezos of Amazon, Sergey Brin and Larry Page, of Google and now the holding company, Alphabet, and Elon Musk of Tesla Motors and SpaceX), did university education play a significant role in the success of each of them? Certainly this was the case for Sergey Brin and Larry Page, who both have PhD's from Stanford University. Phil Knight had an MBA from Stanford University. Howard Schultz holds a Bachelor's in Communication from Northern Michigan University. Elon Musk completed two Bachelor's degrees simultaneously in just 3 years, one in Economics at Wharton and one in Physics at University of Pennsylvania. Jeff Bezos earned a degree *summa cum laude* in computer science and electrical engineering at Princeton University. Stanford University ranks in the "top 3" universities in the world; Princeton ranks in the "top 8". Northern Michigan University is ranked number 79 from a list of regional universities in the U.S. Although the university is not in the same overall league as Wharton, Stanford and Princeton, it should be noted that Schultz's degree in 'public speaking' would have also been very useful to an entrepreneur with a business model that depends on attracting franchisees.

A more scientific approach to the relationship between high-quality education and entrepreneurial success can be seen in a study carried out by First Round, an investment firm that specializes in technology start-ups, but also invests in promising consumer company start-ups. (One of their most prominent investments was Uber). In an analysis of the factors that influenced success over a 10-year period in some 300 companies they had invested in, a key element to success was whether or not one or more of the founders had attended one of the Ivy League schools or Stanford, MIT or Caltech: "... 38% of the companies we've invested in had at least one founder that went to one of those schools. And, generally speaking, those companies performed about 220% better than other teams!" (First Round 2015). Princeton and University of Pennsylvania are both considered amongst the eight Ivy League schools. The other Ivy League members are Brown University, Columbia University, Cornell University, Dartmouth College, Harvard University and Yale University (Wikipedia 2017).

The American Association of Collegiate Schools of Business (AACSB) is a quality assurance body that awards its certificate to business schools that have achieved certain benchmarks for quality (e.g. teaching staff, choice of curriculum, teaching by use of business cases). Wharton, Stanford, and Northern Michigan are all examples of AACSB-accredited business schools. Computer and other science programmes are accredited by the Accreditation Board for Engineering and Technology (ABET). University of Colorado, Stanford and Princeton all have ABET-accredited programmes. Essentially, all of these entrepreneurs-including Aweida and Ghandour-could be considered very well-prepared for the entrepreneurial

paths they chose. But they managed to do this by getting their educations outside of MENA.

## **2.2 Summary**

While it's not impossible, it would certainly be very rare to succeed as a high-growth start-up without a very specific level of education. In essence, there is a need for world-class business and/or high-tech university education systems in MENA. An initial step is gaining accreditation from AACSB or ABET, as the schools mentioned above have done.

## **3 MENA's World-Class Business and/or High-Tech University Programmes**

MENA is not devoid of internationally accredited institutions. But as the following sections show, they're not available throughout all of MENA.

### ***3.1 AACSB and/or ABET Programmes***

If graduating from an AACSB and/or ABET programme improves chances of entrepreneurial success, where are the AACSB and ABET schools in MENA? Table 7 shows the AACSB schools and Table 8 shows schools with one or more ABET programmes, effective 01 October 2016.

### ***3.2 Obstacles to Becoming a World-Class Entrepreneur***

There are several obstacles to becoming a world-class entrepreneur in MENA. One is lack of opportunity (discussed in the following section)—regardless whether preparatory education was public or private. Another is lack of funding. While families will collectively help to send a talented young relative abroad to university, there is less prestige/cachet associated with funding a local university education.



**Table 7** AACSB-accredited business schools

AACSB international accreditation	Country
University of Bahrain <sup>a</sup>	Bahrain
The American University in Cairo	Egypt
Gulf University for Science and Technology	Kuwait
Kuwait University	
American University of Beirut	Lebanon
Lebanese American University <sup>a</sup>	
Qatar University	Qatar
King Abdulaziz University	Saudi Arabia
King Fahd University of Petroleum and Minerals	
King Saud University <sup>a</sup>	
College of Business and Economics in Qassim University	
Abu Dhabi University	United Arab Emirates
American University of Sharjah	
United Arab Emirates University	
University of Dubai	
Zayed University	

Source: Author's own based on data available via the World Wide Web at <http://www.aacsb.edu/accreditation/accredited-members/global-listing>. (Accessed 20 November 2016)

<sup>a</sup>Accredited in 2016

### 3.2.1 Insufficient Opportunity

When the possible chance of a student born in MENA country 'X' and being within the youth age group is compared to the number of AACSB-business schools (Table 7) and ABET engineering programmes (Table 8), the relative likelihood of simply finding an open slot in one of the schools is determined by dividing Total AACSB and ABET programmes (Table 9) by the youth population (results appear in Table 9 right-most column). There are several observations that can be made: Students in MENA have a roughly 5% chance of a slot being available in an AACSB-school or ABET engineering programme. By sub-region, the chances become very slight, except for the Gulf Cooperation Council (GCC) countries that can reach as high as a 72% chance of a slot being available. However, none of MENA reaches the roughly 84% chance that U.S. students might find.

### 3.2.2 Legacy of University Investments Matched to 'Historical' Rather than 'Future' Needs

Tables 7 and 8 show that MENA governments have made substantial investments in high-quality education, but there are questions that could be raised about investment focus. E.g.:

**Table 8** ABET-accredited programmes

ABET-accredited programmes	Programmes	Country
AMA International University	3 with Bachelor	Bahrain
University of Bahrain <sup>a</sup>	9 with Bachelor	
Arab Academy for Science and Technology and Maritime Transport (Alexandria) <sup>b</sup>	7 with Bachelor	Egypt
Arab Academy for Science and Technology and Maritime Transport (Cairo) <sup>b</sup>	5 with Bachelor	
American University of Cairo	5 with Bachelor	
Jordan University for Science and Technology	6 with Bachelor	Jordan
Princess Sumaya University for Technology	4 with Bachelor	
University of Jordan	3 with Bachelor	
American University of Kuwait	1 with Bachelor	Kuwait
College of Technological Studies	3 with Diploma	
Gulf University for Science & Technology	1 with Bachelor	
High Institute of Energy	14 with Diploma	
The Higher Institute of Telecommunication & Navigation	2 with Diploma	
Kuwait University	8 with Bachelor	
American University of Beirut	6 with Bachelor	Lebanon
American University of Science and Technology	3 with Bachelor	
Beirut Arab University <sup>c</sup>	2 with Bachelor	
Holy Spirit University of Kaslik	1 w/ Diploma & 8 with Bachelor	
Lebanese American University <sup>d</sup>	6 with Bachelor	
Notre Dame University—Louaize	4 with Bachelor	Morocco
Al Akhawayn University in Ifrane <sup>e</sup>	1 with Bachelor	
Sultan Qaboos University	8 with Bachelor	Oman
An-Najah National University	9 with Bachelor	Palestine
Qatar University <sup>f</sup>	7 with Bachelor	Qatar
Texas A&M University at Qatar	4 with Bachelor	
Al Imam Mohammad Ibn Saud Islamic University	3 with Bachelor	Saudi Arabia
Jubail Industrial College	6 w/ Associate & 4 with Bachelor	
King Abdulaziz University <sup>g</sup>	17 with Bachelor	
King Fahd University of Petroleum and Minerals	4 w/ Associate 17 with Bachelor 4 with Masters	
King Faisal University <sup>h</sup>	6 with Bachelor	
King Saud University	12 with Bachelor	
Majmaah University	1 with Bachelor	
Prince Mohammad Bin Fahd University	2 with Bachelor	
Prince Sattam Bin Abdulaziz University	3 with Bachelor	
Qassim Private Colleges	1 with Bachelor	

(continued)

**Table 8** (continued)

ABET-accredited programmes	Programmes	Country
Qassim University, KSA	6 with Bachelor	
Taif University	5 with Bachelor	
Umm Al-Qura University	5 with Bachelor	
Yanbu Industrial College	4 w/ Associate & 6 with Bachelor	
Abu Dhabi University	5 with Bachelor	United Arab Emirates
Al Ain University of Science and Technology	2 with Bachelor	
Al Ghurair University	1 with Bachelor	
ALHOSN University	3 with Bachelor	
American University in Dubai	4 with Bachelor	
American University of Ras Al-Khaimah	2 with Bachelor	
American University of Sharjah	6 with Bachelor	
Khalifa University of Science, Technology & Research	6 with Bachelor	
Rochester Institute of Technology (Dubai)	2 with Bachelor	
The Petroleum Institute	5 with Bachelor	
United Arab Emirates University	7 with Bachelor	
United Arab Emirates University, College of IT <sup>d</sup>	1 with Bachelor	
University of Dubai	1 with Bachelor	
University of Sharjah <sup>e</sup>	6 with Bachelor	
Zayed University	2 with Bachelor	

Source: Author's own based on data available via the World Wide Web at <http://main.abet.org/aps/Accreditedprogramsearch.aspx>. (Accessed 20 November 2016)

<sup>a</sup>Two programmes being reassessed in 2016

<sup>b</sup>All programmes being reassessed in 2016

<sup>c</sup>One programme being reassessed in 2016

<sup>d</sup>All programmes being reassessed in 2016

<sup>e</sup>Programme being reassessed in 2016

<sup>f</sup>All programmes being reassessed in 2016

<sup>g</sup>Fourteen programmes were reviewed 2014–2015, no results reported yet

<sup>h</sup>Two programmes being reassessed in 2016

<sup>i</sup>Only programme is being reassessed in 2016

<sup>j</sup>Four programmes being reassessed in 2016

1. A general lack of attention to business programmes across MENA; just 16 schools exist for a youth population of 61 million. The ratio in North America is 539 schools for a youth population of 49 million.
2. Although the wealthy GCC countries have the majority of the 16 business programmes (13 for a population of nearly 8 million), this figure is dwarfed by the GCC investment in engineering programmes: 219 are in the GCC and only 70 in the rest of MENA. North America has nearly 6 times (5.8) as many engineering programmes as business schools; yet the GCC has nearly 17 times (16.8) as many engineering programmes as business schools. This suggests a lingering cultural bias toward science rather than business. Not only is it difficult

**Table 9** Youth (15–24 years) in MENA and in North America

Region	Total youth population (millions)	Youth population as share of national <sup>a</sup>	Total AACSB and ABET Programmes	AACSB	ABET	Student 'Chance' per Local Programme
<b>MENA Total</b>	<b>61.021</b>	<b>–</b>	<b>305</b>	<b>16</b>	<b>289</b>	<b>4.998279</b>
<b>North Africa:</b>	15.033	–	1	0	1	0.066520
Morocco	5.796	17.22%	1	0	1	0.172533
Algeria	6.422	15.95%	0	0	0	0.00
Libya	1.139	17.41%	0	0	0	0.00
Tunisia	1.676	15.05%	0	0	0	0.00
<b>Eastern Mediterranean:</b>	32.510	–	72	3	69	0.090306
Egypt	18.214	19.24%	18	1	17	0.988251
Lebanon	1.044	16.73%	32	2	30	30.651341
Syria	3.377	19.65%	0	0	0	0.00
Palestinian Territories: West Bank	0.582	21.56%	9	0	9	9.433962
Gaza	0.372	21.21%				
Jordan	1.647	20.12%	13	0	13	7.893139
Iraq	7.274	19.07%	0	0	0	0.00
<b>GCC members:</b>	<b>7.682</b>	<b>–</b>	<b>232</b>	<b>13</b>	<b>219</b>	<b>30.200469</b>
Kuwaiti only (immigrants = 69%)	0.429	15.16%	31	2	29	72.261072
Bahraini only (immigrants = 50%)	0.217	15.76%	13	1	12	59.907834
Qatari only (immigrants = 88%)	0.285	12.62%	12	1	11	42.105263
UAE: Emirati only: (immigrants = 85%)	0.802	13.53%	58	5	53	72.319201
Saudi Arabia only (35% immigrants)	5.308	18.85%	110	4	106	20.723436
Omani only (40% immigrants)	0.641	19.11%	8	0	8	12.480499
Yemen:	5.796	21.16%	0	0	0	0.00
<b>North America:</b>	<b>49.440</b>	<b>–</b>	<b>3674<sup>b</sup></b>	<b>539</b>	<b>3135</b>	<b>74.312298</b>
Canada	4.285	12.12%	22	22	0	5.134189
US	43.613 <sup>c</sup>	13.46% <sup>c</sup>	3652	517	3135	83.736501
US indigenous	1.800	21.46%	–	–	–	80.417502

Source: Author's own interpretation of Tables 7 and 8

Notes: Col. 1 is calculated from Col. 2 and nat'l pop

<sup>a</sup>Data from Index Mundi and CIA World Factbook *The World Factbook* 2013–14. Washington, DC: Central Intelligence Agency, 2013 <https://www.cia.gov/library/publications/the-world-factbook/index.html#effective> July 2016

<sup>b</sup>Worldwide National Congress of American Indians (<http://www.ncai.org/about-tribes/demographics>). Combined = 45,413 million; Data for AACSB and ABET are taken directly from their websites (see References)

<sup>c</sup>Does not include indigenous population

for a student to find an opening in a high-quality business school, it's likely to be considered a less prestigious career choice.

3. While it appears that educational investment policies favoured engineering programmes, there seems to be very little encouragement for advanced engineering education. Throughout MENA there is only one university with accredited MSc programmes and no accredited PhD programmes in engineering (Table 9).

### ***3.3 Addressing the Need for Increased Entrepreneurial Training and Skill Development***

GEM research has shown the importance of early entrepreneurial training in primary school, continuing classes and other activities in all school grades and post-secondary entrepreneurial training. GEM's survey of national experts examines nine different criteria, but two of these are directly related to 'entrepreneurial education'. These criteria refer to education and training at basic school (i.e. primary and secondary) and/or training at post-secondary levels (i.e. vocational, college, business schools and other tertiary schools).

Today, most students in MENA—as well as North America—are not formally introduced to entrepreneurial training until the post-secondary school level (Table 10). The table includes GEM national experts' evaluations from 2012 through 2016. In every entry, post-secondary education and training outweighs that available during primary and secondary school. Yet other data (as discussed previously in this chapter) tells us that 'the earlier that entrepreneurial training begins the better'. However, an interesting development seems to be happening in Qatar, the U.A.E. and Lebanon. In all three countries, not only is there a commitment to increased entrepreneurial training (year on year), but the levels of offerings in both categories, basic school and post-secondary, seem to be reaching equilibrium. Although both Morocco and Jordan were off to rather slow starts, there does seem to now be a commitment to improvement. There is a possibly negative effect beginning to happen across North America, though, where it appears that interest may be tapering off or perhaps offerings are beginning to reach saturation point.

While Table 10 expresses the need for early entrepreneurial training experiences, it doesn't address the basic teaching problems in schools across MENA at all school levels. Despite this obstacle, there are examples from other countries on early entrepreneurial training.

#### **3.3.1 Empirical Data on the Benefits of Early Entrepreneurial Experiences**

The effectiveness of early entrepreneurial education has been discussed in two interesting studies:

1. The first is an ongoing longitudinal study of the effects of out-of-school activities on positive youth development. The study began in 2002 with 5th grade students and ended in 2010 having followed more than 7000 students in 42 U.S. states, when the students had reached 12th grade. Out-of-school activities also include some early entrepreneurial training as well as some activities that would be supportive of entrepreneurial success (e.g. leadership skills, civic engagement). The students are active in the U.S. national 4-H organization. Each year the

**Table 10** GEM National Expert Survey for Entrepreneurial Education in MENA and North America 2012 through 2016

	2016		2015		2014		2013		2012	
	B	P	B	P	B	P	B	P	B	P
Algeria	–	–	–	–	–	–	2.45	3.16	2.19	3.32
Egypt	1.20	1.82	1.16	1.83	–	–	–	–	1.28	1.82
Jordan	1.47	1.85	–	–	–	–	–	–	–	–
Kuwait	–	–	–	–	1.52	2.57	–	–	–	–
Lebanon	2.61	3.11	2.58	2.98	–	–	–	–	–	–
Libya	–	–	–	–	–	–	1.41	2.30	–	–
Morocco	1.33	2.41	1.21	2.01	–	–	–	–	–	–
Palestine	–	–	–	–	–	–	–	–	1.69	2.44
Qatar	2.70	3.46	–	–	2.72	3.33	–	–	–	–
Saudi Arabia	1.44	2.26	–	–	–	–	–	–	–	–
Tunisia	–	–	1.15	2.01	–	–	–	–	1.44	2.78
U.A.E.	2.68	2.84	–	–	–	–	–	–	–	–
Canada	2.04	2.82	2.51	3.19	2.32	3.14	2.20	2.67	–	–
United States	1.96	2.75	2.15	2.70	2.21	2.87	2.19	3.08	2.15	3.04

B = Basic School Entrepreneurial Education; P = Training Post School Entrepreneurial Education and Training

Source: Author’s own data based on Global Entrepreneurship Monitor 2017. Available via the World Wide Web at <http://www.gemconsortium.org/data/key-nes>. (Accessed 25 February 2017)

research team (led from Tufts University but including 21 other universities) has analysed the development of the cohort. There are some very interesting results:

The students were found to be “. . .nearly 4 times more likely to make contributions to their communities (Grades 7–12); . . .are about 2 times more likely to be civically active (Grades 8–12); . . .nearly 2 times more likely to participate in Science, Engineering and Computer Technology programs during out-of-school time (Grades 10–12); . . .girls are 2 times more likely (Grade 10) and nearly 3 times more likely (Grade 12) to take part in science programs compared to girls in other out-of-school time activities; . . . nearly 2 times more likely to make healthier choices (Grade 7)” (Lerner et al. 2009).

2. This study evaluated early entrepreneurial training (5th grade, 10 year-olds) taking place across the Netherlands based on a teaching programme from the U.S., *BizWorld*. [N.B. This same programme was one of several being used by the 4H groups discussed previously.] The researchers conducted “. . .a randomized field experiment to evaluate a leading entrepreneurship education program that is taught worldwide in the final grade of primary school . . .pupils’ development of entrepreneurship knowledge and a set of non-cognitive skills relevant for entrepreneurial activity. The results indicate that knowledge is unaffected by the program. However, the program has a robust positive effect on non-cognitive entrepreneurial skills. This is surprising since previous evaluations found zero or negative effects. Because these earlier studies all pertain to entrepreneurship education for adolescents, our result tentatively suggests that **non-cognitive**

**entrepreneurial skills are best developed at an early age.”** [N.B. Emphasis added by author.] “*BizWorld* aims to teach children aged 11 or 12 the basics of business and entrepreneurship and to promote teamwork and leadership in the classroom through an experiential learning program that takes five days (within a time span of 2 to 4 weeks).” . . . The study authors conducted their research “in 63 different primary schools (118 classes; 2751 pupils) in the western part of the Netherlands that voluntarily signed up for the *BizWorld* program in 2010 and/or 2011” (Huber et al. 2012).

Currently the academic systems across most of MENA don’t support even the basic training needed to ‘create’ entrepreneurs. Most schools across the region (including business schools) don’t teach critical thinking/analysis, teamwork skills, classroom discussions with open questions, or the study of business cases with exams based on essay questions rather than rote learning with exams based on true/false or multiple choice questions. Without teaching students how to analyse and assess opportunities—including analysis of real business cases and development of potential solutions—how can they be expected to become successful entrepreneurs? But one potential answer may lie in the work of 4H and the research of the Tinbergen Institute in the Netherlands. Students older than 11 or 12 years of age may require more time to adapt to a new way of learning. Adaptation by Bachelor and Master’s students generally requires a semester-long course in Entrepreneurship (or other related subjects) just to adapt to a new way of learning, expressing themselves and working in teams (Hill 2009-Present).

## 4 Concluding Remarks

School authorities in MENA should address several issues that are counter-productive to creating more entrepreneurs:

1. Retraining of teachers to assure Active Learning methods are being used when teaching. This includes more practice in critical thinking/analytical skills, teamwork, helping students to develop the skills needed to answer essay questions and to respond with solutions to ‘open book’ business cases, as well as to develop presentation skills;
2. Curriculum changes to include early entrepreneurial education in primary and secondary schools;
3. Encourage and/or reward tertiary schools that implement Active Learning-based teaching and a Post-secondary entrepreneurial curriculum;
4. Implementation of a MENA-wide virtual entrepreneurial ecosystem.

## Appendix 1

Full version of Table 1: GEI scores compared to IWCM scores

GEI 2017 Rank & Score	Top 25 GEI 2016 Rank & Score	GEI 2009 Rank & Score	Survival value 2014	Self-Expression 2014	Secular-Rational 2014	Traditional Value 2014
<b>1 United States 83.4</b>	1 United States 86.2	3 United States 0.72		<b>+1.15</b>		-0.20
<b>2 Switzerland 78.0</b>	8 Switzerland 67.8	7 Switzerland 0.63		<b>+1.35</b>	+0.65	
<b>3 Canada 75.6</b>	2 Canada 79.5	2 Canada 0.74		<b>+2.10</b>		-0.35
<b>4 Sweden 75.5</b>	5 Sweden 75.9	4 Sweden 0.69		<b>+2.25</b>	+1.70	
<b>5 Denmark 74.1</b>	4 Denmark 76.0	1 Denmark 0.76		<b>+2.20</b>	+1.55	
<b>6 Iceland 73.5</b>	7 Iceland 68.9	9 Iceland 0.62		<b>+2.00</b>	+0.50	
<b>7 Australia 72.5</b>	3 Australia 78.0	11 Australia 0.60		<b>+1.90</b>	+0.45	
<b>8 United Kingdom 71.3</b>	9 United Kingdom 67.7	14 United Kingdom 0.56		<b>+1.50</b>	+0.20	
<b>9 Ireland 71.0</b>	12 Ireland 65.6	6 Ireland 0.63		<b>+1.10</b>		-0.65
<b>10 Netherlands 67.8</b>	13 Netherlands 65.4	10 Netherlands 0.62		<b>+1.30</b>	+1.55	
<b>11 Finland 66.9</b>	18 Finland 61.8	13 Finland 0.56		<b>+1.25</b>	+1.25	
<b>12 Germany 64.9</b>	14 Germany 64.6	16 Germany 0.54		<b>+0.60</b>	+1.55	
<b>13 France 64.1</b>	10 France 64.4	18 France 0.50		<b>+1.00</b>	+0.55	
<b>14 Austria 63.5</b>	15 Austria 62.9	22 Austria 0.45		<b>+0.60</b>	+0.65	
<b>15 Belgium 63.0</b>	17 Belgium 62.1	12 Belgium 0.58		<b>+1.30</b>	+0.30	
<b>16 Taiwan 60.7</b>	6 Taiwan 69.7	No score	-0.70		+1.25	
<b>17 Israel 59.1</b>	21 Israel 57.4	21 Israel 0.47		<b>No data</b>		
<b>18 Chile 58.8</b>	16 Chile 62.1	26 Chile 0.41		<b>+0.30</b>		-0.40
<b>19 U.A.E. 58.8</b>	19 U.A.E. 61.4	24 U.A.E. 0.42		<b>No data</b>		
<b>20 Luxembourg 58.1</b>	23 Luxembourg 57.2	No score		<b>+0.95</b>	+0.45	
<b>21 Qatar 58.0</b>	24 Qatar 56.7	No score		<b>+0.20</b>		-2.20 <sup>a</sup>
<b>22 Norway 55.9</b>	20 Norway 61.1	8 Norway 0.62		<b>+2.10</b>	+1.20	
<b>23 Estonia 55.5</b>	22 Estonia 57.3	No score	-0.75		+1.25	
<b>24 Singapore 52.2</b>	11 Singapore 66.0	15 Singapore 0.56		<b>No data</b>		
<b>25 Japan 51.7</b>		29 Japan 0.40		<b>+0.15</b>	+1.80 <sup>b</sup>	
<b>26 Slovenia 51.5</b>		19 Slovenia 0.49		<b>+0.12</b>	+1.10	
<b>27 Korea 50.5</b>		20 Slovenia 0.49	-0.60		+1.00	
<b>28 Lithuania 49.6</b>	25 Lithuania 54.8	No score	-1.20		+1.20	
<b>29 Portugal 47.2</b>		33 Portugal 0.35	-0.10			-0.20
<b>30 Saudi Arabia 47.2</b>		30 Saudi Arabia 0.38		<b>No data</b>		
<b>31 Poland 46.6</b>		37 Poland .029		<b>+0.25</b>		-0.60
<b>32 Hong Kong 46.4</b>		23 Hong Kong 0.45		<b>+0.10</b>	+1.20	
<b>33 Spain 45.3</b>		28 Spain 0.40		<b>+0.30</b>	+0.49	
<b>34 Bahrain 44.7</b>		No score	-0.50			-0.10
<b>35 Slovakia 44.1</b>		No score	-0.15		+0.30	
<b>36 Turkey 43.7</b>		43 Turkey 0.27	-0.25			-1.20
<b>37 Oman 43.6</b>		No score		<b>No data</b>		
<b>38 Latvia 43.0</b>		32 Latvia 0.36	-0.85		+0.90	
<b>39 Kuwait 42.5</b>		No score		<b>No data</b>		

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GEI 2017 Rank & Score	Top 25 GEI 2016 Rank & Score	GEI 2009 Rank & Score	Survival value 2014	Self-Expression 2014	Secular-Rational 2014	Traditional Value 2014
40 Czech Republic 42.2		25 Czech Republic 0.42		±0.0	+1.20	
41 Puerto Rico 40.6		17 Puerto Rico 0.54		No data		
42 Tunisia 40.5		58 Tunisia 0.22	-1.65			-0.90
43 Cyprus 38.5		No score		No data		
44 Colombia 37.3		41 Colombia 0.28		+0.90		-1.90
45 Romania 37.1		48 Romania 0.25	-1.00			-0.40
46 Italy 37.0		27 Italy 0.41		+0.40	+0.20	
47 Hungary 36.3		47 Hungary 0.25	-0.65		+0.60	
48 China 36.3		40 China 0.28	-1.00			-1.25
49 Greece 34.6		34 Greece 0.32		+0.09	±0.00	
50 Uruguay 34.6		35 Uruguay 0.30		+0.70		-0.30
55 South Africa 32.6		42 South Africa 0.28		+0.12		-0.25
56 Jordan 31.7		51 Jordan 0.23	-1.15			-1.50
57 Azerbaijan 31.1		No score	-1.20			-0.60
58 Costa Rica 30.0		No score		No data		
59 Croatia 30.8		38 Croatia 0.28	-0.20		±0.00	
60 Namibia 30.7		No score		No data		
61 Montenegro 30.2		No score	-0.70		+0.35	
62 Kazakhstan 30.1		63 Kazakhstan 0.18	-0.75			-0.20
63 Lebanon 28.8		No score	-0.75			-0.10
64 Macedonia 28.7		49 Macedonia 0.24	-0.15			-0.10
65 Thailand 27.1		56 Thailand 0.22		±0.01		-1.20
66 Ukraine 26.9		No score	-1.40		+0.50	
67 Peru 26.8		39 Peru 0.28		±0.00		-1.15
68 Panama 26.2		52 Panama 0.23		No data		
69 India 25.8		53 India 0.23		±0.00	±0.00	
70 Morocco 25.7		59 Morocco 0.22	-1.20			-1.25
71 Mexico 25.7		44 Mexico 0.27		+1.25		-1.65
72 Russia 25.4		57 Russia 0.22	-1.25		+0.50	
73 Algeria 24.7		61 Algeria 0.19	-0.65			-0.80
74 Trinidad 24.6		No score		+0.25		-1.80
75 Gabon 24.6		No score		No data		
76 Philippines 24.1		70 Philippines 0.13		+0.30		-1.40
77 Georgia 24.0		No score	-0.80			-0.70
78 Dominican Republic 24.0		45 Dominican Republic 0.26		No data		
79 Serbia 23.1		62 Serbia 0.18	-0.85		+0.60	
80 Albania 23.0		No score	-1.00		+0.20	
81 Egypt 22.7		50 Egypt 0.24		No data		
82 Bulgaria 22.7		No score	-1.40		+0.90	
83 Argentina 22.2		36 Argentina 0.30		+0.40		-0.40
84 Armenia 22.1			-0.90			-0.80
85 Iran 22.1		65 Iran 0.17		No data		
86 Ghana 22.0		No score	-0.30			-2.05
87 Vietnam 22.0		No score	-0.05			-0.20
88 Swaziland 21.8		No score		No data		

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GEI 2017 Rank & Score	Top 25 GEI 2016 Rank & Score	GEI 2009 Rank & Score	Survival value 2014	Self-Expression 2014	Secular-Rational 2014	Traditional Value 2014
89 Moldova 21.3		No score	-1.20		+0.10	
90 Indonesia 21.2		46 Indonesia 0.26				
91 Ecuador 21.1		66 Ecuador 0.17		+0.50		-1.85
92 Kyrgyzstan 21.0		No score	-0.15			-0.45
93 Jamaica 21.0		No score		No data		
94 Sri Lanka 20.9		No score		No data		
95 Tajikistan 20.7		No score		No data		
96 Zambia 20.5		No score	-0.70			-0.70
97 Bolivia 20.4		67 Bolivia 0.16		No data		
98 Brazil 20.1		54 Brazil 0.23		+0.25		-0.80
99 Bosnia-Herzegovina 19.9		64 Bosnia 0.18	-0.80		+0.20	
100 Nigeria 19.9		No score	-0.20			-1.40
101 El Salvador 19.8		No score		No data		
102 Senegal 19.7		No score		No data		
103 Rwanda 19.6		No score	-0.40			-0.10
104 Libya 19.2		No score		No data		
105 Laos 18.7		No score		No data		
106 Honduras 18.2		No score		No data		
107 Kenya 18.2		No score		No data		
108 Guatemala 17.9		69 Guatemala 0.15		+0.02		-1.60
109 Ethiopia 17.8		No score	-0.30			-0.50
110 Suriname 17.5		No score		No data		
111 Paraguay 16.7		No score		No data		
112 Ivory Coast 16.6		No score		No data		
113 Belize 16.6		No score		No data		
114 Cambodia 16.5		No score		No data		
115 Gambia 16.1		No score		No data		
116 Cameroon 16.0		No score		No data		
117 Guyana 15.9		No score		No data		
118 Tanzania 15.8		No score		No data		
119 Mali 15.6		No score		+0.10		-1.25
120 Myanmar 15.6		No score		No data		
121 Liberia 15.6		No score		No data		
122 Pakistan 15.2		No score		+0.10		-1.20
123 Mozambique 15.1		No score		No data		
123 Madagascar 14.3		No score		No data		
125 Angola 14.1		No score		No data		
126 Uganda 13.2		71 Uganda 0.10		No data		
127 Benin 13.0		No score		No data		
128 Venezuela 13.0		55 Venezuela 0.22		No data		
129 Nicaragua 12.7		No score		No data		
130 Malawi 12.5		No score		No data		

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GEI 2017 Rank & Score	Top 25 GEI 2016 Rank & Score	GEI 2009 Rank & Score	Survival value 2014	Self-Expression 2014	Secular-Rational 2014	Traditional Value 2014
131 Guinea 12.1		No score		No data		
132 Burkina Faso 11.9		No score	-0.30			-1.30
133 Bangladesh 11.8		No score		No data		
134 Mauritania 11.6		No score		No data		
135 Sierra Leone 11.4		No score		No data		
136 Burundi 11.4		No score		No data		
137 Chad 8.8		No score		No data		
Palestine No GEI data		No score	-1.10			-1.00
Iraq No GEI data		No score	-1.10			-0.80
Yemen No GEI data		No score	-1.18			-1.30
Syria No GEI data for 2014		68 Syria 0.16		No data		

<sup>a</sup> Qatar's score for Traditional values is the highest of all countries.

<sup>b</sup> Japan's score for Secular-rational values is the highest of all countries.

2009 GEI rank "5 New Zealand 0.68"; no current GEI data but +1.75 Self-expression and +0.35 Secular-rational values for 2014.

Northern Ireland, (included in Ireland GEI data) but +0.70 self-expression and -0.49 Traditional values for 2014.

No GEI score for Malta but +0.40 Self-expression and -1.30 for Traditional values in 2014.

Andorra, no GEI data but +1.40 Self-expression and +0.80 Secular-rational values for 2014.

Yemen, no GEI data but -1.2 self-expression and -1.35 traditional values for 2008.

Palestine, Iraq and Syria: No IWCM data.

**Source: Author's own. Data compiled from:**

Ács, Szerb *et al.* 2017. The Global Entrepreneurship Index Rank of All Countries 2017 Table 2.2, Ch. 2 p. 34. *The Global Entrepreneurship Index 2017*. Washington, D.C.

## Appendix 2

Examples of TIMSS assessment of Mathematical Knowing, Applying and Reasoning Mathematics cognitive domains for Eighth grade students.

### Knowing

Facility in applying mathematics, or reasoning about mathematical situations, depends on familiarity with mathematical concepts and fluency in mathematical skills. The more relevant knowledge a student is able to recall and the wider the range of concepts he or she understands, the greater the potential for engaging in a wide range of problem-solving situations.

Without access to a knowledge base that enables easy recall of the language and basic facts and conventions of number, symbolic representation, and spatial relations, students would find purposeful mathematical thinking impossible. Facts encompass the knowledge that provides the basic language of mathematics, as well as the essential mathematical concepts and properties that form the foundation for mathematical thought.

<b>Recall</b>	Recall definitions, terminology, number properties, units of measurement, geometric properties, and notation (e.g., $a \times b = ab$ , $a + a + a = 3a$ ).
<b>Recognize</b>	Recognize numbers, expressions, quantities, and shapes. Recognize entities that are mathematically equivalent (e.g., equivalent familiar fractions, decimals, and percents; different orientations of simple geometric figures).
<b>Classify/Order</b>	Classify numbers, expressions, quantities, and shapes by common properties.
<b>Compute</b>	Carry out algorithmic procedures for $+$ , $-$ , $\times$ , $\div$ , or a combination of these with whole numbers, fractions, decimals, and integers. Carry out straightforward algebraic procedures.
<b>Retrieve</b>	Retrieve information from graphs, tables, texts, or other sources.
<b>Measure</b>	Use measuring instruments; and choose appropriate units of measurement.

Procedures form a bridge between more basic knowledge and the use of mathematics for solving problems, especially those encountered by many people in their daily lives. In essence, a fluent use of procedures entails recall of sets of actions and how to carry them out. Students need to be efficient and accurate in using a variety of computational procedures and tools. They need to see that particular procedures can be used to solve entire classes of problems, not just individual problems.

### Applying

The applying domain involves the application of mathematics in a range of contexts. In this domain, the facts, concepts, and procedures as well as the problems should be familiar to the student. In some items aligned with this domain, students need to apply mathematical knowledge of facts, skills, and procedures or understanding of mathematical concepts to create representations. Representation of ideas forms the core of mathematical thinking and communication, and the ability to create equivalent representations is fundamental to success in the subject.

Problem solving is central to the applying domain, with an emphasis on more familiar and routine tasks. Problems may be set in real-life situations, or may be concerned with purely mathematical questions involving, for example, numeric or algebraic expressions, functions, equations, geometric figures, or statistical data sets.

<b>Determine</b>	Determine efficient/appropriate operations, strategies, and tools for solving problems for which there are commonly used methods of solution.
<b>Represent/Model</b>	Display data in tables or graphs; create equations, inequalities, geometric figures, or diagrams that model problem situations; and generate equivalent representations for a given mathematical entity or relationship.
<b>Implement</b>	Implement strategies and operations to solve problems involving familiar mathematical concepts and procedures.

## Reasoning

Reasoning mathematically involves logical, systematic thinking. It includes intuitive and inductive reasoning based on patterns and regularities that can be used to arrive at solutions to problems set in novel or unfamiliar situations. Such problems may be purely mathematical or may have real-life settings. Both types of items involve transferring knowledge and skills to new situations; and interactions among reasoning skills usually are a feature of such items.

Even though many of the cognitive skills listed in the reasoning domain may be drawn on when thinking about and solving novel or complex problems, each by itself represents a valuable outcome of mathematics education, with the potential to influence learners' thinking more generally. For example, reasoning involves the ability to observe and make conjectures. It also involves making logical deductions based on specific assumptions and rules, and justifying results.

<b>Analyze</b>	Determine, describe, or use relationships among numbers, expressions, quantities, and shapes.
<b>Integrate/Synthesize</b>	Link different elements of knowledge, related representations, and procedures to solve problems.
<b>Evaluate</b>	Evaluate alternative problem solving strategies and solutions.
<b>Draw Conclusions</b>	Make valid inferences on the basis of information and evidence.
<b>Generalize</b>	Make statements that represent relationships in more general and more widely applicable terms.
<b>Justify</b>	Provide mathematical arguments to support a strategy or solution.

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## ***Population Data***

<https://www.cia.gov/library/publications/resources/the-world-factbook/fields/2012.html#mo>



# An Exploration into How Terrorism Impacts Business Environment in MENA Region



Hamid Padash and Bahman Khodapanah

**Abstract** The relationship between security and business has been an important issue for social theorists and policymakers. In recent decades, terrorism, especially at international level, has emerged as an important threat to the business. It reflects the risk of violent acts to attain political goals via fear, coercion or intimidation. According to literature, global trade and foreign investments require to strengthen and maintain the economic security. In some countries, terrorism can increase political risks and lead to isolation of these countries from the rest of the world. There are limited studies that show how the business reacts on terrorism. Few economists have examined the economic forces of the terrorism formation and its impact on business performance and environment. Hence, present study with its descriptive nature, tries to explore economic origins of terrorism and its relationship with business environment in MENA countries. We have classified our research into three areas including terrorism impact on foreign direct investment, tourism industry and doing business (four sub-indices of World Bank project of doing business including starting a business, getting electricity, paying taxes and trading across borders) in MENA countries. Our results suggest that regional terrorism in the recent decade has had significant negative impact on indicators such as foreign investment, tourism and doing easily business in MENA countries.

**Keywords** Terrorism · Business environment · FDI · Tourism · Doing business · MENA

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## 1 Introduction

Terrorism, in its broadest sense, is the use of intentionally indiscriminate violence such as threats, intimidation and coercion to achieve political and economic goals (Chenoweth 2013). Terrorism is a form of groups and parties which has existed throughout human history, but nations's concern over terrorism mostly returns to September 11 (2001) that has taken place in New York (Abadie and Gardeazabal 2008; Aon 2015; Ozer 2015). In fact, global communities have been more concerned about terrorism and its impact on many aspects of human life such as social, cultural and economic issues right after this attack had been launched. Terrorist actions (from al-Qaida, which was founded by Osama Bin Laden, Abdullah Azzam and other militants of Islamic State of Iraq and Syria, in the Middle-East), with a potentially great impact on socio-economic environment, for both developed and developing countries, has become a matter of concern for almost all countries of the world (Aon 2015).

Although USA did not witness another attack since 2001 (in that magnitude), terrorism has never left the public subconscious and remained as a political and social issue (Edobor 2014). In fact, this is the reason of long-term impact of terrorism on people's life as well as their business activities (Edobor 2014). It is not difficult to realize that after September 11, 2001, the world has been dramatically impressed by psychological effects of terrorist threats. Indeed, throughout the world, terrorism has been resulted in life losses and economic damages (Moruff Sanjo and Adeniyi Marcus 2014).

In recent years, al-Qaida and its affiliates have carried out intentional violent and deadly attacks in countries such as Egypt, Indonesia, Kenya, Saudi Arabia, Spain, Turkey and UK (Sageman 2014). Indeed, it should be noted that terrorism has multiple level impacts on societies; one of those levels refers to the business environment. In fact, the specific aim of terrorism is to distract current business system. From the economic point of view, terrorism is considered a major threat to societies and a great challenge to business, especially in international level. Thus, **it is worth** mentioning that both macro and micro level actors of business such as governments, producers, distributors and customers are all influenced by terrorism, and required to react to terrorist actions (Suder 2004). Terrorism imposes significant impediments to businesses, and therefore leads to increasing the transaction costs of doing business (Suder 2004, p. 50). According to the World Terrorism Index in 2014, the economic cost of terrorism compared with 2000, has experienced a ten-fold increase (World Terrorism Index 2015). Literature review shows that studies of economic causes of terrorism do not provide any comprehensive, elegant, and convincing results. Regarding the transnational terrorism, literature review shows that there is incompatibility between the evidence on relative importance of economic and noneconomic factors of terrorism. Yet, there is no comprehensive study that explores all potential effects of terrorism at the same time. Hence, this study tries to explore terrorism economic origins and its relationship with business environment in MENA countries. In this regard, in the next section, theoretical

literature as well as previous studies will be discussed and, in the third section, we study terrorism impacts on foreign direct investment, tourism and doing business indicators.

## 2 Literature Review

Czinkota and others argued that research about terrorism has been done in many domains including “anthropology, criminology, economics, history and international relations”. But, in terms of international business, there does not yet exist a systematic theory (Czinkota et al. 2004). International business is a desired target for terrorism groups far more than any other targets. For example, since 1996, well over 300 attacks have been conducted against businesses each year (US Department of State 2002). In 2001, international terrorists targeted a total of 397 business facilities worldwide, while military or government facilities were targeted in a total of 35 events (Czinkota et al. 2004)

Terrorism has not begun with September 11, 2001, both America and Europe, like other countries, have long and tragic history of terrorist attacks (Suder 2004). Irish Republican Army (IRA) in Northern Ireland, Euskadi Ta Askatasuna (ETA) in Spain, Red Brigades in Italy, November 17 in Greece and Rote Armee Fraktion in Germany are only some examples of terrorist activities since 1950s. In case of US, the 1994 Oklahoma bombing dram memories approved that terrorism did not started with September 11, 2001 (Suder 2004). Even if we assume that the above-mentioned examples were not terrorism attacks, we can see that the 1993 World Trade Center bombing by truck explosion was a terrorist attack on the World Trade Center (Czinkota et al. 2004). In fact, modern terrorism has begun in the 1960s and continued with certain tactics as its main ploy.

In Porter’s opinion (2012), modern terrorism in global range originated from the French Revolution (1799–1789), which the term was used to the French government action description. In 1848, terrorism was used for violent revolutionaries that had been rebelled against the government and then this term was used to describe various groups such as labor organizations, anarchists and nationalist groups that were fighting against foreign powers. After World War II and with emergence of nationalist groups against the domination of Europe in the world, the meaning of terrorism changed again (Porter et al. 2012).

Terrorism is a complex phenomenon that have some challenges for researchers (Czinkota et al. 2004), and its definition is not simple due to social complexity (Moruff Sanjo and Adeniyi Marcus 2014). The definitions can legitimize a repressive state power while the peaceful struggle for justice and peace can be delegitimize. The interpretations may justify violence that is not acceptable in normal circumstances or can encourage activities of a brutalist group; a group that deal with randomly killing innocent victims under the banner of revolution (Bandyopadhyay et al. 2011). In fact, there are some difficulties in defining terrorism. It is possible to define acts of violence as terrorism in a certain time. In other

times, terrorism may be named for freedom movements. Terrorism is not a physical entity with measurable dimensions but it has been defined by “social structure” in setting social and political arrangements and by individuals (White et al. 2013).

The concept of the Terrorism concept has been changed throughout history, and there has never been any consensus about the definition of terrorism (Best et al. 2004; Knight and Czinkota 2008). But according to Czinkota (2005), the most acceptable definition of terrorism at international level is “the systematic threat or use of violence across national borders to attain a political goal or communicate a political message through fear, coercion or intimidation of non-combatant persons or the general public” (Czinkota 2005). As mentioned above, there is no single internationally accepted definition of what constitutes terrorism, and the terrorism literature abounds with competing definitions and typologies. Generally, there is a consensus among researchers and policymakers in the world that terrorism imposes distortions on the world security and business organizations (Ugorji 2017).

We have summarized some of the main definitions of terrorism in Table 1 according to main researchers:

The definitions have some implications; First, terrorism it is not just the violent act. Second, terrorism has long-term and harmful impact on social, political and economic history of societies (United Nations 2006).

It is worth mentioning that incident has to meet three criteria in order for it to be counted as a terrorist act:

1. The incident must be intentional—the result of a conscious calculation on the part of a perpetrator.
2. The incident must entail some level of violence or threat of violence—including property damage, as well as violence against people.
3. The perpetrators of the incidents must be sub-national actors. This database does not include acts of state terrorism (Institute for Economics and Peace 2016)

According to Enders and Sandler (2006), Terrorism could emerge in two main types:

Domestic and transnational. Domestic terrorism usually has limited consequences for just the host country, its institutions, citizens, property, and business. The Oklahoma City bombing on April 19, 1995 was a domestic terrorist event as was the kidnapping of members of Parliament by Colombian terrorists. (Enders and Sandler 2006). But speaking about transnational terrorism is not so easy, because transnational terrorism covering more than one country is the subject of attacks. And therefore business security in this type of terrorism becomes more important (ibid). Terrorism has the potential to impact significantly on the business community (Sandler and Enders 2004), and has been emerged as an important threat to the business particularly, those businesses that act in supranational markets (Czinkota 2005). According to literature, terrorism is known with four main effects on world economy. First, the capital stock (human and physical) of a country is reduced as a result of terrorist attacks. Second, the terrorist threat induces higher levels of uncertainty. Third, terrorism will increase the expenses for countering terrorism.

**Table 1** Terrorism definitions

Author/year	Definition
Bandura (1990)	Dissident groups with surreptitious acts of violence in order to attack governments by victimizing citizens
Kingdom's Terrorism Act (2000)	Terrorism include an act "designed seriously to interfere with or seriously to disrupt an electronic system"
US Patriot Act (2001)	Terrorist activities include: any crime committed with "the use of any weapon or dangerous device", when the intent of the crime is determined to be the endangerment of public safety or substantial property damage rather than for "mere personal monetary gain"
European Union (2002)	Terrorist offences are certain criminal offences set out in a list comprised largely of serious offences against persons and property which: Given their nature or context, may seriously damage a country or an international organization where committed with the aim of: seriously intimidating a population; or unduly compelling a Government or international organization to perform or abstain from performing any act; or seriously destabilizing or destroying the fundamental political, constitutional, economic or social structures of a country or an international organization
Krueger and Maleckova (2003)	The aim of activities which is known as "terrorism" mainly is "fear and terror among a target audience rather than the harm caused to the immediate victims"
UN Security Council Resolution 1566 (2004)	Criminal acts, against civilians, committed with the intent to cause death or serious bodily injury, or taking of hostages, with the purpose of provoking a state of terror in the general public or in a group of persons or particular persons, intimidate a population or compel a government or an international organization to do so or to abstain from doing any act
Czinkota (2005)	The systematic threat or use of violence across national borders to attain a political goal or communicate a political message through fear, coercion or intimidation of civilians
Enders et al. (2006)	The threat of violence by individuals or transnational groups to obtain a political objective through the intimidation of a large audience, beyond that of the immediate victims
Bandyopadhyay et al. (2011)	Individual or group threats to use violence against civilian in order to obtain a political or social purpose, by creating panic among many indirect victims
Chenoweth (2013)	Intentionally indiscriminate violence (violent actions such as threats, Intimidation and coercion to achieve political and economic goals
Institute for Economics and Peace (2016)	"The threatened <i>or actual use of illegal force and violence by a non-state actor to attain a political, economic, religious, or social goal through fear, coercion, or intimidation</i> "
Authors	Overt and or covert acts of violence by political and <b>religious groups that pursues a set of goals appropriate to the economic regions</b>

Fourth, terrorism is known by a negative effect on business and industries such as tourism (Abadie and Gardeazabal 2008).

The role of terrorism in the instability of global business environment is remarkable (like economic power reduction of European Union). Terrorism can affect all industries such as tourism, aviation and retail at global level and this impact is not a positive one in its nature (Sageman 2014). Researchers have mentioned several dimensions for the economic impacts of terrorism on businesses, including: losses in foreign direct investment (FDI), damaged infrastructure, output losses, security costs, reduced economic growth, reduced tourism, trade losses, and higher insurance premiums (Sageman 2014; Keefer and Loayza 2008). There is some evidence that developing countries are particularly prone to the economic ramifications of terrorism (Sandler and Enders 2008).

The dynamics of international business environment would be changed with rising levels of perceived or actual terrorist activities (Kalesar 2010). The main characteristics of business environment, especially at international level is uncertainty, which is related strongly to terrorism and terrorist activities. Uncertainty is defined as “lack of information about future events that their outcomes are unpredictable” (Tversky and Kahneman 1974).

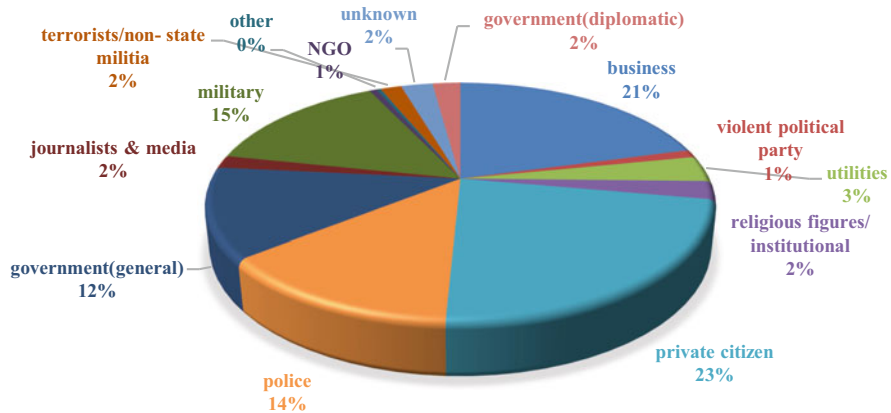
Uncertainty in the business environment can take place in the following areas:

- Customers’ demands for goods and services due to terrorism emergence tend to decline;
- The supply of required inputs, resources and services is reduced;
- Macroeconomic phenomena become more complex with emergence of terrorism;
- The nature of relations between the countries tend to be affected by terrorism (Suder 2004, p. 158).

Uncertainty is always present in the global environment. Businesses obviously prefer certainty to risk, and risk to uncertainty (Suder 2004, p. 222). According to the statement by the US Department of State in 2002, over 300 attacks have been conducted against businesses each year since 1996 (Suder 2004). Therefore, business sector is one of the main targets of terrorism. In 2001, international terrorists targeted 397 business facilities worldwide, while military or government facilities have been targeted in 35 events, as shown in Fig. 1, business sector with 21% of all terrorist attacks has been a desirable target since 2000.

There is some evidence indicating that why businesses are important targets for terrorism. In some cases, an attack to the certain firms, which operate in a variety of industries and countries can be a good strategy to attract the attention of the media, individuals, and specially governments. In addition, Sanjo and Marcus (2014), enumerate the following reasons of business desirability for terrorism as a target:

- Many firms are soft targets in a sense that it is impossible to prevent potential terrorists from coming near or even entering the premises.
- When firms are attacked, the production and economic process is disrupted. The firms directly or indirectly affected may be induced to relocate to other areas or



**Fig. 1** Terrorism targets from 1975 to 2015. Source: Knomea (2016)

countries. International firms are less likely to undertake direct foreign investments in that area.

- The economic situation within the affected country may worsen, leading to dissatisfaction and possibly even revolts, making it more likely that the proclaimed goals of terrorists become more acceptable and reasonable” (Sanjo and Marcus 2014).

Nedelescu and Johnston (2005), in their paper focused on the terrorism impact on financial markets. They point out that financial institutions can be involved in financial crime in three common types including: victim, perpetrator or instrumentality.

Abadie and Gardeazabal (2008), argued that an act of terrorism is a reasonable factor of GDP per capita and has negative impact on firms’ performance. Also Gaibulloev and Sandler (2008) in their paper titled “Growth consequences of terrorism in Western Europe” point out that inner terrorism mainly by increasing the government expenditures has a negative impact on growth but international terrorism impact is more significant.

Arin et al. (2008), in their study entitled “The price of terror: The effects of terrorism on stock market returns and volatility” conclude that terror has a significant impact on both stock markets, the stock market volatility studied countries including Indonesia, Israel, Spain, Thailand, Turkey, and UK. In addition, these effects are more important in emergent nations of the world. Their results, also indicate that financial investors in countries such UK and Spain are more resilient to terrorism.

Omay et al. (2013), in their study titled “The Effects of Terrorist Activities on Foreign Direct Investment: Nonlinear Evidence from Turkey” outline that terrorist impact on economic activities is great and significant.

**Table 2** Incidence of terrorism in selected MENA countries (2014–2015)

Country	2014 (Units)	2015 (Units)	Country	2014 (Units)	2015 (Units)
Afghanistan	2	2	Oman	124	124
Bahrain	34	31	Pakistan	3	4
Egypt	13	13	Palestine	–	–
Iran	28	39	Qatar	124	124
Iraq	1	1	Saudi Arabia	55	43
Israel	32	24	Syria	5	5
Jordan	70	85	Yemen	8	7
Kuwait	119	123	United Arab Emirates	100	101
Lebanon	14	21			

Sources: Institute for Economics & Peace (2015)

### 3 Terrorism and Business in MENA

World terrorism indicators show that the *Middle East and North Africa* remained a primary threat for acts of terrorism especially throughout 2015. During the year, the Islamic State of Iraq and the Levant (ISIL) continued to occupy large areas of Iraq and Syria while ISIL branches—particularly those in Libya, Saudi Arabia, and Yemen—persisted in fomenting sectarian strife and conducting attacks in the region. Al-Qaida (AQ) and its affiliates continued to seek and take advantage of opportunities to conduct attacks amidst the fragile political and security climate across the region, including in Yemen, Syria, Iraq, and North Africa (US Department of State 2016). As indicated in Table 2, since 2014, the most potential country in the MENA as well as in the world for terrorist attacks is Iraq followed by Afghanistan. Jordan, Kuwait, Oman, Qatar and United Arab Emirates are the countries that have been the lowest terrorist attacks during the last three years.

Like the rest of the world, businesses in the MENA with 14% of all terrorist attacks in the region has been a desirable target during the period of 1975–2015 (Fig. 2).

Now by identifying the most terror-ridden countries, business sector targets can be determined too. As can be seen in Fig. 3, the primarily terrorist attacks on businesses refer to those operating in the retail sector and these types of businesses have suffered serious damage from terrorist attacks (44% of total attacks on business). Then the business associated with oil and tourism industries (by 8 and 11% of total attacks on business) have the most damage.

Regardless of the overall cost of terrorism, different economic sectors are affected by terrorism in a variety of ways. By rising the public expenditures of governments due to terrorist attacks, private investments tend to decline (Fielding 2003). In addition, international trade and international capital flows can be reduced because of terrorist activities all over the world (Enders and Sandler 1996; Walkenhorst and



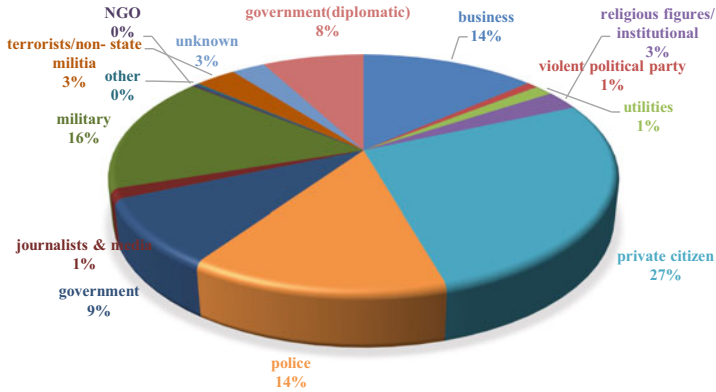


Fig. 2 MENA business share to terrorist targets from 1975 to 2015. Source: Knomea (2016)

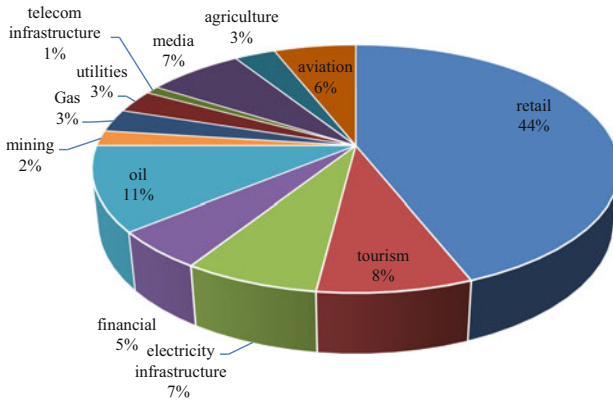


Fig. 3 Terrorist attacks on business. Source: Knomea (2016)

Dihel 2002; Nitsch and Schumacher 2004; Abadie and Gardeazabal 2008). Hence, in the next section, we focus on areas which can be affected by terrorism.

#### 4 Terrorism and Foreign Direct Investment

According to Quan Li (2006) due to effect of political instability and political risk on foreign direct investment (FDI), “intellectual puzzle” is one of the interesting issues which international business literature has exhibited (Li 2006). Terrorism around the world is a problem for foreign direct investment (Quan Li 2006; Evrensel and Kutan 2007; Abadie and Gardeazabal 2008; Rasheed and Tahir 2012). By increasing the likelihood of terrorist attacks, international investors may be reluctant to invest in areas with prevalence of terrorist activities (Rasheed and Tahir 2012).

**Table 3** Terrorism and FDI fluctuation

Author/s	Research	Main results
Enders et al. (2006)	The impact of transnational terrorism on U.S. foreign direct investment	Time series results show that September 11/2001 had little lasting influence on the location of these FDI flows except for Turkey. Panel estimation results show that these attacks have significant (but small) impact on the stock of U.S. FDI in the OECD countries
Li (2006)	Political violence and foreign direct investment	The results of analysis of FDI inflows data about 129 countries from 1976 to 1996 show that "Unanticipated civil war has a negative ex post effect on investment choices over location and magnitude, but anticipated civil war does not." Unanticipated interstate war decreases the chance of a country chosen as an investment location, but not the size of investment. Anticipated interstate war does not influence ex post investor choices over either location or magnitude"
Busse and Hefeker (2007)	Political risk, institutions and foreign direct investment	The results show that there are different conditions which affect the FDI inflows in developing countries including governments' stability, internal and external conflict, corruption and ethnic tensions, law and order, democratic accountability of government, and quality of bureaucracy
Shivani (2011)	The impact of terrorism on foreign direct investment: which sectors are more vulnerable?	There is a statistically negative correlation between terrorism and total FDI inflows in sectors such as manufacturing, trade, repair, and construction in developed countries
Bandyopadhyay et al. (2011)	Foreign direct investment, aid, and terrorism: an analysis of developing countries	Analyzing the relationship between the national and supranational terrorism and foreign direct investment (FDI) by focusing on 78 developing countries from 1984 to 2008 shows that both types of terrorism can adversely affect FDI

Several interesting studies have described the role of terrorism in fluctuation of foreign direct investment. Some of such publications are presented in Table 3.

It is clear that a terrorist attack could destroy infrastructures and cause disruptions in the business. Firms try to avoid costs to protect their facilities against terrorist attacks. These costs include the cost of securing institutional settings, inspection cost

and additional insurance cost (Abadie and Gardeazabal 2008). Because employees prefer to work in a safe place rather than places rife with terrorism, the cost of hiring increases. With the increase in the general level of uncertainty, foreign direct investment tends to cross to more secure environment. How and by which mechanism terrorism could affect the level of foreign direct investment? As an example, suppose that a US international business unit is planning to invest in India, because, India has a cheaper labor force and abundant natural resources. If India is an environment that is favorable to terrorist groups, there will be high probability of destroying equipment and losing capital. In fact, terrorism generates economic uncertainty which leads to capital outflow (Shivani 2011).

Abadie and Gandeazabal (2008) discuss terrorist actions and increased anxiety which involve sharing of investment between various countries. The globalization of world monetary structure becomes extra open during creative factor mobility (Abadie and Gandeazabal 2008).

Enders and Sandler works on relationship between terrorism and FDI known as initial qualitative studies about terrorism impact on foreign direct investment. Using time series (1970–1991) they have noted that act of terrorism in Spain and Greece had a negative impact on FDI (according to regression estimation about 13.5% in Spain and 11.9% in Greece). Furthermore, writers have mentioned that terrorism has had an effect on gross capital formation in both countries (736% in Spain and 34.8% in Greece) (Enders and Sandler 1996).

Kinyanjui (2014) has studied terrorism impact on foreign direct investment, in Kenya as a main country for foreign investment in East Africa (1960–1970). He believes that terrorism—especially terrorist attacks in a shopping center in 2013 that more than 60 people were killed—is the main factor to prevent FDI flow in Kenya. Kinyanjui, using multiple regression analysis, found that terrorism had a negative impact on foreign direct investment in Kenya (Kinyanjui 2014).

Table 4 shows that by worsening the countries' rank in World Terrorism Index, foreign direct investment tend to deteriorate as well.

## 5 Terrorism Impact on Tourism Industry

The second parameter in our analysis is the impact of terrorism on tourism. Why tourism and its affiliated businesses can be a favorable target for terrorists? According to the World Tourism Organization, in the last decade, tourism has showed increasing growth and deepening diversification to become one of the fastest growing economic sectors in the world and its dynamism has made the industry a

**Table 4** MENA countries's rank in terrorism and FDI

Country	Terrorism rank	FDI
Djibouti	66	1
Lebanon	21	2
Israel	24	3
Jordan	85	4
Morocco	91	5
United Arab Emirates	101	6
Tunisia	46	7
Egypt, Arab Rep.	13	8
Iraq	1	9
Saudi Arabia	43	10
Qatar	148	11
Kuwait	123	12
Yemen, Rep.	7	13
Algeria	33	14
Oman	124	15
Bahrain	31	16

Sources: World Bank (2015), Institute for Economics and Peace (2015)

key player in economic growth.<sup>1</sup> Creating 8.3% of jobs (one in every 12 jobs) as well as 30% of service exports across the world is a new record for tourism industry (WTO 2013). Accordingly, tourism industry needs security, integrated safety as well as intercultural dialogue potential among individuals and groups (Al-Hamarneh and Steiner 2004). Hence, terrorism impact on tourism and its services such as airlines, considered customers as the most vulnerable targets, is the focus of attention and there is an agreement on its negative consequences (Aly and Strazicich 2000; Fleischer and Pizam 2002; Arana and Leon 2008). Therefore, it is worth mentioning that tourism is an industry where it's both demand and supply sides can be affected by act of violence (Arana and Leon 2008). Many researchers believe that the absence of violence is a generally accepted pre-condition for the development of tourism destinations (Israeli and Reichel 2003; Arana and Leon 2008; Sonmez and Tarlow 1999). The economic impact of terrorism, as a contemporary issue in international affairs, is strikingly apparent (Pizam and Smith 2000).

Some studies show that frequency of the terrorist attacks in one place has negative correlations with tourism and tourist demands for tourism-related goods and services (Fleischer and Pizam 2002; Krakover 2005; Arana and Leon 2008; Pizam 2016). There are many reasons for this question that why tourism is a good target for terrorist groups? According to the Wahab (1996) and Tarlow (2005), tourism is a good target for terrorist attacks, because the extremist groups *believe* that tourism destroys their social values and religious beliefs and, then, immoral norms will be

<sup>1</sup><http://www2.unwto.org/content/why-tourism>.

common in their society (Baker 2014). One of the main attacks, with this kind of beliefs has been made in Egypt in 1997 where gunmen killed 71 tourists.

Drakos and Kutan (2003) estimated terrorism impact on tourism attraction in Turkey, Palestine and Greece. They have used monthly data and showed that Greece has lost its capacity for tourism attraction with more than 9%, because of terrorist acts. This index is 1 and 5%, respectively, for Palestine and Turkey.

Terrorism is not limited to underdeveloped countries; In fact, there is compelling evidence from emergent and developed countries that shows negative effects of terrorism on their tourism industry. Enders et al. (1992) used a transfer function to investigate the impact of international terrorism on Austria, Spain and Italy from 1974 to 1988. Their estimation results show that terrorism has a negative impact on tourism sector. Their results suggest that the impact of terrorism on tourism is different in each country. In some countries, like Turkey, terrorism has more destructive effect on their tourism (Enders et al. 1992).

Table 5 summarizes the empirical studies depicting the impact of terrorism on tourism industry.

## 6 Terrorism and Tourism in MENA

Middle East and North Africa known as a region with vast resources including natural, historical and cultural, and because of such resource availability due to its mentioned resources attract tourists from all across the globe (Al-Hamarneh and Steiner 2004; Kalesar 2010). But in recent years especially in this region, terrorism has negative effect on the capability of countries to attract foreign visitors. For instance, Lebanon is one of the MENA countries with pleasant natural attractions, strong tradition and cultural norms as well as relatively good financial trade markets, which has made Lebanon a favorable place for internal and external visitors (Neto et al. 2010). The International Monetary Fund (IMF) shows that terrorism has affected both tourist and economic sectors of Lebanon since there was no more income from tourism services (Neto et al. 2010). As indicated in Fig. 4; the share of tourism in Middle East terrorist attacks was 7% during the period of 1975–2015.

In addition, as we have shown in Fig. 5, the top three countries tourism that are affected by terrorism are Egypt, Yemen and Israel.

## 7 Terrorism and Doing Business

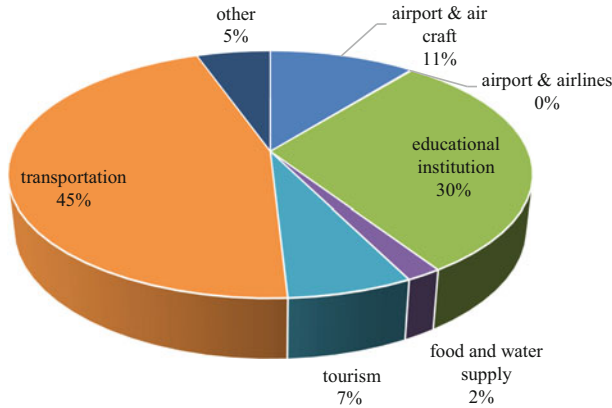
Terrorism can destroy all economic infrastructures and lead not to doing easily business. We, especially focus on the four indicators of doing business in MENA countries as follow:

**Table 5** Empirical studies about the impact of terrorism on tourism industry

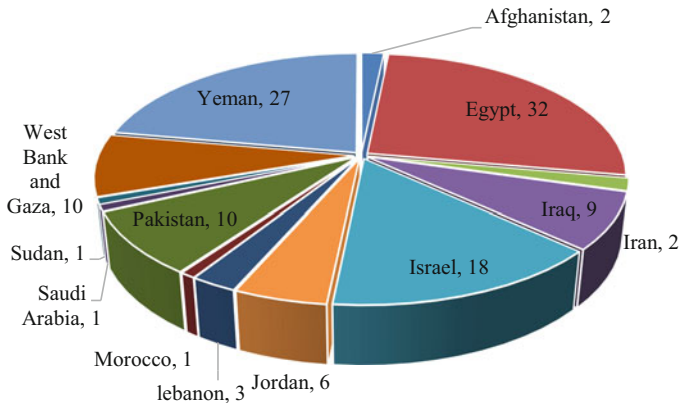
Author/s	Research	Main results
Enders and Sandler (1991)	Causality between transnational terrorism and tourism: the case of Spain	Terrorism has negative impact on Spain tourist industry Spain—1970–1988
Enders et al. (1992)	An econometric analysis of the impact of terrorism on tourism	Greece, Spain and Austria tourism revenues had severe losses due to terrorist attacks-during the period of 1974–1988
Seddighi et al. (2001)	Does cultural background of tourists influence the destination choice? An empirical study with special reference to political instability	Travel agents have different perceptions about the impact of various types of political instability on the tourism industry in Germany, UK, France, Italy, Netherlands, and Switzerland, But there is a comprehensive agreement that political instability leads to the decline or disappearance of tourist arrivals in some tourist destinations
Fleischer and Buccola (2002)	War, terror, and tourism market in Israel	Foreign visitors are sensitive to terrorist attacks but this is not true for internal visitors
Vivero (2008)	Terrorism and international tourism: new evidence	Terrorism like bad advertisement can reduce countries attractiveness for tourists. This tourist's sensitivity in developing countries is greater
Paraskevas and Arendell (2007)	The effects of terrorism on the travel and tourism industry	Terrorism can have enormous impacts on travel and tourism industry. Hence, the Destination Management Organizations should play an active role in the co-ordination of individual tourists and group tourists in addressing the threat of terrorism
Baker (2014)	The effects of terrorism on the travel and tourism industry	Decades of lawlessness and corruption in the regions such as Middle East made terrorist groups fill the power vacuum in the region of MENA and some other countries, which continue to turn out an alarming number of motivated terrorists. Terrorism can lead to disadvantages in countries all over the world including unemployment, homelessness and etc.

### 1. Starting a Business

Terrorism can lead to increasing the cost of doing business; “higher insurance premiums, expensive security precautions, and larger salaries to at-risk employees” are some of the rising cost of doing business with terrorism (Keefer and Loayza



**Fig. 4** Tourism share in MENAs terrorist target during the period of 1975–2015. Source: Knomea (2016)



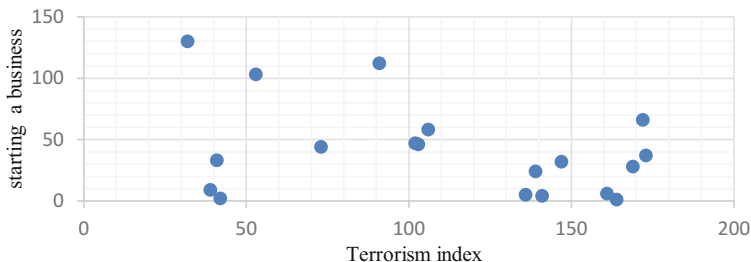
**Fig. 5** Tourism target distribution in MENA countries during the period of 1970–2015. Source: Knomea (2016)

2008). Promoting distrust by terrorist attacks lead to increasing the cost of running a business. In addition, business plans tend to be useless because of the unpredictability of the terrorist activities (Sanjo and Marcus 2014).

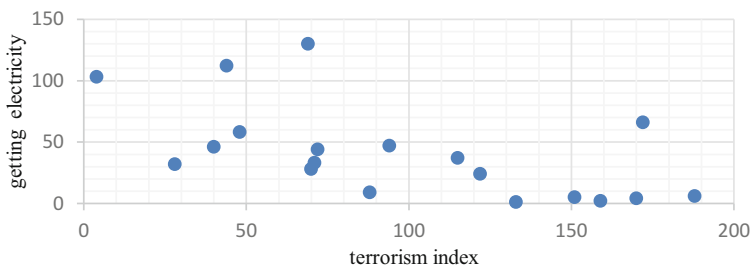
As indicated in Fig. 6 there is a negative relationship between MENA countries situation in starting a business and their terrorism index for 2016. This means that by increasing the level of insecurity due to terrorism in each country, its position in starting a business tend to get worse.

**2. Infrastructures (supplying electricity)**

Terrorism can impose costs on a targeted country in a variety of ways, which one of them can be traced in *infrastructure sabotage*. According to Sandler and Enders (2008), *infrastructure sabotage* can be consider as a direct cost of terrorism on



**Fig. 6** The relationship between starting a business and terrorism in MENA



**Fig. 7** The relationship between electric power supply and terrorism in MENA

economy (Keefer and Loayza 2008). One of the most important areas in relation to business and infrastructures which is reported every year by the World Bank, is supplying electricity. Empirical studies suggest that terrorist attacks can sabotage the electric power grid, which may have different implications for businesses segment. At the most fundamental level, “this involves destroying a power plant, which reduces the supply of electricity” (Rose et al. 2007).

As indicated in Fig. 7 there is a negative relationship between power supply and terrorism for the year 2016. This means that by increasing the level of insecurity due to terrorism in each country, its position in infrastructures (in this case, getting electricity) tends to worsen.

### 3. Paying Taxes

Armed conflict as well as terrorism can lead to “disrupting economic activities, eroding the tax base, lowering the efficiency of tax administration, and distorting the composition of public spending”. In other word, some economic instability, which originated from violence, is a reason for tax administration deviation (Gupta et al. 2004).

Figure 8 shows the negative relationship between MENA countries situation in paying taxes and their terrorism index for the year 2016. This means that by an increase in the level of insecurity due to terrorism in each country, its rank in paying taxes tends to worsen.



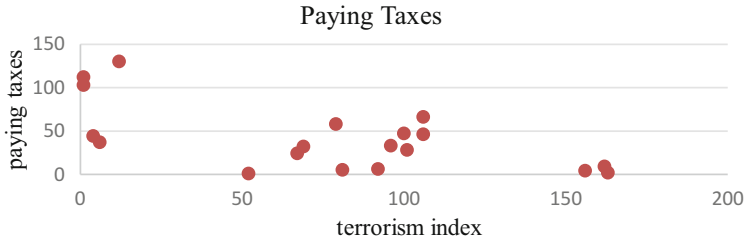


Fig. 8 The relationship between paying taxes and terrorism in MENA

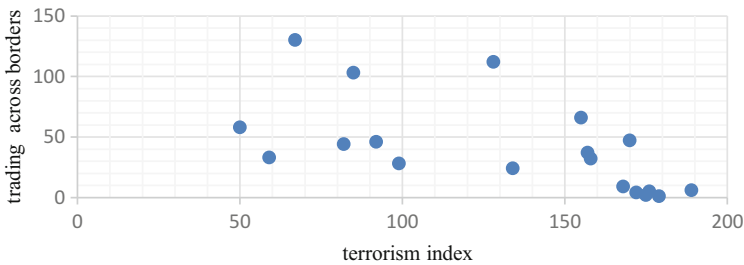


Fig. 9 The relationship between trading across borders and terrorism in MENA

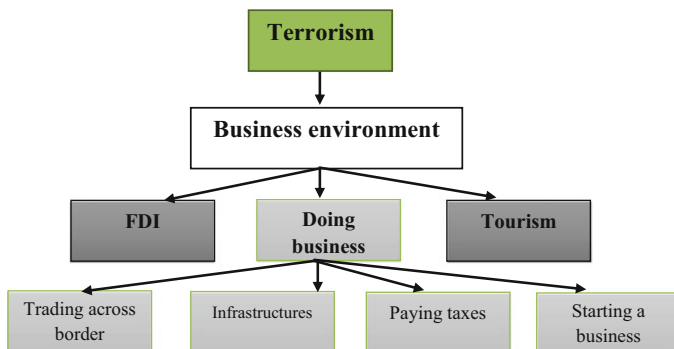
**4. Trading Across Borders**

Several empirical studies suggest that the impact of terrorism on trade over the time and places can be varying, but there are two types of actions which can imply additional cost for cross border trade including violence and warfare (Nitsch and Schumacher 2004).

Nitsch and Schumacher believe that negative association between terrorist and the volume of trade can be stated at least in three ways:

1. The level of insecurity rises by terrorism and thereby the costs of doing business tend to increase. In other words, terrorism leads to raising the costs of trade.
2. Increase in security measures and raising the level of security regulations are typical responses to an increase in terrorist activities. Such mechanisms have clear results which end up in more expensive trade.
3. The risk of a direct sabotaging of traded goods in places highly prone to terrorist attacks tends to increase. In fact, terrorists can “target a country’s trade when it appears to be particularly vulnerable to the sabotaging of industry supply chains or to the destruction of particular transport modes” (Nitsch and Schumacher 2004).

As indicated in Fig. 9, there is a negative relationship between MENA countries trading across their borders and their terrorism index for the year 2016. This means



**Fig. 10** The relationship between terrorism and business environment in MENA

that by an increase in the level of insecurity due to terrorism in each country, its position in cross borders trading tends to worsen.

## 8 Conclusion

Business environment insecurity due to terrorism has become a key issue for discussions in the twenty-first century. **Terrorist activities are meant to disrupt governments, markets and businesses.** In this study, we have focused on MENA as the most threatened region. We have analyzed economic causes of terrorism and its relationship with business environment in MENA countries. The consequences of terrorism on business environment should be addressed from several perspectives including direct and indirect, micro and macro, immediate, long term and short-term aspects.

In this article, we have tried to focus on theoretical framework and empirical studies on the causes and economic consequences of terrorism especially in MENA countries. Based on the literature and data, we can conclude that terrorism is a serious threat to MENA business environment. Data analysis shows that there is a negative relationship between terrorism and business environment in MENA countries, as follow (Fig. 10):

Therefore:

1. Terrorism leads to decrease in FDI, because of a dim prospect.
2. Absence of violence is a pre-condition of tourism development.
3. Terrorism increases the cost of doing business, as follows:
  - Terrorism prevents the starting of a new business.
  - Terrorism destroys infrastructures, especially electric power supply.
  - Terrorism increases cost of trading between countries.

- Terrorism imposes new taxes on businesses being affected by its disruptive position.

All MENA countries suffer economic slump, because of terrorism impacts on FDI, tourism and doing business. The secure business environment necessitates economic stability far from any acts of violence.

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# Social Entrepreneurship Strategies by the Middle Eastern Governments: A Review



Amir Forouharfar

*We can't solve problems  
by using the same kind of  
thinking we used when  
we created them.  
Albert Einstein*

**Abstract** Middle East as one of the most socially, politically and culturally vulnerable parts of the world is in an unprecedented turmoil, at least from the Second World War onward. Although there are plenty praiseworthy and socially entrepreneurial examples in some of the countries of the region, the flagrant and bare facts in this mostly war and drought stricken zone of the world with its numerous potentially smoldering social problems drove the middle eastern governments not to have a passive role but to dynamically choose strategic visions and missions and actively pave the way towards choosing social entrepreneurship strategies. This paper tries to provide an overview of the governmental SE strategies in the middle eastern countries; therefore, it is a review paper and relies mostly on secondary data, facts and figures which are issued by the authentic governmental agencies of these countries, the non-governmental operational SEOs, the *UN*, *UNDP*, *UNHCR*, *UNESCO*, *GEM*, *ECOSOC*, *World Economic Forum*, *the World Bank*, etc. Finally, the social entrepreneurship strategic views of each government in the Middle East are classified and a strategic model for social entrepreneurship strategy formulation in the public sector is proposed.

**Keywords** Social Entrepreneurship (SE) · Middle East (ME) · Governmental strategy

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## 1 Introduction

Scholars believe that social entrepreneurs are the change makers of their societies (Drayton 2002; Dees et al. 2001; Adetu 2014). They make social values through their perceptions and observations of the problems at first and then through their daring actions. They put into practice the vision and dream which they have for their surrounding community or society. Could the governments be the social entrepreneurs of their societies? ME, consists of Arab (Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, Syria, the UAE and Yemen) and non-Arab states (Iran, Israel and Turkey)<sup>1</sup> and the core geographical part embraces from Egypt, the countries of the fertile crescent and the Persian Gulf states (Wilson 2002) with their idiosyncrasies and their relevant social problems.<sup>2</sup> These problems cover a very vast arena from cultural and ethnic discrepancies and clashes to overwhelming and increasing war-stricken immigrants at the threshold of several ME countries' borders. *The Arab Spring* with its devastating economic consequences for the economic stability and indices, led to unprecedented unemployment rate for the youth (TIMUN 2013); a region that before that even had an incredibly large number of unemployed youth, or as Abdou et al. (2010) called it "youth bulge", and believed that such a youth bulge in the region had increased an unprecedented pressure on the natural resources, labor market, health care, education systems, social structures, and infrastructures of the countries, and considered the change of the "development frameworks in ME" necessary and vital. These facts force the governments of the region to be inevitably social entrepreneurs at least at the level of strategy settings.

What strategies are formulated to answer the vast and mostly complicated social problems of the region? And what SE strategies are at the moment in application by the governments of ME? Additionally, SE is usually discussed on the theoretical level and it did not get involved with the strategic perspective of the phenomenon; especially, on the governmental scale and exclusively for the ME governments. This research tries to fill this gap and answer to the abovementioned questions. Therefore; first, based on the released data by the reliable national and international agencies, programs and councils (such as SEOs, the UN, UNDP, UNHCR, UNESCO, GEM, ECOSOC, World Economic Forum, World Bank, etc.) it presents a review of the facts on the ME ground and then by reliance on the data, facts and figures classifies the governmentally enforced SE strategies in ME according to a four-directional diagram on the degree of *internationalism*, *internalism*, *volunteerism* and *governmentalism* of the strategies.

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<sup>1</sup>Although this classification is very general, it does not neglect the reality that many ethnic groups and religions constitute ME (e.g. some of the ethnic groups consist of Arabs, Persians, Turks, Kurds, Azeris, Armenians, Assyrians, Jews, etc.).

<sup>2</sup>For instance, the Human Development Index (HDI) of Arab countries which is reported in UNDP (Human Development Report 2007/2008) "is 0.699, lower than that of Mean Income countries which was 0.776 in 2005" (Housseini 2009).

It should not be neglected that some of the countries of the region are presently involved in civil war and in reality has no hard and fast social entrepreneurship strategies, since they have their own priorities. This issue intensifies the duties of their neighboring countries to fill the gap to be as helpful as possible to bring back peace and relief to the suffering people of the region. Hence, the governments could define their SE strategies as cooperative, competitive, co-optative,<sup>3</sup> defensive, proactive, aggressive or a combined one. To answer the questions raised by this research; as it was mentioned, the research basically relies on secondary data and intends to review the existing and operational SE strategies. The importance of such a research is its pioneering intention in defining the existing SE strategies in ME that not only presents but also classifies them as a step in better understanding of the strategic and operational aspects of the phenomenon in the region. Another potential contribution of the study is its reflective approach, in other words it tried to reflect the ME governments' status in pursuing SE by reliance on their own and international data, as much as and where it was possible. Moreover, for the first time in SE studies, a model for the process of SE strategy formulation at the governmental level is proposed at the end of the paper.

Finally, SE is not only worthy of attention on the strategic viewpoint of the ME countries, but also is one of the strategic engagements of the non-ME governments such as the U.S. government, via SE policies and strategies, in the region<sup>4</sup> that inherently intensifies the importance of the phenomenon under research.

## 2 Literature Review

The 1970s was the matrix of SE to answer the social problems sustainably (Ebrashi 2013), although Bornstein and Davis (2010, p. 2) believe that SE had always been present under such names as philanthropists, saints, reformists, great leaders. SE phrase for the first time was introduced into management literature by Banks (1972) in his book *The Sociology of Social Movements*, and emphasized the necessity of applying managerial skills in providing solutions to social problems and business challenges simultaneously. SE was born in practice by the establishment of *Ashoka*,

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<sup>3</sup>Co-optative strategy is a manipulative strategy for the implementation of intended change by “giving resisters a lead role in the change process [that] can trigger compliance and support” (Higuera 2017); based on *Merriam-Webster’s Dictionary*, the etymology of the word *co-opt* explains the origin of the word from Latin *cooptare*, means to choose, and defines one of the shades of meaning as “to take into a group (as a faction, movement, or culture)”. In respect to SE strategies of the governments, the usage of the word by the author intends to explain the situation that governments intelligently employ some of the residents of the community who resist to the benevolent change, to be able to eradicate their resistance and to promote the change by their cooperation as facilitators to the change (Author).

<sup>4</sup>*The Presidential Summit on Entrepreneurship*, held in [Washington, DC](#), on Monday April 26, and Tuesday, April 27, 2010, at the [Ronald Reagan Building](#) (Wikipedia).



as the first supporting organization for SE in the 1980s (Nieva 2015). On the other hand, “social innovation” was coined by Drucker (1985) in explaining the need to apply the operational concepts of management in not-for-profit organizations to enhance efficiency and effectiveness in the production of social products. From the early 2000 up to now SE has undergone a metamorphosis into a set of significant actions and discourses for social activists, politicians, academicians, and media (The Economist 2005a, b, c, 2006a, b, c, d, 2007a, b, 2009, 2015). Also, the number of social entrepreneurs, the same as its impact has had a rising trend (Bornstein 2004; Drayton 2002; Harding 2004; Nicholls and Young 2008). In spite of SE significance in practice, this orientation of entrepreneurship still suffers from insufficient theorizing by SE scholars (Dees and Anderson 2006; Mair and Marti 2006; Nicholls 2009a; Nyssens 2006); others believe it is “under-theorized” (Dacin et al. 2011). Such shortage of theories makes SE definition hard, but it could approximately be defined as any innovative activity by people, organizations and networks to increase the power or to change the present arrangements of the institutions for compensating the shortage in supply or unequal distribution of social and environmental products (Dees 1994, 1998a, b; Light 2008; Nicholls 2008). Hence, SE is active at two levels: micro-level and macro-level. According to Nicholls (2009b) macro to micro levels of SE cover a vast spectrum such as a macro interference to fill the gaps in “institutional voids” (e.g. what *Grameen Bank* and *BRAC* have done) or micro technical solutions to local markets (e.g. *Kickstart*’s marketing of low-priced water pumps in East Africa). He believes that social entrepreneurs can recognize unproductive or “sub-optimal” organizational activities and structures which potentially could lead to social and environmental problems. In a big picture, SE is able to act as a social movement and a strong drive behind “societal cognitive frames” which are in “sub-optimal” (or below satisfactory) conditions and makes a favorable change by generating innovation on “macro-political level” (Zald 2000; Zald and Davis 2005). Moreover, SE should be based on “bricolage”,<sup>5</sup> the use of available resources and facilities in a new combination and reformation, to lead to change (Mair and Marti 2006; Nicholls and Cho 2006).

SE in the public sector is on a macro level. Governments have regulatory and policy-making roles and they could have a facilitating role for SE, as well. In other words, they pave the way for the not-for-profits, NGOs, social enterprises, benevolent entrepreneurs, etc. to play in the playground field which is beaten and prepared by the governments. Therefore, two types of strategies could be seen in SE. One type is the macro-strategies which are applied by the governments and the other are the micro-strategies used by the operational social entrepreneurs. Additionally, SE has a holistic view in strategy formulation; in other words, SE organizations consider the target population as customers, stakeholders and partners simultaneously (Krlev

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<sup>5</sup>A term coined by *Claude Lévi-Strauss*, French social anthropologist. *Merriam-Webster’s Dictionary* quotes the famous *Lévi-Strauss*’s sentence that the artist “shapes the beautiful and useful out of the dump heap of human life” and then he makes an analogy between the action of an artist and a handyman in using the available materials to solve the technical problems.

2012). For instance, the customers of *Grameen Bank* are their stockholders too (Yunus and Weber 2007) or *Sekem*, an SEO which is active in organic agriculture in Egypt, started its activity in the organic agriculture and then continued with fair trade and later got involved in making kindergarten and school for the target population (Seelos and Mair 2009, p. 238). One of the approaches that could be chosen by strategic SE is “grass-roots approach”, In this approach and through the scaling process the connection of the “prototype” SE establishment should not be disconnected with the future social enterprises (Krlev 2012) and the community members will have an active role in the formation and implementation of the projects, therefore it is a bottom-up approach and works by networking among the community. Moreover, one of the aspects which provides flexibility in the SE strategy formulation is the broad spectrum of SEO’s structures. The *Global Entrepreneurship Monitor* (2009) included a comprehensive section on SE. The report (Bosma and Levie 2010: 45) showed that SE can take different organizational forms from “not-for-profit SE”, which is distinguished from traditional nonprofits,<sup>6</sup> over “hybrid SE” to “for-profit SE”. It is noteworthy that *GEM* (2009) mentioned an overlap between reported “traditional” entrepreneurship activities observed for some years and the new SE activities. It reveals that some entrepreneurs who were previously classified as “traditional”; in reality, provided SE services (Bosma and Levie 2010: 45).

SE has accentuated the importance of scaling and replication strategies (Bloom and Smith 2010; Tracey and Jarvis 2007). Concerning the governmental SE strategies, in a wide sense the governments employ one or a bundling of the following main SE strategies and simultaneously they can be aggressive, defensive, proactive, cooperative, competitive, or co-optative in dealing with SE.

## 2.1 Scaling Strategy

Dees (2008) defines “scaling” as the increasing of impact to be as adaptable as possible with the magnitude of the social problem. Therefore, the concept of “scaling” in social enterprises is not equal to the concept of “growth” in the commercial ones (Volkman et al. 2012), since the former emphasizes the increasing of social impact and the latter on the economic success such as the increase in the value of company’s stock (Uvin 2000). Even, social entrepreneurs’ capability in scaling up their approaches is one of the criteria for the funding organizations or sometimes scaling up is the only “obligation” of the lenders in SE, to get assured that more people will receive the services and on the other hand, the social impact will be more enormous (Ahlert et al. 2008).

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<sup>6</sup>The study applies the term “NGO”.

## **2.2 Replication Strategy**

“Replication” in SE is the spreading of the SE approach among the other SE enterprises and add to the geographical service provision (Volkman et al. 2012). In other words, it is a physical expansion of SE.

After choosing one of the abovementioned main strategies, the social entrepreneurs or SE promoters should choose one or some of the following strategies (Volkman et al. 2012) and modify them to be as customized as possible according to the nature of social problems and their settings such as their severity (is the problem on a critical, moderate or embryonic phases?) and the geographical features of the target community.

## **2.3 Dissemination Strategy**

The spreading of SE idiosyncrasies and features is possibly the simplest SE strategy (Dees et al. 2002, p. 246). In this strategy social entrepreneur or its promoter as a government, disseminates positive word of mouth about its/his SE and its results. Therefore, the promoter of SE would act as a “role model” and a catalyst for the other social entrepreneurs in that field. By dissemination more people will have the opportunity to apply the innovation of SE. Volkman et al. (2012) provide the example of a Japanese farmer (Takao Furuno) in the 1970’s who made a great organic move in obliterating the pests in his rice farm by using ducks instead of pesticides and explained and disseminated his SE in a book entitled “*The Power of Duck: Integrated Rice and Duck Farming.*” Today at least 75,000 people apply Furuno’s organic method in exterminating the pests in Asia and it is called “*Duck Revolution*”.

## **2.4 Affiliation Strategies**

In these strategies the parent company cooperates with two or more companies for a long time in implementing its strategies on the local scale and in their communities. The affiliation strategy could be classified and shaped through one of the following strategies:

### **2.4.1 Joint Venture Strategy**

In this strategy, which is adapted from the world of trade, the partners share their “Know-How” and “Intangible Resources”. The strong points of the partners will be accumulated, and the risk will be distributed (Volkman et al. 2012).

### 2.4.2 Licensing Strategy

Here, the license holder uses the social entrepreneur's SE brand, procedure, example, etc. Manton (2005) defines this strategy as the renting of an "intangible asset" by a contract between the owner of a brand and the individual or the business which wants to apply the brand "for an agreed period of time" within "an agreed territory". The SEO applies this strategy when it feels that the brand has an attractive and popular image among the customers. One of the main differences between the Licensing and the Franchising is that in comparison there are fewer obligations on the licensee (Mavra 2011). The *Intellectual Property (IP)*, brand, design, business process, etc. which is licensed is "non-exclusive"; it means, it could be sold to multiple organizations, besides the licensor has the control over its *IP* but not the licensee organization's operations (Diffen website).

### 2.4.3 Social Franchise Strategy

In this strategy the SE franchisor and franchisee make a joint cooperation based on a contract, and the franchisor has more control over the operation of the franchisee in comparison to the Licensing case. "Dialogue in the Dark" is the name of an exhibition based on this SE strategy. Blind people guide the visitors and help them to grasp the feelings and how the blind make their own imaginary world and environment. This exhibition was opened in 1988, covered 30 countries in 160 galleries through Asia, America and Europe. Moreover, it has generated 6000 job opportunities for the blind or partially-blind by employing them (Schwab Foundation for Social Entrepreneurs, 2011). Another example, is the *Ashoka* strategy in choosing and selecting *Ashoka Fellows*. Based on official website of *Ashoka*, "The network of more than 3000 *Ashoka Fellows* is implementing system-changing solutions to human and environmental problems in 93 countries."<sup>7</sup> If the franchisors like McDonald's make chain stores by this strategy, SEOs like *Ashoka* publicize, replicate and upscale their strategic goals for SE through *Social Franchise Strategy*. Here, the *Fellows* act as the chain stores of the SEO for the benevolent means and ends.

### 2.4.4 Branching Strategy

In this strategy the operational activities will be done at the branch level and all the branches make a single corporation. This strategy makes centralized coordination and local responsiveness possible, although it needs abundance of resources on the side of SE promoter. If SE success demands obeying programmed processes and quality standards, this strategy can be a good choice (Dees et al. 2004). A good

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<sup>7</sup><https://www.ashoka.org/en/about-ashoka>

example of this strategy is *Grameen Bank* (Volkman et al. 2012) such strategy not only facilitated customers' accessibility to the bank but also made conformity in pursuing quality standards possible.

On the other hand, governments as the promoters of SE could employ the strategies of commercial companies such as:

## **2.5 Price-Differentiation Strategy**

To provide SE services with different prices for different communities and geographical regions based on number of poverty-stricken, low-income and needy people.

## **2.6 Cross-Subsidization Strategy**

A good example on the micro level is *Aravind Eye Clinic* in India. In this clinic 40% of affluent customers cover the treatment of other poverty-stricken ones (Volkman et al. 2012). Therefore; such strategy has helped the aforementioned clinic to decrease curable blindness in its community and the clinic that had started with just 11 beds in 1976 to have 4000 beds in 2016 (Aravind website).

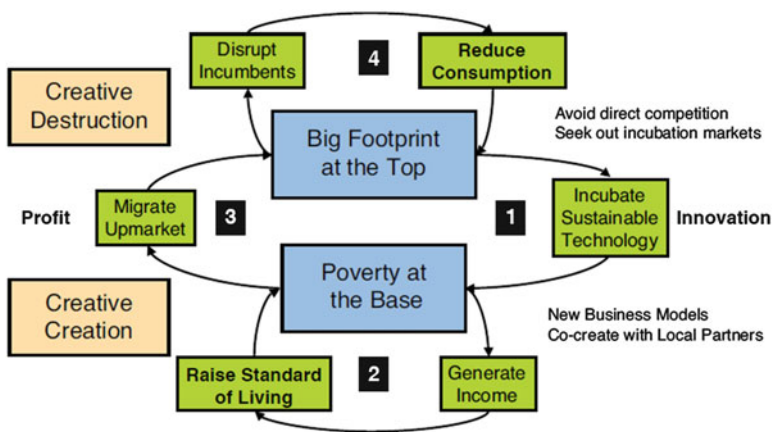
## **2.7 Microcredit or Microfinance Strategy**

One of the financing strategies in SE is the microfinance strategy. This strategy works especially for very poor or those without any deposit. Grieco (2015) believes that microfinancing is shaped in order to help very poor people to get rid of their poverty. A good example for this strategy is the *Grameen Bank* strategy which was mentioned previously when discussing about "institutional voids". The founder of this bank is *Muhammad Yunus* who established the bank in 1983 for those who could not get the services of commercial banks. In 2003, this bank has had 5.8 borrowers, that 95% were women. These borrowers are the owners of the bank who loan other customers half a million U.S. dollars through an average loans of U.S. \$ 120 (Yunus 2003). By 2015, it has had 8.81 million borrowers, 97% of whom were women, with 2568 branches; *GB* now provides services in 81,392 villages, covering more than 97% of the total villages in Bangladesh and up to the end of 2016 disbursed collateral-free loan of 18 billion dollars to approximately 9 million borrowers (Grameen Bank website).

### 2.8 Bottom or Base-of-the-Pyramid (BoP) Strategy

On April 7, 1932 U.S. president *Franklin D. Roosevelt* for the first time in his speech used the phrase “bottom of the pyramid” to refer to “the forgotten man at the bottom of the economic pyramid” (Forbes 2016). The *BoP* strategies are formulated to be responsive to the low-income people. Prahalad in the preface to London and Hart’s book, *Next Generation Business Strategies for the Base of the Pyramid*, defines “base of the pyramid” as 4 billion people who are living with 2 dollars a day. He came to this number based on the statistics of the *World Resources Institute (WRI)* and *International Finance Corporation (IFC)* (Allen et al. 2007). The population of the earth is divided into three segments and the third segment near to the base is called “base of the pyramid”. Hart defines this segment as “it is the population of the world that is generally excluded from the current system of global capitalism” London and Hart (2011). Some scholars and ventures have seen this segment as a market. From SE perspective “poverty alleviation” is the goal of these strategies, although London and Hart (2011) believe there is an “interest in the *BoP* as a market segment, business strategy, and poverty alleviation approach”.

One of the formulated *BoP* strategies is the “*Green Leap*”. It works based on what Hart calls “*Entrepreneurial Judo*”, in other words, it “uses the opponents’ weight and momentum against them” (London and Hart 2011). Hart defines *Green Leap* in four steps: (1) it avoids early confrontation with the top of the pyramid, (2) generates money from green-techs and serve and elevate the standard of the living of the poor, (3) some of the created green-techs which are low-cost, are pushed upward to the top of the pyramid, (4) the migrated green-techs to the top became competitive, effective and reliable and could stay dominant (London and Hart 2011). *Green leap* is summarized in Fig. 1.



**Fig. 1** Green leap strategic steps as “Entrepreneurial Judo” (Source: London and Hart 2011) (Printed with permission)

Abdou et al. (2010) believe that recently there has been a growing involvement in “strategic social partnerships with social enterprises, NGOs and governments,” in ME and most of the social enterprises with the governmental support enters BoP markets such as *Environmental Quality International (EQI)* and *Orascom* in Egypt. In the other MENA countries such as Morocco, the government and *LYDEC* invested approximately U.S. \$310 to provide the “shantytown residents of Casablanca” with utilities such as water, electricity, and sanitation services (Hatem 2007).

## 2.9 Banking System in ME to Finance SE

Banking system in MENA is generally considerable and is measured based on “bank deposits and credits to GDP” (Tadesse 2009). This situation is not necessarily equal to the “financial access for the firms and individuals” and there should be great improvements in microfinance, housing finance, and SME finance (ECOSOC 2015a). Some institutions such as *Grameen-Jameel Microfinance Ltd.* are active in MENA and they could be a great help to social entrepreneurs. For example the above microfinance institute, up to 2013, has lent U.S. \$ 65 million to 2.2 million clients in MENA.<sup>8</sup> The other characteristic of the banking system in the countries of the region which includes ME countries too is the “undiversified” financial systems because of lack of “non-banking financial institutions” (Thorat 2006). This situation could potentially affect SEOs, too. Moreover, most of the countries of the region have deficient financial infrastructures, in other words deficient credit bureaus, collateral regimes, registries, etc. (ECOSOC 2015a) Therefore, the social entrepreneurs of the region heavily depend on their families for financing their SE initiatives (GEM, 2015). It shows the failure and inability of the governmental and non-governmental financial institutions of MENA, and accordingly ME in pursuing funding SE initiatives. On the other hand “predominance of the state” made a lag in financial development (Weeks 2009).

## 2.10 Global Competitiveness and SE

The trend towards SE in some ME countries in some aspects is satisfactory. The attempt for reskilling or upskilling the youth in the region to acquire better job opportunities is under practice. Based on the *World Economic Forum's Report 2015–2016*, the *New Vision for Arab Employment* could convince the companies of the region to “reskill or upskill more than 100,000 youth”. Moreover, this report in a section on MENA accentuates that by considering the realities of the region such as reduction in oil prices and humanitarian crises, SE had been more successful when

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<sup>8</sup><http://grameen-jameel.com/entrepreneurship-in-the-middle-east/>

**Table 1** The ME countries with the highest ranks based on 9 successive yearly periods according to Global Competitiveness Report (GCR)<sup>a</sup>

Countries	Period	Respective rankings	No. of ME countries in the 30 highest rankings
UAE, Qatar, Israel, Saudi Arabia	2016–2017	16, 18, 24, 29	4
Qatar, UAE, Saudi Arabia, Israel	2015–2016	14, 17, 25, 27	4
UAE, Qatar, Saudi Arabia, Israel	2014–2015	12, 16, 24, 27	4
Qatar, UAE, Saudi Arabia, Israel	2013–2014	13, 19, 20, 27	4
Qatar, Saudi Arabia, UAE, Israel	2012–2013	11, 18, 24, 26	4
Qatar, Saudi Arabia, Israel, UAE	2011–2012	14, 17, 22, 27	4
Qatar, Saudi Arabia, Israel, UAE	2010–2011	17, 21, 24, 25	4
Qatar, UAE, Israel, Saudi Arabia	2009–2010	22, 23, 27, 28	4
Israel, Qatar, Saudi Arabia	2008–2009	23, 26, 27	3

(Sources: Global Competitiveness Reports [2008–2009](#), [2009–2010](#), [2010–2011](#), [2011–2012](#), [2012–2013](#), [2013–2014](#), [2014–2015](#), [2015–2016](#), [2016–2017](#))

<sup>a</sup>Note: The scores are shown in ascending order by the author based on the cited sources.

private sector has offered “emergency aid” in harmony with the “governments’ efforts”.

Additionally, for the evaluation of the fruitfulness of the competitive SE strategies of the ME governments, *Global Competitiveness Report (GCR)* which is an annual report released by the *World Economic Forum* is presented. It reveals the competitive rankings of the countries offered “high levels of prosperity to their citizens,” and it is done by the measurement of “the [countries’] set of institutions, policies, and factors”. The ME countries with the highest ranks based on 9 successive yearly periods, among the 30 highest ranks, are derived by the author and presented in Table 1.

Therefore based on Table 1, often four countries of ME have been ranked among the top 30 countries which could offer the most prosperity to their citizens. If we consider job generation and benevolent social impact of entrepreneurship as social effects, as it helps to decrease social problems for the citizens of each country, (such as what Schramm (2010) believes in *All Entrepreneurship is Social* or as GEM (2015) puts it all entrepreneurs “benefit their societies by creating solutions to social problems, introducing innovations that help people live better lives”) then it could be stated the economic prosperity and social welfare and SE policies could be discussed simultaneously and hence, it could be interpreted that the four above mentioned ME



countries must have had successful social and economic impacts on their citizens' lives which directly or indirectly could be partly discussed in SE arena.

On the other hand, based on the *World Economic Forum's Accelerating Entrepreneurship in the Arab World* report (2011), "Large-scale transformations in some countries, combined with social dynamism particularly among the youth, have clearly put the employment challenge on the top of the regional agenda" in ME. This issue intensifies the need for the formulation—or if it is formulated perfect implementation and improvement—of SE strategies and policies by the governments of ME. Therefore, on 21–23 October 2011, the *World Economic Forum Special Meeting on Economic Growth and Job Creation in the Arab World* was held in Jordan.

## 2.11 SE Overview in ME Based on GEM's Reports

ME countries are grouped into the Middle East and North Africa (MENA) in *GEM's* reports. Therefore, the relevant facts and figures which are released by this international monitoring organization of entrepreneurship are studied under this heading. Based on *GEM's* report in 2010 early-stage entrepreneurs in MENA take advice from their social network which consists of their families, spouses, friends, etc. Moreover, this report insists on the role of the national policies in the reduction of "income inequality" and improvement of "equal access to opportunities" which can have a positive effect on social progress of MENA. The economies in ME with some exceptions are "factor-driven"<sup>9</sup> (*GEM 2012*) except Israel, with "an innovation-driven" economy.<sup>10</sup> To have factor-driven economy with the characteristics of sensitivity to world economic situation definitely could have some impacts on SE promotion by the governments of ME. There are three economic stages: (1) factor-driven stage; (2) investment-driven stage and (3) innovation-driven stage. The *Competitive Advantage (CA)* of each stage comes from a different source, for example for the first stage the *CA* stems from labor and natural resources, for the second one from "efficiency in producing standard products" and for the third stage, *CA* originates from the capability of producing innovative products/services by the application of advanced technology (Harvard Business School website). Unfortunately, most of ME countries are at the first stage of economic development which shows how sensitive they could be to the international fluctuations. Additionally, the supportive policy for SE is increasing especially in the countries that governments

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<sup>9</sup>In its reports, *GEM* classifies the economies of the countries based on the *World Economic Forum's* classification of economies into three classes: *Factor-Driven*, *Efficiency-Driven*, and *Innovation-Driven* economies.

<sup>10</sup>This economic classification of the ME economies could differ yearly, for example the innovative-driven economies in *GEM's 2015 Report* consist of Kuwait, Israel and Qatar.

**Table 2** Social entrepreneurship prevalence rates as percentage of the working population in 2009, by ME Country and Enterprise Maturity

Country	Nascent SE	New SE	Early-stage SE	Established SE	Total SE
Iran	1.1	0.3	1.4	0.6	2.0
Israel	1.0	1.4	2.2	1.8	4.0
Jordan	0.4	0.4	0.7	0.2	0.9
Lebanon	0.5	0.5	1.0	0.6	1.5
Saudi Arabia	0.1	0.2	0.2	0.0	0.2
Syria	0.7	0.3	0.9	0.0	1.0
UAE	2.5	2.7	4.9	1.4	6.3
The West Bank and Gaza Strip	0.2	0.2	0.4	0.1	0.5

(Source: Global Entrepreneurship Monitor's Report on Social Entrepreneurship 2011)<sup>a</sup>.

<sup>a</sup>Note: The data are derived by the author from the report. The data used in the report were gathered in 2009, but the report issued in 2011; moreover, the report included only 8 countries of ME.

are under pressure to cut budgets and where the unemployment is on the rise (GEM 2013).

GEM, in its reports, has three basic indicators,<sup>11</sup> among them the *Social Entrepreneurial Activities (SEA)* of ME, based on GEM's 2011 Report on Social Entrepreneurship Activity, are presented in Tables 2 and 3.

Table 2, shows the detailed SEA among the working population in the ME countries. The most percentage for working population in established and operational SE enterprises could be seen in Israel and the least one in the West Bank and Gaza Strip, although the UAE has the first rank for working population percentage in the *Early-Stage SE* and the next is Israel. The highest total SEA among the ME countries are dedicated to the UAE (6.3%), Israel (4.0%), Iran (2.0%) and Lebanon (1.5%), respectively.

Concerning the ME countries, the highest adult population percentages involved in SE (SEA), in broadly defined SE, are dedicated to the UAE (8.1%), Israel (3.8%), Lebanon (3.0%) and Iran (2.6%), respectively. These rankings are changed in 2015. Based on GEM (2015) the percentage of adult populations who are involved in operational post-start-up SEA, in four countries of ME<sup>12</sup> are approximately Israel (10%), Egypt (2%), Lebanon (1.5%) and Iran (1%), respectively (Fig. 2).

Women's entrepreneurship is inherently SE. Since the increase in gender equality and fair job opportunities for women show a culturally and economically developed country. In the *Policy Guide on Youth Entrepreneurship* by UNCTAD<sup>13</sup> (2015) it is mentioned that there is a high female unemployment rate in women in comparison to men in ME. Base on GEM's *Special Report on Women's Entrepreneurship* (2015a)

<sup>11</sup>These basic indicators are *Total Early-stage Entrepreneurial Activity (TEA)*, *Entrepreneurial Employee Activity (EEA)* and *Social Entrepreneurial Activity (SEA)*.

<sup>12</sup>Note: The report did not include all the ME countries.

<sup>13</sup>The *United Nations Conference on Trade and Development*.

**Table 3** Social entrepreneurship prevalence rates as percentage of the adult population, by ME Country and Type

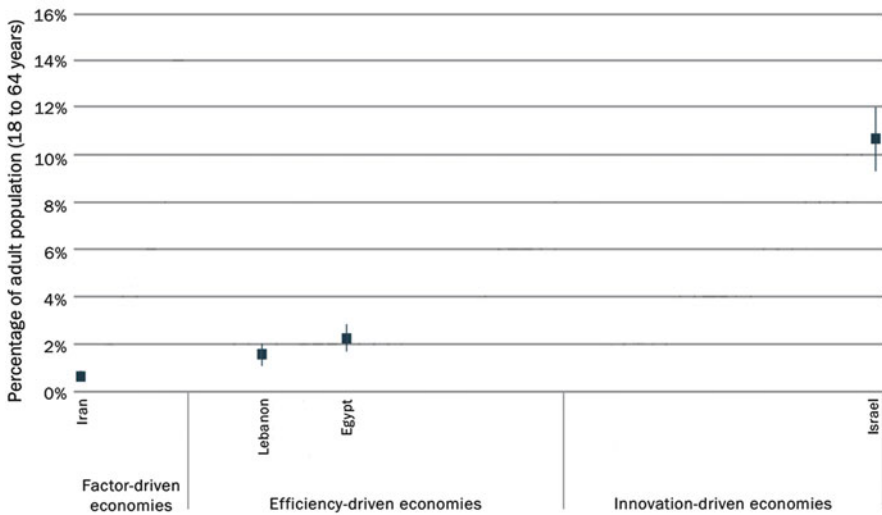
Country	Traditional NGO	Not-for Profit SE	Economically oriented Hybrid SE	Socially oriented Hybrid SE	For profit SE	Strictly <sup>a</sup> defined SE	Broadly <sup>b</sup> defined SE
Iran	0.1	0.5	1.3	0.2	0.6	1.9	2.6
Israel	0.3	1.7	0.9	0.9	0.1	3.4	3.8
Jordan	0.3	0.5	0.2	0.3	1.1	1.0	2.5
Lebanon	0.1	1.2	0.2	0.7	0.8	2.1	3.0
Saudi Arabia	0.1	0.1	0.0	0.1	0.2	0.2	0.5
Syria	0.1	0.5	0.2	0.2	1.0	0.9	2.0
UAE	0.2	1.9	3.8	1.3	0.7	7.1	8.1
The West Bank and Gaza Strip	0.0	0.4	0.1	0.2	0.0	0.6	0.6

(Source: *Global Entrepreneurship Monitor's Report on Social Entrepreneurship, 2011*)<sup>c</sup>.

<sup>a</sup>“Strictly defined” meaning: including only “not-for-profit SE, socially oriented hybrid SE and economically oriented hybrid SE” parts of the spectrum.

<sup>b</sup>“Broadly defined” meaning: including all 5 categories of the spectrum.

<sup>c</sup>Note: The data are derived by the author from the report. The data used in the report were gathered in 2009, but the report issued in 2011, more over it consists of only 8 countries of ME.



**Fig. 2** Prevalence of individuals in operational post-start-up Social Entrepreneurial Activity (SEA-OP-BRD), by economy for four ME countries (Source: Global Entrepreneurship Monitor 2015) (Note: The original figure by GEM (2015), consisted of 58 countries, the other countries except the ME ones are omitted in the figure by the author)

“studies support the *Goldman Sachs*<sup>14</sup> approach to creating economic and social value by investing in women entrepreneurs,” or in *GEM’s 2005 Report on Women and Entrepreneurship*. In conclusion, the advancement of women entrepreneurship besides “fuelling economic development” has been seen as “a promising trend” towards “social progress”. Additionally, ME is among “lowest regional averages for TEA and among the largest regional gender gaps” for women (GEM 2015).<sup>15</sup> On the other hand, the report’s facts about women’s “intentions” is encouraging where it mentions: “ME shows a very high level of intentions among women, suggesting a large base of potential future entrepreneurs”. Moreover, it should not be neglected that concerning the women’s social issues the UN and the international community, have had a keen attention; for instance to “gender-equality” and “empowerment of women” through the *United Nations General Assembly Resolution 63/311*,<sup>16</sup> *The Beijing Declaration of 1995*,<sup>17</sup> *The World Summit for Social Development in Copenhagen 1995 Agreement*,<sup>18</sup> *ECOSOC Resolution 2011/6*<sup>19</sup>, and *ECOSOC Resolution 2008/34*,<sup>20</sup> which SE could play a vital role. In the case of women entrepreneurship especially in developing countries there are “bureaucratic barriers” (GIMUN 2016), for instance in the UAE, “66% of female entrepreneurs do not have access to loans.”<sup>21</sup>

On the other hand, good economic condition could make more opportunities for the youth employment which decreases social unrest. *GEM’s Global Youth Report (2015b)*, p. 8 has seen a situation in ME “where educated young people cannot find satisfactory employment opportunities” and in general believes, “countries facing high or rapidly rising youth unemployment [which consist of ME] (particularly among the male youth) are especially vulnerable to social unrest.” This claim has been accentuated by *The ILO’s World Economic and Social Outlook Report (2015)* which has estimated that as “joblessness” has been increased in the world, “social unrest” has been increased too. The same report blames “skill mismatch” among the youth in MENA as the “key structural challenge” and proposes the solution in

<sup>14</sup>*Investing in the Power of Women; Progress Report on the Goldman Sachs 10,000 Women Initiative*, Developed by Babson College, Wellesley, MA, 2014.

<sup>15</sup>The lowest rates of *Total Entrepreneurial Activity (TEA)* are related to women in MENA at 4% of the population (Salama 2016).

<sup>16</sup>A/RES/63/311, <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N09/513/62/PDF/N0951362.pdf?OpenElement>, [accessed on October 10, 2015].

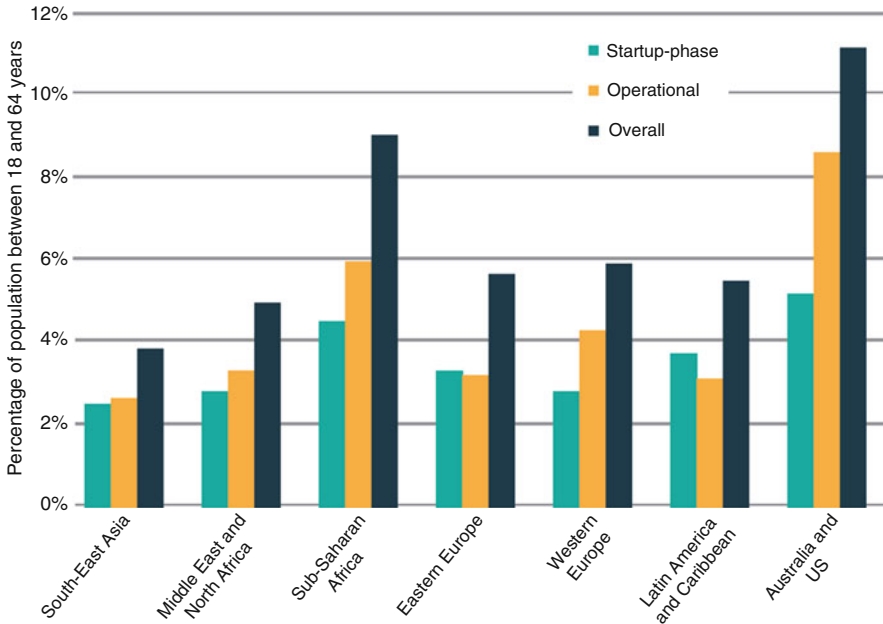
<sup>17</sup>*The United Nations Fourth World Conference on Women (1995)*, <http://www.un.org/womenwatch/daw/beijing/platform/economy.htm>, [accessed on October 10, 2015].

<sup>18</sup>*The World Summit for Social Development Program of Action—Chap. 3*, <http://www.un.org/esa/socdev/wssd/text-version/agreements/poach3.htm>, [accessed on October 10, 2015].

<sup>19</sup>*ECOSOC resolution 2011/6*, <http://www.un.org/en/ecosoc/docs/2011/res%202011.6.pdf>, [accessed on October 10, 2015].

<sup>20</sup>*ECOSOC resolution 2008/34*, <http://www.un.org/en/ecosoc/docs/2008/resolution%202008-34.pdf>, [accessed on October 10, 2015].

<sup>21</sup>Scott, L.M. (N.D). *Thinking critically about women’s entrepreneurship in developing countries*, p.6. Unpublished paper. Said Business School, Oxford, United Kingdom.



**Fig. 3** Comparative Social Entrepreneurial Activity (SEA) by phase and global region (Source: Global Entrepreneurship Monitor 2015)

“improved education for youth, coupled with more effective linkages between the government, educational institutes and the marketplace”.

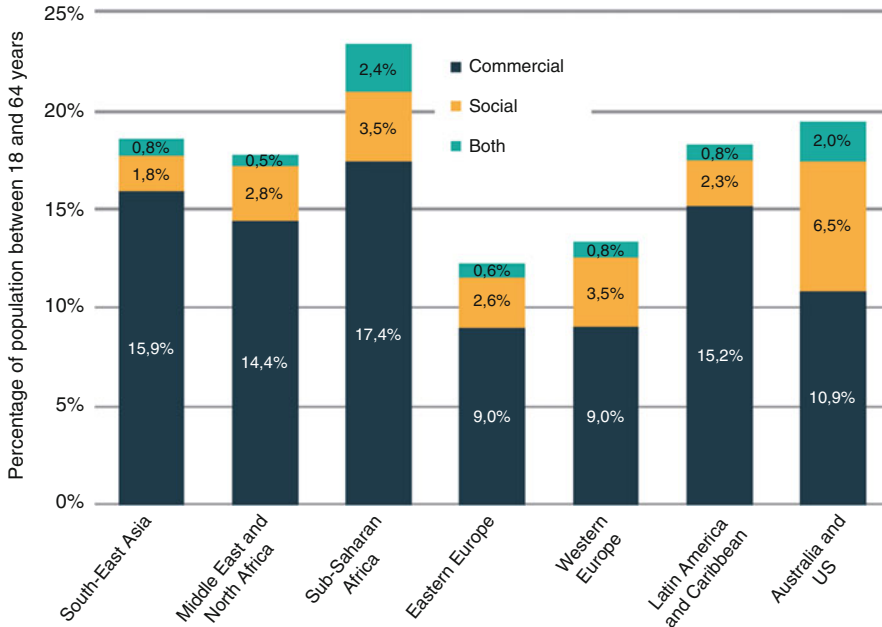
Besides, in ME approximately half of active social entrepreneurs “have a high level of education” (GEM’s Report on Social Entrepreneurship 2015c, p. 22), which is encouraging.

To have a comparative image of the SE in MENA that consists of ME, *GEM’s Report on Social Entrepreneurship (2015c)* is noteworthy (Figs. 3 and 4).

According to Fig. 3, the *Social Entrepreneurial Activity (SEA)* of MENA and therefore ME is lower than 5 other regions of the world and only above one region, South-East Asia. This shows a severe lag for ME in SE.

Based on Fig. 4, the average *SEA* in 2015 for the countries of the world is equal to 3.28%. The *SEA* percentage in MENA region is 2.8%; therefore, the ME countries *SEAs* is below the average. By considering the intensity of the social problems in the region the numbers show an unsatisfactory situation.

Based on Fig. 5, government programs, donations and grants in the MENA region is one of the lowest scores among the seven geographical segmentations by GEM. On the other hand, the reliance of the social entrepreneurs of ME on funding is mainly dependent on “family”. This shows the fact that SE in ME, in comparison to other studied geographical regions at least in funding, is mainly relying on philanthropists and their families not the governments.



**Fig. 4** Comparative entrepreneurial activity in the operational phase: commercial, social (Broad measure) and overlap (Source: Global Entrepreneurship Monitor 2015)

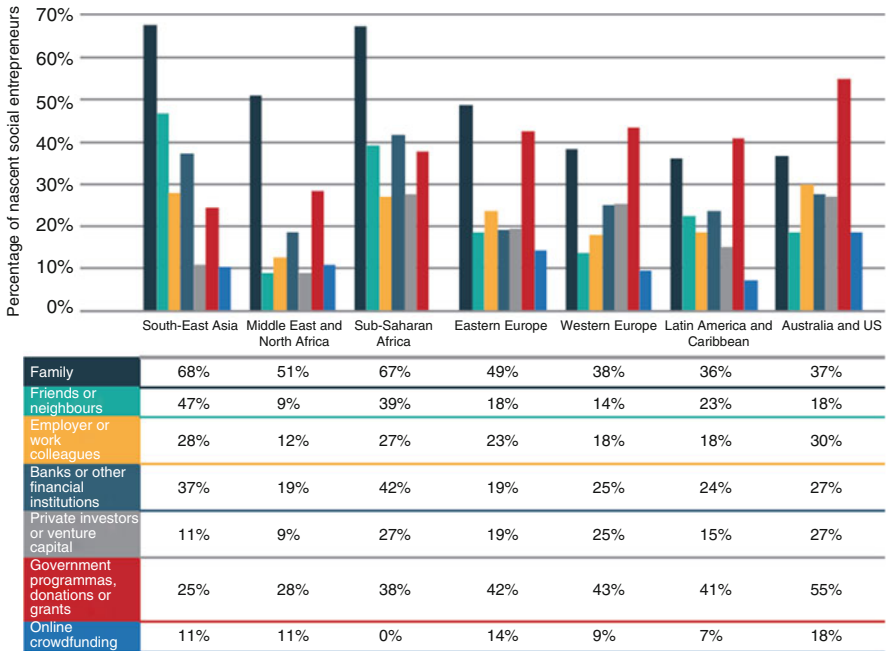
### 2.12 Governmental Engagement with SE and SEOs

With reference to Fig. 6, governmental engagement with SE could be shown in four quadrants (situations):

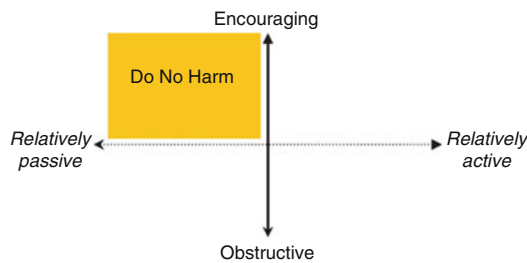
- (1) *Obstructive and Relatively Passive*: the government restricts the social enterprises and does not support them;
- (2) *Obstructive and Relatively Active*: the government actively and intentionally blocks the way of social enterprises and SE;
- (3) *Encouraging and Relatively Passive*: removes the barriers and lets the growth of social enterprises;
- (4) *Encouraging and Relatively Active*: paves the way and prepares suitable and cooperative environment and regulations for the nourishment of social entrepreneurs and actively supports them.

The social enterprises could be classified into four types of organizations:

- (1) *Enterprising Nonprofit*: a not-for-profit organization with a strategy formulated to earn the necessary budget for its activities by itself;
- (2) *Leveraged Nonprofit*: a not-for-profit organization which does not have a strategic view to earn its necessary budget, but it has some other supporting organizations as a “leverage” that helps;
- (3) *Social Business*: a for-profit organization with main social missions and objectives;
- (4) *Hybrid Enterprise*: an organization which combines the characteristics of for-profit and not-for-profit organizations. Additionally, in choosing the alternatives “Homeland Social Enterprises” or “International SE Intermediary



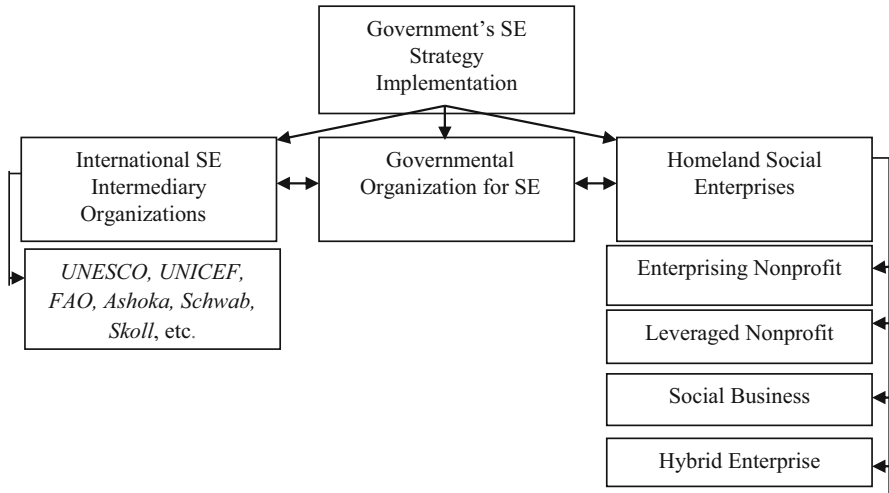
**Fig. 5** Comparative sources of funding used by nascent social entrepreneurs (Source: Global Entrepreneurship Monitor 2015)



**Fig. 6** Governmental engagement with SE (Source: Abdou et al. 2010)

Organizations” for the implementation of the SE strategies, the governments benefit from outsourcing HR strategies which decrease the administrative costs of the governments. Volunteerism and the application of social enterprises could tremendously benefit the governments in providing them with the expert HRs, which are necessary for the implementation of the SE strategies at the operational level (Fig. 7).

Government’s role in the blockage or facilitation of SE is pivotal. Abdou et al. (2010) believe that the governments can promote and contribute SE by three ways: (1) Playing an appropriate regulatory role to prepare the situation for the activity of social enterprises; (2) keeping their connections with the social enterprises and rewarding their successes “through recognition, procurement and partnership”; and (3) developing a wider ecosystem for the nourishment of SE. Moreover they believe,



**Fig. 7** The ME governments can benefit from three different organizations to implement their SE strategies (Source: Author)

*International SE Intermediary Organizations* or supporting organizations are providing services in ME but their coverage is limited only to several countries.

### 2.13 Governmental Bodies for Religious Endowment in Some ME Countries

Moreover, the governments of ME can include and embed *Waqf* (endowment) and *Zakat* (Islamic taxation) as Islamic religious givings into their strategic SE. In most ME countries *Waqf* and *Zakat* are paid directly to the institutions under the supervision of the governments; for example in Iran, the governmental organization in charge of the collection of *Waqf* is called *Ouqaf*<sup>22</sup> or in Egypt there is a ministry for *Waqf* administration under the name *Vezarat Al'Awghaf Al'Mesriyyah (Ministry of Awghaf)*. Using *Wagf* in its correct way could lead to distribution of wealth and development in society (Salarzahi et al. 2010). Therefore, since the ME governments manage *Waqf* as the Islamic endowment through the custodianship of the holy shrines in their countries they should have transparent and strategic thought for its spending for the good and welfare in their societies.

<sup>22</sup><http://www.oghaf.ir/>



## 2.14 International SE Organizations Active in ME

*Ashoka*<sup>23</sup> is doing its SE activities in ME Arabian states under the name *Ashoka Arab World*.<sup>24</sup> Some of its partners for SE in ME Arabian countries are as follows: *Aslan Media, Ona Academy, Wamda, Tedx Cairo, Hilti Foundation, Boehringer Ingelheim, Skoll Foundation, Microsoft, Flora Family Foundation, Danone, Alqomrah, the LEGO Foundation, and Ford Foundation*.<sup>25</sup> Its social mission is: “*Ashoka* strives to shape a global, entrepreneurial, competitive citizen sector; one that allows social entrepreneurs to thrive and enables the world’s citizens to think and act as change makers.”<sup>26</sup> *Ashoka* throughout the world implements its operational activities through its volunteered members. *Ashoka Arab World* has started its activity since 2003, and up to 2017 has selected 80 social entrepreneurs through 9 Arabic countries.<sup>27</sup> These selected social entrepreneurs are lifelong *Ashoka Fellows*. Two of its praise worthy activities in Egypt had been: *Education* project through *Everyone A Changemaker™* and *Street Children* initiative in 2014. The former implemented in 5 schools in Cairo with the cooperation of the *Ford Foundation* equipped and empowered the children with decision making and leadership skills, and the latter, with the cooperation of 10 civil society organizations in Egypt did its best to increase the life quality of 1000 targeted street children.<sup>28</sup> Besides *Ashoka*, the *Schwab Foundation* and *Skoll Foundation* are two other famous international organizations active in SE in the international arenas.

The help of some international organizations such as *International Youth Foundation* in cooperation with the governments of some ME countries<sup>29</sup>; as well as, the contribution of some international companies and institutions, empowered some ME governments to succeed in reducing unemployment rates. The following summarizes the foundation’s activities:

- ***Palestine:*** The *International Youth Foundation* with the contribution of *Caterpillar Foundation, Microsoft* and *the World Bank* have trained 9000 Palestinian youth<sup>30</sup> and have equipped them with vocational and entrepreneurial skills.
- ***Saudi Arabia:*** The foundation in cooperation with *the World Bank* and *J. Morgan* could pave the way for the hiring of 10,000 Saudi Arabian youth by some

<sup>23</sup>*Ashoka* is the largest network and promoter of SE in the world which consists of 3000 prominent social entrepreneurs, known and elected *Ashoka Fellows*, in 70 countries.

<sup>24</sup><http://ashoka-arab.org/en/>

<sup>25</sup><http://ashoka-arab.org/en/partners-with-ashoka/>

<sup>26</sup><http://ashoka-arab.org/en/vision-mission/>

<sup>27</sup><http://ashoka-arab.org/en/press-releases/>

<sup>28</sup><http://www.ldn-lb.org/UserFiles/File/Ashoka%20Arab%20World%20-%20Quarterly%20Report.pdf>

<sup>29</sup><http://www.iyfnet.org/region/middle-east-north-africa> (These six countries in ME consist of Saudi Arabia, Palestine, Lebanon, Jordan, Israel, and Egypt)

<sup>30</sup><http://www.iyfnet.org/country/palestine>

- companies such as *Hilton Worldwide*.<sup>31</sup> The implementing partners of the foundation had been *Arab Urban Development Institute* and *King Khalid Foundation*.
- **Lebanon:** The foundation activity in Lebanon had been mostly focused on studying “the reality on the ground”, which led to publishing valuable results to prepare the ground for employability and skill acquisition of the youth of the country. The cooperative company and institution had been *Microsoft* and *the World Bank*, respectively.<sup>32</sup>
  - **Jordan:** In cooperation with 70 partnerships the foundation could train “14,000 undeserved” youth in employability skills. Some of the partners had been *Ziadat*, *Luminus Group*, *Caterpillar Foundation*, *Microsoft*, *the World Bank*, *USAID*, and *World Learning*, etc. The organizations for the implementation of the project had been *Arabian Business Consultants for Development (ABCD)*, *El’Jawasreh Charity Association*, *International Labor Organization* and *Jordan Career Education Foundation*.<sup>33</sup>
  - **Egypt:** The foundation in cooperation with *Samsung*, *BP*, *Microsoft*, *the World Bank*, *GE Foundation*, and *USAID*, has trained 30,000 young Egyptians and has helped them to acquire secure jobs and start up small businesses. The contributors for the implementation of the project in Egypt had been *Al’ashanek Ya Balady*, *Assiut Businessman Association (ASBA)*, *Egyptian Association for Education Resources (E-era)*, *Etijah*, and *Fayoum Agro-Organic Development Association (FAODA)*.<sup>34</sup>

The other active organization in the international arena is Synergos. Its activity in the ME is under the Synergos’ Arab World Social Innovators program (AWSI) in partnership with Deutsche Bank’s Middle East Foundation. The mission statement of the organization is, “bringing people together to solve complex problems of poverty and create opportunities for individuals and their communities to thrive.”<sup>35</sup> Its main activities are fighting against poverty in international dimensions. Its SE strategy promotes “collaboration” and cooperation among “business, government, civil society, and marginalized communities.”<sup>36</sup> It has set its approach on four pillars: (1) personal reflection, (2) bridging leadership, (3) systems thinking, and (4) collaboration. Synergos acts on three levels: countrywide, regionally, and globally.<sup>37</sup> On the country-level it had been active in Palestine and Egypt. On the regional one it had launched The Arab World Social Innovators program and on the global arena, *Alliance for Social Entrepreneurship*, a cooperative 5-year program from 2011 to 2016. One of the benefits of the Arab World Social Innovators program

<sup>31</sup><http://www.iyfnet.org/country/saudi-arabia>

<sup>32</sup><http://www.iyfnet.org/country/lebanon>

<sup>33</sup><http://www.iyfnet.org/country/jordan>

<sup>34</sup><http://www.iyfnet.org/country/egypt>

<sup>35</sup><http://www.synergos.org/about/mission.htm>

<sup>36</sup><http://www.synergos.org/programs/approach.htm>

<sup>37</sup><http://www.synergos.org/socialinnovators/overview.htm>

had been the organizing of at least 6000 Egyptian fishermen within an independent union to reach nationwide market.<sup>38</sup> Also, by the end of 2014, the program helped 250 social entrepreneurs and 1045 youth in Egypt to receive training (Synergos Annual Report 2014).

*Al'Waleed Philanthropies (AP)* is another famous SE foundation which is active in ME-level and globally. It was founded in 1980s by *Prince Al'Waleed Bin Talal* in Riyadh, Saudi Arabia. The foundation is concentrated on four fields: (1) developing communities, (2) empowering women and youth, (3) disaster relief, and (4) bringing cultures together. Its introduction statement introduces the organization as, "support [ing] and initiat[ing] projects around the world, regardless of gender, race or religion. We collaborate with a range of philanthropic, governmental and educational organizations to combat poverty, empower women and the youth, develop communities, provide disaster relief and create cultural understanding through education."<sup>39</sup> Two of its on-going projects in 2017 are *Housing Project* in Egypt and *Housing and Cars Project* in Saudi Arabia. On the global level, in 2016, the foundation helped *Bill Gates' Breakthrough Energy Ventures (BEV)*<sup>40</sup> by funding U.S. \$50 million.

Microfinancing among the ME countries as a tool for empowerment of the youth and socially vulnerable communities is flourishing. *Sanabel*, a famous microfinance institute in the region, estimated over 3.1 million borrowers by microfinancing method in ten Arab countries (Microfinance Information Exchange (MIX) and Sanabel 2009).

## 2.15 Social Problems in ME

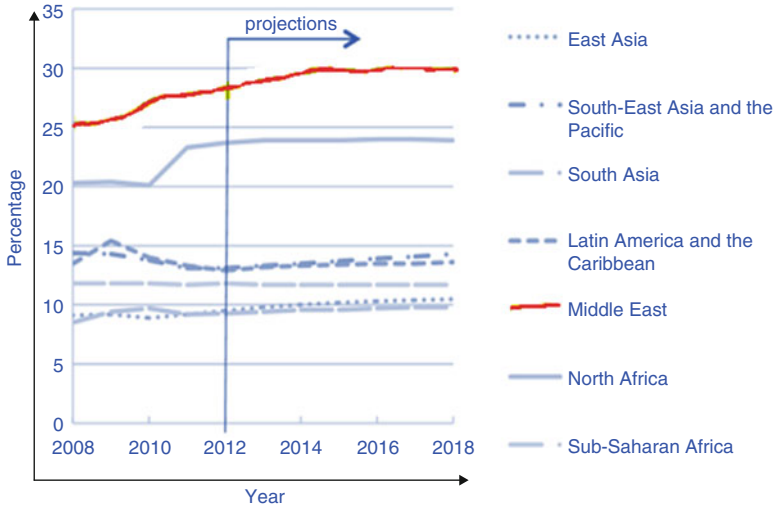
The social problems in ME are the same as witch cauldron. The problems are stirred, accumulated and intermingled for long years. The ethnic diversity, beliefs and in some cases prejudices as the spice of the final product have intensified the social problems. Therefore, the problems should be solved by a holistic and systems thinking. Moreover, the political, economic and social problems are interconnected, which need to be considered in a value-free manner by the ME governments before the formulation and implementation of any SE strategies and policies. Some of the problems in ME are as the following:

(1) Aging (Hajjar et al. 2013) and fertility ratios: Approximately most of the ME countries have very young population who are unemployed; therefore they cannot

<sup>38</sup><http://www.synergos.org/12/dbmefawsipartnership.htm>

<sup>39</sup><http://alwaleedphilanthropies.org/>

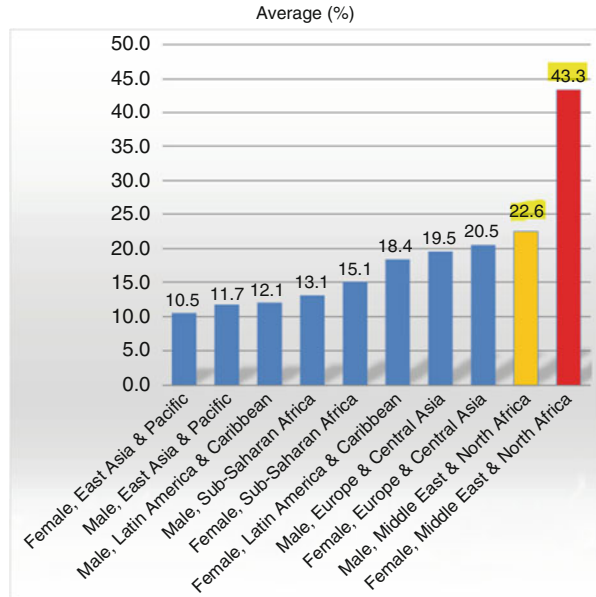
<sup>40</sup>"*Breakthrough Energy Ventures (BEV)* is an investor-led fund that will finance emerging energy breakthroughs to deliver affordable and reliable energy with the goal of reducing global greenhouse gas emissions to near-zero." (*Al' Waleed Philanthropies* 2016).



**Fig. 8** Youth unemployment rates in the world in 2008–2018 (Source: OECD 2016)

provide themselves with necessary insurance and facilities for their retirements. It is a two-folded case: on the one hand most of the ME countries could not effectively and efficiently use their present populations for economic prosperity for pushing their countries forward, and on the other hand in near future they will face aged generations that heavily rely on their governments for their medical treatment, housing, subsidies, etc. The youth generation behind this aged population bulge cannot have enough economic yields to compensate such a large number of old men and women. Other problems that potentially lead to social problems in ME could be summarized as: (2) lack of meritocracy (Moreno and Brodmann 2012) and abundance of favoritism and nepotism; (3) Money fraud, and bribery (Chandler and Adlem 2014); (4) Governmental regulations (World Economic Forum 2011); (5) Religious prejudices (Bandow 2015); (6) gender gap and discrimination (World Economic Forum 2015; Moghadam 2004), etc. Moreover, some of the emerging problems of the ME states are consist of climate change, population growth, water shortages, pollution and desertification (Abdou et al. 2010) war, and high rate of unemployment also should be added to the list. Besides, all the abovementioned social problems of ME, youth unemployment, especially for the women has reached a catastrophic degree in the region (OECD 2016, Figs. 8 and 9).

**Fig. 9** Comparative youth unemployment in the world based on the region and gender (Source: OECD 2016)



## 2.16 Review of SE in the ME Countries

### 2.16.1 ■ Bahrain

#### The Public Sector

*Ministry of Labor and Social Development*<sup>41</sup> (in Arabic: *Vezerat Al'Amal va Al'Tanmiyat Al'Ejtemayyah*) in the Kingdom of Bahrain is in charge of SE strategy setting. One of the praise worthy activities of the ministry in 2016 had been special attention to *Child Protection Center* for children who are neglected and ill-treated by the society. By empowering measures, it was tried to bring them back to healthy social life. One of the ministry's initiatives in this respect was also running the *998 Child Help Live*, which up to know approximately has had 1200 calls by children.<sup>42</sup>

SE is an important issue for the government; therefore for synergism and consistency the government ran a *Social Entrepreneurship Competition*<sup>43</sup> inside the country; also through the program the SE practitioners of the country got familiar with some of the SE models and strategies in other countries such as Germany and GCC countries.<sup>44</sup>

<sup>41</sup><http://www.mlsd.gov.bh/en>

<sup>42</sup><http://www.mlsd.gov.bh/en/node/4067>

<sup>43</sup><http://bna.bh/portal/en/news/586338> (Bahrain News Agency)

<sup>44</sup>[*Persian*]Gulf Cooperation Council countries consist of all the Arab governments of the Persian Gulf except Iraq.

### The Third Sector

- *INJAZ Bahrain* is one of the operational organizations of the kingdom for entrepreneurship, which was founded on 2005. The mission of the organization is the empowerment of the Bahraini youth to “succeed in global economy.”<sup>45</sup> The organization is active now via three fundamental programs: *Our Nation*, *Ourselves* and *Our Families* programs. Although the three aforementioned programs are primarily dealing with entrepreneurship, they could have some social results too. *INJAZ Bahrain* has some training courses on entrepreneurship for different age ranges. It shows that the organization tries to empower the Bahraini youth for better participation in society and global markets culturally and entrepreneurially.<sup>46</sup> The team who is managing and implementing the activities consists of 11 women; that reveals, at least in training activities, the active role of women in entrepreneurship-related activities in the kingdom of Bahrain.<sup>47</sup> The organization has a partnership with *JA Worldwide*,<sup>48</sup> which is one the famous and global NGOs “addressing fundamental social and economic challenges” related to young people “by educating and empowering them” for building up a better future and “economic success”.<sup>49</sup>
- *3BL Associates* is another principal entity that as a non-governmental organization consults and helps the government of the kingdom in setting SE strategies. Some members of this organization are also the members of the *National Social Business Strategy Team* for formulating the national strategies in social business arena in Bahrain (UNESCO 2013). Some of the SE practices of the organization include: the *Leadership Bridge Program* (targeted high school students and tried to make a social impact through introducing social business models to the students), *Diabetes.bh*<sup>50</sup> (a website for the social learning about the diabetes, which is the first initiative in its own in Bahrain<sup>51</sup>) and cooperation with the *United Nations Industrial Development Organization (UNIDO) Entrepreneurship Program* in proposing sustainability-friendly and socially responsible model for the kingdom.
- *InspirEngage*'s program is another SE program which had been active in some of the ME countries such as Bahrain and the UAE. *InspirEngage*<sup>52</sup> is an international social enterprise founded by an Iranian, *Melody Hossaini*. Through its

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<sup>45</sup><http://www.injazbh.org/>

<sup>46</sup>For instance in *It is My Business* program, which is designed for intermediate school student besides entrepreneurial skills it focuses on “social studies” too.

<sup>47</sup>For more Info. See: <http://www.injazbh.org/inner.aspx?PMID=2>

<sup>48</sup><https://www.jaworldwide.org/>

<sup>49</sup><https://www.jaworldwide.org/aboutja/>

<sup>50</sup><http://www.diabetes.bh/>

<sup>51</sup>Some national organizations, make donations to *Diabetes.bh*, one of the latest on is *National Bank of Bahrain (NBB)*, which help the facilitation of the funding for its SE activities.

<sup>52</sup><http://inspirengage.com/>

programs the enterprise has reached 1 million young people in 100 countries.<sup>53</sup> Concerning Bahrain, in partnership with *British Council* she has held two *InspirEngage Boot camps on Social Enterprise at Junior World Entrepreneurship Forum (JWEF)*.<sup>54</sup>

## 2.16.2 Egypt

### The Public Sector

The Egyptian government's SE strategies and policies are formulating in *Ministry of Insurance and Social Affairs* (in Arabic: *Vezerat Al'Tazamen Al'Ejtemayyah Gheta Al'Shoun Al'Ejtemayyah*).<sup>55</sup> Based on the Arabic strategic report of the ministry in 2012–2013, it has fulfilled some strategic objectives relating to street children and poverty-stricken villages in Egypt beside facilitating e-communication of the clients with the ministry.<sup>56</sup>

### The Third Sector

Egypt's government in recent years has had an active pursuit of SE policies and strategies. Two of the socially entrepreneurial organizations in the medical fields, which have had the support of the government, are *Gameyat Zakat Al'Dam*, and *The Breast Cancer Awareness Foundation of Egypt*, the former had been active in attracting the attention to blood donation and the latter provided the public with vital information for the screening and detection of breast cancer (Abdou et al. 2010). The *Al'Ashaneq Ya Balady Association for Sustainable Development (AYBSD)*, is another Egyptian organization in Cairo, active in SE by providing the women and youth with microcredit loans. *The Aga Khan Foundation*, which is exploring the possibilities of supporting green enterprises in water conservation, waste management, composting, and desert farming in Egypt has a strong social mission to "contribute to job creation among youth and also contribute to solving some of these environmental challenges". Moreover, *The Orascom Group's* subsidiary *Orascom Housing Communities (OHC)*, which is active in construction of affordable housing has had a cooperation with *Habitat for Humanity International* on housing projects in Giza and Lower Egypt for the poor. *Nahdet El'Mahrousa* is an incubation for the youth and "youth-led social enterprises in the region". Located in Cairo the incubation has had successful support for the incubation of 12 social enterprises up to 2010. Moreover, with the cooperation and donation of the *Canadian International Development Agency (CIDA)*, the *International Finance Corporation (IFC)*, and *EQI*, an Egyptian consulting organization, the incubation has helped *Siwa* oasis to reach sustainable development (*Ibid.*).

<sup>53</sup><http://www.melodyhossaini.com/about-me/>

<sup>54</sup><http://www.melodyhossaini.com/tag/social-entrepreneurship-in-bahrain/>

<sup>55</sup><http://www.moss.gov.eg>

<sup>56</sup>For more info.(in Arabic) see: <http://www.moss.gov.eg/misa/Portals/0/Documents>

### 2.16.3 Iran

#### The Public Sector

*Iran's Ministry of Cooperatives, Labor and Social welfare* (in Persian: *Vezarate Kar va Refaahe Ejtemaee*)<sup>57</sup> is responsible for the formulation and implementation of national SE strategies. The cooperative bodies to the ministry are as follows:

*Behzisti* or *Iran's State Welfare Organization (SWO)* has always followed supportive and rehabilitative strategies. Based on the defined missions of this organization it has supportive and rehabilitative missions towards social problems. *Behzisti* works under the policy making of *Iran's Ministry of Cooperatives, Labor and Social welfare*. The *SWO* on its official website is introduced as:

"... One of the supporting governmental organizations that through the general budget helps the people with disabilities and disadvantaged people... The *SWO* also tries to expand rehabilitation and supporting services, prevent disabilities and decrease social harms and supply the fundamental needs of the low-income groups" (*Behzisti* website)

According to the official statistics issued by *Behzisti* in 2013, it has provided services to 4,526,322 persons.<sup>58</sup> *Behzisti* has also followed some policies for job generation among Iranian women as single parents.

Microcredit strategy in the public sector is mainly pursued through *Sandouqe Karafariniye Omid*.<sup>59</sup> This credit organization works under *the President's Office*. Its mission is to fulfill financial needs of SMEs by microfinancing inside the country. This organization also supports the charities which are active in job-generating activities in deprived regions of the country.<sup>60</sup> This organization is periodically under the supervision of *Ministry of Cooperatives, Labor and Social Welfare* for efficiency and specifying any deviation from the mission.<sup>61</sup> Moreover, it pushes forward microfinancing through branching strategy. Its credit through the years 2013 to 2015 had been 10,000 billion in Iran Rials each year.<sup>62</sup>

The other national organization which had been active in SE throughout the country is *Imam Khomeini Relief Foundation*, which is independent from the government and the ministry. Based on the latest report<sup>63</sup> by the foundation, it has benefited 3,990,000 people (equals to 1,850,000 families). It also supports poor

<sup>57</sup><http://www.mcls.gov.ir/>

<sup>58</sup><http://behzisti.ir/RContent/000YB0-%D8%A2%D9%85%D8%A7%D8%B1-%D9%88-%D8%A7%D8%B7%D9%84%D8%A7%D8%B9%D8%A7%D8%AA.aspx>

<sup>59</sup>*Omid Entrepreneurship Credit Institute*

<sup>60</sup><http://www.karafariniomid.ir/>

<sup>61</sup>[http://www.karafariniomid.ir/shownews?public\\_sid=6570](http://www.karafariniomid.ir/shownews?public_sid=6570)

<sup>62</sup><http://www.icana.ir/fa/news/288969> (Iran's parliament official news agency)

<sup>63</sup>[http://www.emdad.ir/mcontent/amar/amar\\_gozarash\\_saliane/kholase%20amare%20amalkard%20emdad%2092.pdf](http://www.emdad.ir/mcontent/amar/amar_gozarash_saliane/kholase%20amare%20amalkard%20emdad%2092.pdf) (The latest report by the foundation consists of a span of time from 1979 to 2013)



Iranian families financially in some cases such as *Diyah* (blood money),<sup>64</sup> needy prisoners' families, lends job generating loans based on microfinance, prepares housing, compensates treatment costs, etc.

### The Third Sector

For promotion of SE, the strategic view of the country is looking inward and the international cooperation, except for the *United Nations'* subsidiaries is rare. The government supports *Sandouqhaye Kheyriye*, which collects the ordinary people alms or donations legally. At the moment the unofficial number of *Sandouqhaye Kheyriye* is about 7000,<sup>65</sup> although there had been cases of swindle because of lack of governmental supervision.<sup>66</sup>

The other SE strategy which is pursued by the government in *Ministry of Education* is a scaling strategy in building new schools and rehabilitation of the old ones with the help of dedicated philanthropists as *Khayerine Madresesaz*.<sup>67</sup> 0.35% of the schools in Iran are made by 600,000 *Khayerine Madresesaz*,<sup>68</sup> which shows how efficient their performance had been.

The government legally supports social enterprises. Through the country there had been thousands of successful SE examples which are established by the direct investment of Iranian social entrepreneurs. Two of the examples are: *Mahak*,<sup>69</sup> a successful Iranian charity organization founded in 1991 by *Saideh Ghods* to help children diagnosed with cancer. *Mahak* has supported 20,000 children diagnosed with cancer and it is registered by *United Nations Global Impact*.<sup>70</sup> *Bonyade Ghalbe Fars*,<sup>71</sup> is another successful SE experience which is founded by the investment of Iranian philanthropists. Its mission statement is to prepare the opportunity for common people to benefit from medical treatments the same as wealthy classes of the society. This foundation provides its services through *Kowsar Hospital* in *Shiraz* under the management of *Dr. Mahmood Tabandeh* and it is going to be known internationally.

<sup>64</sup>“In **Islamic law**, is the financial compensation paid to the victim or heirs of a victim in the cases of murder, bodily harm or property damage.” (Wikipedia)

<sup>65</sup>*IANA* (Iranian Agriculture News Agency) <http://iana.ir/fa/news/38921> (The report says that *Sandouqhaye Keyriyeh* do not issue financial statements which inherently make governmental supervision impossible) [accessed on Jan.15.2017].

<sup>66</sup><http://kayhanarch.kayhan.ir/881111/5.htm> (On Jan., Saturday 16th and Sunday 17th, 2010, *Kayhan News Paper*, an Iranian official news paper published two articles on the issue) [accessed on Jan.15.2017].

<sup>67</sup> *school-maker philanthropists*

<sup>68</sup> <http://www.tehranedu.ir/Modules/News/NewsShow.aspx?page=1andmid=338andNewsID=11483> (Tehran's Ministry of Education official website)

<sup>69</sup> <http://www.mahak-charity.org/main/index.php/en/home-en>

<sup>70</sup> <https://www.unglobalcompact.org/what-is-gc/participants/101541-MAHAK-the-Society-to-Support-Children-Suffering-from-Cancer>

<sup>71</sup> *Fars Heart Foundation*

#### 2.16.4 Israel

##### The Public Sector

*Ministry of Social Affairs and Social Services* is responsible for the formulation of SE and welfare strategies.

#### 2.16.5 Jordan<sup>72</sup>

##### The Public Sector

*Ministry of Social Development* (in Arabic: *Vezerat Al'Tanmiyat Al'Ejtemayyah*) is in charge of setting national SE strategies. It has five directorship posts in the following sections: (1) *Family and Childhood Directorate*; (2) *Social Defense Directorate*; (3) *Directorate of Local Societies Development*; (4) *Directorate of Poverty Monitoring and Social Security*; and (5) *Handicapped Affairs Directorate*.<sup>73</sup>

There is also an independent governmental organization from the ministry which is active in SE in the state. *National Aid Fund*, is established in 1986, in accordance with *Law No. 36*. The fund covers activities inside the country from rehabilitation, and supporting needy families and children to the empowerment of unemployed families by providing them with job opportunities.

##### The Third Sector

*Nuqul Group* is one of the Jordanian successful social enterprises which is active in CSR. It has established *Micro-Venture Fund* project since 2010 (Kassis and Majaj 2012). By this project the social entrepreneurs from *Al'Koura* district were invited to propose the projects which potentially could have the best impact on the community they are living in. According to *Nuqul Group* (2010), 23 projects were selected to be financed by the group. The projects have had 300 direct beneficiaries.

*Injaz Al'Arab* is an SE organization which is supported by the government of Jordan and *Queen Rania*. The organization that started under the name *Injaz*, now has become a “regional confederation” which attracted the attention of the Arab leaders, and up to 2010, benefited over 165,000 Arab youth (Abdou et al. 2010).

Two of renowned SE in Jordan are: *Zikra* founded by *Rabee Zureikat*, for the intention of upgrading the life quality in *Qor Al'Mazra'a* area in *Karak*, a poverty-stricken area. By paying a fee the people will participate in some programs and sightseeing to get familiar with the lifestyle and tradition of the community, and therefore the residents will have an income and with the collected money *Zikra*, through its *Minhati* initiative provides university scholarships for the community members. The other social enterprise is *She Fighter*. It is founded by *Lina Khalifeh*, who tries to teach martial arts and self-defense to the women to be able to defend

<sup>72</sup>The hosting countries of refugees such as Lebanon and Jordan which already had scarce capacities, are in a predicament for providing the large communities of the refugees with basic access to health services and education (OECD 2016).

<sup>73</sup><http://www.jordan.gov.jo>

themselves against sexual harassments and violence in family or society. She has trained approximately 10,000 women and female teenagers through *She Fighter* (Al-Wakeel 2015).

Another successful example among Jordanian social entrepreneurs is the example of *Zeinab Al'Momany* who founded in 2002 *The Sakhras Women's Society Cooperative*.<sup>74</sup> In 2006; she was awarded *The King Abdullah II Award* for leadership and self-employment. Through *The Sakhras Women's Society Cooperative*, she has reduced the poverty of its community and employed 721 people in some projects by the local people from sewing workshop to grain processing, packaging and marketing.

## 2.16.6 Kuwait

### The Public Sector

*Ministry of Social Affairs and Labor*<sup>75</sup> (in Arabic: *Vezarat Al'Shoun Al'Ejtemayyah va Al'Amal*) has gotten recent Arabic name in 1962, although its social activities were started in 1956.<sup>76</sup> *The UN E-Government Survey 2008*, praised the ministry's website for facilitation of e-governance measures for its clients such as submission of on-line forms, on-line payment, creating personal accounts, notification e-mails, etc.<sup>77</sup> The ministry has strategic cooperation with the UAE's *Ministry of Community Development* (for example *Mehrjan Al'Khaliji*,<sup>78</sup> on March 15–19, 2008).<sup>79</sup>

### The Third Sector

Approximately 10% of the Kuwaiti population<sup>80</sup> is employed by the government.<sup>81</sup> On the other hand, government of the country could solve the unemployment problem satisfactorily by the effective use of oil dollars. *Naif Al'Mutawa* is a Kuwaiti which founded a social enterprise called *The 99*.<sup>82</sup> Through this social enterprise,

<sup>74</sup><http://www.schwabfound.org/content/zeinab-momany>

<sup>75</sup><http://www.mosal.gov.kw/MOSAL/>

<sup>76</sup><http://www.mosal.gov.kw/MOSAL/static/about.jsf> (in Arabic, translated by the author).

<sup>77</sup><http://www.mosal.gov.kw/MOSAL/6ZX+UeHIq56Bj5IXUWvZwcFbatYd9+/F3ApB110vmSo=.jsf>

<sup>78</sup>*Festival of the Persian Gulf*

<sup>79</sup><http://www.mosal.gov.kw/MOSAL/6ZX+UeHIq56Bj5IXUWvZwcFbatYd9+/F3ApB110vmSo=.jsf> (in Arabic, translated by the author)

<sup>80</sup>Note: This is based on the calculation of the author according to “employment statistics in government sector” issued on April, 2016 available in Arabic on: [Employment\\_Statistic\\_in\\_Government\\_Sector\\_\(Kuwaiti\\_-\\_Non-Kuwaiti\)\\_2015.pdf](#), and the recent rough estimation of the population of State of Kuwait on: <http://countrymeters.info/en/Kuwait>. According the former reference the employed population of Kuwait in 2015 is 363,016 people (267,109 Kuwaiti and 95,907 non-Kuwaiti), and based on the latter, the unofficial population of the state is roughly 4,207,973 people.

<sup>81</sup>[https://www.csb.gov.kw/Socan\\_Statistic\\_EN.aspx?ID=13](https://www.csb.gov.kw/Socan_Statistic_EN.aspx?ID=13)

<sup>82</sup><http://www.schwabfound.org/content/naif-mutawa>

they try to provide good and benevolent role models for the children in Islamic countries. They do so for instance by making animation for children and hope to add to cultural tolerance and multiculturalism among the children of the region.

Some of the renowned Kuwaiti organizations in SE based on the official governmental website of the State of Kuwait<sup>83</sup> are as follows:

- *Jami'at Al'Eslah Al'Ejtemae*<sup>84</sup> some of the missions<sup>85</sup> of the association are mentioned as<sup>86</sup>: (1) resistance against antisocial deeds, drinking alcoholic beverages and usury; (2) cultural guidance of the youth towards better fulfillment of their spare time, etc. The missions of the association are approximately cultural based on the Islamic teachings.
- *Kuwait Red Crescent Society*, which was founded in 1966, and presently in 2017 is active in 16 countries from Afghanistan to Thailand. Two of the admiring activities of the KRCS had been in Iraq where His Highness the Emir of Kuwait alleviated the sufferings of the displaced in Iraq by contributing U.S. \$ 200 million.<sup>87</sup> The other projects that the KRCS has done in ME were providing the Syrian refugees in Jordan and Lebanon with relief aids such as distributing 60,000 blankets, 1500 coupons of buying commodities, 1000 heaters among the Syrian families in Jordan, besides distributing 15,000 tons of foodstuff and health materials, 9000 heaters as well as pursuing the Kidney Dialysis Project for the Syrian families in Lebanon.<sup>88</sup>
- *Ma'vaahom Rahma*<sup>89</sup> is the other Kuwaiti SE foundation. This foundation gathers the Islamic donations of Kuwaitis and channels them towards making better life conditions inside and outside Kuwait. The mission statement<sup>90</sup> of the SEO is: “[the] eradication of social sufferings among the Islamic communities and Islamic minorities, and the people of the world as much as possible, and development of society in addition to contribution to rehabilitation of human beings throughout the world.”<sup>91</sup>
- *Jamiah Eana Sandouq Al'Marazee*<sup>92</sup> (*Patients' Helping Fund Society*) is founded on 2005 by the direct contribution of the Kuwait's government and *Ministry of Social Affairs*.<sup>93</sup> Some of the objectives<sup>94</sup> of the society are as follows:

<sup>83</sup><https://www.e.gov.kw/sites/kgoeenglish/Pages/CitizensResidents/IslamicServices/InfoCharity.aspx>

<sup>84</sup><http://www.eslah.com/main/>

<sup>85</sup>Note: The missions are translated directly from Arabic into English by the author.

<sup>86</sup>[http://www.eslah.com/main/?page\\_id=68](http://www.eslah.com/main/?page_id=68)

<sup>87</sup><http://krcs.org.kw/kracs-projects/iraq/>

<sup>88</sup><http://krcs.org.kw/kracs-projects/syria/>

<sup>89</sup><http://www.khaironline.net/Default.aspx>

<sup>90</sup><http://www.khaironline.net/Rhtml/vision.aspx>

<sup>91</sup>Note: The mission statement is translated directly from Arabic into English by the author.

<sup>92</sup><http://knet.phf.org.kw/site/index.php>

<sup>93</sup>In Kuwait it is called “*Vezerat Al'Shoun Al'Ejtemaeah*”.

<sup>94</sup>[http://knet.phf.org.kw/site/index.php?route=information/informationandinformation\\_id=4](http://knet.phf.org.kw/site/index.php?route=information/informationandinformation_id=4)

(1) treatment of those whose disease disabled them from breadwinning; (2) contribution to the dissemination of awareness about healthiness among the people of the society; and (3) contribution to the treatment of those who seek the help of the society inside and outside Kuwait, etc.<sup>95</sup> *PHFS* has spent 1.8 million Kuwaiti Dinar for the eradication of diseases inside the State of Kuwait. This society had been active in the treatment of some of the displaced Syrians in the south of Turkey.<sup>96</sup> They had done medical treatment projects among poverty-stricken Tanzanians<sup>97</sup> too.

- *Jamiat Al'Avan Al'Mobasher* (internationally known as *Direct Aid*) is another Kuwaiti SE organization which is active in connection with African issues. It has started its activity through an NGO from 1981 and emphasizes the importance of providing sound education among poor children in Africa. Its motto is “education is [a] legal right for every child in Africa.” Its mission statement is: “Providing distinctive services in the field of education, relief as well as developing the capabilities and income of the poor communities.” Moreover, some of its strategic targets<sup>98</sup> are “concentrated on both sides of education and development for individuals, transparency in work especially financial work, developing human efficiency, reaching a quality level in work, and creating a spirit of cooperation and creativity.”
- *Al'Najat Charity*,<sup>99</sup> founded in 1978, has built several private schools in Kuwait, and is mainly active in educational field. It also assists the needy migrated residents of Kuwait. The charity, organized *Zakah Committees* which scan the needy families throughout the country for humanitarian contribution. Its mission statement is: “Leadership in charity and humanitarian work in Kuwait as the first choice of benefactors and philanthropists; professionalism of *Waqf*; and investment for the execution of programs and projects aimed at the development of societies through qualified manpower and strategic alliances in accordance with the institutional and professional standards.”

## 2.16.7 Lebanon

### The Public Sector

*Ministry of Social Affairs* (in Arabic: *Veزارat Al'Shoun Al'Ejtemayyah*)<sup>100</sup> is responsible for the governmental SE in Lebanon. Three of its recent programs, which are defined as three national projects, are as follows: (1) *National Program to Support*

<sup>95</sup>Note: The objectives are translated directly from Arabic into English by the author.

<sup>96</sup><http://knet.phf.org.kw/site/index.php?route=journal2/blog>

<sup>97</sup>[http://knet.phf.org.kw/site/index.php?route=journal2/blog/postandjournal\\_blog\\_post\\_id=69](http://knet.phf.org.kw/site/index.php?route=journal2/blog/postandjournal_blog_post_id=69)

<sup>98</sup><https://direct-aid.org/cms/about-us/public-strategy/>

<sup>99</sup><http://www.alnajat.org.kw/al-najat-charity/>

<sup>100</sup><http://www.socialaffairs.gov.lb/MSADefault.aspx>

*the Poorest Families*<sup>101</sup>; (2) *National Program for Adult Education*<sup>102</sup>: The project is active from 2010,<sup>103</sup> and (3) *Program on Population and Development*<sup>104</sup>: This program which has started from 2010 is a mutual partnership between the UN and Lebanon's government; its objective is reinforcing the policies of the government for the reduction of poverty and reaching economic justice.<sup>105</sup> The partnership had been active from 2010 to 2014. The program in 2010 and 2011 had carried out these activities: (1) increasing the ministry's ability in dealing with the problems of the elderly based on the national development plans; (2) increasing the dialogue on the governmental policies towards the elderly; and (3) increasing the ministry's ability in integrating the developmental programs for the population in the central and far regions of the country. Moreover, the ministry also has cooperation with the UNDP in its programs.

One of the Lebanese governmental organizations for SE in housing is *Al'Moasesat Al'Aamat Al'Leleskaan*<sup>106</sup> (*Public Corporation in Housing*), the organization lends housing loans to the applicants and up to 2015 had registered 4200 agreements worth 770 billion in Lebanese Lira.

### The Third Sector

*World Rehabilitation Fund*<sup>107</sup> is an international organization which was established in 1955 by *Dr. Howard A. Rusk*. The organization is active in 150 countries. One of these countries is Lebanon. Its mission is to help the people with disabilities. It has started its rehabilitation activities in Lebanon in June 1987 and has registered an official office in the countries. Up to 2017 it has had several major programs in the country and is supporting 220 local agencies providing services to disadvantaged people inside the country. In Lebanon the organization has accomplished these programs: (1) *Jizzine Economic Opportunities Project*, started in 2001 and still in progress. The project is funded by USAID (\$8500,000); (2) *Emergency Project* on Dec.6–Jul.7, 2001. The project is funded by OFDA (\$600,000); (3) *Socio-economic Opportunities Pilot Projects*, from 2000 to 2002 funded by the UNDP (\$200,000); (4) *The General Mine Action Program*, from 1998 to 2004. It was funded by USAID (\$1500,000); (5) *Orphans Project*, from 1993 to 1997 which is funded by the USAID (\$1000,000); (6) *Prosthetics and Orthotics Project*, from 1991 to 1997 and funded by USAID (\$2000,000) and (7) *Emergency Rehabilitation Program*, from 1987 to 1997 and funded by USAID (\$5,000,000).

<sup>101</sup>In Arabic *Al'Barnamaj Al'Vatani Ledeam Al'Asra Al'Aksar Fogharaa*.

<sup>102</sup>In Arabic *Al'Barnamaj Al'Vatani Letaelim Al'Kebaar*.

<sup>103</sup>The annual news for each year is available in Arabic at: <http://www.socialaffairs.gov.lb/MSASubPage.aspx?parm=294andparentID=100>

<sup>104</sup>In Arabic *Barnamat Al'Sekaan va Al'Tanmiyyah*.

<sup>105</sup>(Translated from Arabic) <http://www.socialaffairs.gov.lb/MSASubPage.aspx?parm=235>

<sup>106</sup><http://www.pch.gov.lb/Cultures/ar-LB/NewsEvents/News/Pages/loanRequests.aspx>

<sup>107</sup><http://www.wrf.org.lb/profile.aspx>

### 2.16.8 Oman

#### The Public Sector

*Ministry of Social Development* (in Arabic: *Vezerat Al'Tanmiyat Al'Ejtemayyah*)<sup>108</sup> is responsible for the SE strategy planning and formulation of the country. The ministry has ever launched some national and social programs: (1) *Program Tawasul*: its vision is “to have a linked and interconnected society”. The target group is all the society.<sup>109</sup> (2) *Program Taqdeer*: Its mission is “respecting the elder people and people with disabilities”. The target group is the old and the disabled people of the country.<sup>110</sup> (3) *Program Tamasuk*: Its vision is “making a sound cohesive family”.<sup>111</sup> (4) *Program Taqayof*: Its vision is making “a society adheres to values and ethics.” It works on the drug abuse and prison-released cases.<sup>112</sup> The aforementioned programs are being implemented by partnership and contribution of 14 international companies.<sup>113</sup>

*SANAD*,<sup>114</sup> is another program for job generation among unemployed Omanis. The initiative is not under the *Ministry of Social Development* but is implemented and planned by *Ministry of Manpower*. Through the initiative the applicants can borrow micro-loans from *Development Bank of Oman* to run micro-businesses (Al'Shanfari 2012).

#### The Third Sector

*Knowledge Oman*, founded in 2008, is promoting social enterprises and community-based social innovations, and has made a partnership with *C3: Consult and Coach for a Cause*,<sup>115</sup> an international UAE-based organization for the promotion of SE in ME.<sup>116</sup> One of the fruits of this partnership had been applying the *C3 Social Enterprise Accelerator Program* inside Oman. The program promotes coaching and training of the entrepreneurship practitioners inside the country to lead to social impact and solutions. Moreover, the partnership made it possible for the Omani social entrepreneurs to consult and benefit from a network of 500 experts and advisors in the field, and sometimes in very sophisticated aspects of SE (Times of Oman 2016).

<sup>108</sup><https://www.mosd.gov.om/index.php/en/home>

<sup>109</sup><https://www.mosd.gov.om/images/pdf/Tawasul.pdf>

<sup>110</sup><https://www.mosd.gov.om/images/pdf/Taqdeer.pdf>

<sup>111</sup><https://www.mosd.gov.om/images/pdf/Tamask.pdf>

<sup>112</sup><https://www.mosd.gov.om/images/pdf/Taqayof.pdf>

<sup>113</sup><https://www.mosd.gov.om/index.php/en/home>

<sup>114</sup>It means “support”.

<sup>115</sup><http://www.wegrowwithc3.com/>

<sup>116</sup>C3, is awarded the *Social Enterprise Mark CIC*, “The *Social Enterprise Mark* is the only internationally available social enterprise accreditation scheme, enabling credible social enterprises to prove that they are making a difference” (Social Enterprise Mark website 2017).

### 2.16.9 Palestine (the West Bank and Gaza)

#### The Public Sector

The ministry in charge of SE is *Ministry of Social Affairs* (in Arabic: *Vezerat Al'Shoun Al'Ejtemayyah*).<sup>117</sup> One of the comprehensive and current programs of the ministry in 2017 is *National Social Protection Program (Al'Barnamaj Al'Vatani Lelhemayat Al'Ejtemayyah)*. *Social Protection Sector* consists of a wide range of institutions, which embrace the governmental and non-governmental institutes. It consists of three governmental organizations/bodies<sup>118</sup>:

- *Ministry of Social Affairs*: Essential tasks in the organizing process of the *Social Protection Sector* and its guidance, plus management and the formulation of social protection policies, in addition to the control, supervision and provision of the services to poor families and marginalized groups take place through its departments and branches in different provinces of the country.
- *The Institute for the Welfare of Families of Martyrs and Wounded (Moasesat Roayat Asra Al'Shohada va Al'Jarhi)*: It is founded in 1969, and is sponsoring the families of the martyrs and the wounded at home and abroad; the institute seeks to provide a decent standard of living for the families of the martyrs and the wounded. It also provides them with a monthly allowance in accordance with the financial system and regulations of the institute, besides health insurance services and a range of educational services.
- *Ministry of Prisoners' Affairs (Vezerat Shoun Al'Asri va Al'Moharrerin)*: The ministry offers a variety of services to the prisoners inside the prisons and outside, represented by the monthly salaries of the prisoners, and grant the release of one-time, fines, and the canteen, and university education for prisoners and for their families, health insurance, etc. Also, the ministry provides support through rehabilitation of released prisoners to enable them to integrate into the economic and social activities.

The following organizations also help the government for the implementation of the abovementioned *National Social Protection Program*:

- *Lajan O'Zakat (Zakat Committee)*: supervised by the *Ministry of Awqaf and Religious Affairs*, and plays an important role in terms of social protection in Palestine, through its various programs related to helping poor families financially and in kind, in addition to aid for orphans and care, training programs and projects carried out for the benefit of poor families and marginalized groups. It is funded from domestic sources and from some projects by 10–15% and the rest is funded by the support from the Arab and Islamic external sources. These committees play an important role in the process of social protection in Palestine, and

<sup>117</sup><http://www.mosa.gov.ps/#>

<sup>118</sup><http://www.mosa.gov.ps/showTopic.php?id=49> (In Arabic, translated by the author.)



provide in-kind and material assistance to approximately U.S. \$ 30 million annually.

- *Palestinian Red Crescent Society (Jamiyyat Al'Helal Al'Ahmar Al'Felestini)*: It offers a variety of services of social protection for the Palestinians in the homeland and in the Diaspora, and plays an important role within the home through the total health services, rehabilitation, mental health and social vulnerable and marginalized groups, especially those with disabilities, the elderly and the wounded and the children who have developmental problems.

Finally, some international bodies which help this program, such as: The *EU*, *FAO*, *UNDP*, *UNICEF* and *UNFPA*.

### The Third Sector

The active non-governmental organizations in Palestine are as follows:

- *Palestine Children Relief Fund (PCRF)*<sup>119</sup>: The organization is introduced itself as, "A non-political, non-profit organization dedicated to healing the wounds of war and occupation in the Middle East." It has established the first and only pediatric cancer center in Gaza. The organization also finds poor children in the district with chronic diseases and provides them with medical care. They also send volunteer teams of surgeons and doctors to some ME hospitals. Moreover, they have some projects for needy children in the refugee camps of Palestine, Lebanon and Jordan.
- *Care*<sup>120</sup> is an active global organization for SE. Its mission statement is, "*Care* works around the globe to save lives, defeat poverty and achieve social justice." Its target population is mostly women and girls. One of its projects in the Gaza district was *Empowering Women-Transforming Communities, Bena'a*.<sup>121</sup> It is a 36-month project in the district for the alleviation of poverty and promotion of gender equality. The project has advocated the formation of local and community-based grass roots organizations to defend the rights of the women and to empower them politically, economically and socially.
- *Zakat Foundation of America (ZF)*<sup>122</sup> is a U.S.-based Muslim-run international SE organization, established in 2001, that tries to do charity works by channeling *Zakat* and *Sadaqa* money towards identified poor people in Muslim communities. Some of its activities in the Gaza district were the distribution of the winter kits among the poor families of the district (14,000 people), distribution of wheel chair and medicine to families in Palestine and Gaza hospitals.<sup>123</sup>

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<sup>119</sup><http://pcrf.net/>

<sup>120</sup><http://www.care.org/about>

<sup>121</sup><http://www.care.org/emergencies/west-bank-gaza-crisis>

<sup>122</sup><http://www.zakat.org/about/>

<sup>123</sup><http://www.zakat.org/country/palestine/>

The list of other active SE organizations dedicated to children affairs in Palestine are as follows: *Atfaluna Society for Deaf Children*,<sup>124</sup> *Canaan Institute of New Pedagogy*,<sup>125</sup> *Nablus the Culture*,<sup>126</sup> *Right to Education Campaign*,<sup>127</sup> *Society of Al'Burij For Community Habilitation*, and some other international organizations such as, *Catholic Relief Services*,<sup>128</sup> *Children's Relief Bethlehem*,<sup>129</sup> *Defence for Children International*,<sup>130</sup> *Fakhoora*,<sup>131</sup> *Hope and Play*,<sup>132</sup> *Interpal*,<sup>133</sup> *Middle East Children's Alliance (MECA)*,<sup>134</sup> *Medical Aid for Palestinians (MAP)*,<sup>135</sup> *PACES*,<sup>136</sup> *Save the Children*,<sup>137</sup> *SOS Children's Villages*,<sup>138</sup> *UNICEF*,<sup>139</sup> *UNRWA*,<sup>140</sup> and *The Welfare Association*.<sup>141</sup>

## 2.16.10 ■ Qatar

### The Public Sector

*Ministry of Administrative Development, Labor and Social Affairs* (in Arabic: *Vezerat Al'Tanmiyat Al'Edariyah va Al'Amal va Al'Shoune Al'Ejtemayyah*) is the governmental body for the pursuit and promotion of SE. Its strategies include rehabilitation programs to training, settling labor disputes and employment of the citizens. Its vision is: "Excellence in managing an active labor market and a cohesive productive society distinguished by luxury to meet the aspirations of the state at the local, regional and international levels."<sup>142</sup>

Moreover, the government of Qatar has a cooperative SE strategy in ME which is praised by the *UN's Report of the Economic and Social Council (2015b)*. The SE strategy of Qatar for crime prevention is the initiative for the establishment of "a

<sup>124</sup><http://www.atfaluna.net/>

<sup>125</sup><http://www.canaan.org.ps/html/index.htm>

<sup>126</sup><http://www.nablusculture.ps/index.htm>

<sup>127</sup><http://right2edu.birzeit.edu/>

<sup>128</sup><http://www.crs.org/our-work-overseas/where-we-work/jerusalem-west-bank-and-gaza>

<sup>129</sup><https://www.childrens-relief-bethlehem.org.uk/en/>

<sup>130</sup><http://www.dci-palestine.org/>

<sup>131</sup><http://fakhoora.org/>

<sup>132</sup><http://hopeandplay.org/>

<sup>133</sup><http://www.interpal.org/>

<sup>134</sup><http://www.mecaforpeace.org/>

<sup>135</sup><https://www.map.org.uk/>

<sup>136</sup><http://pacescharity.org/>

<sup>137</sup>[http://www.savethechildren.org/site/c.8rKLIXMGIpI4E/b.6146405/k.C7E9/About\\_Us.htm](http://www.savethechildren.org/site/c.8rKLIXMGIpI4E/b.6146405/k.C7E9/About_Us.htm)

<sup>138</sup><https://www.soschildrensvillages.org.uk/donate/sponsor-a-child/>

<sup>139</sup><https://www.unicef.org.uk/>

<sup>140</sup><http://www.unrwa.org/who-we-are>

<sup>141</sup><http://www.welfareassociation.org.uk/>

<sup>142</sup><http://portal.www.gov.qa/wps/portal/directory/agency/ministryoflaborandsocialaffairs>

regional fund for the education and training of displaced and refugee children and youth in the Middle East”. Another cooperative strategy in the SE arena which is chosen by this country and mentioned in the report is its cooperation with the *United Nations Office on Drugs and Crime* especially with respect to the implementation of *The Doha Declaration*.<sup>143</sup>

To pursue SE strategies for job generation for the youth, *Silatech*, a social enterprise that was established under the direct order of *His Highness Sheikh Hamad bin Khalifa Al’Thani*, the *Emir of Qatar*, and his wife, *Her Highness Sheikha Mozah bint Nasser Al’Missned*. Generally this country has careful attention to the youth problems. Therefore, *Qatar Foundation*, with the cooperation of the country’s government organized a youth forum<sup>144</sup> prior to the *13th Congress of the UN*.<sup>145</sup> The forum has had eye-catching results which are praised by the *UN*.

### The Third Sector

*Qatar Charity (Qatar Al’Kheyryyah)*<sup>146</sup> is one of the largest non-governmental organizations active in SE through ME. The charity is embracing a wide range of SE activities from health care, education, social care, housing and its infrastructure, water and wells, and *Zakat*, to *Ramadan Donations*.<sup>147</sup> By 2017, the charity has accomplished 52,169 projects in the aforementioned fields.<sup>148</sup> One of the initiatives of the charity is *Shop and Aid* program.<sup>149</sup> The charity via the site for *Shop and Aid* has some contracts with the advertising sites. As somebody buys a product via the website a commission will be paid to the charity which will be directed for SE causes. One of its projects in 2017 is to build 1000 solar-powered housing units for the displaced Syrians.<sup>150</sup>

## 2.16.11 Saudi Arabia

### The Public Sector

The SE strategies are being set in the *Ministry of Civil Service (in Arabic: Vezarat Al’Khedmat Al’Madaniyyah)*.

<sup>143</sup> A declaration on “Integrating Crime Prevention and Criminal Justice into the Wider United Nations Agenda to Address Social and Economic Challenges and to Promote the Rule of Law at the National and International Levels, and Public Participation” (UN’s *Report of the Economic and Social Council 2015*).

<sup>144</sup> The forum had been on “Crime Prevention and Criminal Justice”

<sup>145</sup> [A/CONF.222/17](https://www.un.org/News/Press/docs/2017/1703/170317.crj.conf222.html)

<sup>146</sup> <https://www.qcharity.org>

<sup>147</sup> <https://www.qcharity.org/en/global/home/whatwedo>

<sup>148</sup> <https://www.qcharity.org/en/global/donation/projects>

<sup>149</sup> <http://shopandaaid.com/en/>

<sup>150</sup> <https://www.qcharity.org/en/global/news/details/3694-qatar-charity-embarks-on>

### The Third Sector

The overall strategic view of the government of Saudi Arabia is making international cooperation through partnership with the international organizations active in SE; for instance *Saudi Arabian Ashoka fellow Saadya Al'Wafy* has made “civil district councils” that “allow the members of marginalized communities to determine their own needs and address them in partnership with donors, governmental officials, and volunteers (Abdou et al. 2010). Moreover, the government of the country support international partnership of the Saudi corporations and companies with international organizations in SE field, the partnership between *Abdul Latif Jameel Group* with the *Grameen Foundation U.S.A.* is an example of such a partnership by SE joint venture strategy to provide the Saudi micro-entrepreneurs with microcredits. This partnership has extended its activities to other ME countries, for example it has provided “technical assistance, financing, institutional strengthening, and networking support to 10 MFIs in Egypt, Jordan, Lebanon, Morocco, Palestine, Tunisia, and Yemen” and most of the borrowers had been women (Abdou et al. 2010). Another international partnership is *The Centennial Fund (TCF)* inside the country which has made partnership with *The Prince's Youth Business International (YBI)* in Britain. The aim of this partnership is the promotion of job generation for young Saudi Arabians. A report which is published by *Wolfensohn Center for Development at Brookings, Dubai School of Government, and Silatech* in 2010 shows strong governmental support behind TCF (Abdou et al. 2010) which shows “encouraging and relatively active” positioning of the government, aligned with cooperative SE strategy. *The U.S.-Saudi Women's Forum on Social Entrepreneurship*,<sup>151</sup> is another partnership which is among three organizations, *Dar Al'Hekma College* in Saudi Arabia, the *Wellesley Center for Women* and the *Center for Women's Leadership at Babson College* in the U.S.A. The partnership has been formed in 2009 and is funded and supported by *ICF International* and the *U.S. Department of State's Middle East Partnership Initiative. King Khaled Foundation*, another organization active in SE, in 2010 made a partnership with the *Acumen Fund*, “to promote social entrepreneurship in Saudi Arabia through a national competition to recruit and select a Saudi Acumen fellow.”<sup>152</sup>

One of the social problems of Saudi Arabia, like most of the countries of the region is large youth population within the employment age. Based on *Forbes* (2013) the Saudi officials have the intention and obsession of employing the youth population, most of them lack market-oriented education and skills. They have tried to fulfill this intention by the establishment of *King Abdullah University of Science and Technology*, which provides the youth with on-the-job trainings (Nieva 2015).

<sup>151</sup><http://us-saudiwomensforum.blogspot.com/>

<sup>152</sup>*Acumen Fund* and *King Khaled Foundation*, “Patient Capital: Investing in Development and Leadership” (presentation, *3rd World Congress of Muslim Philanthropists*, Doha, March 22, 2010, cited in Abdou et al. 2010)

## 2.16.12 Turkey

### The Public Sector

The SE governmental strategies are being formulated in two of Turkey's ministries: [Ministry of Family and Social Policy](#)<sup>153</sup> and [Ministry of Health](#).<sup>154</sup> [Ministry of Family and Social Policy](#), established in 2011, is active in six social issues related to: (1) Family and Public Services; (2) Children Services; (3) Disabled and Elderly Services; (4) Status of Women; (5) Social Aids, and (6) Services for [Casualty Relatives and Veterans](#).<sup>155</sup> Ministry of Health sets the strategies related to health, disease prevention and treatment.

Some countries of the region such as Turkey has had “Gradual erosion of public governance” from 2011 to 2015. Based on the data available from *RobecoSAM* and the *World Bank* (*RobecoSAM 2016*) each year this country has experienced a decline. Such “erosion” will have negative impacts on the social factors possibly; and definitely on political factors which beget social consequences, the consequences SE seeks to elevate and improve.<sup>156</sup>

### The Third Sector

- *KAMER Foundation*<sup>157</sup> is an example of true SE which is founded in 1997 and has human rights for women in its philosophy of establishment. The foundation's mission statement is “to identify local practices of the sexist system that harm women and children, to develop alternatives, and enable their implementations.” Although once it wanted to be active only in Anatolia, now it is active in 23 provinces of Southeast and Eastern Anatolia. One of its outstanding initiatives had been *An Opportunity for Every Woman Project* which was started in 2004, in 23 provinces of the country. The motto of this social organization is “women's rights are human rights.” One of the activities that they do is providing some statistical data on women's conditions in Turkey. For instance one of their activities is *The Report of Refugee Women in Five Cities*<sup>158</sup> in Turkey which could provide the governmental policy makers of the country with praiseworthy data in respect of the refugee women issue. They use primary sources to gather their SE data.<sup>159</sup>

<sup>153</sup><http://www.aile.gov.tr/>

<sup>154</sup><http://www.saglik.gov.tr/>

<sup>155</sup>[https://en.wikipedia.org/wiki/Ministry\\_of\\_Family\\_and\\_Social\\_Policy\\_\(Turkey\)](https://en.wikipedia.org/wiki/Ministry_of_Family_and_Social_Policy_(Turkey))

<sup>156</sup>The six factors which are presented in *RobecoSAM (2016)*, which shows the decline of the governance in all six factors, are as follows: voice and accountability, political stability, governance effectiveness, regulatory quality, rule of law, and control of corruption.

<sup>157</sup>[http://www.kamer.org.tr/eng/icerik\\_detay.php?id=270](http://www.kamer.org.tr/eng/icerik_detay.php?id=270)

<sup>158</sup>[http://www.kamer.org.tr/eng/icerik\\_detay.php?id=254](http://www.kamer.org.tr/eng/icerik_detay.php?id=254)

<sup>159</sup>[http://www.kamer.org.tr/eng/icerik\\_detay.php?id=186](http://www.kamer.org.tr/eng/icerik_detay.php?id=186)

- *Foundation for the Support of Women's Work (FSWW)*<sup>160</sup> is another Istanbul-based successful SE. It is established as a not-for-profit civil society in 1986 to promote and improve the quality of life among low-income women and to empower them in order to play an active role in the local community. FSWW has a close cooperation with the local government in the fulfillment of the aforementioned social goal. Furthermore, the organization is active in low-income neighborhoods of Istanbul, Southeastern Anatolia and previously earthquake-stricken regions of Turkey.
- *Ashoka* had been active in Turkey as *Ashoka Turkey*<sup>161</sup> since 2000. 2014 had been a prominent year for the *Ashoka* in the country by the establishment of *Ashoka Vakfi*. The *Ashoka fellows* have implemented some projects in Turkey through the following associations/organizations: *Support for Women's Work (Kadın Emeğini Değerlendirme Vakfı)*, *Networking for Nature Conservation in Turkey (Nature Net)*, *Community Volunteers Association (Toplum Gönüllüleri Vakfı)*, *The Ray of Hope Women Cooperative (UmutIşığı Kadın Kooperatifi)*, *Water Lily Women's Cooperative (Nilüfer Kadın Kooperatifi)*, *Human Settlements Association (İnsan Yerleşimleri Derneği)*, *Eastern Anatolia Union of Agricultural Producers and Stockbreeders (Doğu Anadolu Tarımsal Üreticilerve Besiciler Birliği)*, and finally *Children of Hope Population (Umut Çocukları Derneği)*.

### 2.16.13 The UAE

#### The Public Sector

*Ministry of Community Development*<sup>162</sup> (in Arabic *Vezerat Tanmiyat Al'Mojtama*) is responsible for setting SE strategies of the state. Its strategic objectives are as follows: “(1) develop social security and benefit policy; (2) enable the helpless person incorporate and active participation in the society; (3) enhance Emirati families stability and strengthen the social communications; (4) encourage the social participation and responsibility in a way that enhance the active partnership between the government, civil and private sector, and (5) ensure the provision of all administration services according to quality, efficiency and transparency standards.”<sup>163</sup> Some of the strategic initiatives of the ministry from 2014 to 2016 could be summarized as: *Social Benefit Gate* to fulfill the first abovementioned strategic objective, *Harmonization of Disabled Person Right Law with The International Agreement for Disabled Persons Rights*, according to the second objective, *Safe Haven* in accordance with the second objective, *For You* initiative, and *Preventative*

<sup>160</sup><http://www.kedv.org.tr/about-kedv/?lang=en>

<sup>161</sup><http://turkey.ashoka.org/fellows-uyeleri>

<sup>162</sup><https://www.msa.gov.ae/MSA/AR/Pages/MSAHome.aspx>

<sup>163</sup><https://www.msa.gov.ae/MSA/EN/Pages/StrategicObjectives.aspx?eqs=17BbbJMJKRop3+jyp938630EcXZiyXFy>

*Orthodontisc*, with the same aforementioned objective, etc.<sup>164</sup> Abdou et al. (2010) believe most of the social enterprises of ME are legally registered as not-for-profit and have problem with the governmental regulations, bureaucracy, and red tape which are the barriers for their sustainability and scaling up. Besides, there is not any hard and fast rule and clear governmental treatment towards them. For instance, the question: “Can the social enterprises and not-for-profit organizations benefit from commercial loans or not?” still remained unanswered in the UAE (El-Bayar 2010).

### The Third Sector

Although it is not possible to register a social enterprise which is not in one of the classifications of business or charity<sup>165</sup> (Locke 2015) some social enterprises such as *Dumyé: Dolls with Purpose* could register the business in another country and then enter the Dubai SE market. Since the social enterprises are not recognized legally (Talib 2015), the burden of the SE is completely on the shoulders of the government. This issue needs some amendments to the regulatory level by the government of the UAE. There are many Emiratis who wish to serve the needy communities as volunteers. El-Bayar (2010) explained the situation as follows:

“When the *Emirates Foundation* and the U.S.-based *Points of Light Institute* set up a national volunteer center for the United Arab Emirates called *Takatof* to help match volunteers to civil society organizations, they were swamped with many more Emirati volunteers than they could place.”

#### 2.16.14 Iraq, Syria and Yemen<sup>166</sup>

Since these countries are engaged in civil wars, and their humanitarian catastrophes are so intensive, most of the active organizations in SE are universal organizations such as *UNESCO*, *UNICEF*, *UN*, etc. or the neighboring countries in the region. The social miseries in these countries from the malnutrition of the children to the consequences of war made these countries burden of social problems which need the humanitarian help of all the countries of ME for a relief. The situation of the youth in Iraq; for example, could be lucidly reflected in *UNDP's Iraq Human Development report on Iraq* (2014):

<sup>164</sup>For the complete list see: <https://www.msa.gov.ae/MSA/EN/Pages/initiatives20142016.aspx?eqs=vuDaVZRpwRO7EIPUaRhsDw==>

<sup>165</sup>In the UAE, “Department of Economic Development” is in charge of commercial businesses while “Ministry of Social Affairs” administers the charities (Talib 2015)

<sup>166</sup>The United Nations High Commissioner for Refugees (UNHCR) at the end of 2015, estimated that approximately 170,000 people have escaped from the war in Yemen to the neighboring countries and 2.5 million other were displaced inside the country (UNHCR 2016).

In 2013, the Iraqi children who were born during the decades of wars, economic sanctions, and armed conflicts reached the age of youth. They were brought up in families that suffered from poverty, fear, and exclusion.

Based on the report three main challenges of the Iraq in demographical aspect are: “the changing age structure of the population, fertility rates, and migration” (UNDP’s Iraq Human Development report on Iraq 2014). The same report also points out the high unemployment rate in Iraq.

Six years of conflict in Syria made a tragic humanitarian scene which needs urgent relief by the help of international organizations active in SE arena. The people who are in need of humanitarian support in Syria is 13.5 million people (UNDP website 2017).<sup>167</sup> *UNDP* had been one of these international organizations busy with SE. This *UN* subsidiary has done its duty through, “improving infrastructure, boosting local economic and employment opportunities” in the neighboring countries with Syria hosting the refugees. In Lebanon *UNDP*, has supported 140 Syrian and Lebanese communities and has prepared job opportunities for 1.4 million people. The strategy of *UNDP* in Jordan had been inducing necessary grounds for the establishment of small businesses for the refugees. In 2017, *UNDP* is active in five countries of ME (Turkey, Jordan, Lebanon, Syria and Iraq) to handle the refugee matters. Concerning Yemen, *UNDP* has established the first social business lab in cooperation with *ROWAD Entrepreneurs’ Foundation*, the *Yemen Women Union and the Business Support Center*, and *Small and Medium Enterprise Promotion Service (SMEPS)* in Sana’a. Through this social business lab, the subsidiary of the *UN* gathered 50 youth from the crisis-stricken part of the country to present and propose business solutions for the relief of the affliction of Yemen.<sup>168</sup>

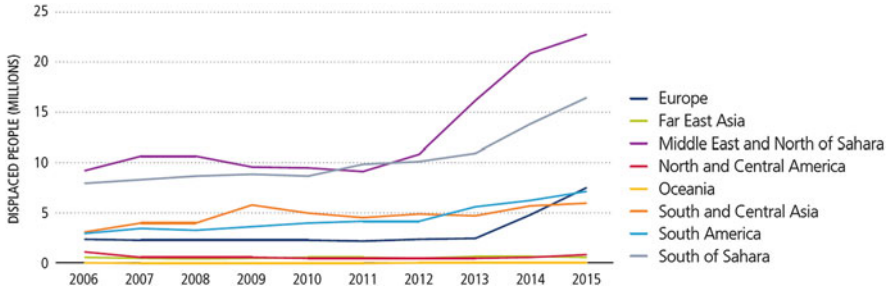
The other *UN* subsidiary *UNICEF*, formulated *Whole of Syria Humanitarian Response Plan*<sup>169</sup> in 2017 to response to 3 million displaced children inside Syria. *UNICEF* is present on the field in crisis-stricken regions of Syria and tries to provide clean water, hygienic situation and sanitation to children through *WASH* program. Also, it has established some mobile clinics for the children’s vaccination. Through the *Response Plan*; the subsidiary has attempted to provide the displaced children with learning facilities, space and psychosocial supports. By the distribution of water disinfectant to 14 million people *UNICEF* prevented waterborne diseases. Moreover, the organization reached 700,000 adolescents and children in disastrous districts and provided them with its services such as distribution of blankets, and psychosocial support as well as 2000 children with disabilities who received cash from the organization.

<sup>167</sup>[http://www.undp.org/content/undp/en/home/ourwork/our-projects-and-initiatives/Responding\\_to\\_crisis\\_Syria.html](http://www.undp.org/content/undp/en/home/ourwork/our-projects-and-initiatives/Responding_to_crisis_Syria.html)

<sup>168</sup><http://www.ye.undp.org/content/yemen/en/home/presscenter/pressreleases/2015/10/26/first-social-business-lab-in-sana-a-to-support-social-entrepreneurship-for-resilience-inaugurated-0.html>

<sup>169</sup><http://reliefweb.int/report/syrian-arab-republic/humanitarian-action-children-2017-syrian-arab-republic>





**Fig. 10** Displaced people by region, 2006–2015 (Source: Global Humanitarian Assistance Report 2016)

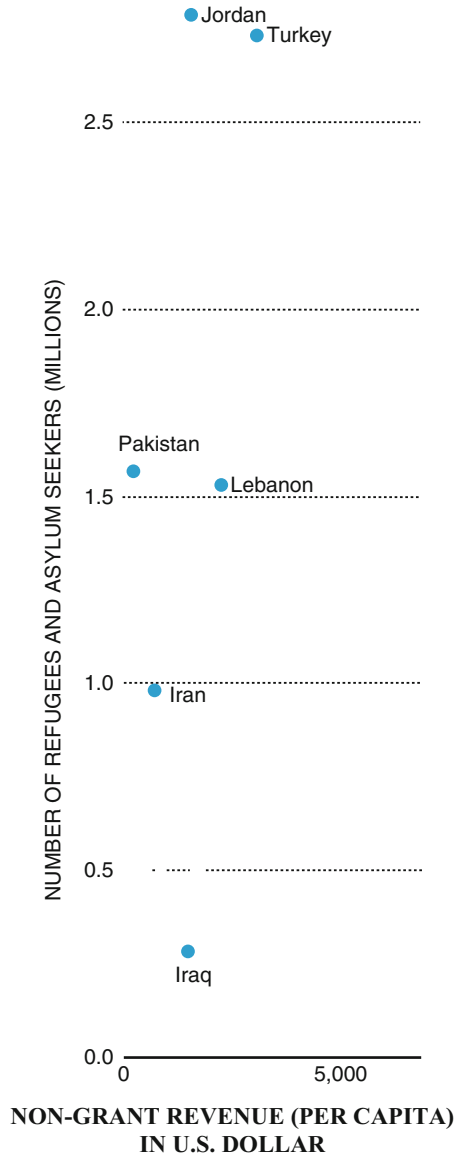
Based on Fig. 10, ME besides North of Sahara are the most “displaced people” populated regions of the world. Definitely, the civil wars in the three countries of Iraq, Syria and Yemen have had great impacts on this humanitarian catastrophe. The severity of the problems in these three countries could be only solved by international cooperation which demands a universal strategy for SE. The six countries of ME that have accepted the largest number of refugees in the region should cooperate closely for the formulation and then implementation of such strategies (Fig. 11).

### 3 Methodology

This paper is mostly a review which tries to cast light on the status quo of the SE strategies in ME and within the governmental sector; therefore, the secondary data which were published by the governmental agencies of the region, the *UN* subsidiaries and other authentic global organizations were investigated not only to determine the strategies and their effectiveness in this significant region with its idiosyncratic social problems but also to classify SE strategies in ME. The fruitfulness of such an approach comes from its illuminating effect on grasping the status quo to be able to implement future necessary modifications, improvements or corrective measures which have always been part of each strategy cycle based on the feedbacks. Furthermore the approach could partly compensate the unsatisfactory conditions of SE studies in ME as “an underrepresented region” in SE literature (Abdou et al. 2010). Accordingly, this paper is shaped around the following research questions:

1. What are governmental social entrepreneurship strategies in the Middle East?
2. How could we classify the Middle East’s governmental social entrepreneurship strategies?

**Fig. 11** Number of Refugees/Asylum Seekers in ME Countries Hosting the Most Refugees/Asylum (Source: Global Humanitarian Assistance Report 2016) (Note: For better comparison, the non-ME countries are deleted by the author)



### 4 Results and Discussion

The involvement in SE should be voluntary and mainly without profit-seeking intentions. Therefore, the strategies which are formulated by the governments in this field should not interfere flagrantly in all social aspects of life even with the best intentions for the improvement. Social issues especially those related to social

welfare and well-being and the affairs which are inherently philanthropic need to be seen as a system and an interdisciplinary issue. Thus sociology, psychology, public administration, economics, etc. should be considered for any interpretation of social problems and implementation of SE strategies. Promotion of SE on the side of the governments is very vulnerable. It could lead to very positive or on the contrary devastating effects. It is the same as the case for blood donation. Suppose the blood donors will be paid for their blood. Then, the result will be a negative impact for future altruistic donations. Although the non-monetary incentives play a positive role (Rienzi 2013), based on the *World Health Organization's* recommendation blood donation should be voluntary (Harvey 2015). Accordingly the governments should motivate voluntary participation of their people (volunteerism) with the least intervention; otherwise it will become one of the duties of the governments to relieve the social problems for the long run and changes the society to a passive “bystander”.<sup>170</sup> In other words, if SE is promoted steadfastly and with full intervention of the governments then the NGOs and other non-governmental organizations will not pursue the case anymore. It will completely undermine SE besides social morality. Therefore, the governments should follow the policies which personally call a “detached but supportive policy”. It could be interpreted as restricting direct intervention on the governments’ side as much as possible and on the other hand, paving the way and preparing suitable ground for the nourishment of SE. Such policies recommend providing the SE practitioners with the relevant logistics vigorously and adamantly.

Governments’ role in SE should be simultaneously a regulatory and controlling role. Regulation<sup>171</sup> (and hence regulatory policy) has seen, for example in economic arena which is the matrix of entrepreneurship, as one of “the three key levers of state power” (beside fiscal and monetary policies) in forming the welfare in economies and societies (OECD 2010). Therefore, it is a quality which should be taken into consideration by the governments in SE strategy formulation. It is the art of the governments to play with these policies to lead their nations towards welfare. The *administrative burdens*<sup>172</sup> and red tape<sup>173</sup> should be decreased for the practitioners of entrepreneurship, and hence the SEOs. The reports in some countries out of the region of ME that are administrative burden reduction programs (such as Holland, UK, Belgium, and Slovenia) also led to considerable savings for billions of dollars for the governments (OECD 2010).

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<sup>170</sup>*Bystander Effects*: Referring to the psychological finding that people are less likely to help when others are present (Nolen-Hoeksema et al. 2009, p. 614).

<sup>171</sup>For example, the *World Bank* has “ease of doing business” ranking in governmental-sponsored entrepreneurship which measures “regulatory simplicity” and “protection for property rights” (World Economic Forum 2011).

<sup>172</sup>“*Administrative Burdens* are costs imposed on businesses, when complying with information obligations stemming from government regulation.” (Better Regulation Unit Malta website).

<sup>173</sup>For example to “eliminate red tape” microfinance should be legalized and supported (World Economic Forum 2011) within the governmental SE strategies and policies in all the countries of the region.

On the other hand, SE is not the arena for aggressive competitive strategies. The ME countries should pick cooperative strategies to promote SE in the region. As knowledge and technology have “spillovers” to the neighboring countries (Bos et al. 2016), social problems could also have the same nature. If a country is afflicted with a social disease such as addiction, drug trafficking, AIDS, child labor, religious prejudice, etc. it is possible to contaminate the country abreast, and on the contrary the welfare which was originated from SE could have spillover too, and accordingly could be called *SE spill over*. *Sa’di*,<sup>174</sup> the medieval Persian poet, in 1258 CE put it in verse as:

The children of Adam are limbs of each other  
 Having been created of one essence.  
 When the calamity of time afflicts one limb  
 The other limbs cannot remain at rest.  
 If you have no sympathy for the troubles of others  
 You are not worthy to be called by the name of “man”. (*Golestān*)

Although there is a plethora of social problems in ME, it is the region of plenty. Cooperative strategy among the nations of the region could lead to a wonderful synergism. If there is no ground for political cooperation, at least there is a possibility for humanitarian cooperation.

Social problems of ME should be seen as “communicating vessels”—the problems in one part of the region could contaminate the other. Is it possible to eradicate contagious diseases when the neighboring country cannot or has not done anything in this direction? It is temporarily possible to get rid of the diseases but in short term the diseases will emerge and “spill over” to the neighboring country or region. Therefore, governments of ME beside their home strategies should cooperate to set some relevant SE strategies for ME without interfering political factors. If we take *Resource Based View (RBV)* in strategic management, the synergism of the ME nations’ resources together can flourish tremendous consequences for the life and existence of the earth and human being. Although *RBV* emphasizes the resources that on the competitive situation the country or organization should rely on, this could be implemented in a condition that the countries share their competitive resources for the good of humanity and the world in a cooperative condition, and hence the cooperative nature of the SE strategies for the region should be accentuated once more. That is not a utopian idea, since sooner or later the whole region will get to this understanding. For instance, how could a country fight against dust in the air of its cities which are near to the borders to a desert and arid neighboring country? The wind in the neighboring country brings the dust to the next one. Social and

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<sup>174</sup>“While *Sa’di* often counsels tolerant and altruistic humanism in the *Golestān* (e.g., “mankind are all members of one body,” Chap. 1:10), his principles sometimes derive from conventional mores, or from simple comfort and convenience (Chap. 2:29), and sometimes betray the prejudices of the day against black Africans (Chap. 1:40), Jews (Chaps. 3:21, 4:9), and women (G179), etc. (Southgate 1984)” (Encyclopedia Iranica).

sustainable development problems do not know borders, they cross the borders in a flash. Moreover, based on the same view (*RBV*) in strategic management, each country when acting locally, should rely on its idiosyncratic and competitive resources, in other words, it should rely on the concept of *Customized Social Entrepreneurship (CSE)* (Rowshan and Forouharfar 2014) which is the re-definition of this strategic view in SE. Therefore the governmental strategies of the ME countries should be aligned with the *CSE* which rises from the idiosyncrasies of those countries in the social problems and resources. Such an approach in SE takes the *Contingency* theory granted. To promote SE the ME governments, based on *CSE* could choose one or a bundling of ten policy tools. According to Sanchez (2016) these policy tools for SE are: (1) legal forms<sup>175</sup>; (2) fiscal incentives<sup>176</sup>; (3) public procurement systems<sup>177</sup>; (4) grants; (5) public venture capital funds<sup>178</sup>; (6) guarantee funds<sup>179</sup>; (7) social impact bonds<sup>180</sup>; (8) awareness campaigns; (9) incubation and acceleration,<sup>181</sup> and (10) training and capacity building.

On the other hand, *Systems Thinking* should be the bottom line for presenting solution to social problems. The problems should be stated and traced back exactly to be able to solve them. The root to one social problem could be found in another.

Additionally, in setting the SE strategies the governments of ME should pay adequate attention to *ESG*<sup>182</sup> issue, which is now an index in global financial investment in countries and companies.<sup>183</sup> By the implementation of SE strategies

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<sup>175</sup>To legally recognize a form and structure for the establishment of SE within that country, e.g. *Benefit Corporation* in the U.S., *Community Interest Company* in the U.K., *Social Cooperatives* and *Social EX Ledge* in Italy, *Social Enterprise* in South Korea.

<sup>176</sup>Such as following tax relief policies.

<sup>177</sup>To manage the demand and supply on the side of the public to the established SE, by governmental regulations.

<sup>178</sup>To invest in public ventures which could have the highest *SROI (Social Return On Investment)*.

<sup>179</sup>To facilitate the availability and access to finance for those social enterprises which cannot provide sufficient collaterals to the finance institutes.

<sup>180</sup>To induce the public invest through the bonds on those social projects and enterprises which are important to the government.

<sup>181</sup>Such as governmental *Seoul Creative Lab* in South Korea and *Social Incubator Fund* in the UK.

<sup>182</sup>Environmental, Social and Governance.

<sup>183</sup>Based on *CFA institute (2015)* some *ESG* issues in *Environmental* issues are: climate change and carbon emissions, air and water pollution, biodiversity, deforestation, energy efficiency, waste management, water scarcity, and for the *Social* ones: customer satisfaction, data protection and privacy, gender and diversity, employee engagement, community relations, human rights, labor standards and finally the *Governance* issues: board composition, audit committee structure, bribery and corruption, executive compensation, lobbying, political contributions, and whistleblower schemes.

with the *ESG* concerns met at their formulation, and pursuing *ESG*-friendly policies the governments could kill two birds with one stone, they relief their social problems inside and pave the way for international investment as an outside reward that brings economic prosperity in the long run. The *ESG* analyses of the countries<sup>184</sup> are usually done by the application of the pertinent data of the countries from *Transparency International*, *the World Bank*, *Eurostat*, etc. to build *SRI*<sup>185</sup> bonds for the investment in the countries (Novethic 2013) and risk management analyses. Negligence of socio-economic and governance issues by the ME governments paved the way for social unrest in the *Arab Spring*, which overthrew some of the governments of the region (*The CRO Forum* 2013) and made devastating civil war in some others. Therefore, the SE strategies of the countries in the region must be *ESG*-oriented.

To evaluate the degree of the works that should be done through the formulation of SE strategies in each country of the region the *Social Progress Index* (2016) by the *Social Progress Imperative*<sup>186</sup> along with other relevant factors (e.g. HDI, FDI, CPI, RoL, Gini Index, etc.) for SE were derived for ME countries and were presented in Table 4. Concerning the *Social Progress Index*, it has categorized the countries in 5 classes: *Very High Social Progress* (1–12), *High Social Progress* (13–62), *Lower Middle Social Progress* (63–95), *Low Social Progress* (96–126) and *Very Low Social Progress* (127–133). The ME countries can evaluate their distance from 1–12 countries in the section *Very High Social Progress*.<sup>187</sup> Maybe they could be used as a benchmark for them according to *Customized Social Entrepreneurship* which suggests taking into consideration the idiosyncrasies of each country in SE approaches. The consideration of the *Social Progress Index* parameters in formulating governmental SE strategy is a pivotal necessity which should not be neglected. Figure 12 has shown how the index is correlated to the GDP which is an important socio-economic factor for the interpretation of governmental SE strategy effectiveness for the nation.

<sup>184</sup>In reference to the *RobecoSAM*'s country sustainability assessment (2016) for the *ESG* criteria, among 62 countries, the rank of 6 ME countries which are derived by the author are as follows: Israel (31), Qatar (35), Saudi Arabia (41), Kuwait (44), Turkey (55) and Egypt (60). It is noteworthy that the selection of the research agency had been based on "22 developed and 40 emerging market economies". Moreover, *RobecoSAM* with the cooperation of *S & P Dow Jones Indices*, publish *Dow Jones Sustainability Indices (DJSI)* which is a globally known group of indices for the evaluation of the sustainability performance and assessment of 2500 companies in the *Dow Jones Global Total Stock Market Index*.

<sup>185</sup>*Socially Responsible Investment*.

<sup>186</sup>"The *Social Progress Imperative* is registered as a nonprofit organization in the United States." (*Social Progress Imperative* 2016).

<sup>187</sup>Consists of: 1. Finland (90.09), 2. Canada (89.49), 3. Denmark (89.39), 4. Australia (89.13), 5. Switzerland (88.87), 6. Sweden (88.80), 7. Norway (88.70), 8. Netherlands (88.65), 9. United Kingdom (88.58), 10. Iceland (88.45), 11. New Zealand (88.45), 12. Ireland (87.94).

**Table 4** Comparative socio-economic conditions for governmental SE among the ME countries<sup>a</sup>

	Country															
Index	Bahrain	Egypt	Iran	Iraq	Israel	Jordan	Kuwait	Lebanon	Oman	Palestine (the West Bank and Gaza)	Qatar	Saudi Arabia	Syria	Turkey	UAE	Yemen
Population (approx./Million)	1.781	90.253	78.778	36.575	8.059	6.837	4.161	4.288	4.181	4.683	2.113	31.521	23.270	78.214	10.000	26.745
Social Progress Index Score <sup>b</sup>	Insufficient data <sup>c</sup>	60.74	59.45	52.28	75.32	65.43	71.84	64.42	Insufficient data	Excluded	Insufficient data	66.30	Excluded <sup>d</sup>	67.82	73.69	41.76
Global SPI Ranking <sup>d</sup>	Upper Middle	89	93	104	37	71	45	74	Upper Middle	–	Upper Middle	65	–	58	39	127
ME SPI Ranking	Upper Middle	8	9	10	1	6	3	7	Upper Middle	–	Upper Middle	5	–	4	2	11
Social Entrepreneurial Activity <sup>e</sup>	–	2.0% <sup>f</sup>	2.0%	–	4.0%	0.9%	–	1.5%	–	0.5%	–	0.2%	1.0%	–	6.3%	–
ME SEA Ranking	–	3	3	–	2	6	–	4	–	7	–	8	5	–	1	–
GDP <sup>g</sup>	64,160	998,667	1,358,795	560,730	300,281	82,799	290,529	81,537	179,492	22,200	316,398	1,688,633	No. Info.	1,542,555	640,720	75,688
Global GDP Ranking	97	22	18	33	52	84	53	85	65	136	49	14	–	17	31	88
ME GDP Ranking	14	4	3	6	8	11	9	12	10	15	7	1	–	2	5	13
Bank Credit to the Private Sector (Percent of the GDP) <sup>h</sup>	63.00	25.95	54.41	6.95	66.92	70.13	67.24	99.20	46.44	8.40	45.23	44.44	–	70.10	65.37	–
Global Bank Credit to the Private Sector Ranking <sup>h</sup>	48	119	61	162	44	36	41	20	77	160	78	81	–	37	45	–
ME Bank Credit to the Private Sector Ranking	7	12	8	14	5	2	4	1	9	13	10	11	–	3	6	–
Foreign Direct Investment, billion U.S.\$ <sup>i</sup>	0.96	4.78	2.11	4.78	6.74	2.01	0.49	2.91	0.74	0.13	1.04	8.01	–	12.52	10.82	–0.74
Global FDI Ranking <sup>i</sup>	91	45	65	78	39	67	113	58	101	144	87	34	–	24	28	185
ME FDI Ranking	11	5	7	9	4	8	13	6	12	14	10	3	–	1	2	15
Gini Index <sup>j</sup>	–	30.8 (2008)	37.4 (2013)	29.5 (2012)	42.8 (2010)	33.7 (2010)	–	–	–	–	–	–	35.8 (2004)	40.2 (2013)	–	35.9 (2005)
Youth Unemployment <sup>k</sup>	Men	49.8% (2004)	86.3% (2013)	35.1% (2010)	9.9% (2014)	–	–	–	–	33.4% (2012)	19.3% (2013)	18.9% (2013)	–	17.2% (2014)	–	23.9% (2010)
Working Population in SE Organizations <sup>k</sup>	Women	49.6%	91.4%	49.3%	7.7%	–	–	–	–	54.0%	22.2%	20.6%	–	26.7%	–	20.7%
	–	–	2.0%	–	4.0%	0.9%	–	1.5%	–	0.5%	–	0.2%	1.0%	–	6.3%	–

Human Development Index <sup>m</sup> (2014)	0.824	0.690	0.766	0.654	0.894	0.748	0.816	0.769	0.793	0.677	0.850	0.837	0.594	0.761	0.835	0.498
Global HDI Ranking <sup>m</sup>	45	107	70	120	18	79	48	68	53	112	33	39	133	73	42	159
ME HDI Ranking	5	12	9	14	1	11	6	8	7	13	2	3	15	10	4	16
Corruption Perception Index <sup>n</sup>	51	36	27	16	61	53	49	28	45	-	71	52	18	42	70	18
Global CPI Ranking <sup>n</sup>	50	88	128	159	32	45	55	122	60	-	22	48	152	66	23	152
ME CPI Ranking <sup>o</sup>	6	10	12	14	3	4	7	11	8	-	1	5	13	9	2	13
Rule of Law <sup>p</sup>	0.45	-0.60	-1.03	-1.36	1.11	0.48	0.05	-0.76	0.58	-	0.99	0.27	-1.34	0.04	0.71	-1.17
Global RoL Ranking <sup>p</sup>	60	130	166	182	31	57	77	145	50	-	35	67	178	78	44	176
ME RoL Ranking	6	10	12	15	1	5	8	11	4	-	2	7	14	9	3	13

<sup>a</sup>Note: The data are derived by the author from the relevant articles and authentic international organizations.

<sup>b</sup>Distance from satisfactory condition, based on the *Social Progress Imperative* (2016).

<sup>c</sup>“Insufficient data” by the *Social Progress Imperative* (2016) but based on this organization’s estimation *Qatar, Bahrain* and *Oman* are ranked as *Upper Middle countries*.

<sup>d</sup>The data available for Syria do not accurately represent the rapidly deteriorating situation. For this reason, Syria is excluded from the 2016 Social Progress Index.” (*Social Progress Imperative 2016*).

<sup>e</sup>Global Entrepreneurship Monitor Report on Social Entrepreneurship (2011), presented based on the percentage of the working population. The data used in the report are gathered in 2009, but the report issued in 2011, more over it consists of only 8 countries of ME, one of the reasons is the fact that the other ME countries usually do not provide necessary and to the point data for *GEM* to be used on its global website and researches.

<sup>f</sup>*GEM* (2015).

<sup>g</sup>The source for the *GDP* is the *World Bank* (2016), *World Ranking of GDP* and accordingly *ME Ranking* are from the same source (world ranking of *GDP* is out of 188 countries; moreover, ME ranking of *GDP* is not stated directly and is derived by the author); *GDP* is stated based on millions of international dollars.

<sup>h</sup><http://www.theglobaleconomy.com/economies/>

<sup>i</sup><http://www.theglobaleconomy.com/economies/>

<sup>j</sup>The *World Bank* Website: <http://data.worldbank.org/indicator/SL.POV.GINI>

<sup>k</sup>The *World Bank* Website: [http://data.worldbank.org/indicator/SL.UEM.LTRM.MA.ZS?year\\_high\\_desc=false](http://data.worldbank.org/indicator/SL.UEM.LTRM.MA.ZS?year_high_desc=false)

<sup>l</sup>Global Entrepreneurship Monitor Report on Social Entrepreneurship (2011).

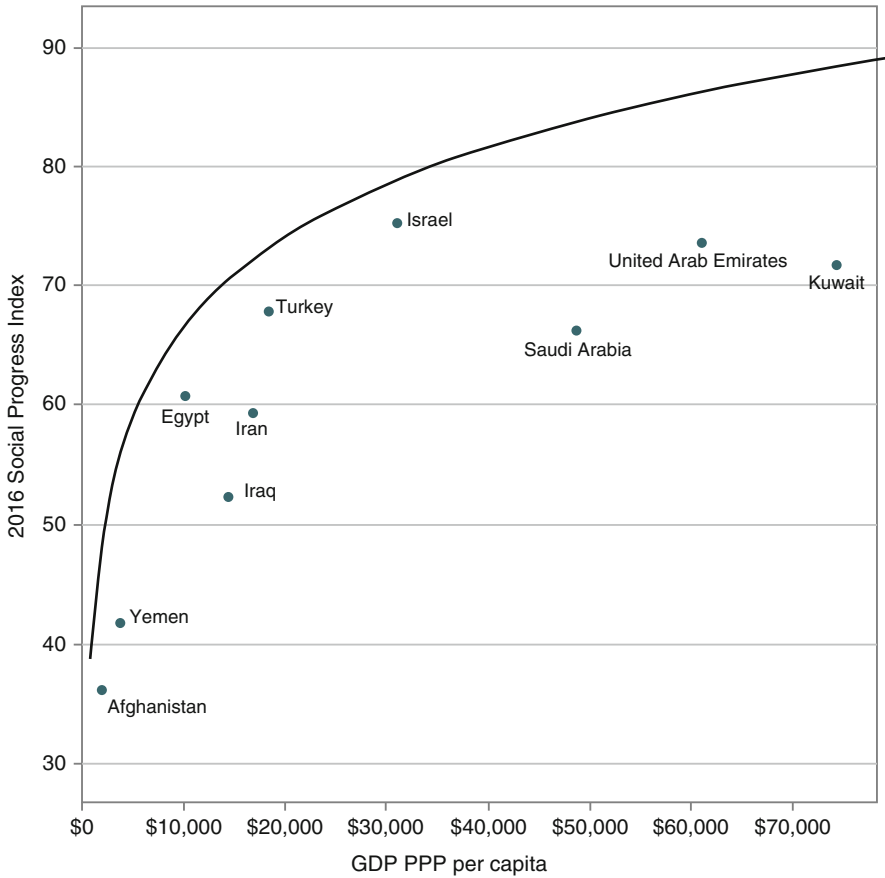
<sup>m</sup><http://www.theglobaleconomy.com/economies/> (The data are mentioned based on the UN reports).

<sup>n</sup>0 (High Corruption) – 100 (Low Corruption): <http://www.theglobaleconomy.com/economies/> (The data are mentioned based on *Transparency International’s Corruption Perceptions Index* for 2015).

<sup>o</sup>Ranked based on the lowest to the highest *Corruption Perception Index* among ME countries.

<sup>p</sup>Rule of Law, -2.5 (weak) + 2.5 (strong): <http://www.theglobaleconomy.com/economies/> (The data are mentioned based on the *World Bank* data for 2015).

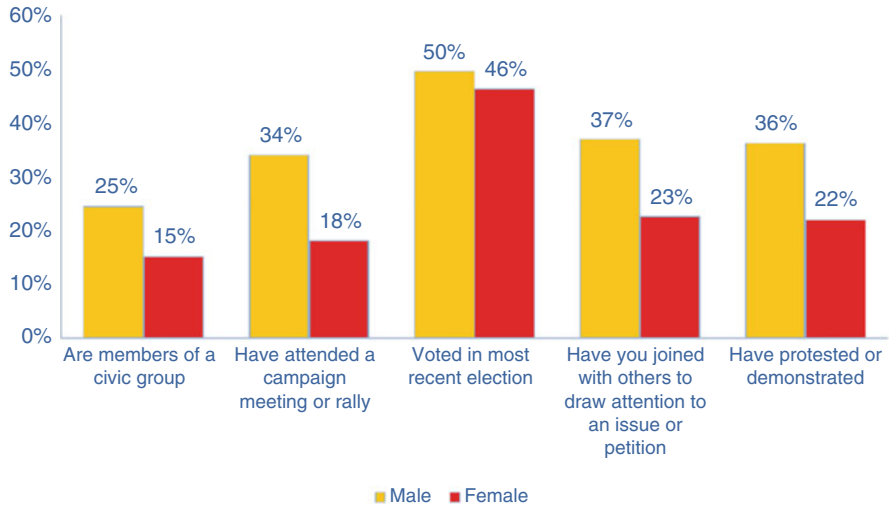




**Fig. 12** Social progress index vs. GDP per capita for some ME countries in 2016 (Source: <http://www.socialprogressimperative.org/wp-content/uploads/2016/06/2016-GDP-SPI-plot.png>) (Note: The figure is modified by the author, the non-ME countries are omitted for better comparison)

The curve in Fig. 12 shows the trend line of *Social Progress Index*<sup>188</sup> Vs. GDP per capita of the countries in the world and the dots show some ME countries. The *Social Progress Index* is formed within three dimensions of social progress: *Basic Human Needs*, *Foundations of Well-being*, and *Opportunity* which consist of a set of

<sup>188</sup>*Social Progress Index* consists of three components: Basic Human Needs (Nutrition and Basic Medical Care, Water and Sanitation, Shelter, and Personal Safety), Foundations of Well-being (Access to Basic Knowledge, Access to Information and Communications, Health and Wellness, and Environmental Quality) Opportunity (Personal Rights, Personal Freedom and Choice, Tolerance and Inclusion, and Access to Advanced Education). Relying only on GDP for the measurement of progress is absolutely economic and cannot fully reveal the overall progress of the country, so using SPI for the evaluation of a countries progress is recommended beside GDP.



**Fig. 13** Male and female youth engagement in civic activities in MENA 2012 (Source: Mercy Corps 2012) (Printed with permission)

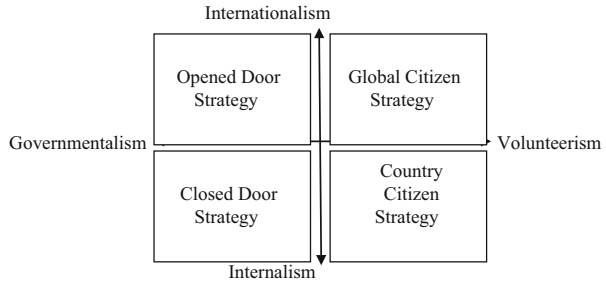
social and environmental outcome indicators.<sup>189</sup> As GDP per capita of the country is increased, the *Social Progress Index* is almost increased too. Therefore, along with other strategic governmental views for tackling social progress barriers the ME countries should invest in the factors which help their GDP per capita to be increased. Besides it should not be forgotten that “a country’s level of social progress is the result of cumulative incremental choices its governments, communities, citizens, and businesses make about how to invest limited resources and how to integrate and work with each other” (Social Progress Index 2016).

One of the factors that could help governments to increase their social effectiveness and accordingly scaling up social progress, is the number of civic groups and volunteers who are eager to help the governments at the operational level. It will be very hard to implement even the best-set strategies in a passive and reluctant society. Based on *Mercy Corps’* data (2012) (Fig. 13) MENA youth engagement in civic and social events; especially among female youth, is approximately satisfactory, which inherently shows that the ME youth could play active and constructive roles in the implementation of SE strategies if they are well-briefed by their governments and do not have any hesitation about the good and benevolent well behind the policies which are derived out of the SE strategies.

There are four extremes for SE which reflect four views towards strategy formulation: governmentalism, volunteerism, internationalism and internalism. Although there are some governmentalist SE strategy like the strategies which the governments define for the ministries dealing with social welfare or volunteerist SE strategy

<sup>189</sup><http://www.socialprogressimperative.org/>

**Fig. 14** Governments’ views in formulating SE strategies (Note: The Opened Door, Closed Door, Global Citizen and Country Citizen strategies are coined by the author to explain each view) (Source: Author)



such as most of the strategies defined by *UNICEF* or other *UN* subsidiaries, it is not logical to claim that a strategy is absolutely a governmentalist or the opposite. The SE strategies need massive volunteerism for the implementation especially in very hazardous and dangerous regions of the world like the war-stricken zones in ME. It is evident that most of SE activities are accompanied by the free will of the practitioners who are the true operational implementers of strategy into practice. The volunteerist stamina and self-confidence are the drivers which push forward the social entrepreneurs as change makers on the battlefields or in the slums (Fig. 14).

Then the first quadrant is the interplay of *governmentalism* and *internalism* in pursuing SE. This strategy could be called “*Opened Door Strategy*”. Via this strategy the governments formulate SE strategies which count on the cooperation and collaboration of the international agencies, neighboring and international governments or international SEOs and foundations. The countries which have scarce natural, technical or human resources should preferably apply such a view.

The second quadrant, embraces “*Closed Door Strategy*”. Such a strategy looks at SE doubtfully. Such governments usually do not trust the international organizations or governments; even they do not tolerate *volunteerism* on the side of the nation to solve social problems. Such a strategy is the strategy of the governments which are alienated from the world and the nation.

The third quadrant, consists of “*Global Citizen Strategy*”. By applying this view the governments are the regulators who pave the way for better nourishment and growth of SE. The social entrepreneurs could cooperate internationally with the global organizations. They could be the true practitioners of “think globally and act locally.”

The fourth quadrant is “*Country Citizen Strategy*”. In such a view the governmental bodies in charge of the SE limit the NGOs, philanthropists, social entrepreneurs, etc. to choose and cooperate only among the organizations inside the country. In such a case the social entrepreneurs and practitioners are expected to act locally and they have to rely on the country human and non-human resources. Such a view will increase the responsibility burden on the social entrepreneurs’ shoulders.

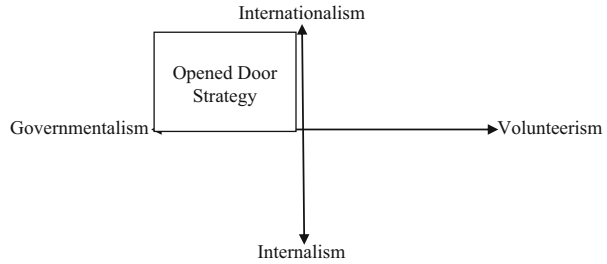
Before discussing the specific governmental strategies of each ME country, it is noteworthy to mention that because of the prevailing factor-driven economies among the countries of the region (discussed in Sect. 2.11) they have to heavily depend on their natural and labor resources to acquire *competitive advantage* in

dealing with and tackling their social problems. In other words, the burden for strategic SE is on their human, natural and financial resources. Moreover the data cited for the discussions from this section and onward are presented in Table 4 as comparative socio-economic conditions for governmental SE among the ME countries.

#### 4.1 Governmental SE Strategy in Bahrain

The international statistics from authentic international organizations mostly show satisfactory situation in the Kingdom. Bahrain with approximately 1.781 million population, has *Upper Middle, Social Progress Index* which ranks it among countries with agreeable situation in three components of the index: *Basic Human Needs* (Nutrition and Basic Medical Care, Water and Sanitation, Shelter, and Personal Safety), *Foundations of Well-being* (Access to Basic Knowledge, Access to Information and Communications, Health and Wellness, and Environmental Quality) and *Opportunity* (Personal Rights, Personal Freedom and Choice, Tolerance and Inclusion, and Access to Advanced Education). This situation shows that the Kingdom could have fewer social problems in comparison to most of the ME countries and such a situation also lessen the intensity and urgency of the condition in some of the abovementioned components. However, the unemployment among the youth is critical (Men: 49.8%, women: 46.6%) which is necessary for the Kingdom to focus on some of its governmental strategies in SE towards the relief of the situation which could be possible, since in relation to the population, U.S. \$ 0.96 billion *Foreign Direct Investment* could provide some opportunities for financing of SEOs inside the Kingdom. Such a financing on the side of the government is possible since according to the *International Monetary Fund's* statistics the government dedicated 63% of the *GDP* as credit to the private sector in 2014, which puts Bahrain as the 48th in the world and 7th in ME. On the other hand, the *Human Development Index* of the country is equal to 0.824, which ranks it 45th globally and 5th in ME. Since it is near to 1 (the *HDI* fluctuates between 0 as undeveloped and 1 as developed), it shows a satisfactory situation in the educational status of the population besides life expectancy as well as income. It shows that the strategic view of the government had been effective in increasing the *UN* index for human development. In most of the SEOs, which are studied by the author, women had an outstanding participation that *INJAZ Bahrain* is one of them. Such a civic engagement on the side of the women, could be a good push behind the promotion of any implementation of SE strategy by the government if the NGOs and SE practitioners are well-briefed about the goals and have no doubts in the good intention on the government's side. Such doubts not always but in some cases potentially exist since the *Transparency International Corruption Perceptions Index* in 2015 shows 51 which ranks the country 50th in the world and 6th in ME. Here comes the necessity for the explanation of good well before the implementation of any SE strategies in large scale inside the country; especially if the SE strategy is a *Scaling Strategy* since it is intended for a deep impact on the targeted community. The other issue which is not to be neglected by

**Fig. 15** Bahrain's governmental view in formulating SE strategies (Source: Author)



the governmental strategist is the *World Bank's Rule of Law* in 2014, 0.45 (an index between  $-2.5$  as weak rule of law to  $2.5$  as strong rule of law) which ranks the country 60th in the world and 6th in ME. Therefore, the governmental bodies or agencies which are going to implement the SE strategies on a should be supervised closely or by a separate supervisory team from the *Ministry of Labor and Social Development*. Governmental cooperation with *GCC* and the *UN* subsidiaries show the *Internationalism* and low scores in *Civil Liberties* (which is 6 out of 7)<sup>190</sup> pushes the decisions mainly towards the government which consequently adds to the centralization (Fig. 15).

## 4.2 Governmental SE Strategy in Egypt

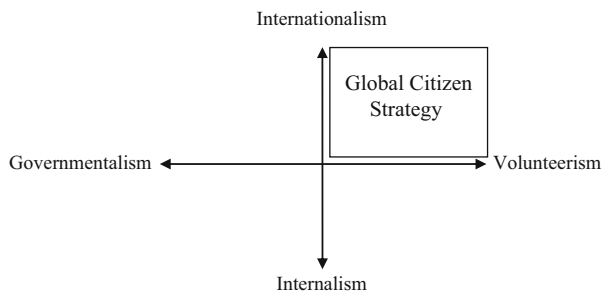
Egypt is the most populated country of ME (approximately 90 million) which inherently, in comparison to other ME countries, puts more burden on the shoulders of the administrative bodies of the government such as *Ministry of Insurance and Social Affairs* which is in charge of the formulation and implementation of the SE strategies of the country. Egypt has an active civil society which is potentially a welcoming issue for the SE promotion through the country. Based on *GEM* (2015) Egypt has the second percentage (2%) of adult population who are involved in operational *post-start-up SEA* in ME (Fig. 2). The largeness of the population intensifies the reliance of the government on the cooperation of the civil society and non-governmental SEOs for the *Scaling* and *Replication* strategies, since the government HRs would not be so large to dedicate a large portion of it exclusively to the promotion and implementation of the SE strategies on the ground. The *Social Progress Index* score of the country is 60.74 which puts the country among the *High Social Progress* countries (13–62), although it is at the bottom of the spectrum for *High Social Progress* range and near to *Lower Middle Social Progress* (63–95). Therefore, it could be interpreted that Egypt has an average situation in the components of the abovementioned index, in other words, the country has an average situation in the provision of basic medical care, nutrition, water and sanitation,

<sup>190</sup>Based on the data provided at: <http://www.theglobaleconomy.com/economies/>

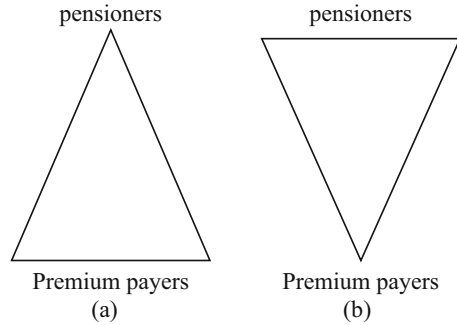
access to telecommunication, advanced and elementary education, etc. With respect to the large population of the country, this *Social Progress Index* score is hardly acceptable. However, more should be done since the score ranks Egypt 89th globally and 8th in ME. On the other hand, the *HDI* of the country is equal to 0.690 which is one of the lowest *HDI*s among ME countries (12th). Moreover, the financing of the *SEOs* is hard, since the bank credit to the private sector indicator shows that the country only dedicated 25.95% of its *GDP* to the private sector which could reflect the tough situation for the financing of the private *SEOs* inside the country and by the bank system, too (the indicator ranks Egypt 119th globally, and 12th in ME). The other issue which intensifies the hard situation for the financing of private *SEOs*, is the *Foreign Direct Investment* amount (U.S. \$ 4.78 billion) in respect of the large population of the country. The country's *FDI* is the 45th in the world and the 5th in ME. Therefore, to compensate the necessary *HRs* and financing, Egypt's government has chosen *Global Citizen Strategy*, which inherently has had satisfactory outcomes for the country (see Sect. 2.14). Through this strategic view Egypt is optimistic to the activity of the international organizations and bodies for the promotion of *SE* inside the country. The government of Egypt has such a tact to pave the ground with such a view for the activity of the international *SEOs* like *Environmental Quality International (EQI)*, *Orascom*, *Ashoka Arab World*, *International Youth Foundation*, *Synergo*, *Al'Waleed Philanthropies (AP)*, etc.

Youth unemployment is a common pain in ME, but the situation in Egypt in comparison to other ME countries is more intensified. In 2013, 86.3% of male youth and 91.4% of female youth had been unemployed. Such a high unemployment rate could not be overcome merely by the government, therefore along with the *Global Citizen Strategy*, socialization of entrepreneurial behavior and setting up training workshops for entrepreneurship in universities and schools, especially those entrepreneurship which are related to tourism, could be beneficial to the youth. The *Competitive Advantage* of Egypt in a strategic view is its old culture, civilization and numerous tourist attractions. The unemployed youth of the country could be empowered to use this sector more effectively. Here, the tourism industry in an *RBV* perspective could act as a powerful financial resource for financing *SE* inside the country. This is exactly the meaning of *Customized Social Entrepreneurship*. Each country has its own unique ways of approaching *SE* management, financing and reinforcement (Fig. 16).

**Fig. 16** Egypt's governmental view in formulating *SE* strategies (Source: Author)



**Fig. 17** Potential future trend in the population of Iran's pensioners in Tamine Ejtemayee (Social Security Organization of Iran) (Source: Author)



### 4.3 Governmental SE Strategy in Iran

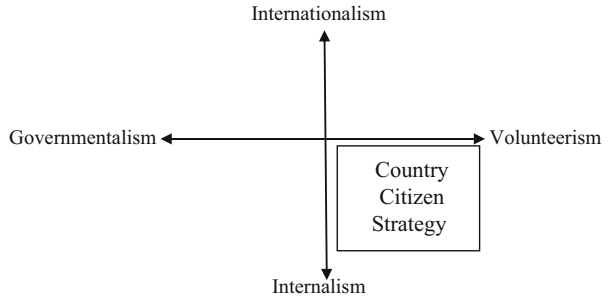
Bureaucracy is necessary and inevitable in governmental SE, but the art of administration is to make the bureaucratic bodies in charge of SE as much as possible lean. Fat organizations do not have enough agility to respond to social problems and emergencies effectively and immediately. On the other hand, fat governmental organizations will get busy with their excessive processes, HRs, branches, etc. and unintentionally get way behind their social missions and visions. *Tamine Ejtemayee* is in such a whirlpool. If there would be one organization which needs strategic SE inside the country, it is *Tamine Ejtemayee*. This organization presently provides social security services to 40 million Iranians, moreover it should pay pension to more than 2 million retired.<sup>191</sup> According to the population trend<sup>192</sup> in near future the situation for the organization will get tougher, in other words if the organization could not invest the present insurance premiums effectively in the future definitely will have problems in the payment of the pensions of the future retiring population which are potentially more than the present pensioners' population since the youth bulge in Iran is going to change to old bulge (Fig. 17).

On the other hand, Iran's *SEA* according to Tables 2 and 3, and Fig. 2 consists of 2% of working population (with 1.4% in *early-stage SE*) and 2.6% of adult population in broadly defined *SE*. The *SEA*'s values are decreased in the latest report of *GEM* for *SE*. In 2015, only 1% of Iran's adult population has been active in *operational post-start-up SEA*, which is not satisfactory. Such a low *SEA*, definitely increases the burden on the government to compensate the shortage. The strategic view for the compensation of this situation is *Country Citizen Strategy* which led to too many *Sandouqhaye Kheyriye* which sometimes have had ambiguous activities because of lack of supervision. The afore-mentioned view intends to decrease the burden by reliance on the internal organizations and *SE* practitioners, therefore international cooperation through renowned international *SEOs* is scarce in Iran, and the only international cooperation in *SE* is usually with the *UN* subsidiaries.

<sup>191</sup><http://www.tamin.ir/News/Item/14382/2/14382.html>

<sup>192</sup>“In the next ten years, there would be 7 elders above 70 years old, for each 10 Iranian families” (Translated from Persian <http://www.mashreghnews.ir/fa/news/300587/>)

**Fig. 18** Iran’s governmental view in formulating SE strategies (Source: Author)



Iran, after Egypt is the second most populated country of ME. The *Social Progress Index* of the county released by *Social Progress Imperative* (2016) (59.45) puts the country in the 93rd rank globally, and the 9th in ME. The score puts Iran at the bottom of the list among *High Social Progress* (13–62) rankings but very near to *Lower Middle Social Progress* (63–95) which could be interpreted as ineffectiveness of the selected SE strategic view. On the other hand, the global *GDP* ranking of the country by the World Bank (2016) is 18 in the world which is the 3rd in ME. 54.41% of the *GDP* is dedicated to private sector through bank credit, which is still below other seven ME countries (Table 4). Moreover, the financing of the SEOs by *Foreign Direct Investment* is hardly applicable since the *FDI* is approximately U.S. \$ 2.11, which ranks Iran globally 65th and in ME as the 7th country and usually this investment is in the oil industry which does not have any spill over towards SE. Therefore, usually the financing of SE in the country is by people’s donations through *Waqf*, *Sadeqe* and other religious givings.

There are some governmental and semi-governmental bodies in charge of SE inside the country: Iran’s *Ministry of Cooperatives, Labor and Social welfare*, *Imam Khomeini Relief Foundation*, *Ouqaf*, and some *Bonyaads* (foundations), which make centralized decision making for SE on the side of the government impossible and consequently led to lack of coherent and consistent strategic view for SE.

Additionally the *Gini Index* of the country in 2013 (37.4) and the rate of unemployment among the youth (e.g. in 2010, 35.1% of the male youth and 49.3% of the female youth) will necessitate for a very well-defined strategic view and implementation (Fig. 18).

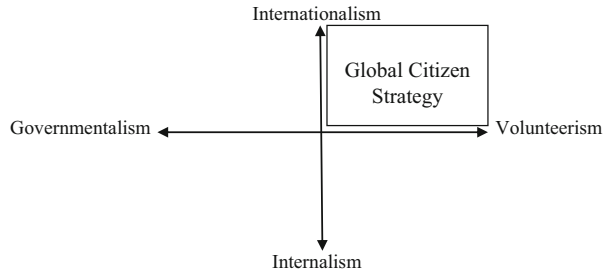
#### 4.4 Governmental SE Strategies in Iraq, Syria and Yemen

The extreme humanitarian situation in the countries dealing with the civil war and its aftermath, inevitably push them to choose *Global Citizen Strategy*, since the countries and their governmental resources and capabilities could not be sufficient for effective response to the catastrophes. The deteriorating situations in the abovementioned countries make the statistically-dependent analyses very hard.

The infrastructures of all the three countries are destroyed to a great extreme which have made plethora of social problems for the residents and hence call for the



**Fig. 19** Iraq, Syria and Yemen's governmental view in formulating SE strategies (Source: Author)



emergent global strategy for the relief of the pains. Moreover, the social problems in the three countries have pushed huge numbers of refugees to the borders of their neighboring countries, which have made ME to have one of the most displaced population of the earth (Fig. 10). According to the presented information in Table 4 all the three countries have unsatisfactory global indices, in *HDI*, *FDI*, *SPI*, etc. which are the reflection of socio-economic situation (Fig. 19).

Through the *Global Citizen Strategy*, the *UN* subsidiaries could be active in the mentioned countries (see Sect. 2.16.14).

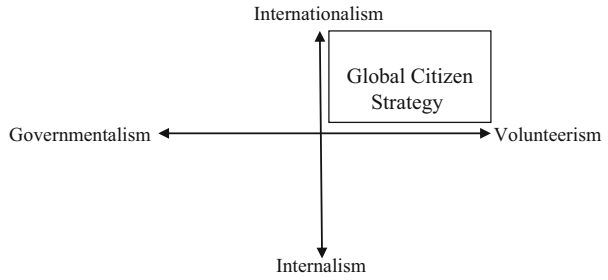
#### 4.5 Governmental SE Strategy in Israel

The country has huge partnership in its governmental SE strategies with the U.S.A. through *Global Citizen Strategy*. The *Social Progress Index* score (75.32) ranks the country 37th globally and 1st in ME. Moreover, *Global Competitiveness Report (GCR)* by *World Economic Forum*, which shows social situation puts it in 9 successive years among the top 30 countries with usually four other ME countries (Table 1). Based on GEM (2015), the country has one of the highest populations in *operational post-start-up SE* in the region, that is equal to 10% of adult population who are involved in *SEA* (Fig. 2). Having the least youth unemployment in the region (9.9% of the male youth and 7.7% of the female youth) shows the effectiveness of its SE strategy, although the economy of the country could be a great help. The country's economy based on GEM's report (2015) is classified as an innovative-driven one, that relies on entrepreneurship, and hence SE has benefited tremendously from (Fig. 20).

#### 4.6 Governmental SE Strategy in Jordan

Based on the *Global Humanitarian Assistance Report (2016)* (Fig. 11), Jordan has accepted the highest number of refugees in ME that automatically pushes the government towards choosing *Global Citizen Strategy* to be able to administer the SE requisites relevant to this huge refugee population. One the other hand, 0.9% of the working population in 2009 had been active in SE (GEM 2011). These two

**Fig. 20** Israel’s governmental view in formulating SE strategies (Source: Author)



**Fig. 21** Jordan’s governmental view in formulating SE strategies (Source: Author)



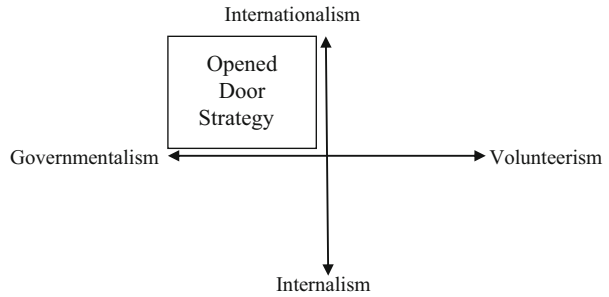
situations have intensified the burden on the shoulders of international SEOs and the UN subsidiaries (Fig. 21).

### 4.7 Governmental SE Strategy in Kuwait

Although the government has no limitation on *volunteerism* for socially entrepreneurial activities and there are praiseworthy examples of benevolent activities among Kuwaitis, the government is more active than the non-governmental SEOs of the country. Therefore, the weight of *governmentalism-volunteerism* spectrum is heavier on the *governmentalism* side, in addition to the governmentally prevailing cooperative atmosphere with international organizations, that lead to *Opened Door Strategic* view (Fig. 22). Figure 12, which is issued by *Social Progress Imperative (2016)* and shows the correlation of *Social Progress Index* vs. *GDP Per Capita* for some ME countries in 2016, reveals a very satisfactory situation for the country.

The *HDI* in 2014 (0.816) which is almost near to 1, puts the country in the 48th ranking globally and the 6th in ME. Moreover, one of the issues which shows satisfactory management of oil revenues is the low *FDI* (U.S. \$ 0.49 billion, the 113th globally and 13th in ME). It shows that the country had been able to reach satisfactory socio-economic progress by the money which directly gained through oil exportation not foreign investment. The low population of the country in comparison to its oil revenues is the *competitive advantage* of the country in SE. Therefore the increase in the population would be the same as a cake which should be shared among more people, which in the long run could lead to the loss of this *CA*.

**Fig. 22** Kuwait’s governmental view in formulating SE strategies (Source: Author)



**Fig. 23** Lebanon’s governmental view in formulating SE strategies (Source: Author)



### 4.8 Governmental SE Strategy in Lebanon

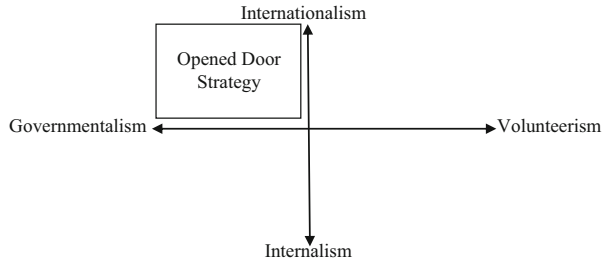
The broadly-defined SE prevalence rate (*SEA*) for the country consists of 3.0% of the adult population, which ranks Lebanon among the high rankings for *SEAs* in ME. Moreover, Lebanon is among the ME countries which has accepted many refugees (Fig. 11, more than 1.5 million) which inherently calls for more *SEA* to be able to serve the overloaded social problems by unwanted huge immigrations. The country has the 1st rank among ME countries in dedication of 99.20% of its *GDP* as bank credit to the private sector which potentially could show a satisfactory atmosphere in bank system for the financial support of NGOs and SEOs in case of any needs. One the other hand, the country has one of the lowest rankings of *RoL* (-0.76, 11th) among the ME countries which makes a careful and close supervision for any financing and implementation of SE strategy necessary (Table 4).

The government through the *Ministry of Social Affairs* not only has had some successful projects with the *UN* that shows the *internationalism* orientation of the government (see Sect. 2.16.7); but also has accepted the international SEOs beside homeland volunteers and NGOs which is a sign of tendency towards *volunteerism*. Therefore, the holistic SE view of the government could be defined within *Global Citizen Strategy* (Fig. 23).

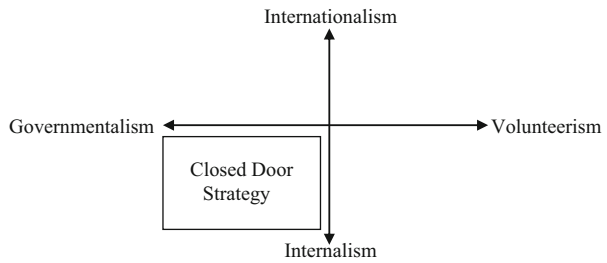
### 4.9 Governmental SE Strategy in Oman

As it was mentioned in Sect. 2.16.8, Oman’s *Ministry of Social Development* presently cooperates in partnership with 14 international companies to implement

**Fig. 24** Oman’s governmental view in formulating SE strategies (Source: Author)



**Fig. 25** Palestine (the West Bank and Gaza)’s governmental view in formulating SE strategies (Source: Author)



its comprehensive social relief project through *Program Taqdeer*, *Program Tamasuk*, *Program Taqayof*, and *Program Tawasul*. Such an orientation shows *internationalism* in the SE strategic view of the government, but simultaneously the government tries to shoulder most of SE burden which consequently pushes it towards *governmentalism* (Fig. 24).

**4.10 Governmental SE Strategy in Palestine (the West Bank and Gaza)**

International SE cooperation except with the *UN* subsidiaries is rare; moreover there are not many international SEOs active in the West Bank and Gaza. The region based on *GEM’s 2011 Report on Social Entrepreneurship Activity*, has had one of the lowest *SEA* equals to 0.5% of the working population (Table 2) which shows low enthusiasm for *volunteerism*. Inevitably, the government has to compensate for scarcity of *volunteerism* by *governmentalism*. Therefore, the strategic view for SE could be interpreted as *Closed Door Strategy*, which shows the worst strategic view among the ME countries (Fig. 25).

**4.11 Governmental SE Strategy in Qatar**

*Global Competitiveness Report (GCR)*, an annual report released by *World Economic Forum* and reveals those countries offered “high levels of prosperity to their

**Fig. 26** Qatar's governmental view in formulating SE strategies (Source: Author)



citizens,” ranked Qatar over 9 successive annual periods among the high-ranking countries of the list.<sup>193</sup> Moreover, the *Social Progress Imperative (2016)* does not present any scores for the *Social Progress Index* of the country but estimates that it should be placed among the *Upper Middle* countries of the list which have rankings between 13–62. Its *HDI* in 2014 is equal to 0.850 which ranks the country 33rd globally and 2nd in ME. Its *RoL* score is 0.99 which ranks it 35th in the world and 2nd in ME, and finally the *CPI* shows that the country has the least corruption in ME and accordingly is ranked among the healthiest bureaucracies with the ranking of 35th (Table 4). The abovementioned statistics show that the country is strategically on a healthy track for the promotion of SE.

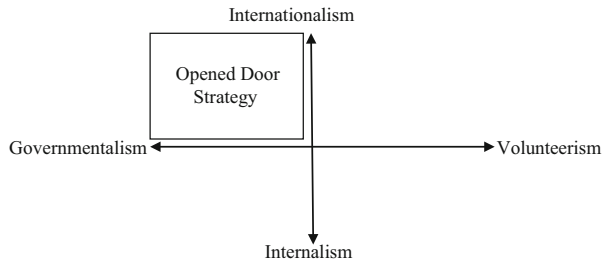
The country has an international view in its SE strategy setting, even as it is presented in Sect. 2.16.10 *Ministry of Administrative Development, Labor and Social Affairs* that is in charge of SE, has also the intention to fulfill the aspirations of the ministry in the international level. The country has a very close cooperation with the *UN* in solving the regional crises. On the other hand the successful examples of SE inside the country generated by the citizens show the degree of *volunteerism*. Therefore, the strategic view of the country for the promotion of SE is the *Global Citizen Strategy* (Fig. 26).

#### 4.12 Governmental SE Strategy in Saudi Arabia

As it is presented in Table 4, the country has the 1st rank for *GDP* in ME. Moreover its *FDI* is equal to U.S. \$ 8.01 billion which is the 3rd in ME. Its *HDI* is 0.837 which ranks it globally 39th and 3rd in ME. Therefore, such a situation empowers the government for SE. The country welcomes the international SEOs and has near partnership with many American organizations for SE. In contrary to the active role of the government, the *SEA* among the population is low (0.2%) which ranks the country 8th in ME. The propensity for SE in the government is more than the citizens that pushes the leverage for SE towards the government by *Opened Door Strategy* (Fig. 27).

<sup>193</sup>Qatar has always had rankings above 27 in the 9 successive annual reports from 2008 to 2017.

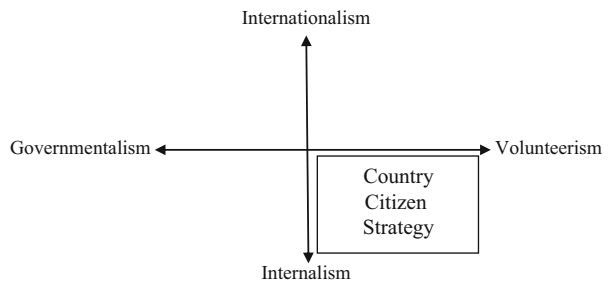
**Fig. 27** Saudi’s governmental view in formulating SE strategies (Source: Author)



### 4.13 Governmental SE Strategy in Turkey

The country’s *SPI* is 67.82, which ranked it as 58th globally and 4th in ME; and is in the *High Social Progress* range. Its *HDI* ranks the country 73rd globally and 10th in ME. The income *Gini* index of Turkey in 2013, was 40.2 which shows asymmetrical distribution of wealth/income inside the country. On the other hand the country has the 1st rank in *FDI* (U.S. \$ 12.52 billion) among the ME countries that has helped the country’s bank system to be successful in financing private sector as the 3rd rank in ME. The country had been one of the refugee destinations in the region (Fig. 11) and approximately accepted more than 2.5 million displaced people (Global Humanitarian Assistance Report 2016).<sup>194</sup> This situation calls for the government to have international orientation (Turkey has made close cooperation with the *UN*, not usually with international SEOs although there are some examples in the country). On the other hand there is a propensity on the side of the nation for *volunteering* in SE activities which has made a *Country Citizen* atmosphere inside the country (Fig. 28).

**Fig. 28** Turkey’s governmental view in formulating SE strategies (Source: Author)



<sup>194</sup>It is not cited directly, but shown in Fig. 11.

**Fig. 29** The UAE's governmental view in formulating SE strategies (Source: Author)



#### 4.14 Governmental SE Strategy in the UAE

Based on *Global Competitiveness Report (GCR)* which is presented in Table 1, the UAE from 2009 to 2017 has had the global rankings of 23, 27, 24, 19, 12, 17, 16 respectively; which shows a rising trend towards higher living standards and social situation for the nation. According to *Global Entrepreneurship Monitor Report on Social Entrepreneurship (2011)*, the country has had one of the highest *total SEA* in the region in 2009 (6.3% of working population) and the highest adult population percentages involved in broadly defined SE (8.1%). These reports show not only the country is economically affluent but also the Emiratis are fond of and social promoters of SE. The welcoming atmosphere to *internationalism* on the government's side and *volunteerism* on the government and nation's side have simultaneously made the UAE as the true promoter of *Global Citizen Strategy* in the region (Fig. 29).

In reference to the research questions in the methodology section, Table 5 has summarized the answers.

## 5 Suggestions

The following suggestions to the governments of ME for effective SE strategies could be helpful:

1. SE co-optative strategy as a manipulative one can gain so much from *Nudge Theory*.<sup>195</sup> A research which has done recently has proved the effectiveness of the

<sup>195</sup>*Nudge* is defined as "any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates. Putting fruit at eye level counts as a nudge. Banning junk food does not" (Thaler and Sunstein 2008).

**Table 5** Summary of Paper’s Results for ME Governments’ SE strategies

Country	Governmental view to SE	SE cooperation
Bahrain	Internationalism/Governmentalism (Opened Door Strategy)	GCC
Egypt	Internationalism/Volunteerism (Global Citizen Strategy)	UN, USA
Iran	Internalism/Volunteerism (Country Citizen Strategy)	UN, Lebanon, Syria, Iraq, Yemen & Palestine (the West Bank & Gaza)
Iraq	Internationalism/Volunteerism (Global Citizen Strategy)	UN
Israel	Internationalism/Volunteerism (Global Citizen Strategy)	USA
Jordan	Internationalism/Volunteerism (Global Citizen Strategy)	UN
Kuwait	Internationalism/Governmentalism (Opened Door Strategy)	UN, GCC
Lebanon	Internationalism/Volunteerism (Global Citizen Strategy)	UN
Oman	Internationalism/Governmentalism (Opened Door Strategy)	UN, GCC
Palestine (the West Bank and Gaza)	Governmentalism/Internalism (Closed Door Strategy)	–
Qatar	Internationalism/Volunteerism (Global Citizen Strategy)	UN, GCC
Saudi Arabia	Internationalism/Governmentalism (Opened Door Strategy)	UN, USA, GCC
Syria	Internationalism/Volunteerism (Global Citizen Strategy)	UN
Turkey	Internalism/Volunteerism (Country Citizen Strategy)	UN
UAE	Internationalism/Volunteerism (Global Citizen Strategy)	UN, USA, GCC
Yemen	Internationalism/Volunteerism (Global Citizen Strategy)	UN

theory and the nudges, policies based on the theory,<sup>196</sup> in public health administrative strategies. Arno and Thomas (2016) in their research, “The efficacy of nudge theory strategies in influencing adult dietary behavior: a systematic review and meta-analysis” studied the nudge strategies for public health by the

<sup>196</sup>In some countries like the UK, Australia and the USA, there are some governmental teams called *Behavioral Insights Team*, which helps the governments in operational public policy-makings.



governments of wealthy nations with the emphasis on the U.S.A.<sup>197</sup> The result was astonishing, “It was found that nudges resulted in an average 15.3% increase in healthier dietary or nutritional choices, as measured by a change in frequency of healthy choices or a change in overall caloric consumption.” So they concluded, “Nudge holds promise as a public health strategy to combat obesity.” Behavior change is the core to co-optative and Nudge strategies. In ME some governments such as Qatar are moving toward the formation of such Nudge Teams. Qatar in 2016 has formed a nudge unit, called *Qatar 2022*, which has the main focus on social issues such as health, sport, welfare and labor (Makki 2017). Kuwait and Lebanon also have formed *Nudge Units* for *Secretariat for Development Planning* and civil society as well as academia, respectively (Crimi 2017).

2. Although the governments should have a governmental body as ministry for the supervision of the social affairs such as welfare and SE, growing complexity, standardization and centralization are poisonous to SE. More complexity in the organization structure of the ministry needs more governmental budget, more HRs, more supervision on the organizational processes, and growing need for coordination. Intensive standardization is a chain to entrepreneurship. SE is not an exception. When creativity, as a concept, and innovation as the creativity translated into practice is the matter, organizational freedom is a must. Centralization in the strategy setting phase is a welcoming issue for SE, but there should be freedom in relevant and contingent practice of SE (based on the geographical, ethnical, and high priorities on the ground). For example, the branching strategy of *Tamine Ejtemayee*<sup>198</sup> intensified the complexity of the organization to a great degree, which simultaneously added to its employees. To decrease the complexity the organization could provide some of the services electronically via the Internet. Although some progress has been made in providing the necessary services electronically, the organization is now so large which made so much red-tapism inside.
3. Governmental organizations involved in SE should get lean. Lean governance in SE arena will add to the quality of the services provided. It needs the initiative of the governmental SE strategist to adjust the set strategy as much as possible in accordance to lean principals. They should find where the value is embedded for the public clients who are going to be served by the formulated strategy. How to be served to decrease time and energy and other resources and simultaneously increase SE impact and quality with a more efficient result in the target population. Lean government specifies the key processes, the services the agencies are delivering, and the value addition in the delivered services (Lindquist 2013). Now, in the agencies dealing with public services (such as health care) in the U.S.A. and European countries lean government is taken into consideration. Lean governmental measures in SE, not only lead to better efficiency, but also more agility. For example, a U.S. regulatory agency which got lean through changing the way the teams served the customers, reduced the backlogs 70% and speed up

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<sup>197</sup>*Social and Behavioral Science Team (SBST)* is formed in USA by *Barack Obama*, in Feb.2014.

<sup>198</sup><http://www.tamin.ir/>

its decision makings up to 30% (Gebre et al. 2012). Therefore, we will see a considerable boost in SE performance in the public sector. The heavy bureaucracy, formed to pursue SE in ME, increased the administrative costs of the governments. When there are more employees, there would be more burden on the taxpayers since the employees must be paid. Definitely, they need organizational perks and bonuses, in other words those who are there to serve and help the needy people, themselves are adding the duties of the government; especially in the ministries which are dedicated to social affairs. The art is to raise the performance and efficiency and add to effectiveness. How? The response is the implementation of sound lean governance. They should know what are their goals, and accordingly what are their key processes and services, later they should determine how many employees and practitioners are really necessary. Moreover, they should know where most of their budget goes, and if they are getting their expected effectiveness in SE by that spending. Are the ministries of social affairs are formed to employ people or to serve people especially those who rely on them? Should we add to the HRs of the government or we should outsource those processes which could be implemented effectively by the community and volunteers who are going to be served.

4. Suitable organization is a significant issue which should not be neglected in the formulation of the strategies. The policy-makers and formulators of the SE strategies should also think about the suitable organizing. They should also take into consideration the pros and cons of each organization. During the strategy setting they should determine one of the following organization types according to the tact, insight and calculation which led them towards the set strategy. I call it proper organization, for proper SE strategy: Linking-pin Organization, Project Organization, Matrix Organization, Organization Based on the Customer, Organization Based on the Geographical Region, Organization Based on the Operation, etc.
5. *Entrepreneurial Timing* is an intuitive concept; in other words, “the main stock in trade of the entrepreneurial strategist is his sophisticated timing perception, which ionizes the internal and external entities in the strategists mind and their positives and negatives evokes the entrepreneurial strategist to chose or lead to a specific strategy which he thinks has the most utility and fruitfulness for his organization” (Forouharfar et al. 2014), and it also helps the strategies to know when to put into practice the set strategy; in other words, what is the proper time for the implementation of SE strategy.
6. Moreover, if the governments really have the intention of decreasing the social problems, they have to scrutinize and perfectly analyze the roots of the problems. They should determine the sociogenic factors for each problem which is going to be addressed.

Finally, the question still remains what the governments of the ME want to do to tackle the presented problems in Sect. 2.15. If they prefer to be proactive and play a preventative role for the future social problems they have to find a way for the presented issues. Otherwise they keep themselves busy with eradicating and treating the symptoms not the fundamental root of the social problems. Moreover, by the study of the ME governments’ strategies for SE, the model presented in Fig. 30 is proposed.

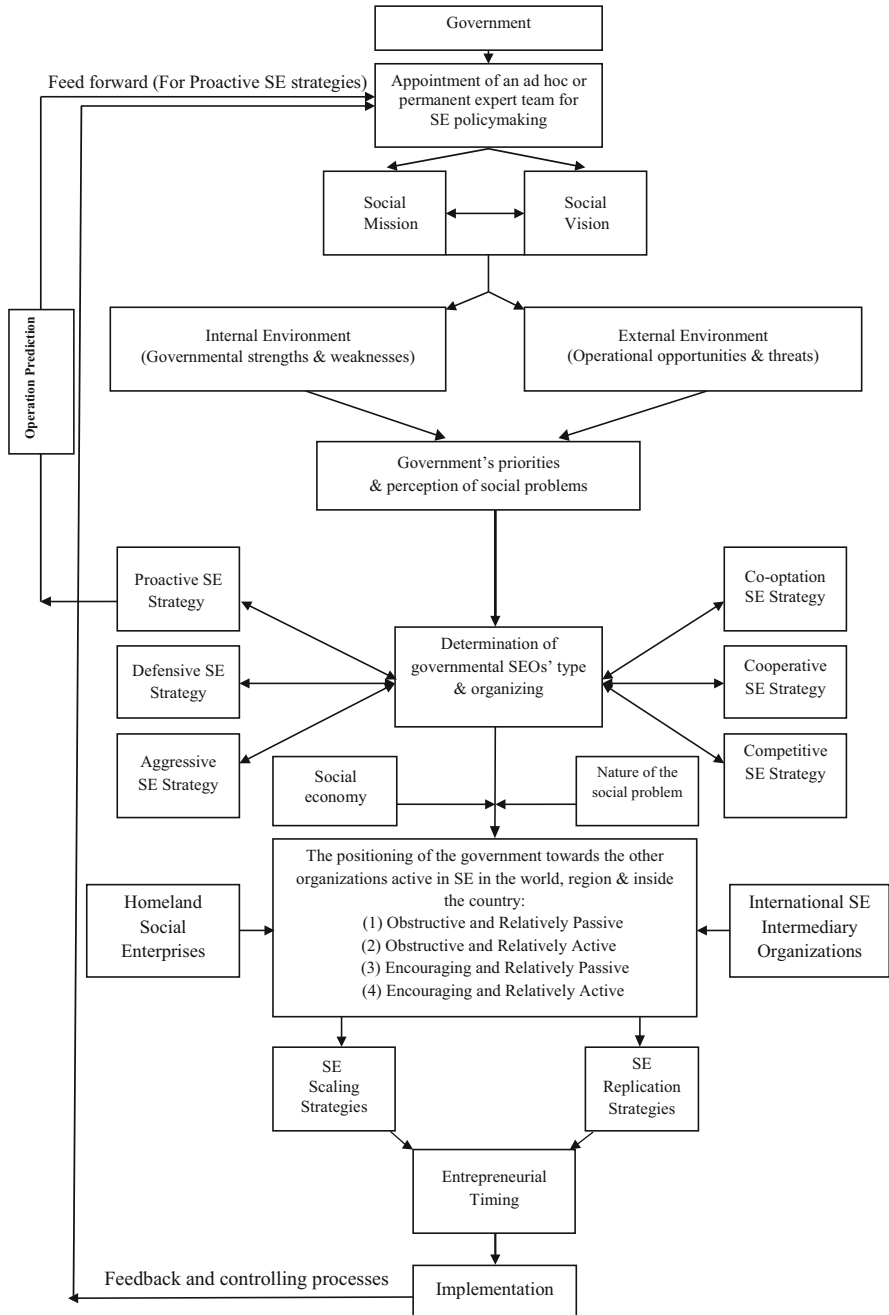


Fig. 30 SE strategy formulation at the governmental level (Source: Author)

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# Entrepreneurial Ecosystem and Performance in Iran



Ali Davari and Amer Dehghan Najmabadi

**Abstract** This article identifies determinants of entrepreneurial ecosystem and their effects of them on the entrepreneurial performance in Iran. After reviewing the recent literature on entrepreneurial ecosystem, eight factors were identified including R&D, financial resources, market, support services, infrastructure, culture, policies, and human capital that affect the entrepreneurial performance. The data has been collected by a survey method through questionnaires. Experts and entrepreneurs have participated in assessing the entrepreneurial ecosystem. The results of data analysis demonstrate that factors such as R&D, financial resources, market, support services, infrastructure, culture, policies, and human capital have a positive impact on entrepreneurial performance. Meanwhile, the results imply inefficiency in the entrepreneurial ecosystem of Iran. Moreover, the shortfalls of some factors cause to neutralize the effect of other determinants on the entrepreneurial performance.

**Keywords** Entrepreneurial ecosystem · Entrepreneurial performance · Entrepreneurship policy · Iran

## 1 Introduction

Nowadays, the role of entrepreneurship in the development of the knowledge-based economy has been accepted. Governments use entrepreneurship as a tool for achieving sustainable development (Prieger et al. 2016). International organizations such as the OECD and the European Union have strongly highlighted the role of innovation and entrepreneurship as the engine of economic growth (OECD 2014). According to the Global Entrepreneurship Monitor (GEM), entrepreneurship is an individual's effort to launch a new venture and self-employment in order to develop the entrepreneurial performance (wealth, business creation or development) (Angulo-

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Guerrero et al. 2017). Notably, some countries have formulated the entrepreneurship policies for more business creation and self-employment.

Over time, the entrepreneurship policies have been changed and directed from the quantitative development of entrepreneurship toward the qualitative development of entrepreneurship. Thus, Governments have considered a policy to develop entrepreneurial ecosystems. Entrepreneurial ecosystem is a new framework for this transition. This approach focuses on entrepreneurial efficiency. Entrepreneurs are not only the output of the entrepreneurial ecosystems, but also the main actors who create and keep a healthy ecosystem (Stam 2015).

Entrepreneurial ecosystem is gradually shaped over time by a series of interdependent components which interact with each other to create new businesses or ventures and then to improve the entrepreneurial performance (Cohen 2006). The success of entrepreneurial ecosystem has an impact on people's welfare and economic performance. However, the advancement in entrepreneurial ecosystem needs a change in the traditional views on innovation and entrepreneurship (Zahra and Nambisan 2011). According to Isenberg (2010) "there is no single formula for creating an entrepreneurial economy and the use of a roadmap is an imperfect practical way". In other words it is impossible to create a new Silicon Valley through replicating the features of its entrepreneurial ecosystem. Thus, every country must make a benchmark of best practices and develop its entrepreneurial ecosystem based on its own social, cultural and economic context (Arruda et al. 2015).

A review of the theoretical foundations of entrepreneurial ecosystems suggests that the entrepreneurial ecosystem provides a growth model for entrepreneurs and the new business creation. It determines the relevant components to prepare the development of entrepreneurial activities and performance. Studies in this field, aim to identify entrepreneurial opportunities in different regions of a country. As stated above, depending on the conditions of each country, regional ecosystems have their own characteristics and there is no single formula for creating a successful entrepreneurial ecosystem.

Iran is one of the developing countries in the Middle East. The Iranian Governments have implemented some programs to promote entrepreneurship and business growth since a decade ago. But there are many barriers to the entrepreneurship ecosystem in Iran. Despite the policy formulation, the international reports did not show any upper rank among other countries. Based on the Global Entrepreneurship Index (GEI) report, Iran has been ranked 80 among 132 countries (Ács et al. 2016). So, assessing the entrepreneurial ecosystem of Iran will give a better explanation for entrepreneurship development in the developing countries. Therefore, the present study aims at identifying the entrepreneurial ecosystem factors or constructs and assessing the quality of constructs based on the experts' attitudes, testing the hypothesis based on the entrepreneurs' attitudes.

## 2 Literature Review

### 2.1 *Entrepreneurial Ecosystem*

The term “ecosystem” was first coined 20 years ago and since then this word has been increasingly used in the literature of entrepreneurship and strategy (Autio and Thomas 2014; Adner and Kapoor 2010). The term of ecosystem often demonstrates a network of dependent structure and flows of resources with specific goals to create shared values (Overholm 2015). Entrepreneurial ecosystem is defined as a system that creates successful entrepreneurs and ventures. When entrepreneurship is successful in a country, it is said that its entrepreneurial ecosystem is efficient (e.g. Estonia’s and South Korea’s entrepreneurial ecosystems) Entrepreneurial ecosystem is a set of cause- and -effect elements that have mutual effects on entrepreneurship (Stam 2015).

As defined by Prahalad (2005), the entrepreneurial ecosystem may empower individuals, businesses, and communities through a combination of factors that increase the economic performance and welfare. An entrepreneurial ecosystem provides a diverse set of interdependent factors in a geographic region that make profit and shape the economic performance (Iansiti and Levien 2004). The entrepreneurial ecosystem is not only a catalyst for the sustainable economy, but it is also the main advantage of an economy to face a market failure. Studies have shown that entrepreneurial ecosystem is increasingly used as a general tool for studying the geography of entrepreneurship. They consist of a set of cultural perspectives, social networks, financial supports, universities, and active economic policies which shape a supportive environment for the activity of the innovation-based business or ventures (Spigel 2015). Entrepreneurs can discover and exploit opportunities not only inside but also outside the efficient ecosystem (Nambisan and Baron 2013).

### 2.2 *Entrepreneurial Performance*

Entrepreneurial performance is one of the most important constructs in the entrepreneurship studies (Maltz et al. 2003). According to the reports by the Aspen Network of Development Entrepreneurs (ANDE 2013), the entrepreneurial performance refers to the specific activities performed by entrepreneurs and their impact on economic growth, venture creation, and poverty reduction.

Measuring the entrepreneurial performance is not easy and depends on the collection of detailed data (Beaton et al. 2009). According to Nordqvist and Zellweger (2010), the entrepreneurial performance consists of innovation, renewal, creation of a new business, and social success. According to Monteferrante and Pinango (2011), entrepreneurial performance includes not only the economic and monetary aspects (e.g. profit, return on investment, capital, etc.) but also the non-economic and non-financial aspects (e.g. business survival, number of

employees). As stated by Grande et al. (2011) the entrepreneurial performance means acquiring a higher sales growth, a bigger market share, better market status, more employees, and better financial outcomes. According to Wielemaker and Gedajlovic (2011) the dimensions of the entrepreneurial performance are economic growth, innovative activities, high level of R&D, innovation, and intellectual property. Other authors have introduced the entrepreneurial performance as social contexts of entrepreneurship, motivation forces, knowledge and ability, environmental variables, and financial strength (Khanka 2009).

The indicators of the entrepreneurial performance are the following: creation of a new formal business, growth of business, increase in employment and the amount of human capital and profits.

### ***2.3 Entrepreneurial Ecosystem and Entrepreneurial Performance***

To advance the entrepreneurial performance at a higher level, it is necessary to introduce the factors that make an efficient entrepreneurial ecosystem (ANDE 2013). Despite the emphasis on creating entrepreneurial ecosystem, studies on the identification of the factors affecting ecosystem are limited. As Van de Ven (1993) states, the historical focus on individual entrepreneurs has resulted in a lack of proper attention to multiple factors (public and private) which are crucial for facilitating the creation of a successful entrepreneurial ecosystem. The significance of mutual transactions (or interactions) of the factors on each other in an entrepreneurial ecosystem cannot be overlooked. The framework of a proper ecosystem must inevitably include personality traits and individual behavior, policies, legal issues, social habits, and local culture of each region (Lee and Peterson 2000). Thus, to design an entrepreneurial ecosystem, we must act on the basis of the interconnected factors which are rooted in the social, cultural, and economic context of a country. According to the GEM 2015 report, entrepreneurial ecosystem is formed based on the cultural, social, economic, and political dimensions and the entrepreneurial activities are realized based on the personal characteristics and social values. The outcomes of entrepreneurial actions first emerge in the form of added value or job creation, and later they result in the social and economic development in the aggregate level.

Thus, in each region, the entrepreneurial ecosystem has special characteristics and different factors are involved in its development which must be identified. Studies have noted some of the factors which are summarized in Table 1.

As shown by the previous authors, several factors have been identified that have an effect on the formation of the entrepreneurial ecosystem. Based on the OECD, the eight important factors which play a major role in the formation of a promising entrepreneurial ecosystem and influence subsequently the entrepreneurial performance (ANDE 2013) are: research and development (R&D), financial resources

**Table 1** Important factors involved in shaping entrepreneurial ecosystem

Researchers	Factors
Audretsch and Belitski (2016)	Culture, formal institutions, infrastructure, information technology, labor, melting pot and demand
Stam and Spigel (2016)	Government, industry clusters, formal and informal networks, entrepreneurial support
Arruda et al. (2015)	Policies and laws, state universities, public institutions, private institutions, culture, human capital, markets
Spigel (2015)	Social networks, financial support, universities, and economic policies
Kshetri (2014)	Corporate governance, values and culture, entrepreneurial skills, research and development, technology, development of financial markets, market access
World Economic Forum (2013)	Market, human capital, financial resources, support systems, infrastructure and regulatory framework, education, universities, and culture
Pinelli et al. (2013)	Markets, human capital/labor, investment, and governmental and legal policies
Suresh and Ramraj (2012)	Network support, government, market, financing, ethical, technological, social and environmental
Isenberg (2011)	Culture, government, human capital, financial capital, market, policy, and support
Khalil and Olafsen (2010)	Universities, government, private sector, investors, banks, entrepreneurs, research centers, multinational corporations, agents of international support, private foundations
Cohen (2006)	Formal networks, informal networks, universities, government, support and expertise services, investment, and talent pool

(Finance), market, support services, infrastructure, culture, laws and policies, and human capital. These factors will be explained below.

**1. Research and Development (R&D)**

The firms that perform R&D, play an important role in the development of entrepreneurial ecosystem and performance. Because, they provide business training for their employees. Meanwhile R&D provides a source of new businesses. On the other hand, the internal R&D can create business opportunities for more innovations. Innovation is strongly associated with the sustainable entrepreneurial ecosystem and performance (GEM 2014; Cohen 2006; Isenberg 2011; Arruda et al. 2015; Zahra and Nambisan 2011; Oksanen and Hautamäki 2015). Prodan (2007) has stated that the entrepreneurial process often takes place based on R&D. The entrepreneurs utilize R&D to recognize opportunities that are often overlooked and not exploited by others. Exploration and exploitation of new opportunities through innovation in the market cause more competitive advantages. These arguments suggest the first hypothesis:

*H1: R&D will have a positive effect on the entrepreneurial performance.*

**2. Financial Resources**

The access to financial resources is crucial for business development and entrepreneurial performance (Stam 2015). Financial resources are provided by technology

development funds, public and private investment associations, and entrepreneurial networks (Isenberg 2011; Arruda et al. 2015; Nacu and Avasilcăi 2014; Suresh and Ramraj 2012; Khalil and Olafsen 2010). According to the British Department for International Development (DfID) (2013), the financial indices involved in the development of entrepreneurial ecosystem are accessibility to venture capitals, loans, business angels, and the stock market. According to Prodan (2007), venture capital is one of the most popular financing methods for establishing new businesses. In addition, according to the OECD (2015), bank loans are another common source of financing for many small and medium-sized businesses and entrepreneurs (SMEs). The second hypothesis is as follows:

*H2: Access to financial resources will have a positive effect on the entrepreneurial performance.*

### **3. Market**

Market refers to a place in which entrepreneurs receive feedbacks on their innovations and marketing of products and get information about many issues related to the market. The markets include local markets and foreign markets (World Economic Forum 2013; Isenberg 2011; Prodan 2007; Suresh and Ramraj 2012; Arruda et al. 2015). The access to local markets plays a key role in providing opportunities within an entrepreneurial ecosystem. According to Spilling (1996a, b) and the World Economic Forum (2013), the customers' needs create opportunities for new business ventures. As Spigel (2015) says, customers' needs lead to the formation of networks that support entrepreneurs to obtain technology and market knowledge, access to resources such as investments, access to customers and suppliers, and thereby to improve their own performance. This leads to our third hypothesis:

*H3: Access to markets will have a positive effect on the entrepreneurial performance.*

### **4. Support Services**

Providing support services (technical and managerial) can sustainably overcome the barriers to entrepreneurial programs and reduce the time to enter the innovation market (Stam 2015). The formation of entrepreneurial ecosystem can be assisted through the following actions: accessing managerial and technical talents and skills in every sector, facilitating access to universities talents, professional services such as consulting, financial, and legal services, facilitating cooperation and communication between entrepreneurs and other communities (Feld 2012; Cohen 2006; Isenberg 2011; Neck et al. 2004; Nacu and Avasilcăi 2014; Khalil and Olafsen 2010). Consulting includes a network of skilled consultants and specialists (lawyers, accountants, experienced entrepreneurs, professors, and universities researchers) that work together to help entrepreneurs to access the skills and knowledge they need. We put forward the fourth hypothesis as follows:

*H4: Support services will have a positive effect on the entrepreneurial performance.*

## 5. Infrastructure

Infrastructure has two dimensions, hard and soft. The hard infrastructure results in ease of access to physical resources, communication, transportation, land and space at a low price without discrimination. The soft infrastructure includes information networks, databases, and innovation that lead to the development of entrepreneurial ecosystem and performance (DfID 2013; GEM 2014; Nacu and Avasilcăi 2014; Prodan 2007). The efficient infrastructure enables entrepreneurs to deliver their products to the market in a timely manner and it plays an important role in the cycle of the system. The literature leads us to the fifth hypothesis:

*H5: Appropriate infrastructure will have a positive effect on the entrepreneurial performance.*

## 6. Culture

Culture is one of the items required for the entrepreneurial ecosystem and improving the entrepreneurial performance (Audretsch and Belitski 2016). Culture comprises beliefs, norms, attitudes, symbols and stories. The two main features of the cultural characteristics of an entrepreneurial ecosystem are cultural attitudes and stories of entrepreneurship and business ownership in a culture (Stuetzer et al. 2014; Vaillant and Lafuente 2007). Aoyama (2009) argues that regional cultures affect the entrepreneurial activities through the development of acceptable entrepreneurial methods and norms. Saxenian (1994) has compared Silicon Valley and Boston and showed how cultural attitudes to entrepreneurship and risk taking have resulted in different entrepreneurial and economic approaches in the two studied regions. According to Feldman et al. (2005), the eminent background of entrepreneurial success stories makes an important part of the cultural attitudes. In general, culture consists of several factors such as the rate of failure and risk tolerance, encouraging self-employment and success stories, creating a positive impression of entrepreneurship, and celebrating the innovation. When these factors or culture encourage the creation of a new business or any self-employment, the rate of entrepreneurship and business ownership may increase (World Economic Forum 2013; Isenberg 2011; Prahalad 2005; Cohen 2006; Arruda et al. 2015). The sixth hypothesis is as follows:

*H6: Supportive culture will have a positive effect on the entrepreneurial performance.*

## 7. Policies

Laws and policies provide obligations to encourage entrepreneurship and decrease barriers to entry. Political and legal factors are key parts of economic and political context in which entrepreneurship is emerging. The context may also consider legal barriers to business formation and develop effective tax systems or publicly funded systems to implement entrepreneurship support programs, make local networks, or launch development programs (Huggins and Williams 2011; Mason and Brown 2013; Spigel 2015). As Isenberg (2010) says many governments adopt some misleading rules to create an entrepreneurial ecosystem. Governments alone are not able to build an ecosystem and should involve the private sector through a deregulations process. Therefore, governments improve the business environment and reduce some laws or deregulation for more private sector participation. Because, the private



sector has been motivated for developing in profit-oriented markets, therefore the government should allow the private sector to participate and make a significant contribution to the success of the ecosystem. In general, laws and policies include tax rates, tax incentives, ease of starting businesses and making more transparency to encourage entrepreneurship. Some studies also indicate that governments and national laws must accelerate and facilitate the growth of companies and provide a supportive environment for incorporating activities so that they improve the entrepreneurial performance (Prodan 2007; Feld 2012; Nacu and Avasilcăi 2014; Isenberg 2011; Suresh and Ramraj 2012). The seventh hypothesis is as follows:

*H7: Policies will have a positive effect on the entrepreneurial performance.*

### **8. Human Capital**

According to some researchers such as Audretsch et al. (2012) and Qian et al. (2013), the access to human capital is the essential precursor to have a success in an advanced knowledge based economy and skilled manpower is the key component of competitiveness for new business ventures. Universities play an important role in the completion of the ecosystem cycle through training skilled manpower. Universities nurture expert manpower through the provision of proper training. Thus, human capital is a key factor in forming and developing business and its performance. The human capital includes managerial talent, technical talent, entrepreneurial companies, outsourcing capabilities, and immigrant workforce. This factor determines the homogeneity of human capital which can be effective in the speed and volume of entrepreneurship growth in a country (World Economic Forum 2013; DfID 2013; Isenberg 2011; Stam 2015; Feld 2012; Khalil and Olafsen 2010). We develop the eighth hypothesis as follows:

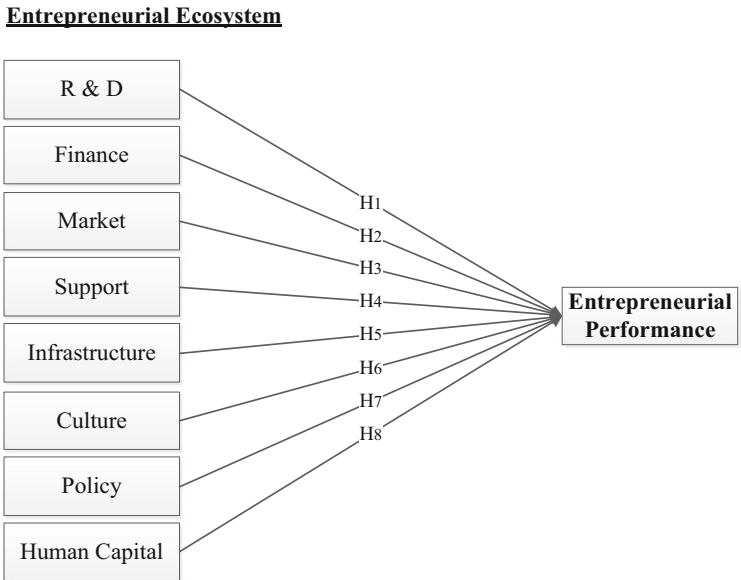
*H8: Human capital will have a positive effect on the entrepreneurial performance.*

Accordingly, the conceptual model is formulated as presented in Fig. 1.

## **3 Methods**

Several methods may be used to measure entrepreneurship. One of the favorite methods is using the questionnaire to assess the view of entrepreneurs and experts such as the GEM (Ács et al. 2014). Therefore, the questionnaire has been extracted based on the ecosystem studies in this article. Thus, the study has been done by a survey method.

The study has been conducted in two steps. The first step is to test the quality of questionnaire through the experts' opinions. In this step, the questionnaires have been gathered from the experts in the field of entrepreneurship ( $n = 71$ ). In order to test the quality of measures, we run the Smart PLS software and statistics such as the factor loading, significant t-value, composite reliability or CR, Cronbach's alpha or Alpha (both of them for internal reliability), average variance extracted or AVE.



**Fig. 1** Conceptual model

In the second step, we have collected the views of the entrepreneurs in order to evaluate the hypotheses and assess the current status of the entrepreneurial ecosystem in Iran.

Therefore, the questionnaire has been used to collect data from 156 entrepreneurs. In order to analyze the data in the second step, we have used the SPSS software and the descriptive statistics (e.g. mean, standard deviation, coefficient of variation) and inferential statistics (e.g. simple linear regression and multiple linear regression).

## 4 Data Analysis

### Step (1) Identifying and Assessing the Quality of Constructs

Reliable and valid measurement show the quality of the research or constructs. Because of having confidence in the findings of study, we must first have confidence in the quality of measurement (Noar 2003).

In the first step, 71 experts' questionnaires are collected. Then, we run the Smart PLS software to measure reliability and validity coefficients of the instruments. The calculation coefficients are CR, Alpha (both of them for internal reliability), AVE, factor loadings, t-value, and Goodness of Fit or GoF measure. The results are presented in Table 2.

As seen above, Alpha scores and CR scores of the instruments are acceptable. When Alpha scores and CR scores are more than 0.7, the reliability of the tools will

**Table 2** Quality of measurement

Variables	Items	Alpha	CR	AVE
R&D	3	0.82	0.89	0.74
Finance	5	0.85	0.89	0.63
Market	3	0.78	0.87	0.7
Support	6	0.84	0.88	0.56
Infrastructure	3	0.74	0.84	0.65
Culture	3	0.78	0.87	0.69
Policy	5	0.85	0.89	0.63
Human capital	3	0.62	0.8	0.57
Entrepreneurial performance	4	0.73	0.82	0.54

**Table 3** Correlation between the variables

Variables	1	2	3	4	5	6	7	8	9
1. R&D	<b>1</b>								
2. Finance	0.82	<b>1</b>							
3. Market	0.72	0.82	<b>1</b>						
4. Support	0.78	0.82	0.76	<b>1</b>					
5. Infrastructure	0.64	0.59	0.63	0.66	<b>1</b>				
6. Culture	0.66	0.75	0.66	0.79	0.53	<b>1</b>			
7. Policy	0.8	0.84	0.8	0.79	0.6	0.73	<b>1</b>		
8. Human capital	0.78	0.72	0.69	0.76	0.51	0.68	0.76	<b>1</b>	
9. Entrepreneurial performance	0.74	0.71	0.72	0.71	0.48	0.71	0.77	0.74	<b>1</b>

be verified. Meanwhile, when AVE scores of all constructs are higher than 0.5, Convergent validity will be acceptable and strong.

Based on the analysis presented in Table 3, we compare the correlation coefficients between the paired variables.

Factor loadings, significant t-value (t-test), and GoF measure are the indicators for the items of questionnaire validity which have been analyzed by Smart PLS. The factor loadings of all items must be upper than 4.0. When the factor loading of an item is lower than 0.4, the item must be deleted or changed and the model must be run again. The analysis of factor loadings and significant t-value tests are presented in Table 4. As shown, factor loadings of all items are upper than 0.4 and it is not necessary to delete any item. Then, the t-value coefficients are calculated; T-value must be upper than 1.96 to reach the satisfactory level of validity. As shown in Table 4, all the items have high t coefficients ( $t \geq 1.96$ ).

Finally, to calculate Goodness of Fit (GoF), we calculate the following formula:

$$GoF = \sqrt{\text{communality} \times \overline{R^2}} = \sqrt{0/62 \times 0/74} = 0/677$$

The Goodness of Fit (GoF) index is defined as the geometric mean of the average communality and mean  $R^2$  for all the endogenous constructs of the model and its

**Table 4** Factor loading and T-values

Item	Factor loading	T-value	Item	Factor loading	T-value	Item	Factor loading	T-value
R&D	Q1	0.817	Infrastructure	Q15	0.777	Human capital	Q29	0.760
	Q2	0.889		Q16	0.825		Q30	0.653
	Q3	0.883		Q17	0.567		Q31	0.855
Finance	Q4	0.809	Culture	Q18	0.756	Entrepreneurial performance	Q32	0.541
	Q5	0.786		Q19	0.742		Q33	0.742
	Q6	0.798		Q20	0.831		Q34	0.820
	Q7	0.874		Q21	0.775		Q35	0.828
Market	Q8	0.700	Policy	Q22	0.790			
	Q9	0.844		Q23	0.852			
	Q10	0.804		Q24	0.770			
	Q11	0.869		Q25	0.778			
Support	Q12	0.846		Q26	0.842			
	Q13	0.849		Q27	0.801			
	Q14	0.814		Q28	0.801			

dimensions to determine the overall prediction power in PLS-SEM (Akteer et al. 2011). As the GoF value exceeds 0.36, the overall validation of the model will be approved.

### Step (2) Test Hypothesis and Assessment the Current Status of the Entrepreneurial Ecosystem in Iran

In this step, the first descriptive statistics have been calculated as basic features of the study in Table 4. The statistics comprise mean, standard deviation, and coefficient of variation. As shown, the mean score of the entrepreneurial ecosystem constructs has been calculated lower than 3 based on the five-point Likert scale. Only the infrastructure has a better status than other factors and finance has the lowest mean score. It means the financial support has not been strong for shaping an entrepreneurial ecosystem by the participants who are entrepreneurs.

Table 5 presents the analysis of simple linear regression for testing 8 hypotheses. As shown, all the hypotheses have been accepted, at a confidence interval of 95% ( $p < 0.05$ ). Hence, all of the entrepreneurial ecosystem factors affect the entrepreneurial performance. The adjusted R Square coefficients show that support has 0.44 of variation in the entrepreneurial performance. It is respectively followed by the 7th model (finance, 0.35), the 6th model, and the 3rd model. Model 1 (with independent variable of R&D) has the least coefficient (0.28).

In the next step, all the factors are calculated by utilizing multiple linear regressions. We have chosen the method of stepwise. The analysis is presented in Table 6.

*“In the stepwise method at each step, the independent variable will not be in the equation that has the smallest probability of F if that probability is sufficiently small. Variables in the regression equation are removed if their probability of F becomes sufficiently large. The method terminates when no more variables are eligible for inclusion or removal” (SPSS 23 2015).* It means that the variables are respectively entered into the model based on their significance. So, after entering the eight independent variables of the entrepreneurial ecosystem, four models will be calculated. Support (with an Adjusted R Square value of 0.44) is entered into the first model. Finance is entered into the second model and together with support will have 0.52 of variance in the entrepreneurial performance (E.P.). Infrastructure is entered into the third model and the R Square or  $R^2$  of the model increases by 0.04. Policy is

**Table 5** Mean, standard deviation, and coefficient of variation

Variable	Mean	Standard deviation	Coefficient of variation
R&D	2.67	0.74	0.28
Finance	2.48	0.78	0.31
Market	2.49	0.89	0.36
Support	2.76	0.71	0.26
Infrastructure	3.00	0.89	0.30
Culture	2.71	0.87	0.32
Policy	2.56	0.78	0.30
Human capital	2.97	0.76	0.26
Entrepreneurial performance	2.70	0.73	0.27

**Table 6** Simple linear regression

Model	Hypothesis	Model summary			Anova		Coefficients		
		R	R <sup>2</sup>	Adj. R <sup>2</sup>	F	Sig.	Beta	t	Sig.
1	(H1) R&D →E.P.	0.54	0.29	0.28	62.57	0.000	0.53	7.91	0.000
2	(H2) Finance→E.P.	<b>0.62</b>	0.39	0.38	97.21	0.000	0.62	9.86	0.000
3	(H3) Market→E.P.	0.59	0.35	0.35	83.33	0.000	0.59	9.13	0.000
5	(H4) Support→E.P.	<b>0.66</b>	0.44	0.44	121	0.000	0.66	11	0.000
4	(H5) Infrastructure	<b>0.55</b>	0.3	0.3	66.12	0.000	0.55	8.13	0.000
6	(H6) Culture→E.P.	0.6	0.35	0.35	84.39	0.000	0.59	9.19	0.000
7	(H7) Policy→E.P.	<b>0.59</b>	0.35	0.35	83.45	0.000	0.59	9.14	0.000
8	(H8) Human capital→E.P.	0.55	0.3	0.3	66.46	0.000	0.55	8.15	0.000

**Table 7** Multiple linear regressions by Stepwise method

Model	Independent variable	Model summary			Anova		Coefficients		
		R	R <sup>2</sup>	Adj. R <sup>2</sup>	F	Sig.	Beta	T	Sig.
1	Support	0.66	0.44	0.44	121.04	0.000	0.66	11.00	0.000
2	Support	0.72	0.52	0.52	83.42	0.000	0.45	6.56	0.000
	Finance						0.35	5.11	0.000
3	Support	0.75	0.56	0.55	63.28	0.000	0.33	4.37	0.000
	Finance						0.34	5.06	0.000
	Infrastructure						0.23	3.40	0.001
4	Support	0.76	0.58	0.57	51.62	0.000	0.27	3.55	0.001
	Finance						0.23	3.04	0.003
	Infrastructure						0.23	3.59	0.000
	Policy						0.21	2.82	0.005

entered into the last model and the Adjusted R<sup>2</sup> reaches 0.57. Totally, these four variables will have 57% of variance in the entrepreneurial performance. In addition, the other four variables (R&D, Market, Culture, and Human Capital) will be completely excluded from the model. The removal of these variables indicates that the mutual interactions between the independent variables will result in the neutralization of the effects of the four listed variables. This result will be discussed in Table 7.

## 5 Discussion

Based on the literature, countries or regions show a different entrepreneurial performance at a macro level that is affected by that different entrepreneurial ecosystem. In order to sustain the entrepreneurial activities or grow the business, policy makers

must identify the causes and effects of an entrepreneurial ecosystem. So, this study has been formulated for assessing the entrepreneurial ecosystem of Iran.

In the present study, first we have identified the factors shaping an efficient entrepreneurial ecosystem. The first part of the study has been formulated to construct reliability and validity based on the experts' opinions for testing the quality of measures. The analysis demonstrates the valid measures of the constructs based on reliability and validity.

In the second part of the research, the current status has been assessed and the hypotheses have been tested. In this step, we have used the opinions of entrepreneurs. The results obtained in this step show that the entrepreneurial ecosystem factors in Iran are not efficient due to the low mean. It should be noted that the results are consistent with the findings of the annual report by the Global Entrepreneurship Index or GEI (GEM 2016), in which it has been stated that the rank score of the entrepreneurial ecosystem in Iran is not high in the world (80th between 132 Countries). Meanwhile, comparing the Middle East with North Africa or MENA based on the GEI report (GEM 2016) shows that the ecosystem of entrepreneurship in Iran has lower score than others. Iran has been ranked only ahead of Egypt in MENA. Also, the United Arab Emirates (19th), Qatar (24th) and Bahrain (29th) have been ranked upper than other countries in MENA.

The following results have been observed based on the simple linear regressions for testing 8 hypotheses. Findings show that the R&D activities are affecting the entrepreneurial performance positively (H1). R&D facilitates knowledge and technology, generates innovative ideas and provides opportunities for new entrepreneurial activities. They can improve the performance of the entrepreneurial companies (Arruda et al. 2015; Oksanen and Hautamäki 2015; Zahra and Nambisan 2011). Analysis shows that financial resources can also influence the entrepreneurial performance positively (H2) (Isenberg 2011; Spigel 2015). The access to financial resources is critical for investment in uncertain entrepreneurial projects with long-term horizons (Stam 2015). Financing can be done through private institutions such as venture capital funds, banks and personal savings (Isenberg 2011). The markets consist of networks, customers and distributors. Statistical findings show that markets have a positive impact on the entrepreneurial performance (H3). The available local and international markets enable entrepreneurs to start or develop their businesses (Spigel 2015; Isenberg 2011; Autio and Thomas 2014; Nambisan and Baron 2013). Managerial and technical supports which are provided by the private sector and trade associations cause the development of businesses to affect the entrepreneurial performance positively based on the entrepreneurs opinions (H4) (Isenberg 2011; Spigel 2015). Infrastructures support entrepreneurs to send and receive their products or raw materials to or from the market in a timely manner; consequently, the analysis shows that the hard and soft infrastructures can reinforce firms and industries to improve their performance (H5) (Prodan 2007; Nacu and Avasilcăi 2014). Culture also affects the entrepreneurial performance positively (H6). The cultural programs are recognized as promotion activities such as introduction of role models and entrepreneurship events which result in business entry (Arruda et al. 2015; Feldman et al. 2005). The political and legal factors are the key

parts of the economic and political context in which entrepreneurship occurs (Spigel 2015). Regulatory environment affects the positive and negative business entry, development or exit in the entrepreneurial ecosystem (H7). The results show that policies have a positive effect on the performance of entrepreneurial businesses (Feld 2012; Spigel 2015; Arruda et al. 2015; Isenberg 2011). Finally, human capital, as an important factor will affect the entrepreneurial ecosystem and has a positive effect on it (H8). This construct includes staffing, the activities of education and etc. It includes professionals and skilled human resources who are employed to produce goods and provide services in the entrepreneurial firms (Spigel 2015; Isenberg 2011; Arruda et al. 2015).

Totally, the factors of the entrepreneurial ecosystem individually or one by one have a positive impact on the entrepreneurial performance. Thus, the eight hypotheses are accepted ( $\text{sig} < 0.05$ ). However, when we analyze the multiple linear regression by the stepwise method in order to identify more important independent variables, we will observe some independent variables removed from regression equation.

The calculations prove that support, finance, infrastructure and policies in sequence have entered and explained the entrepreneurial performance. Other factors (R&D, Market, culture and human capital) have been excluded due to the lower importance in equations. The results imply some interactions between the factors of entrepreneurship ecosystem. This finding is consistent with the report by the Ministry of Labor in Iran based on the GEI Report (GEM 2016) about our country.

According to the report, the factors in the ecosystem influence each other; therefore, the weakness in the ecosystem factors of Iran may undermine the strong ones. Meanwhile, the elements of an ecosystem complete each other and the weakness of a factor may have some adverse effects on other factors. In summary, some Iranian ecosystem factors neutralize the effects of the other strong factors and consequently make barriers to the entrepreneurial performance.

Therefore, the entrepreneurship programs must be integrated as different factors for making a better performance. The programs should be supported by the government, private sectors, and other actors. In addition, it is necessary to adopt a comprehensive, holistic, and sustainable approach for developing the entrepreneurial ecosystem. Consequently, in addition to a variety of factors discussed in this study, other factors such as institutions, business environment, and competitiveness must be simultaneously improved.

## ***5.1 Theoretical and Managerial Implications***

Policy makers should consider a long term approach in the field of the entrepreneurship development. Because the entrepreneurship development is not simply shaped by the formulation of short-term programs without a systemic view and lack of balanced development of the financial system, the market, human capital, cultural promotion and all kinds of support. Also, the participation of the private sector and



other actors is required. Hence, the attention to the factors of entrepreneurial ecosystems in creating the appropriate environment should be considered as an important condition in the cooperation of the public and private sectors.

## 5.2 *Limitation and Direction for Future Research*

Despite the efforts, problems such as changes in policies, action plans, and inefficiency of economic environment have led to a lack of growth of the entrepreneurship in Iran. Some of the factors introduced in Iranian entrepreneurial ecosystem are facing major challenges which sometimes cause a contradictory performance. For example, governmental financial supports to businesses in order to shape a productive entrepreneurship have sometimes led to an unproductive entrepreneurship in Iran. So, assessing the inefficiencies in the entrepreneurial performance may develop a better understanding of the effect of contradictory policies.

Another limitation of the research relate to the use of questionnaire. The questionnaire is based on the respondent's attitudes. Therefore, we suggest that future researchers use factual and authorized data. The other limitation relates to the lack of comparison of the ecosystems between regions or countries, so a comparison between countries and regions based on the official and comparable data is recommended. Considering that Iran is located in the Middle East, it is better to compare Iran's data with other countries in the Middle East, North Africa or MENA region. The type of industry is also one of the factors affecting the business ecosystem, So, We think that the different dimensions of the entrepreneurship ecosystem in various industries will be investigated. Finally, since the formation of entrepreneurship ecosystems is influenced by various factors, we suggest studying moderating variables such as business environment and institutional environment in the formation of entrepreneurship ecosystems.

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# Entrepreneurial Ecosystems in Arabic Countries: A Recent Overview



Alicia Coduras, Ignacio de la Vega, and Mohammad Bin Salman

**Abstract** The authors provide a broad view of the field of entrepreneurial ecosystem evaluation in a sample of Arabic countries, emphasising the importance of a country's status to fostering good-quality entrepreneurial activity. After framing the issue and reviewing the most relevant academic literature, the authors discuss the existing relationship between the current entrepreneurial conditions in each country and the characteristics of their entrepreneurial activity. They also consider the status of the entrepreneurial ecosystem of each country and its potential impact on the creation of new business activities, identifying their strengths and weaknesses and reflecting in depth on the elements that would have to work to progress the modernisation of these ecosystems.

**Keywords** Entrepreneurial ecosystem · GEM · Entrepreneurial framework conditions · Arabic countries · Entrepreneurial activity

## 1 Introduction

The status of entrepreneurial ecosystems is becoming a matter of high interest for policymakers: it serves as the central focus for analysis and evaluation before public policies aiming to foster entrepreneurship in any country are designed.

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Several Arabic countries are facing a profound transformation process, searching for new ways to harness talent and knowledge in order to compete in the current economic context, particularly through entrepreneurial activities that allow their societies to integrate more fully within the global approach that currently dominates socioeconomically.

Thus, for this region, many questions arise—such as: what are the statuses of the Arabic countries' entrepreneurial ecosystems? Are these statuses similar or different? To what extent? What are their strengths and weaknesses?—which all require precise answers in order to make progress in fostering entrepreneurship.

The aim of this chapter is to provide a scientific basis to approach these questions. But, first, a definition of entrepreneurial ecosystem is presented, along with a brief review of the recent academic findings in this field. The next section is devoted to this purpose.

## 2 Theoretical Background

### 2.1 *What Is an Entrepreneurial Ecosystem?*

One of the most recent definitions of entrepreneurial ecosystem is provided by Spigel and Stam (2016) in their work entitled 'Entrepreneurial ecosystems' published as a chapter of *The SAGE Handbook of Small Business and Entrepreneurship*, edited by Blackburn, De Clercq, Heinonen and Wang. In this work, the authors define an entrepreneurial ecosystem as 'a set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship within a particular territory'.

This definition has been established recently as a synthesis of previous visions, which were less precisely conceptualised. Thus, from the end of the 1980s to the first decade of this century, authors mainly referred to entrepreneurial environments and contexts, rather than to ecosystems and the emphasis was put on the quantity of entrepreneurial initiatives rather than on their productivity or quality.

When the Global Entrepreneurship Monitor (GEM) was designed between 1997 and 1998 as the most ambitious research project to measure and characterise entrepreneurship, sources of information specifically focused on entrepreneurial context, or even on measuring entrepreneurial activity at international level, did not exist. GEM designers knew that researchers had long recognised the heterogeneous geography of entrepreneurial activity (e.g. Reynolds et al. 1993, 1995), pointing out that the economic and social environments surrounding entrepreneurs should be considered as determinant factors, at least to some degree, to explain this variability. At the same time, authors like Malecki (1997), contributed to the development of the entrepreneurial environment conceptualisation by exploring and describing the continued concentration of highly innovative entrepreneurial activities in concrete regions, discovering that these activities were built surrounded by a strong entrepreneurial culture, alongside the presence of knowledge-creating

organisations, universities and other significant public and private resources. All these works provided a good basis for identifying the critical elements that configure entrepreneurial environments and helped GEM's principal investigators to consider, from the very beginning, their addition as part of the theoretical framework of the project.

In this respect, the GEM theoretical framework, presented in 1999, required the measurement of the status of the entrepreneurial activities' geographical context, so a tool was designed to provide this key information. The GEM National Expert Survey (NES) was created for this purpose: collecting subjective information from experts on national framework conditions, which were selected from the literature as the most relevant as determinants of the creation and growth of new businesses. In this sense, the GEM tool delivered and is still delivering information about factors like those mentioned in the Stam and Spigel definition, but this modern ecosystem definition now also includes other actors, something which must be covered using complementary sources of information. GEM also provides a large part of this information thanks to its other tool: the Adult Population Survey (APS), designed to collect data on entrepreneurs, intrapreneurs, owners of established businesses and informal investors, among others.

Since GEM started this approach to the measurement of entrepreneurial framework status, the concept of entrepreneurial ecosystems has enjoyed a growing interest within academic and policy circles (Spigel 2016) and is emerging as the increasingly popular subject of research offering answers to entrepreneurship policymakers and practitioner communities.

Other previous visions identified entrepreneurial ecosystems as a regional economic development strategy related to the creation of supportive environments that foster innovative start-ups. This vision is associated with regional clusters and regional innovation systems development (Porter 1998; Pitelis 2012).

As Spigel (2016) points out, the idea that certain regional social and economic environments are conducive to growth-oriented entrepreneurship is not new. He mentions the works of Malecki (1997) and Ritsilä (1999), which approached this topic from the geographic perspective, alongside other works by Sorenson and Audia (2000) in the sociological viewpoint and those by Bahrami and Evans (1995) from the business research field. All of them highlighted the existing relationships between entrepreneurs and their local economic and social contexts.

Thanks to the development of the study of entrepreneurial context, the modern vision of entrepreneurship does not predominantly rely on entrepreneurs' individual qualities. Nowadays, these qualities are increasingly combined with the information about the surrounding environment, breaking the traditional vision of the entrepreneur as an individual possessing a long list of attributes and a specific psychological profile. Entrepreneurs' success is now seen as dependent on these attributes in conjunction with the context where they implement their initiatives. Entrepreneurs draw the required resources from their local environment, so the quality of the social capital, the financing channels, the networks, public agencies, educational and knowledge centres, market status, regulations and other features of their local

environments will therefore have a relevant impact on their ability to start up new ventures.

The status of entrepreneurial contexts has been addressed by GEM since 1999, thanks to the NES implementation. Yet GEM researchers are conscious that there is much still to do regarding this field. Thus, primarily, the concept of entrepreneurial context has evolved into the concept of entrepreneurial ecosystems, which is more complex. GEM measurements provide part of the information necessary to describe entrepreneurial ecosystems, but not all of it. The agenda of entrepreneurial ecosystems is, thus, still far from complete. More research and academic consensus is needed to determine all the elements that should be considered to design a statistically representative measurement of an entrepreneurial ecosystem's status.

Currently, GEM is providing indicators based in subjective evaluations from selected experts on entrepreneurial financing, government policies and programmes, taxes and bureaucracy, entrepreneurial education and training, research and development transfer, commercial infrastructure, internal market dynamics and burdens, physical infrastructure and social and cultural norms. These indicators provide a rough diagnostic on the status of the entrepreneurial context of any territory or country, so, consequently, give a partial picture of the entrepreneurial ecosystem of that territory. That is why, as entrepreneurial ecosystem conceptualisation progresses, GEM researchers are evaluating how to incorporate new elements to give a more complete picture.

From a practical perspective, entrepreneurial ecosystems can be understood as territorial economic development strategies capable of creating supportive environments for innovative entrepreneurs. However, to create a solid theoretical background for this concept, several questions must be confronted: what factors and actors configure a modern entrepreneurial ecosystem? How can their status or dimension be measured? How can their influence and/or impact on entrepreneurs and their activities be evaluated? What variables determine the effectiveness of an entrepreneurial ecosystem? What roles do public and private institutions and agencies play?

There are several academic and scientific contributions attempting to answer each question, but there is still a long way to go to achieve a consolidated scientific body able to provide tools that offer a complete evaluation of a complex entrepreneurial ecosystem.

The most recent theory regarding the issue of which factors and actors configure a modern entrepreneurial ecosystem comes from Spigel (2015), who built a pyramidal structure for entrepreneurial ecosystems consisting of three sections:

- At the base: cultural attributes (a supportive culture, histories of entrepreneurship)
- In the middle: social attributes (investment capital, mentors and role models, worker talent, networks)
- At the top: material attributes (support services, open markets, infrastructure, universities, policies)

Following Spigel's pyramidal structure, on one hand, cultural attributes act as a support for social attributes, which in turn act as a support for material attributes. On

the other hand, material attributes reinforce social attributes and these reinforce cultural attributes. These relationships should be considered by GEM researchers when they use the collected data on entrepreneurial ecosystem factors.

The second question—how can their status or dimension be measured?—has been answered to some degree by GEM, as the NES provides data concerning the status of key factors representing an entrepreneurial ecosystem. What GEM is not able to cover is the dimension of ecosystems. Measuring the ecosystems' dimensions would require capturing a wide range of information about factors and actors implied in the entrepreneurial process, which is very difficult to achieve.

The third question—how can their influence and/or impact on entrepreneurs and their activities be evaluated?—has been considered by GEM researchers when they compare NES information with entrepreneurial activity data, population attitudes to entrepreneurship data and other variables, but only partial results have been found. The next question—what variables determine the effectiveness of an entrepreneurial ecosystem?—is also related to this research, as the effectiveness of an entrepreneurial ecosystem should be proved by relating the quality of entrepreneurial activity with its characteristics, scope and status, but currently the scientific community does not have adequate indicators to address this problem.

The last question—what roles do public and private institutions and agencies play?—is covered in part by the GEM NES, as it includes blocks of items devoted to government policies and programmes and to the evaluation of commercial and professional infrastructures, but there are aspects that are not easy to incorporate within a model to describe an entrepreneurial ecosystem because their nature is qualitative and fractured. If an entrepreneurial ecosystem is considered as the economic, social and cultural environment within a country that provides support and resources for entrepreneurs, it is not easy to measure the contribution of all items which form it.

The conclusions extracted from the literature review on entrepreneurial ecosystems are the following:

The study of entrepreneurial ecosystems started at the end of the 1980s as the study of environments surrounding entrepreneurs.

The conceptualisation progressed through the 1990s thanks to the study of regions showing high concentrations of innovative and high-growth activities supported by qualified public and private institutions and adequate infrastructures.

Since 1999, GEM has provided an information tool and data to offer a subjective measure of the status of the main factors that compose an entrepreneurial ecosystem.

The theoretical framework around the concept has developed profoundly in recent years and is becoming a challenge for entrepreneurship researchers. Their agenda includes improving the description and measurement of elements integrating with the ecosystems, especially the elements' roles and effectiveness in supporting entrepreneurial activity and determining its quality.

The analyses offered in this chapter are based on GEM NES recent data and provide an approach to understanding the status of Arabic countries' entrepreneurial ecosystems. The materials and methods to carry out these analyses are presented in the next section.



### 3 Materials and Methods

GEM is the unique source of information worldwide that provides specific information on entrepreneurial ecosystem statuses. The information is collected through a questionnaire, which is formed by blocks of items evaluated by experts—a minimum of 36 from each participating country—using Likert scales of five points (although since 2015 the scale has been extended to nine points). The variables representing each block of items are treated after the data collection and summarised using a principal component analysis of one or two components by block. The new variables calculated using this technique are quantitative continuous and provide subjective indicators for the status of the following entrepreneurial framework conditions:

- Financing for entrepreneurs
- Governmental policies: priority and support of entrepreneurship
- Taxes and bureaucracy
- Governmental programmes
- Entrepreneurial education and training at school level
- Entrepreneurial education and training at post-school level
- Research and development transfer
- Commercial and professional infrastructure
- Internal market dynamics
- Internal market burdens and regulations
- Physical infrastructure
- Social and cultural norms

These indicators are comparable across countries as they are harmonised for that purpose by the GEM technical staff. All the items, which are statements about each factor integrated in the entrepreneurial ecosystem, are evaluated by experts using a Likert scale of five points where 1 represents ‘completely false’ and 5 represents ‘completely true’. Thus, all variables used in the principal components analysis are measured with the same scale and no inconsistencies are derived from different units of measurement.

To make this specific research, data from a sample of 14 Arabic countries has been used. Indicators to describe the status of national entrepreneurial ecosystems have been selected for each country, considering the most recent information collected for each one. Table 1 shows the sample of countries and the year of the data collection. Each country provided a minimum sample of 36 experts as required

**Table 1** Sample of GEM Arabic countries and the year of the NES’s most recent data collection

Morocco	2016	Syria	2009	United Arab Emirates	2016
Algeria	2013	Lebanon	2016	Qatar	2016
Tunisia	2015	Palestinian settlements	2012	Kuwait	2014
Libya	2013	Jordan	2016	Iran	2016
Egypt	2016	Saudi Arabia	2016		

**Table 2** Research questions and statistical methods

Number	Question	Method
1	What are the statuses of the Arabic countries' entrepreneurial ecosystems?	Descriptive statistics: Centrality measures
2	Are these statuses similar or different? To what extent?	K-means cluster analysis
3	What are their strengths and weaknesses?	Descriptive statistics derived from the cluster analysis results

by GEM. Each NES's sample is balanced because it is composed of four experts for each entrepreneurial framework condition (financing, policies, education etc.) and is extracted following GEM's methodological rules designed to guarantee the quality of their qualitative tool.

The research questions (presented in the Introduction) to be answered through these analyses, and the statistical methods used to provide the sought responses, are shown in Table 2.

All the analyses have been performed using SPSS version 23, licensed by GERA. The results are shown in the next section. Cluster analysis has been selected as the most adequate technique to address differences among countries because the sample of countries is relatively small (14) to apply other discriminant methods which require meeting normality and other assumptions for the independent variables. Cluster analysis is exploratory and no inferences are drawn from its results.

## 4 Results

This section includes the statistical results associated with each research question, drawn on the recent statuses of Arabic countries' entrepreneurial ecosystems.

### 4.1 *What Are the Statuses of the Arabic Countries' Entrepreneurial Ecosystems?*

Table 3 shows the most recent average scores provided by GEM-selected experts for each country for each key entrepreneurial framework condition. These conditions are the main factors that integrate within an entrepreneurial ecosystem. The average scores can vary between 1 point, which represents a highly insufficient condition, and 5 points, which represents a highly sufficient condition. In the table, countries are ordered from worst to best average score for each factor and scores above the average (3 points) are highlighted. Use this list to identify each country and the year of evaluation:

**Table 3** The most recent average scores on each key entrepreneurial framework condition, at national level, for the sample of 14 Arabic countries participating in GEM studies

Financing for entrepreneurs													
IR	LI	MO	SY	EG	SA	JO	PS	TU	UA	KW	QA	LE	AL
1.75	2.14	2.18	2.24	2.34	2.39	2.44	2.52	2.58	2.66	2.67	2.67	<b>3.05</b>	<b>3.42</b>
Governmental policies: Priority and support of entrepreneurship													
KW	IR	LI	SY	LE	JO	EG	PS	TU	SA	MO	AL	QA	UA
1.90	2.00	2.01	2.05	2.08	2.13	2.17	2.24	2.38	2.41	2.55	<b>3.19</b>	<b>3.25</b>	<b>3.51</b>
Taxes and bureaucracy													
IR	TU	EG	SY	JO	LE	PS	KW	SA	MO	AL	LI	QA	UA
1.62	1.67	1.96	1.97	2.10	2.34	2.43	2.45	2.48	2.52	2.56	2.63	2.84	<b>3.30</b>
Governmental programmes													
IR	SY	LI	PS	KW	EG	SA	TU	JO	MO	LE	AL	QA	UA
1.36	1.66	1.75	1.86	1.93	2.02	2.12	2.18	2.22	2.22	2.35	2.75	<b>3.23</b>	<b>3.34</b>
Entrepreneurial education and training at school level													
TU	EG	MO	LI	SA	IR	JO	KW	SY	PS	AL	LE	UA	QA
1.15	1.20	1.33	1.41	1.44	1.46	1.47	1.52	1.56	1.69	2.45	2.61	2.68	2.70
Entrepreneurial education and training at post-school level													
EG	IR	JO	TU	SY	SA	LI	MO	PS	KW	UA	LE	AL	QA
1.82	1.83	1.85	2.01	2.21	2.26	2.30	2.41	2.44	2.57	2.84	<b>3.11</b>	<b>3.16</b>	<b>3.46</b>
Research and development transfer													
EG	TU	MO	IR	SY	LI	SA	KW	JO	PS	LE	UA	QA	AL
1.68	1.69	1.71	1.81	1.82	1.83	1.85	2.09	2.28	2.30	2.41	2.55	2.62	2.88
Commercial and professional infrastructure													
IR	EG	SA	MO	JO	AL	LI	SY	KW	PS	QA	LE	UA	TU
1.85	2.31	2.37	2.84	2.86	2.86	2.91	2.97	<b>3.06</b>	<b>3.07</b>	<b>3.08</b>	<b>3.20</b>	<b>3.29</b>	<b>3.49</b>
Internal market dynamics													
QA	LE	MO	SA	IR	EG	SY	JO	PS	LI	UA	KW	AL	TU
2.65	2.65	2.74	2.90	<b>3.00</b>	<b>3.05</b>	<b>3.08</b>	<b>3.11</b>	<b>3.13</b>	<b>3.20</b>	<b>3.44</b>	<b>3.89</b>	<b>4.00</b>	<b>4.17</b>

Internal market burdens and regulations													
IR	TU	KW	MO	PS	JO	LE	QA	SA	EG	SY	LI	AL	UA
1.63	1.72	2.05	2.06	2.10	2.27	2.28	2.36	2.38	2.39	2.43	2.84	2.97	<b>3.00</b>
Physical infrastructure													
LE	LI	SY	AL	KW	PS	IR	JO	QA	EG	MO	SA	TU	UA
2.24	2.98	<b>3.08</b>	<b>3.47</b>	<b>3.50</b>	<b>3.52</b>	<b>3.79</b>	<b>3.80</b>	<b>3.87</b>	<b>3.91</b>	<b>3.98</b>	<b>3.99</b>	<b>4.03</b>	<b>4.25</b>
Social and cultural norms													
IR	EG	TU	MO	LI	JO	KW	SA	PS	SY	AL	QA	LE	UA
2.10	2.42	2.42	2.47	2.51	2.52	2.68	2.72	2.89	<b>3.04</b>	<b>3.19</b>	<b>3.23</b>	<b>3.67</b>	<b>3.69</b>

**Table 4** Arabic countries grouped in four clusters that represent the four average statuses of the entrepreneurial ecosystems' main factors

Cluster	Country	Distance between the status profile of each country and the assigned cluster's centroid
Cluster 1 shows the third position regarding entrepreneurial ecosystem status (see Table 5)		
1	Jordan	0.683
1	Palestinian settlements	0.706
1	Kuwait	0.798
1	Morocco	0.985
1	Tunisia	1.252
Cluster 2 shows the fourth position regarding entrepreneurial ecosystem status (see Table 5)		
2	Egypt	0.655
2	Saudi Arabia	0.810
2	Syria	0.890
2	Libya	1.048
2	Iran	1.360
Cluster 3 shows the first position regarding entrepreneurial ecosystem status (see Table 5)		
3	United Arab Emirates	0.889
3	Qatar	0.942
3	Algeria	1.123
Cluster 4 shows the second position regarding entrepreneurial ecosystem status (see Table 5)		
4	Lebanon	0.000

AL = Algeria (2013); EG = Egypt (2016); IR = Iran (2016); JO = Jordan (2016); KW = Kuwait (2014); LE = Lebanon (2016); LI = Libya (2013); MO = Morocco (2016); PS = Palestinian settlements (2012); QA = Qatar (2016); SA = Saudi Arabia (2016); SY = Syria (2009); TU = Tunisia (2015) and UA = United Arab Emirates (2016).

For eight countries, the most recent data are from 2016, whilst for the rest they vary from 2009 to 2015. Syrian data represent the situation of the entrepreneurial ecosystem before the current conflict. This country, along with Libya and the Palestinian settlements, shows the worst conditions to foster qualified entrepreneurship, whilst necessity entrepreneurship provides subsistence for many people.

#### ***4.2 Are These Statuses Similar or Different? To What Extent?***

Tables 4, 5, 6, 7, and 8 show the results of a k-means cluster analysis, under the assumption that the Arabic countries can be classified in four groups depending on the status of their entrepreneurial ecosystem. The number of groups has been determined after trying a cluster analysis for two, three, four and five groups and

**Table 5** Final coordinates (average scores) for the centroids of the formed clusters: profiles of the statuses of the Arabic ecosystems classified into four groups

Factor	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Financing for entrepreneurs	2.48	2.17	2.92	3.04
Governmental policies: priority and support of entrepreneurship	2.24	2.13	3.31	2.08
Taxes and bureaucracy	2.23	2.13	2.90	2.34
Governmental programmes	2.08	1.78	3.11	2.35
Entrepreneurial education and training at school level	1.43	1.42	2.61	2.61
Entrepreneurial education and training at post-school level	2.25	2.09	3.15	3.11
Research and development transfer	2.01	1.80	2.68	2.41
Commercial and professional infrastructure	3.06	2.48	3.08	3.20
Internal market dynamics	3.41	3.04	3.36	2.65
Internal market burdens and regulations	2.04	2.33	2.78	2.28
Physical infrastructure	3.76	3.55	3.87	2.24
Social and cultural norms	2.60	2.56	3.37	3.67

Note: The lighter the colour, the worse the perception of the state of the factor, compared with the other clusters

**Table 6** Results of the ANOVA (analysis of variance) test to determine which factors have discriminant power to classify the countries in the four groups proposed

Factor	F	Sig.	Conclusion
Financing for entrepreneurs	5.941	0.014	Discriminant power
Governmental policies: Priority and support of entrepreneurship	24.817	0.000	Discriminant power
Taxes and bureaucracy	2.775	0.097	Low discriminant power
Governmental programmes	16.681	0.000	Discriminant power
Entrepreneurial education and training at school level	48.724	0.000	Discriminant power
Entrepreneurial education and training at post-school level	11.499	0.001	Discriminant power
Research and development transfer	12.465	0.001	Discriminant power
Commercial and professional infrastructure	3.147	0.074	Low discriminant power
Internal market dynamics	1.006	0.430	Non-discriminant power
Internal market burdens and regulations	2.892	0.088	Low discriminant power
Physical infrastructure	4.974	0.023	Discriminant power
Social and cultural norms	9.438	0.003	Discriminant power

Note: a variable has discriminant power at 95% confidence level if the significance of the F is lower than 0.05, or at 90% confidence level if the significance is lower than 0.1

**Table 7** The distances between the four clusters of Arabic countries formed, depending on the statuses of the main factors that configure their entrepreneurial ecosystems

	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Cluster 1		0.941	2.576	2.618
Cluster 2	0.941		3.013	2.764
Cluster 3	2.576	3.013		2.452
Cluster 4	2.618	2.764	2.452	

**Table 8** General similarities and distinctions between Arabic countries regarding key factors of the entrepreneurial ecosystem

Similarities: factors in which Arabic countries show similar statuses, ordered by ascending discriminant power	Distinctions: factors in which Arabic countries show different statuses, ordered by descending discriminant power
Internal market dynamics	Entrepreneurial education and training at school level
Taxes and bureaucracy	Governmental policies: Priority and support of entrepreneurship
Internal market burdens and regulations	Governmental programmes
	Research and development transfer
	Entrepreneurial education and training at post-school level
	Social and cultural norms
	Financing for entrepreneurs
	Physical infrastructure
	Commercial and professional infrastructure

concluding that the configuration of four groups best captures the diversity of the sample, as well as the similarities and differences between the selected countries’ entrepreneurial ecosystems. These results are discussed in the next section.

### 4.3 What Are Their Strengths and Weaknesses?

Table 9 shows the list of factors classified in two groups: those that are in acceptable or sufficiently good condition for each cluster (strengths of the entrepreneurial ecosystems) and those that are in non-acceptable or insufficient condition for each cluster (weaknesses of the entrepreneurial ecosystems).

## 5 Discussion

In this section, we discuss the results provided by the descriptive and cluster analyses, answering the research questions one by one.

**Table 9** Strengths and weaknesses of Arabic entrepreneurial ecosystems grouped in four clusters

Cluster	Strengths	Weaknesses
Cluster 1: Jordan, the Palestinian settlements, Kuwait, Morocco, Tunisia	Physical infrastructure; internal market dynamics; commercial and professional infrastructure	Entrepreneurial education and training at school level; research and development transfer; internal market burdens and regulations; governmental programmes, taxes and bureaucracy; governmental policies: Priority and support of entrepreneurship; entrepreneurial education and training at post-school level; financing for entrepreneurs; social and cultural norms
Cluster 2: Egypt, Saudi Arabia, Syria, Libya, Iran	Internal market dynamics; social and cultural norms	Taxes and bureaucracy; governmental programmes; entrepreneurial education and training at post-school level; governmental policies: Priority and support of entrepreneurship; research and development transfer; internal market burdens and regulations; entrepreneurial education and training at school level; commercial and professional infrastructure; financing for entrepreneurs; physical infrastructure
Cluster 3: United Arab Emirates, Qatar, Algeria	Internal market dynamics; physical infrastructure; social and cultural norms; research and development transfer; governmental policies: Priority and support of entrepreneurship; governmental programmes; financing for entrepreneurs	Taxes and bureaucracy; entrepreneurial education and training at post-school level; commercial and professional infrastructure; internal market burdens and regulations; entrepreneurial education and training at school level
Cluster 4: Lebanon	Physical infrastructure; financing for entrepreneurs; governmental policies: Priority and support of entrepreneurship; entrepreneurial education and training at school level	Research and development transfer; internal market dynamics; commercial and professional infrastructure; internal market burdens and regulations; governmental programmes; entrepreneurial education and training at post-school level; taxes and bureaucracy; social and cultural norms



## 5.1 *What Are the Statuses of the Arabic Countries' Entrepreneurial Ecosystems?*

The general status of Arabic entrepreneurial ecosystems is insufficient regarding several key factors. From twelve entrepreneurial framework conditions, Arabic countries showed the following percentages as in sufficient or good state:

Libya, Morocco and Saudi Arabia: 8.33%

Iran, Jordan and Egypt: 16.67%

Syria (before the current conflict), Palestinian settlements and Tunisia: 25.00%

Lebanon: 33.33%

Algeria and Qatar: 50.00%

United Arab Emirates: 66.67%

Libya, Morocco and Saudi Arabia show the weakest entrepreneurial ecosystems, while the United Arab Emirates shows the strongest.

A general view of the status of the 12 conditions reveals that entrepreneurial education and training at school level and research and development transfer are the least developed and least sufficient conditions in the 14 countries. Entrepreneurial education and training at school level is perceived by experts as highly insufficient in Tunisia, Egypt, Morocco, Libya, Saudi Arabia, Iran, Jordan, Kuwait, Syria and the Palestinian settlements, showing average scores under two points. However, research and development transfer is perceived as highly insufficient in Egypt, Tunisia, Morocco, Iran, Syria, Libya and Saudi Arabia, showing average scores under two points.

The next worst-rated statuses are taxes and bureaucracy along with internal market burdens and regulations: only the United Arab Emirates show an average score above three points. Iran and Tunisia have average scores under two points for both conditions, while Egypt and Syria had average scores under two points for the former.

The next critical conditions are financing for entrepreneurs and governmental programmes. Lebanon and Algeria are the only countries that show a sufficient status for financing, while Qatar and the United Arab Emirates are the two countries that show a relatively sufficient status for governmental programmes.

Governmental policies: priority and support of entrepreneurship and entrepreneurial education and training at post-school level appear as sufficient in three of the 14 countries: the United Arab Emirates, Qatar and Algeria for policies and Qatar, Algeria and Lebanon of post-school entrepreneurial education.

Five countries show sufficient status regarding social and cultural norms—the United Arab Emirates, Lebanon, Qatar, Algeria and Syria—whilst six—Tunisia, the United Arab Emirates, Lebanon, Qatar, the Palestinian settlements and Kuwait—received a positive rating from experts on the status of commercial and professional infrastructure.

Internal market dynamics and physical infrastructure are the conditions with the best perceived status by experts of most countries and therefore constitute the

strongest areas of the entrepreneurial ecosystems at this moment. Thus, only Qatar, Lebanon, Morocco and Saudi Arabia average scores are under three points for internal market dynamics, whilst only Lebanon and Libya are judged as having insufficient physical infrastructures.

## ***5.2 Are These Statuses Similar or Different? To What Extent?***

Arabic countries show different entrepreneurial ecosystem statuses. Classified into four groups, thanks to a k-means cluster analysis (see Table 4), the group showing the worst situation is Cluster 2, consisting of Egypt, Saudi Arabia, Syria, Libya and Iran. This cluster is characterised by highly insufficient entrepreneurial education at school and post-school levels, as well as highly insufficient governmental programmes and research and development transfer. They are also somewhat insufficient regarding: governmental policies as a priority and support of entrepreneurship; the status of taxes and bureaucracy; the financing channels for entrepreneurs; the status of internal market burdens and regulations; the commercial and professional infrastructure; and the social and cultural norms. The only conditions perceived as sufficient for this group of countries are the internal market dynamics and the physical and services infrastructure (see Table 5).

Cluster 1, consisting of Jordan, the Palestinian settlements, Kuwait, Morocco and Tunisia, shows a somewhat optimistic profile compared to Cluster 2 in some conditions, but has several common points with it too. Thus, this cluster is characterised by highly insufficient: entrepreneurial education at school level; research and development transfer; and governmental programmes. It also shows the worst average score for internal market burdens and regulations. Taxes and bureaucracy, governmental policies, entrepreneurial education and training at post-school level, financing for entrepreneurs and social and cultural norms are somewhat insufficient, whilst commercial and professional infrastructure is evaluated as sufficient and internal market dynamics and physical infrastructure as quite sufficient (see Table 5).

Cluster 4 consists of Lebanon, a country that needs major attention on governmental policies, its weakest factor within the entrepreneurial ecosystem. It also requires better provision of physical and services infrastructures as it has the worst evaluation of the region in this aspect and, also, needs to improve its internal market dynamics, also the weakest among Arabic countries. Taxes and bureaucracy, governmental programmes, entrepreneurial education and training at school level, research and development transfer and internal market burdens and regulations are perceived as somewhat insufficient by experts. However, financing for entrepreneurs, entrepreneurial education and training at post-school level, commercial and professional infrastructure and social and cultural norms are the strongest factors of

its entrepreneurial ecosystem, with all them scored above the three points (see Table 5).

Cluster 3 includes the countries with the best-rated statuses for their entrepreneurial ecosystems: the United Arab Emirates, Qatar and Algeria. In this group, entrepreneurial education and training at school level, research and development transfer, internal market burdens and regulations, taxes and bureaucracy and financing for entrepreneurs are perceived as somewhat insufficient, whilst the physical infrastructure, social and cultural norms, internal market dynamics, government policies, entrepreneurial education at post-school level, government programmes and commercial and professional infrastructure show scores above three points (see Table 5).

Looking at Table 7 results, one can see that the four clusters are separated enough to justify their existence—that is, the division of Arabic countries in groups, depending on the status of their ecosystems. Clusters 1 and 2 are the closest, because they show the lowest distance between them, while Clusters 3 and 2 are the most separated, showing the highest distance. Also, looking at the Table 4 results, one can evaluate how much closer or further apart countries within each cluster are. Thus, for example in Cluster 2, the cluster that shows the worst entrepreneurial ecosystems status, Egypt is the country closest to the average profile or centroid of the group, while Libya and Iran show higher distance from the central point. In practical terms, this means that Egypt shows the most deficient scoring on entrepreneurial conditions, while Libya and Iran score somewhat better within the same group. The same reasoning can be applied to the rest of clusters: Jordan is the country showing the closest profile compared to the centroid of Cluster 1, whilst Tunisia is somewhat far of it; the United Arab Emirates is the country showing the closest profile compared to the centroid of Cluster 3, whilst Algeria is somewhat far of it; and Lebanon shows no distance with respect to Cluster 4's centroid because the country represents this centroid itself. In general, the Euclidean distances shown in Table 7 (all lower than 2 points) indicate that the countries included in each cluster are quite similar regarding the evaluation of their entrepreneurial ecosystems.

Results shown in Table 8 reveal that the factors of entrepreneurial ecosystems that make them more similar are: internal market dynamics (sufficient in almost all the sample); taxes and bureaucracy status; and internal market burdens and regulations (insufficient for all the sample except the United Arab Emirates). The other factors show more varied evaluations, so similarities between countries are only appreciated when countries are grouped in clusters. In the distinctions column, these factors are ordered from highest to lowest discriminant power. Thus, there is more variation between countries' entrepreneurial education and training at school level than between their commercial and professional infrastructure.

Similarly, the Table 6 results indicate the discriminant power of each factor to classify countries in the four clusters requested. The greater the value of the F statistic and the smaller its significance, the greater the discriminant power of the factor. Thus, the evaluation of entrepreneurial education and training at school level is the factor that shows the highest difference between the countries of the sample, whilst evaluation of internal market dynamics is the factor that is most similar.

### 5.3 *What Are Their Strengths and Weaknesses?*

Results in Table 9 show the strengths and weaknesses of the ecosystems for each cluster of countries.

Regarding strengths, Cluster 3—the one including the countries with better entrepreneurial ecosystem status—is strong in internal market dynamics, physical infrastructure, social and cultural norms, research and development transfer, governmental policies, governmental programmes and financing for entrepreneurs.

Cluster 4, consisting of Lebanon, is strong in physical infrastructure, financing for entrepreneurs, governmental policies and entrepreneurial education and training at school level.

Cluster 1 (Jordan, the Palestinian settlements, Kuwait, Morocco and Tunisia) is strong in physical infrastructure, internal market dynamics and commercial and professional infrastructure.

Cluster 2, which includes the countries with the worst entrepreneurial ecosystem status, is only strong in internal market dynamics and social and cultural norms.

Regarding weaknesses, countries in Cluster 3 (the United Arab Emirates, Qatar and Algeria) are judged as somewhat insufficient for: taxes and bureaucracy; entrepreneurial education and training at post-school level; commercial and professional infrastructure; internal market burdens and regulations; and entrepreneurial education and training at school level.

Lebanon (i.e. Cluster 4) shows the following weaknesses: research and development transfer; internal market dynamics; commercial and professional infrastructure; internal market burdens and regulations; governmental programmes; entrepreneurial education and training at post-school level; taxes and bureaucracy; and social and cultural norms.

Countries within Cluster 1 are evaluated as having insufficient: entrepreneurial education and training at school level; research and development transfer; internal market burdens and regulations; governmental programmes; taxes and bureaucracy; governmental policies: priority and support of entrepreneurship; entrepreneurial education and training at post-school level; financing for entrepreneurs; and social and cultural norms.

Finally, countries within Cluster 2 show the longest list of entrepreneurial ecosystem weaknesses: taxes and bureaucracy; governmental programmes; entrepreneurial education and training at post-school level; governmental policies: priority and support of entrepreneurship; research and development transfer; internal market burdens and regulations; entrepreneurial education and training at school level; commercial and professional infrastructure; financing for entrepreneurs; and physical infrastructure.

## 6 Conclusions

Apparently, most Arab countries are facing a tight schedule of actions to design and carry out improvements to the state of their entrepreneurial ecosystems. This situation is not homogeneous: the results suggest that Lebanon is closest to achieving this goal, along with Algeria, Qatar and the United Arab Emirates.

But, to be effective, this agenda should be supported by good recommendations coming from the scientific study of entrepreneurial ecosystems, including the way they operate and impact on the scope and quality of entrepreneurial activity. In this respect, the scientific community is facing a wide agenda too. There are still many unanswered questions around the roles, effectiveness and impact of the factors and actors that form entrepreneurial ecosystems. Thus, for example, for countries within Cluster 2, which shows the entrepreneurial ecosystem with the worst average evaluation, one could wonder, which of the weaknesses should be attended to first, if policymakers must start by one point: taxes and bureaucracy; governmental programmes; entrepreneurial education and training at post-school level; governmental policies; research and development transfer; internal market burdens and regulations; entrepreneurial education and training at school level; commercial and professional infrastructure; financing for entrepreneurs; or physical infrastructure? Policymakers must decide whether to make a global design to impact them all at the same time, or whether some must be attended to first, so the others become more effective later. They must also consider which actors must be involved in these actions, the nature of their roles and who should coordinate each action.

The list of decisions to make is wide and complex. Policymakers can speculate, of course, and apply common sense to find the proper answers to these and other questions related to this problem. However, scientists must also work to help to inform them. There is an urgent need for progress in the field of entrepreneurial ecosystem study and, until it is produced, policymakers are working under somewhat blind conditions. Countries are not homogeneous, even internally, regarding their social, economic and physical features. Finding solutions that work for all countries is not possible. From a technical point of view, the scientific agenda is increasingly pushed to consider a mixture of quantitative and qualitative data, complemented with big data sources.

Arabic countries represent an interesting and excellent opportunity, from a scientific perspective, to try different strategies to improve the entrepreneurial ecosystems, then monitor and evaluate the results. Thus, there are countries with long-term agendas—Egypt, Saudi Arabia, Syria (which must be re-evaluated as soon as the current conflict ends), Libya, Iran, Jordan, the Palestinian settlements, Kuwait, Morocco and Tunisia—which must be carefully designed and which require profound analysis of the relationship between the status of the entrepreneurial ecosystems and the magnitude and characteristics of entrepreneurial activities. For these countries, the most urgent (although identification is speculative, without objective support) seems to be:

- From the perspective of public actors and factors: developing public policies and programmes, alongside a modernisation of the tax and bureaucratic systems.
- From the perspective of private actors and factors: implementing modern financing channels for entrepreneurs, modernising and developing an adequate commercial and professional infrastructure and improving physical infrastructures.

When these factors show significant improvement, it is possible that entrepreneurs will feel more comfortable within the environment and proceed with better-qualified initiatives. But governments cannot forget the implementation of entrepreneurial education and training, along with fostering research and development execution and transfer, because these factors yield long-term benefits and cannot be ignored entirely for short-term solutions.

The countries that show better entrepreneurial ecosystem statuses—Lebanon, Algeria, Qatar and the United Arab Emirates—should act as models for the rest, but they still have their own long-term agenda for developing their entrepreneurial environments. All them still have relevant weaknesses among the entrepreneurial ecosystem factors, especially in the fields of taxes and bureaucracy and entrepreneurial education at school level (on the public sector side) and in the fields of commercial and professional infrastructure and internal market burdens and regulations (on the private sector side). In general, all the Arabic countries need urgent modernisation of the business-services sector, as entrepreneurial activity is too focused in the consumer-oriented sector.

This chapter summarises the general situation of Arabic countries regarding the recent evaluation of their entrepreneurial ecosystems and has shown that there are at least four models or velocities of development of these environments in the region. The elaboration of this general picture has some limitations. Thus, despite the numerous research questions related to this field that remain unanswered, the data used to build the results do not correspond to the same year, a fact that makes the extraction of some conclusions about some countries questionable. The authors took this risk because, having worked for GEM since 1999, they know that significant changes in ecosystem statuses take a long time. Another limitation is the loss of the Syrian time-series since the current conflict started, but it is hoped that its inclusion gives an indication of where this ecosystem was in 2009, and highlights the importance of retrieving its key factors when the country starts its recovery.

Future lines of research should include testing new statistical techniques to capture the diversity of Arabic entrepreneurial ecosystems and relate their features with the entrepreneurial activity carried out in these countries. This is a necessary step to start learning which entrepreneurial ecosystem recommendations can be most effective and which agents and institutions can develop them. Also, from the perspective of potential entrepreneurs, it is necessary to make this step so that they understand how they can modernise the starting-up process and profit in an efficient manner from the opportunities around them.

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**Part II**  
**Gender and Entrepreneurship in MENA**



# Gender and Entrepreneurship: Recent Developments in MENA (Middle East and North Africa)



Stephen Hill and Elie Akhrass

**Abstract** This chapter looks at the recent development of early-stage entrepreneurship in the MENA region with an emphasis on the evolution of women's early stage entrepreneurship, and in particular whether an increase in female participation in enterprise could be driving an increase in entrepreneurship for the region as a whole. Data from the Global Entrepreneurship Monitor Adult Population Surveys in MENA countries since 2009, conducted as part of an international collaborative research project, is used to describe the recent development of entrepreneurship in the region, and to test the association between changing relative participation by gender and the overall level of early stage entrepreneurship. Since 2012 the ratio of male to female entrepreneurship in the MENA region overall has declined while the level of overall entrepreneurship has increased, although with substantial variation by MENA country.

**Keywords** Entrepreneurship · Gender · Economic development · Global Entrepreneurship Monitor (GEM)

## 1 Introduction

The action of starting a new business is fundamental to the prosperity of the modern market economy. New businesses can be hotbeds of creativity and product and service development, and can provide new jobs as well as product and service diversity. This paper will look at the recent evolution of early stage entrepreneurship in the MENA region,<sup>1</sup> with a particular focus on the development of women's early stage entrepreneurship. Data from the Global Entrepreneurship Monitor, (GEM),

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<sup>1</sup>In this paper MENA is defined as the following 19 Middle Eastern or North African countries: Algeria, Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates and Yemen.

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will be used to trace this development, including female early stage entrepreneurship, across the MENA countries in recent years, demonstrating the diversity of experiences but also some common threads. For example, in 2009, GEM data showed that about 5% of the Saudi Arabian adult population were actively engaged in starting or running a new business—however women were less than one in ten of those early stage entrepreneurs. By 2016, the proportion of Saudi Arabian adult early-stage entrepreneurs had risen to 11%, of whom over a third were women. This paper will show that this increase in the proportion of women engaged in early stage entrepreneurship is common across the MENA region in recent years—however in only one of the participating MENA countries in 1 year (Qatar, 2016), does the level of female early stage entrepreneurship come close to that male entrepreneurs.

This paper will start with a brief introduction to GEM and its methodology, and a review of recent research on women entrepreneurs, much of which uses GEM data. This will be followed by an overview of recent developments in the level of early stage entrepreneurship across the MENA region, justifying some generalisations, but also pointing to the diversity of experience between different MENA countries. The paper will progress with an analysis of participation by gender, and an assessment of whether increased female participation could be driving up levels of entrepreneurship in the Middle East, before drawing some conclusions about the recent evolution of early stage entrepreneurship in the MENA region.

The year 2009 proved to be a benchmark for empirical research on entrepreneurship in the MENA region, because in that year the International Development Research Centre, based in Canada, initiated a research project supporting Arab country participation in the global GEM project (IDRC 2010). Alongside other MENA participants, this meant that 2009 GEM data exists for 12 of the 19 MENA countries, many of which have subsequently participated in GEM in different years, as have some MENA countries not present in GEM in 2009.

This paper takes an instrumentalist approach, because it is concerned with the potential impact of women's businesses on economic growth and development. It will use the pool of GEM data to paint a detailed picture of early stage entrepreneurship as it has developed recently across MENA. If some MENA countries have higher levels of early stage entrepreneurship than others, how much of this difference could be related to varying levels of female participation? The paper will describe and assess the recent development of female entrepreneurship across MENA, and will posit the notion that increases in overall entrepreneurship in MENA have been driven by the (slowly) rising tide of women entrepreneurs. This focus on women entrepreneurs requires justification, and this is provided in a brief review of previous studies.

## **2 The Global Entrepreneurship Monitor (GEM)**

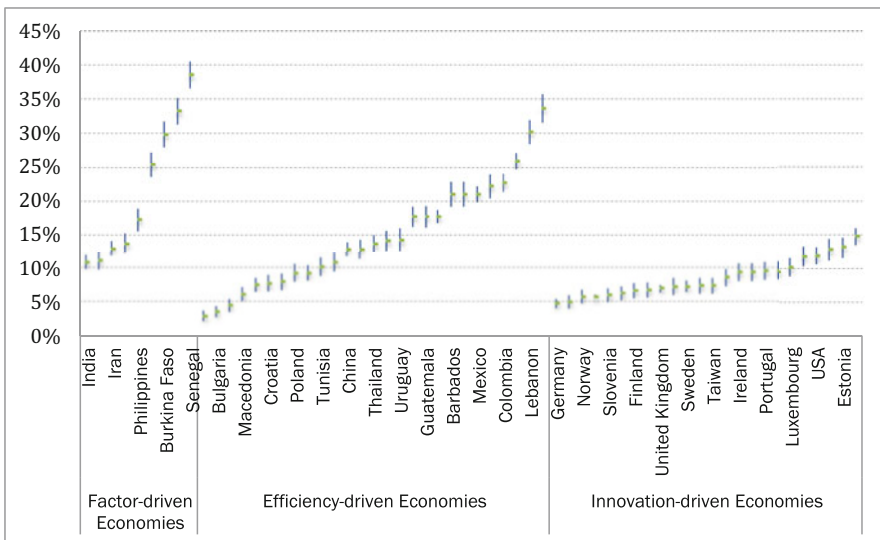
GEM is an international collaborative research programme to define and assess the level of individual entrepreneurship across space and time. The GEM methodology uses a common questionnaire, administered to a random sample of at least 2,000

adults in each participating country. By using this common questionnaire, comparisons can be made between different countries and in different years, while the large sample size makes it (relatively) straightforward to draw conclusions from the data. GEM started through collaboration between London Business School and Babson College, with the first surveys in 1999. Since then GEM has coordinated national teams from more than 100 countries, representing more than 70% of the world’s population and 90% of global GDP.

As a population survey, GEM looks at the aspirations, attributes and actions of individuals, allowing analysis of the relationship between individual characteristics, perceptions and behaviour as the process of starting a new business is contemplated, planned, initiated and delivered.

GEM then focuses on new business start-ups, asking individuals about their intentions to start a business, what actions they have taken, their sources of finance, whether they are running a new or established business etc., alongside demographics such as age, gender, household income, level of education etc. The key indicator for early stage entrepreneurship is Total early-stage Entrepreneurial Activity or TEA, measured as the sum of those actively starting a new business but not yet trading for 3 months, (the nascent entrepreneur), plus those owning and managing a new business (trading for less than 3.5 years), adjusted for any double counting (from people doing both).

The level of TEA varies considerably by country, both by stage of economic development and across countries at similar stages of development. Figure 1 shows the level of Total Early-stage Entrepreneurial Activity across all countries



**Fig. 1** GEM total early-stage entrepreneurial activity (TEA) rates by categorised country, 2015. Source: GEM Global Report, 2015/16 (n.b. while all surveyed countries are included in the chart, for brevity not all are listed on the axis. Please see the GEM Global Report, (Kelley et al. 2016), for the full listing)

participating in GEM in 2015, categorized into factor-driven, efficiency-driven and innovation-driven economies (using World Economic Forum categories, see Kelley et al. 2016).

It is clear from Fig. 1 that while the stage of economic development is important, there remains considerable variation in the rate of Total early-stage Entrepreneurial Activity within each development category. In Fig. 1 the average rate of TEA for factor-driven economies was 21%, for efficiency-driven economies it was 15% and for innovation-driven it was just 8%—although Fig. 1 also demonstrates considerable variation around these averages. Hence the level of early stage entrepreneurship tends to decline with the level of economic development, reflecting differing opportunity costs, despite, as noted in the first paragraph, starting a new business being fundamental to that economic development.

### 3 The Relationship Between Gender and Entrepreneurship

There is considerable academic interest, and a burgeoning and disparate literature, on the theoretical and empirical relationship between gender and entrepreneurship. A useful starting point is Minniti and Naude (2010), who summarized what was known about the patterns and determinants of female entrepreneurship across countries. They note that significantly fewer women than men own businesses, and that fewer women start businesses. Women-owned businesses tend to be smaller and grow less, and are less profitable, with lower turnover, compared to male-owned businesses, even within the same sectors. However, in a later paper, (Minniti and Naude 2011), the same authors suggest that while fewer women than men own businesses worldwide, the failure rates of women's businesses are not significantly different to men's. Moreover, *“in recent years, the rate of new businesses formed by women has significantly outpaced the rate of new businesses formed by men across all ethnic groups in the United States”*.

This then raises the important issue of whether the characteristics and role of female entrepreneurs varies across countries at different stages of development. In their 2010 paper, Minniti and Naude had noted that *“Prevalent rates of female entrepreneurship tend to be higher in developing than in developed countries”* (op. cit. p. 279). They suggest that the traditional explanation for this is that women in developing countries may face high entry barriers in formal labour markets, and have to resort to entrepreneurship as a way out of unemployment and poverty, although it is unclear why this may not also be the case in developed countries as well. The relationship between female entrepreneurship and stage of development may be especially important in an assessment of female entrepreneurship across a MENA region whose constituent countries vary considerably in their state of development.

The same Minniti and Naude paper argues that interest in female entrepreneurship in developing countries has increased partly because of a general increase in interest in entrepreneurship and its role in economic development, but also because women entrepreneurs may play a special role in developing countries. In particular, female-

led micro and small enterprises (MSE's) can have a more significant impact on overall household welfare and consumption than male-led MSE's. Then support for female entrepreneurship may not only empower women—it may also reduce poverty. In reviewing empirical evidence, they concluded that differences in entrepreneurial behaviour between men and women were remarkably stable across countries, and that participation rates for men tend to be 50% higher than those for women.

*To sum up, the role played by female entrepreneurs on aggregate economic activity, as well as the role played, in turn, by alternate degrees of economic development on female participation in self employment remain, (despite our growing knowledge), amongst the least studied and potentially most important areas in the entrepreneurship and development literatures. (p. 285).*

The Global Entrepreneurship Research Association (GERA) has been very active in the use of GEM data to assess female entrepreneurship. Allen et al. (2007) produced the first GEM Report on Women and Entrepreneurship, using GEM 2006 data. They asserted that, “*investment in women's entrepreneurship is an important way for countries to exponentially increase the impact of new venture creation*” (p. 1). This is a challenging statement, given that there is little evidence of the impact of investment in women's entrepreneurship, or of the impact of women's entrepreneurship on new venture creation.

The Report did show that, regardless of gender, entrepreneurial activity was higher in low/middle income countries than in high-income countries, but that the gender gap was greatest in high-income countries. Using the GEM distinction between opportunity and necessity entrepreneurship, the data suggested that the ratio of opportunity to necessity entrepreneurship was highest in high-income countries, and that while there was little gender gap in necessity entrepreneurship, the rate of male opportunity entrepreneurship was significantly higher than that of women. Women business starters were more likely than men to be in consumer-orientated sectors, while women had less confidence in their ability to start a new business and were more likely to be deterred by the fear of failure. There was little gender difference in the age distribution of early stage entrepreneurs, while both men and women with the highest incomes were more likely to be early stage entrepreneurs. This first GEM report on Women Entrepreneurs concluded that women's entrepreneurship matters in terms of contributing to economic development, and that there was a gender gap for both new business creation and the ownership of existing businesses.

There have been a number of GEM reports on Women in Entrepreneurship since then. The 2010 Report (Kelley et al. 2011) showed that the entrepreneurial gap between women and men decreased with economic development level. As economies move from a factor-driven stage to an efficiency-driven stage, and then to an innovation-driven stage, the average gap between men and women entrepreneurs decreases from 5.2 percentage points to 4 points and to 3.4 points respectively. However, given that early stage entrepreneurial activity rates are typically much lower at higher stages of development, it is not clear that the entrepreneurial gender gap is best measured by the absolute difference in participation rates. Noting the

results of Minniti and Naude above, it may be that the ratio of male to female participation may be a better measure—this will be considered later in relation to MENA data.

The GEM 2012 Women's Report showed that "*In nearly every economy there are fewer female than male entrepreneurs, and they appear to show reluctance to scale their business or to enter new and less tested markets*" (Kelley et al. 2013, p. 1). The twin themes of this Report were:

- The importance of developing support networks, women mentors and local female role models, and
- The importance of education and training in enabling and empowering women entrepreneurs—not just in relation to skills, but also in terms of confidence and self-perceptions.

The participation of women in entrepreneurship varied considerably; with, for example, just 1% of women in Pakistan engaged in early stage entrepreneurship, compared to 40% in Zambia. Interestingly, this Report showed the MENA/Mid Asia area as having the lowest levels of early stage entrepreneurship amongst women (4%), and the greatest gender disparity, whereby male rates of early stage entrepreneurship were four times higher than that of females.

The notion that women-owned businesses underperform has been challenged. Marlow and McAdam (2013) claim that while women-owned businesses are frequently described as underperforming, in that the majority remain small and marginal, they would dispute that description. According to them, such performance profiles actually reflect the constrained performances of most small firms. "*The assertion that women-owned firms underperform reflects a gendered bias within the entrepreneurial discourse, whereby femininity and deficit are deemed coterminous*". In other words, the description of underperformance in terms of profits and turnover reflect a gendered view of performance—women may simply have different objectives for their businesses. In particular women may be more likely to start a business because of the greater flexibility this provides for work-life balances, although more than one writer has pointed out that work-life balance or family responsibilities are only ever mentioned in the enterprise literature in relation to women-owned businesses, (Minniti and Naude 2011).

There is also the issue of discrimination or bias—Brush (1997), looked at obstacles and opportunities for women-owned businesses, and found that women starters were taken less seriously than men, had more difficulty accessing capital and were disadvantaged by a lack of female role models. Tsygonova and Shirokova (2010), claimed that female entrepreneurs faced discrimination in obtaining bank loans, and reported estimates that "*the probability of obtaining a loan is 5.4% lower for female entrepreneurs than for men, and interest rates are 0.6% higher*" (p. 123). However Sarfaraz et al. (2014), correlated GEM data with United Nations data on gender inequality to show that female entrepreneurial activity was not significantly related to gender inequality.

In a carefully, and closely, argued text, Ahl (2004) noted that most studies of female entrepreneurship, or indeed women-owned businesses, treat gender as a

variable, alongside other demographic categories such as age, location or level of education. She argues that gender cannot be regarded as an “*unproblematic category*” (p. 17), because “*understanding is created in a social context, it is socially constructed and this goes, of course, for gender as well as for everything else*” (p. 21), illustrating this with a quote from Simone de Beauvoir, “*You are not born a woman, you become one*”.

Then, Ahl claims, “*Being a woman and an entrepreneur at the same time means that one has to position oneself simultaneously in regard to two conflicting discourses*” (p. 61).

Ahl surveyed 81 research articles on women’s entrepreneurship in detail, to highlight the following:

- Women entrepreneurs were generally as well educated as their male counterparts.
- Home-based businesses were predominantly female-owned.
- Women choose to start businesses in sectors dominated by small firms.
- Successful entrepreneurs were seen to have masculine traits.
- Family background influenced interest in starting a business for both women and men, although,
- Men were more socialized into starting businesses than women.
- The desire for job freedom was common to both genders.
- Matched sample male/female start-ups found more similarities than differences, although,
- Only women started businesses to be able to combine work and family, while,
- Daughters were an untapped resource in many family businesses.

In summary, according to Ahl, the only consistent empirical finding across studies was that women’s businesses are concentrated in the retail and service sectors, and because of this, their businesses are, on average, smaller than the average male-owned business.

Ahl concluded that: “*Studies seem to regard the type of businesses women start as a simple matter of individual choice. Yet businesses are not gender neutral, they are gendered just as most everything is. Certain types of business are more readily available to a woman than others. Certain businesses are compatible with a subject position as a ‘women’ while others are not.*” (p. 188).

The introduction to this paper noted that the focus on gender required justification. The rationale, which would certainly be familiar to Ahl, is instrumental, since this paper is concerned with the actual or potential impact of women businesses on economic growth. Then, if some MENA countries have higher overall levels of early stage entrepreneurship than some others, can at least some of the difference be related to differing levels of female participation? Female participation thus becomes an important empirical and policy issue.

The focus on MENA may also require justification. Not only is MENA a substantial region in its own right, with a combined population of almost 425 million in 2015, it is also a region, as noted earlier, seen as having generally low levels of female early stage entrepreneurial activity and a substantial gender gap. The next

**Table 1** Rates of total early-stage entrepreneurial activity, (% TEA), by country, MENA 2009–2016

	2009	2010	2011	2012	2013	2014	2015	2016
Algeria	16.68		9.26	8.75	4.89			
Egypt		7.02		7.82			7.39	14.30
Iran	12.08	12.31	14.54	10.79	12.32	16.02	12.93	12.79
Israel	6.07	5.02		6.53	10.04		11.82	11.31
Jordan	10.24							8.20
Lebanon	14.98						30.15	21.15
Libya					11.15			
Morocco	15.74						4.44	5.56
Qatar						16.38		7.85
Saudi Arabia	4.66	9.40						11.44
Syria	8.46							
Tunisia	9.43	6.12		4.78			10.13	
UAE	13.25		6.19					5.66
West Bank <sup>a</sup>	8.59	10.37		9.84				
Yemen	24.01							
<b>MENA average</b>	<b>10.11</b>	<b>6.80</b>	<b>12.33</b>	<b>8.95</b>	<b>9.93</b>	<b>16.03</b>	<b>8.30</b>	<b>9.24</b>
Represent %	83.5	53.7	30.8	55.5	32.5	19.2	64.7	83.6 <sup>b</sup>

Source: GEM plus World Bank plus authors estimates

<sup>a</sup>Includes Gaza Strip. 2012 estimate is listed in GEM as Palestine

<sup>b</sup>Estimated using 2016 GEM inclusion and the latest (2015) population estimates

section will examine whether contemporary evidence may confirm or challenge these perceptions.

## 4 The Recent Development of Early-Stage Entrepreneurship in the MENA Region

This section will examine the recent evolution of early stage entrepreneurship in the MENA region using GEM data. Table 1 sets out the national level of early-stage entrepreneurship, (as measured by Total early stage Entrepreneurial Activity or TEA), for various countries in the MENA region since 2009. As noted earlier, 2009 was a benchmark year for GEM in MENA, because IDRC support boosted the number of countries taking part in GEM that year to 12, with a combined population of more than 314 million out of a 2009 MENA population of 376 million, (national and MENA population figures from the World Bank database [data.worldbank.org](http://data.worldbank.org)).

Therefore in 2009 GEM participating countries represented 83.5% of the total population of MENA. GEM representation has varied since then, as countries participate in GEM or not in a particular year, from a low of 19.2% in 2014 to a high of 83.6% in 2016, as shown in the final row of Table 1. Hence any discussion of GEM MENA average data must be set in the context of this representation. Of the



MENA countries, only Iran has participated in GEM in each of the 8 years since 2009, followed by Israel six times, Algeria, Egypt and Tunisia four times and Lebanon, Saudi Arabia, Morocco and UAE three times each. On the other hand, of the MENA countries listed in Sect. 1, only Bahrain, Iraq, Kuwait and Oman did not participate in GEM in any year within the period 2009–2016.

As anticipated, the level of early stage entrepreneurship varies considerably across countries and through time. In 2009, Saudi Arabia had the lowest level of total early-stage entrepreneurship at 4.7%, while Yemen had the highest at 24%, around a MENA average (weighted by population) of 10.1%. By 2016, of the GEM-participating countries that year, Lebanon had the highest rate of early-stage entrepreneurship at 21.2%, while Morocco had the lowest at 5.6%, around a MENA average of 9.2%. Although some MENA countries have seen substantial rises in early-stage entrepreneurial activity over the period, there have been offsetting reductions elsewhere, so that the overall level of early stage entrepreneurship in the MENA region in 2016 appeared little different to that of 2009. Hence the notion that increasing female participation has pushed up overall levels of early stage entrepreneurial activity for MENA as a whole over the period cannot be sustained. It remains to be seen, however, whether increasing female participation may have driven up overall entrepreneurship in individual MENA countries.

There has clearly been substantial variation by country. Table 1 allows an assessment of the development of early-stage entrepreneurship in some MENA countries, as well as for the MENA region as a whole. For Algeria, the level of overall entrepreneurship declined consistently and considerably between 2009 and 2013, whilst levels in Egypt from 2010 to 2015 were fairly constant before almost doubling in 2016. Iran has been very consistent in terms of early stage entrepreneurship throughout the period, with TEA varying within a narrow band around an average of about 13%. Israel has experienced generally increasing levels of early stage entrepreneurship, from just over 6% in 2009 to over 11% in 2016.

Lebanon had the largest increase in early-stage entrepreneurship, between 2009 and 2015, although levels fell back in 2016. Morocco provides an almost mirror image of this, with early stage entrepreneurship falling rapidly between 2009 and 2015, and then some recovery in 2016. Meanwhile Saudi Arabia has had steadily increasing levels of early stage entrepreneurship, up from 4.5% in 2009 to 11.4% in 2016. Over a similar period entrepreneurship has fluctuated in Tunisia, falling from 9% to 5% between 2009 and 2012, before recovering to more than 10% in 2015.

The penultimate row of Table 1 shows the population-weighted average TEA for participating MENA countries over the period. In 2011 and 2014 this average was 12% and 16% respectively, dominated by levels in Iran, but these were the years with the lowest representation of GEM participants in MENA. If attention is restricted to years with GEM participation above (an arbitrary) 50%, the level of early stage entrepreneurship across MENA has been fairly stable at around 9%. This stability in rates of early stage entrepreneurship through the last 8 years may be considered remarkable, given the political and economic turmoil experienced in the MENA region through the “Arab Spring” of 2011–2012, and the subsequent fall in oil prices more recently.

**Table 2** Rates of total early-stage entrepreneurship, (% TEA), by stage of development, MENA 2009–2016

<b>Factor-driven</b>	2009	2010	2011	2012	2013	2014	2015	2016
Algeria	16.68		9.26	8.75	4.89			
Iran	12.08	12.31	14.54	10.79	12.32	16.02	12.93	12.79
Syria	8.46							
Libya					11.15			
West Bank	8.59	10.37		9.84				
Yemen	24.01							
Average 2009–2016								<b>10.26</b>
<b>Efficiency-driven</b>								
Egypt		7.02		7.82			7.39	14.30
Jordan	10.24							8.20
Lebanon	14.98						30.15	21.15
Morocco	15.74						4.44	5.56
Saudi Arabia	4.66	9.40						11.44
Tunisia	9.43	6.12		4.78			10.13	
Average 2009–2016								<b>9.86</b>
<b>Innovation-driven</b>								
UAE	13.25		6.19					5.66
Israel	6.07	5.02		6.53	10.04		11.82	11.31
Qatar						16.38		7.85
Average 2009–2016								<b>8.62</b>
<b>MENA average</b>	<b>10.11</b>	<b>6.80</b>	<b>12.33</b>	<b>8.95</b>	<b>9.93</b>	<b>16.03</b>	<b>8.30</b>	<b>9.24</b>
Represent %	83.5	53.7	30.8	55.5	32.5	19.2	64.7	83.6 <sup>a</sup>

<sup>a</sup>Estimated using 2016 GEM inclusion and the latest (2015) population estimates

One key influence on the level of early stage entrepreneurship, noted earlier, is the stage of economic development, with levels of entrepreneurship generally falling as the level of economic development increases, (Fig. 1 earlier). Recall that the GEM methodology uses the World Economic Forum categorisation of stages of development into Factor, Efficiency and Innovation-driven economies. Table 2 rearranges GEM participating MENA countries into these categories. Note that a number of economies changed categories within the period—Table 2 lists the most recent categorization. On the whole the data appears broadly consistent with expectations, with higher average levels of entrepreneurship in the factor-driven economies and lower levels in the innovation-driven. However there are exceptions, with low levels of entrepreneurship in later years in Algeria, and with levels of entrepreneurship rising in Saudi Arabia despite the country's categorisation changing from factor to efficiency-driven over the period.

Over the period, the population-weighted average level of early-stage entrepreneurship for factor-driven participating MENA economies was 10.3%, compared to 9.9% for efficiency-driven and 8.6% for innovation-driven economies. Hence average levels of entrepreneurship do decrease, as economic development level rises, but not by much. For comparison, the 2016 GEM global average for early-stage

entrepreneurship in factor-driven economies was 17%, for efficiency-driven economies 14%, and for innovation-driven economies 9%. Hence MENA countries participating in GEM appear to display much weaker connections between levels of entrepreneurship and economic development stage than GEM global averages, as well as substantially low levels of overall early stage entrepreneurial activity for countries in the factor-driven and innovation-driven levels of development.

Perhaps a more telling characteristic of change in entrepreneurial activity in MENA countries is geography. In particular, the North African MENA countries have generally had falling levels of early stage entrepreneurship (Algeria 2009–2013, Morocco 2009–2016, Tunisia 2009–2012), while what may be called the Mediterranean Middle East has recently seen increases in entrepreneurial activity (Egypt 2010–2016, Israel 2009–2015, Lebanon 2009–2016 and Iran 2012–2016). The Gulf presents a mixed picture, with entrepreneurial activity increasing in Saudi Arabia (2009–2016) but falling in much smaller UAE (2009–2016), and in Qatar (2014–2016).

## 5 Gender and Entrepreneurship in the MENA Region, 2009–2016

Tables 3 and 4 set out the estimated national levels of Total early stage Entrepreneurial Activity (TEA) for men ( $TEA_m$ ), and for women ( $TEA_f$ ), for the MENA region over the period. The national rates for men are everywhere higher than the TEA national averages set out in Table 2, so of course the rates for women are everywhere lower than the corresponding national average. Hence levels of early stage entrepreneurship for men exceed those of women for every GEM participating country in the MENA Region, sometimes by a considerable margin, though rarely by the four times asserted in the 2012 GEM Women's Report, (although this was for MENA/Mid Asia region rather than just MENA).

Tables 3 and 4 also include the population-weighted gender averages for early stage entrepreneurship for annual participants in GEM in the MENA region, but recall the earlier caveat about coverage in a particular year. This data is represented in Fig. 2, which plots the MENA male and female average early stage entrepreneurship rates around the MENA average for each year. The absolute gender gap between male and female participation in early stage entrepreneurship widened between 2009 and 2011, narrowed to 2013, widened in 2014 and has since narrowed. The gap was widest in 2011 and 2014, but note that those are also the 2 years with the lowest representation of MENA countries in GEM (31% and 19% respectively). For those years with more than 50% MENA participation in GEM, (2009, 2010, 2012, 2015 and 2016), the percentage point gender gap in early stage entrepreneurship widened in MENA from 7% in 2009 to 9% in 2012, and has since fallen steadily to 5.6% in 2016.

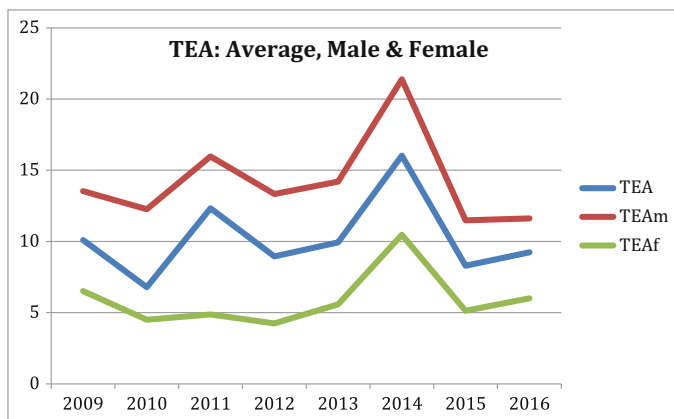
**Table 3** Rates of male total early-stage entrepreneurial activity, (% TEA<sub>m</sub>) by country, MENA 2009–2016

	2009	2010	2011	2012	2013	2014	2015	2016
Algeria	19.94		10.76	12.08	6.43			
Egypt		9.54		13.09			11.06	20.91
Iran	16.22	16.43	19.56	15.66	18.07	21.45	17.50	16.60
Israel	8.01	6.71		7.62	13.66		14.41	13.27
Jordan	15.79							12.76
Lebanon	20.18						35.66	26.24
Libya					14.76			
Morocco	19.89						6.10	6.70
Qatar						19.29		8.09
Saudi Arabia	7.93	12.05						12.85
Syria	13.64							
Tunisia	13.74	8.22		6.75			14.98	
UAE	15.69		6.91					6.58
West Bank	13.59	13.62		16.01				
Yemen	29.02							
<b>MENA</b>	<b>13.53</b>	<b>12.26</b>	<b>15.97</b>	<b>13.33</b>	<b>14.21</b>	<b>21.39</b>	<b>11.49</b>	<b>11.62</b>
Represent %	83.5	53.7	30.8	55.5	32.5	19.2	64.7	83.6

**Table 4** Rates of female total early-stage entrepreneurial activity, (% TEA<sub>f</sub>) by country, MENA 2009–2016

	2009	2010	2011	2012	2013	2014	2015	2016
Algeria	13.37		5.56	5.37	3.31			
Egypt		4.41		2.39			3.67	7.48
Iran	6.48	4.14	4.60	5.58	6.49	10.47	8.46	8.93
Israel	4.17	3.37		5.46	6.55		9.30	9.36
Jordan	4.52							3.26
Lebanon	10.20						24.58	16.07
Libya					7.21			
Morocco	11.78						2.85	4.46
Qatar						10.32		6.80
Saudi Arabia	0.71	5.87						9.74
Syria	3.13							
Tunisia	5.08	4.08		2.87			5.33	
UAE	6.26		4.32					3.70
West Bank	3.35	6.95		3.42				
Yemen	18.84							
<b>MENA</b>	<b>6.51</b>	<b>4.50</b>	<b>4.87</b>	<b>4.24</b>	<b>5.59</b>	<b>10.47</b>	<b>5.13</b>	<b>6.01</b>
Represent %	83.5	53.7	30.8	55.5	32.5	19.2	64.7	83.6

Source: GEM plus World Bank plus authors estimates



**Fig. 2** The absolute gender gap in total early stage entrepreneurial activity (TEA) in MENA, 2009–2016. Source: Tables 1, 3 and 4

As anticipated, in the pooled sample of countries across time there is significant correlation between the average level of participation in early stage entrepreneurial activity and the level of female participation, ( $R^2 = 0.8961$ ,  $n = 46$ ). So higher levels of female entrepreneurial activity are associated with higher levels of entrepreneurial activity, although this may simply be tautological, since female entrepreneurial activity is a significant component in total activity.

It was noted earlier that subtracting the female rate of early stage entrepreneurship from the male rate, (called the absolute gender gap, above), may not be an appropriate indicator of that gender gap, especially when the overall level of early stage entrepreneurship varies so widely. For example, for Lebanon in 2016 the absolute gender gap was 10.2 percentage points (26.24–16.07), while in neighbouring Jordan it was 9.5 percentage points (12.76–3.26), suggesting that the gender gap was similar in each. However, in Lebanon the rate of male early stage entrepreneurship was 1.6 times that of women, (the **relative** gender gap), while in Jordan the male rate was almost 4 times that of women.

Table 5 sets out this ratio for each of the GEM participating MENA countries over the period, ranging from a high of 11.17 in Saudi Arabia in 2009, (i.e. there were more than 11 male early stage entrepreneurs for every female early stage entrepreneurs), to a low of 1.19 in Qatar in 2016, (i.e. around six male early stage entrepreneurs for every five female entrepreneurs). The table also shows the population-weighted average ratio for the MENA region over the period. If the low representation years are excluded (2011, 2013 and 2014), the ratio of male to female early stage entrepreneurship in the MENA region increased from just over two in 2009 to more than three in 2012, corresponding to the difficult Arab-Spring years, but has fallen since then to just less than two in 2016. This is a substantial change in the short space of time since 2012, and may represent significant social progress in a region seen traditionally as socially conservative. However, despite this change, there remain almost twice as many male early stage entrepreneurs than women.

**Table 5** Ratio of male to female total early-stage entrepreneurship, (TEA<sub>m</sub>/TEA<sub>f</sub>), by country, MENA 2009–2016

	2009	2010	2011	2012	2013	2014	2015	2016
Algeria	1.491		1.935	2.250	1.943			
Egypt		2.163		5.477			3.014	2.795
Iran	2.502	3.969	4.252	2.653	2.784	2.050	2.069	1.859
Israel	1.921	1.991		1.396	2.085		1.549	1.418
Jordan	3.493							3.914
Lebanon	1.978						1.451	1.644
Libya					1.940			
Morocco	1.688						3.010	1.502
Qatar						1.870		1.190
Saudi Arabia	11.169	2.053						1.319
Syria	4.358							
Tunisia	2.705	2.015		2.352			3.010	
UAE	2.506		1.600					1.778
West Bank	4.057	1.960		4.681				
Yemen	1.540							
<b>MENA</b>	<b>2.078</b>	<b>2.724</b>	<b>3.279</b>	<b>3.144</b>	<b>2.542</b>	<b>2.043</b>	<b>2.240</b>	<b>1.933</b>
Represent %	83.5	53.7	30.8	55.5	32.5	19.2	64.7	83.6

Source: GEM plus World Bank plus authors estimates

Of the MENA countries listed in Table 5, a number have seen the male to female early stage entrepreneurial activity ratio falling in recent years. These include Egypt (2012–2016), Iran (2011–2016), Lebanon (2009–2016), Israel (2013–2016), Qatar (2014–2016), Saudi Arabia (2009–2016) and the UAE (2009–2016). However these falls have been partially offset by increases across many of the North African MENA countries: Algeria (2009–2013), Jordan (2009–2016), Morocco (2009–2015) and Tunisia (2009–2015). Note the correspondence with the earlier discussion of changes in overall levels of early stage entrepreneurial activity.

The lowest ratio in Table 5 is for Qatar in 2016, a ratio of 1.19, derived from a male early stage entrepreneurship rate of 8.09% and a female rate of 6.80%. Given the large sample sizes in the GEM Annual Population Surveys, ( $n \geq 2000$  adults in each country), sample means can be assumed to follow a normal distribution. Then differences in means can be tested for statistical significance, using standard test statistics.<sup>2</sup>

Using these statistics, the notion of evidence of a statistically significant difference in levels of male and female early stage entrepreneurial activity in Qatar in 2016 can be rejected (at the 5% level). Note that for the next lowest male to female enterprise ratio in Table 5, (1.319, Saudi Arabia in 2016), the corresponding test

$${}^2Z = (p_1 - p_2) / \left( \sqrt{p(1-p) \left( \frac{1}{n_1} + \frac{1}{n_2} \right)} \right), \text{ where } p = (p_1 + p_2) / 2,$$

Then, given  $p_1 = 8.09\%$ ,  $p_2 = 6.80\%$  and assuming  $n_1, n_2 =$  (at least) 1000,  $Z = 1.099$ .

At a 5% level of significance, for a one-tailed test the critical value of  $Z$  is 1.645.

**Table 6** MENA averages for overall total early stage entrepreneurial activity (TEA), and for men (TEA<sub>m</sub>), and women (TEA<sub>f</sub>), plus selected other countries and Regions, 2016

2016	TEA %	TEA <sub>m</sub> %	TEA <sub>f</sub> %	TEA <sub>m</sub> -TEA <sub>f</sub> % (absolute gender gap)	TEA <sub>m</sub> /TEA <sub>f</sub> (relative gender gap)
USA	12.6	14.8	10.5	4.3	1.410
Russia	6.3	6.9	5.7	1.3	1.222
S. Africa	6.9	8.0	5.9	2.2	1.370
Brazil	19.6	19.2	20.0	-0.8	0.962
China	14.6	17.6	11.5	6.2	1.537
India	10.6	13.5	7.6	5.9	1.770
Africa	17.6	20.4	14.9	5.5	1.369
Asia and Oceania	11.0	13.3	8.7	4.6	1.529
Latin America/ Caribbean	18.8	20.7	17.0	3.0	1.218
Europe	8.4	10.7	6.1	4.6	1.754
MENA	9.2	11.6	6.0	5.6	1.933

Source: GEM 2016, plus MENA calculations

statistic is outside of the critical value. All of the other ratio values in Table 5 are greater than this—inferring that in each of the MENA countries participating in GEM in the period 2009–2016, the level of male early stage entrepreneurial activity was significantly greater than that of females, except for Qatar in 2016.

So far we have considered gendered levels of early stage entrepreneurial activity in the MENA countries in relation to each other. Of course MENA is part of a wider world, and it is worth considering how the absolute and relative gender gaps in MENA compare to other parts of that world. Globally, 62 countries participated in GEM in 2016. In only three of those countries, Brazil, Indonesia and Mexico, did the rate of female early stage entrepreneurial activity exceed that of males. Table 6 shows some examples from these 62 countries, plus some regional averages.

The average absolute gender gap for MENA in 2016 appears on a par with that of China and India, and indeed that of Africa, and not too far out of line with the USA. However the relative gender gap paints a different picture, with a higher relative gap in MENA than in any of the other listed countries. Only India and, interestingly, Europe, come close. Hence, despite the relative gender gap in MENA closing a little in recent years, levels of female early stage entrepreneurial activity remain relatively low on a global stage.

Finally, the notion that changes in the relative level of female early stage entrepreneurial activity may drive changes in overall entrepreneurial activity in the MENA region can be addressed. It was noted earlier that there was strong positive correlation between the level of female early stage entrepreneurial activity (TEA<sub>f</sub>), and the overall level of entrepreneurial activity (TEA), but that this was hardly surprising, given that TEA<sub>f</sub> is a part of TEA. More interesting, but more challenging, is the relative gender gap, (TEA<sub>m</sub>/TEA<sub>f</sub>), and its relationship to overall entrepreneurial activity (TEA). If a relative rise in female entrepreneurial activity was driving

overall activity increases, there would be an inverse relationship between the ratio of male to female new entrepreneurial activity and the level of overall new entrepreneurial activity. The overall correlation coefficient between TEA and  $TEA_m/TEA_f$  across the 46 GEM participating countries between 2009 and 2016 was  $-0.2447$ , lending some support to an inverse relationship.

The next step is to seek to relate changes in entrepreneurial activity (TEA) to changes in the relative gender gap ( $TEA_m/TEA_f$ ) for individual countries. Of course there are myriad influences on both overall entrepreneurial activity and on the relative gender gap. Recall that in GEM, entrepreneurial activity is estimated on the basis of Adult Population Survey's, (APS), of at least 2,000 individuals in each country. Given this information, the significance of a change in levels of entrepreneurial activity can be assessed using the standard test statistics set out earlier. For each MENA country participating in GEM more than once within the period, changes in overall entrepreneurial activity were tested for significance. For example, for Algeria, the overall level of entrepreneurial activity fell from 16.7% in 2009 to 9.3% in 2011, then fell further to 8.8% in 2012 and to 4.9% in 2013, the last time Algeria participated in GEM. Using the standard test statistics, the fall from 2009 to 2011 was statistically significant, while that from 2011 to 2012 was not. The level in 2013 was significantly lower than in the previous years.

From the full list of overall entrepreneurial levels set out in Table 1 above, changes were calculated by pairwise comparisons for each country in different years, with these changes then tested for statistical significance. From the long list of comparisons, 35 changes in overall early stage entrepreneurial activity were identified as statistically significant, sometimes involving multiple changes for one country over time, as in the Algerian example.

The issue then is to relate these changes, (i.e. statistically significant increases or decreases in entrepreneurial activity), to changes in the relative gender gap, (ratio of male to female entrepreneurial activity). If increases in the relative participation of women in enterprise were driving overall enterprise levels up, there would be a negative relationship between these two variables.

As seen earlier in Table 5, the ratio of male to female levels of entrepreneurial activity, here called the relative gender gap, varied considerably, both by country, and for each country over time. As with changes in overall entrepreneurial activity, the question arises as to whether a change in this ratio could be described as statistically significant, or whether this could be considered as some random fluctuation that didn't warrant the label significant. Although the estimation of a test statistic for comparing the difference between two sample proportions is well known, a test statistic for comparing ratios of proportions is less common. However a log transformation can be used to estimate the confidence interval for a ratio of proportions.<sup>3</sup>

<sup>3</sup>If  $R = TEA_m/TEA_f$ , equal to  $(m/n_1)/(f/n_2)$ , where  $m$  = number of male early stage entrepreneurs,  $n_1$  = number of males in the sample,  $f$  = number of female entrepreneurs,  $n_2$  = number of females in the sample, then from the delta method,  $Variance(\log R) = 1/m - 1/n_1 + 1/f - 1/n_2$ . Taking the



Take for example, Iran in 2016. The male early stage entrepreneurial activity rate was 16.6%, while the female was 8.9%, giving a ratio of male to female of 1.86. Assuming a sample size of 2000, (GEM minimum), and that the sample included equal numbers of males and females, the 95% confidence interval for  $TEA_m/TEA_f$  can be calculated as 1.46–2.37.

In the absence of a standard test, define a change in the relative gender gap as significant if the average from 1 year lies outside of the confidence interval in a subsequent year. Continuing the Iranian example, the relative gender gap was 2.07 in 2015, which is within the confidence interval for 2016—hence there was no significant difference in the male/female ratio in those 2 years. The relative gender gap for Iran in 2012 was 2.65, outside of the confidence interval for 2016. Therefore, given the definition earlier, there was a significant change, (in this case a fall), in the relative gender gap in Iran between 2012 and 2016.

Table 7 lists those countries, and those years, for which there was both a statistically significant change in overall early stage entrepreneurial activity, (TEA), and a significant change in the relative gender gap as measured by the male to female ratio for early stage entrepreneurial activity, ( $TEA_m/TEA_f$ ), together with the direction of changes. Then, for example, in Algeria the overall level of early stage entrepreneurial activity, (TEA), decreased significantly between 2009 and 2011, while the male to female ratio increased significantly in the same period.

If the increases in relative female participation in early stage entrepreneurial activity have been driving increased overall activity, significant decreases in  $TEA_m/TEA_f$  would be associated with significant increases in TEA overall. Similarly increases in the male to female ratio would be associated with falls in overall activity. In Table 7, of the 24 occasion's where changes in overall activity and the male to female ratio were both significant, 18 were consistent with the notion that increases in female participation drive overall activity levels, (coloured yellow in the table), but eight were not (coloured pink). Under some simple assumptions (including the strong one that occurrences in the table are independent of each other), the probability of 18 occurrences in opposite directions out of 24 can be calculated as 0.0113.<sup>4</sup> Hence there is some evidence that in the MENA region in the period 2009–2016, increases in relative female participation in early stage entrepreneurial activity have been driving overall levels of activity.

More particularly, examination of the data by country show that some countries have shown a strong association between decreases in the male to female ratio (i.e. increases in relative female participation) and the overall level of activity, particularly over longer periods when short term fluctuations can be discounted.

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square root gives the standard error for R,  $SE(R)$ . If  $\log R$  is normally distributed, the 95% confidence interval for  $\log R$  is:  $\log R \pm 1.96 SE(\log R)$ . Exponentiating, the 95% confidence interval for R is given by  $R \exp(\pm 1.96 SE(\log R))$ —see [www.stats.stackexchange.com](http://www.stats.stackexchange.com)

<sup>4</sup>If any occurrences are equally likely to be positive, (TEA and M/F changing in the same direction), or negative, (changing in opposite directions), then the chance of 18 or more negatives in a sample of 24 can be calculated from the Binomial distribution with  $n = 24$ ,  $x = 18$  and  $p = 1/2$ . See Binomial Tables at [www.pindling.org](http://www.pindling.org)

**Table 7** MENA countries with statistically significant changes in Total early stage Entrepreneurial Activity (TEA), and in the male to female ratio ( $TEA_m/TEA_f$ , abbreviated to M/F)

Country	Period	TEA	M/F	Period	TEA	M/F	Period	TEA	M/F
Algeria	09-11	-	+	09-12	-	+			
Egypt	10-16	+	+	12-16	+	-			
Iran	09-11	+	+	10-14	+	-	11-12	-	-
	11-13	-	-	12-14	+	-	12-16	+	-
	13-14	+	-						
Israel	09-16	+	-	10-16	+	-	10-15	+	-
	12-13	+	+						
Lebanon	09-15	+	-	09-16	+	-			
Qatar	14-16	-	-						
Saudi Arabia	09-10	+	-	09-16	+	-	10-16	+	-
Tunisia	10-15	+	+						
UAE	09-11	-	-						
WBG	09-10	+	-						

Source: Author's estimates using GEM data

These countries include Egypt (2012–2016), Iran (2012–2016), Israel (2009–2016), Lebanon (2009–2016) and Saudi Arabia (2009–2016), while in Algeria increases in the male/female ratio were associated with falls in overall entrepreneurial activity (2009–2012). On the other hand Qatar (2014–2016) and the UAE (2009–2011) saw both the male to female ratio and overall activity fall together, while Tunisia (2009–2015) experienced increasing overall activity and increasing male to female ratios.

## 6 Conclusions and Further Research

The level of early stage entrepreneurial activity in the MENA region can certainly be considered under-researched, with GEM Global studies typically dividing MENA between Africa and Asia/Oceania (e.g. Herrington and Kew 2017). This chapter has focused on the spatial distribution of early stage entrepreneurial activity across the MENA region as a whole, using the fortuitous concentration of MENA GEM studies in 2009 as the baseline and looking at changes since then. Studies of gender and entrepreneurial activity in the MENA region are even more scarce, although the 2012 GEM Women's Report did suggest that MENA/Mid Asia had the lowest levels of entrepreneurship amongst women (4%) and the greatest gender disparities (levels

of male entrepreneurship were four times higher than that of females). Consideration of GEM National data since then shows that neither of these generalisations can any longer be considered as accurate—by 2016, levels of early stage entrepreneurial activity amongst female respondents in MENA averaged 6%, or just over half that of males. While the absolute gender gap for MENA has narrowed to less than 6 percentage points, the relative gender gap had fallen to just under two in 2016, compared to over three in 2012. Nevertheless the relative gender gap in MENA remains higher than most other regions.

The overall level of early stage entrepreneurial activity has remained remarkably stable in the region, particularly if only years of high MENA representation in GEM are considered. Overall entrepreneurial activity fell in the difficult period 2009–2010, before mostly recovering by 2012, and increasing slightly to 2016. Of course these MENA averages hide substantial variation by individual country. Some North African MENA countries have experienced substantial falls in entrepreneurial activity over the period (Algeria, Morocco and to a lesser extent Jordan), whilst some Mediterranean Middle Eastern countries have experienced substantial gains in overall entrepreneurial activity over the period (Israel, Lebanon, and to some extent Iran). Two North African countries had low or declining overall levels in entrepreneurial activity until experiencing sharp rises in the past one or 2 years (Egypt and Tunisia). The Gulf remains enigmatic, with substantial increases in enterprise in Saudi Arabia but recent declines in UAE and Qatar.

A brief examination of the literature revealed that the treatment of gender as a demographic variable, common to most studies, was not unproblematic, since both gender and enterprise were socially constructed. This study, like most, took an instrumental perspective, since the intention was to assess whether female participation in early stage entrepreneurial activity could be considered to be driving overall levels of entrepreneurial activity, and could thereby be targeted as a potentially important component of an economic development strategy.

Given the diverse experiences of many MENA countries in relation to gender and entrepreneurship, formulating this assessment proved easier than realizing it. The approach adopted was to identify statistically significant changes in both the overall level of early stage entrepreneurial activity and the corresponding male to female ratio, and then to assess the relationship between the two. If falls in the male to female ratio, (i.e. increases in relative female participation), could be associated with overall increases in entrepreneurial activity in the MENA region, then there was justification for a policy focus on encouraging women into enterprise.

Not surprisingly, the evidence turned out to be mixed. The average level of female participation in early stage entrepreneurial activity in MENA had fallen from 6.5% in 2009 to 4.2% in 2012, before rising to 5.1% in 2015 and 6% in 2016. Then, for the period as a whole, there was neither evidence of a MENA wide increase in overall entrepreneurial activity, nor of a substantial increase in female participation. However both of these variables are very broad instruments. Firstly the region had been through turbulent times in the early years of the period. Overall levels of entrepreneurial activity have been rising in MENA since 2012, whilst both the absolute (male-female) and relative (male/female) gender gaps have been falling.

In MENA as a whole, in 2012 there were three male early stage entrepreneurs for every women entrepreneur. By 2016 this had fallen to less than two.

An analysis of country data distinguished statically significant changes in both overall levels of early stage entrepreneurial activity and in the corresponding male to female ratio, and demonstrated an (admittedly weak) inverse relationship between the two. Then there is some evidence that increases in relative female participation can be associated with increasing levels off overall early stage entrepreneurial activity, although it would be inappropriate to describe this evidence as conclusive. Conclusions are much easier to draw at a country level, with Egypt, Israel, Lebanon and Saudi Arabia all experiencing significant increases in overall entrepreneurial activity alongside declines in the corresponding male to female ratio, whilst in Algeria overall entrepreneurial activity levels have gone down as the male to female ratio has increased. However both the UAE and Qatar have seen overall entrepreneurial activity levels fall while the male to female ratio has also fallen.

Given the identification of a broad pattern of association between enterprise levels and increasing relative female participation in enterprise, but also the existence of contrary country experience, there are clear grounds for further research. This research could focus on individual country experience, building up evidence as to why this association holds in some circumstances and not others, perhaps going beyond MENA and the period 2009–2016. Equally there is scope for a meta-study across countries, perhaps looking at all GEM participants in a particular year, seeking to establish the role of the relative gender gap in the level of overall activity.

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# Explaining the Gender Gap in Entrepreneurial Propensity



Sana' Kamal and Yousef Daoud

**Abstract** This study investigates the gender gap in entrepreneurial activity rates using the Conditional Mixed Process estimator (CMP) and controlling for the possible endogeneity of perceptual variables. We use the Global Entrepreneurship Monitor (GEM) adult population survey data for 12 countries. We find that the gender gap in activity rates shrinks drastically from  $-0.37$  to  $-0.06$  after controlling for observed traits, perceptual variables, and correcting for endogeneity using CMP. Our choice of instrument and estimation technique implies that CMP is more efficient and that unobserved factors still play a role in explaining the entrepreneurial decision. Unlike what is typically found in the literature that the gap disappears and becomes insignificant when endogeneity and control variables are added. However, in line with the argument that the gender gap in activity rates can be explained by skill perception and other covariates.

**Keywords** Entrepreneurship · Gender · Endogeneity

## 1 Introduction

The decision to start a business entails specific characteristics; the entrepreneur (whether male or female) recognizes that the income stemming from entrepreneurial activity is not steady, the work hours may be longer and irregular, interaction with suppliers and customers is socially and psychologically demanding, and, finally, dealing with government regulators and tax administration may be another source of

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anxiety. More often than not, these are serious considerations that encourage individuals to opt for wage employment over starting a business, but that may not be the case equally for men and women. Numerous studies, encouraged by the availability of Global Entrepreneurship Monitor (GEM) data, have surfaced in the last two decades investigating the gender gap<sup>1</sup> in activity rates and why such a gap exists. Identifying the sources of the gap is useful in designing policies which increase female entrepreneurial activity rates especially in a region where female participation in the labor market is very low despite the high enrollment rates for women in most Middle East and North Africa (MENA) countries.

It has been found by many that men are more pre-disposed to being involved in business creation than women. For example, Klapper and Parker (2011) and Estrin and Mickiewicz (2009) show that this finding applies to a wide spectrum of countries across the various development phases. However, there is less of an agreement on what are the underlying causes of this gap. A few studies attributed gender differences to psychological differences; Verheul et al. (2011), Croson and Gneezy (2009), Niederle and Vesterlund (2007), and Bönnte and Piegeler (2013) all emphasize women's lower relative aptitude for risk tolerance. In their view men are more likely to embrace competition while women fear it or shy away from it. Another breed of literature emphasized personal attributes as control variables in the determination of activity rates (including gender), among which Ozdemir and Karadeniz (2009), Llussá (2010), Ardagna and Lusardi (2008) and Pete et al. (2010). Special focus has been given to perceptual variables as fear of failure and skill perception, see for example Koellinger et al. (2007), Gonzalez-Alvarez et al. (2012) and Daoud et al. (2015).

The gender gap in activity rates has been addressed in the majority of works in a single limited dependent variable multiple regression model which may suffer from endogeneity bias (Ozdemir and Karadeniz 2009; Llussá 2010; Ardagna and Lusardi 2008; Pete et al. 2010; Arenius and Minniti 2005; Lee et al. 2004) to name a few. The potential endogeneity of perceptual variables has led to the use of IV estimation. Koellinger et al. (2013) found that skill perception and fear of failure are important variables in explaining the gender gap in activity rates, but there remains unobservable characteristics which affect male-female disparity in activity rates. The use of multi-step IV estimation is more appropriate for linear models, while Conditional Mixed Process (CMP) Modeling leads to more efficient estimation (Daoud et al. 2015; Roodman 2009).

In this paper we investigate the gender gap in activity rates and the degree to which it is explained by personal traits using the CMP model. We argue that using the appropriate estimation methodology, a small portion of the gender gap remains significant and is explainable by the set of explanatory variables implying the existence of unobserved characteristics. Particular attention is given to Palestine, a factor driven economy in GEM reports; it has low activity rates and very high fear of failure rates compared to other countries in its class. Unemployment reached a high 43.6% and 30.6% among age groups 15–24 and 25–34 years respectively in 2014

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<sup>1</sup>The gender gap is often measured by the difference between female and male activity rates (for example total early stage entrepreneurial rate), or at times the ratio of male to female activity rates.

(PCBS 2015). This highlights the importance of studying entrepreneurship as a potential solution to a problem for a land-locked economy under occupation. The dependence on the Israeli labor market as a short term solution to the unemployment problem is a double edge sword; on the one hand it is not sustainable in the long run, and on the other hand it creates unnecessary hardships during interruption; resulting from closures and political maneuvering in the short run.

The next section of this paper provides a review of the relevant literature and theoretical framework. Section 3 provides the data description, empirical model and methodology section. Section 4 gives a robustness check of the model and Sect. 5 concludes.

## 2 Literature Review and Theoretical Framework

The discussion below points to various determinants of activity rates, chief among which is individual perceptions (Reynolds et al. 2003; Arenius and Minniti 2005). The literature also points to knowing other individuals who started a business in the past 12 months (Shane and Venkataraman 2000; Pete et al. 2010; Davidsson and Honig 2003; Steier 2000; Koellinger et al. 2007; Minniti 2005). Fear of failure has a negative impact on starting a business (Arenius and Minniti 2005; Minniti and Nardone 2007; Wagner 2004; Helms 2003). Moreover a part of the gender differences in entrepreneurship could be explained by fear of failure; Wagner (2004) found that fear of failure has higher negative impact on women than it does on men.

It is reported that other socioeconomic factors such as gender, age, education, household income and work status affect individual decisions in starting a business (Koellinger et al. 2007; Blanchflower 2004; Pete et al. 2010; Levesque and Minniti 2006). Moreover, some of these variables such as education and level of income could act as moderating variables of individual's perceptions rather than having a direct impact on starting a new business (Koellinger et al. 2007). Interestingly, women and men entrepreneurs have different characteristics; women entrepreneurs are slightly older, more frequently at home or not working, have lower income, less educated, and with less access to specific skills than their male counterparts (Llussá 2010). Another empirical regularity commonly found that the vast majority of women are more likely to start a business because of necessity than men (Kelly et al. 2012). There is also some evidence that age and income may be non-linearly related to the entrepreneurial decision (Hintermaier and Steinberger 2005; Van Stel et al. 2003).

Finally, Cuervo et al. (2007) summarized the incidence of entrepreneurship by three basic ideas: the first focuses on individual's characteristics that differentiate entrepreneurs from the rest of society such as taking risks, the need for achievements and the ability to face uncertainty. The second is related to the economic and environmental factors that motivate entrepreneurship such as market structure and technological changes; and the third is about the institutions' performance and culture and societal values. However, these factors are not exclusive (Cuervo et al.



2007; Eckhardt and Shane 2003) and could act together in affecting individual decisions to setting up businesses.

A theoretical framework for analyzing gender differences in risk taking behavior could be found in Stark and Zawojska (2015); they explain gender differences<sup>2</sup> by the value assigned to social status in the marriage market. Men take risk in search of a higher social status (proxy for wealth) which is more important for them in the marriage market than is the case for women. In other words, single men have a stronger distaste for a low social status (lower wealth) and thus are more likely to assume more risk to avoid the “inferior outcomes” in the marriage market. They emphasize that “men” rather than “individuals” and “relative wealth” instead of “wealth” is what matters in reference to Roussanov and Savor (2014) model.

Female’s higher opportunity cost of entrepreneurship is another reason often cited for the higher female risk aversion. Koellinger et al. (2013) studied the determinants of nascent entrepreneurship activities in 17 countries using the GEM data. They focused on the gender gap in entrepreneurship, and controlled the endogeneity that they observed through the recursive simultaneous-equation bivariate probit model. They pointed out that the gender gap in business start-up is mainly due to women’s lower propensity to start businesses rather than to the differences in survival rates across genders. In their study, the gender gap disappeared after the control for the endogeneity. In addition, Daoud et al. (2015), investigated the determinants of fear of failure and entrepreneurship. They controlled the problem of endogeneity between fear of failure and entrepreneurship by using the Conditional Mixed Process (CMP) regression developed by Roodman (2009). They observed a significant gender gap; even after controlling endogeneity, indicating that gender is an important factor in predicting the probability of starting business. This study applied the CMP on several countries for the period 2009, 2010 and 2012 and found that a substantial portion for the gender gap in entrepreneurship was due to unobserved factors.

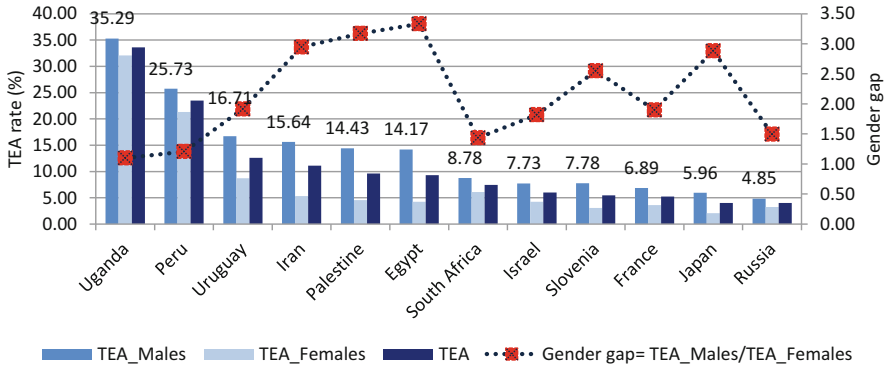
Indeed, our study builds on Daoud et al. (2015) and extends the data set to include 12 countries for 4 years (2008–2010 and 2012) to investigate the determinants of entrepreneurship and to check what happens to the gender gap after controlling the endogeneity through the CMP model on a larger sample. Based on Roodman (2009), the CMP could yield to more efficient and unbiased estimation. Figure 1 below shows the gap and activity rates for these countries.

To summarize, we will test the following hypotheses:

1. Are women less likely than men to start a business?
2. Do personal and demographic characteristics reduce the predicted probability of female entrepreneurship?

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<sup>2</sup>This paper addresses single men and single women only, the implication is that the social status should be included in a regression relating to individual attributes to fear of failure. Daoud et al. (2015) found the social status dummy to be insignificant in fear of failure equation.



**Fig. 1** TEA rates (average 2008–2010 and 2012). Countries are ordered according to the total entrepreneurship activity (TEA) rates, decreasing from left to right

3. Do perceptual variables: self-efficacy, seeing good business opportunities, knowing other entrepreneurs, and fear of failure explain any additional substantial portion of the gender gap?

### 3 Data, Model and Estimation Methodology

We utilize data on 12 member countries of the Global Entrepreneurship Monitor consortium which uses stratified random sampling method; the adult population survey questionnaire design has four blocks of questions representing the entrepreneurial process<sup>3</sup> in a sequential multi-set approach. The countries were chosen from the three phases of economic development; factor driven, efficiency driven, and innovation driven economies; four countries from each level. The GEM surveys collect the data for these countries for 4 years included in this study.<sup>4</sup> Based on the level of economic development, Palestine, Egypt, Iran and Uganda are classified as factor driven economies, while Russia, Uruguay, South Africa and Peru are classified as efficiency-driven economies, Japan, France, Slovenia and Israel are classified as innovation driven economies. Among each level of economic development, there is a diversification in the country rates of entrepreneurship activity. Our choice of countries reflects the variation in activity rates across the three phases. In this regard, the GEM results suggest that countries have unique sets of economic and social conditions affecting entrepreneurial activity. Variable definitions and measurements are provided in Table 1.

<sup>3</sup>For a discussion of the data collection design, implications and reliability see Bosma et al. (2012) and Reynolds et al. (2005).

<sup>4</sup>Except 2008 data of Palestine and Uganda, and 2009 data of Egypt.

**Table 1** Variables used in the estimation of TEA

Name	Label	Description	Values	Expected sign of coefficient
TEA (Dependent variable)	Probability of being an early-stage entrepreneur	Actively involved in starting a business or owner/manager of a business which is active and younger than 3.5 years	[0,1]	–
Gender	Gender	The gender of the questioned person	[Male = 1, Female = 2]	Negative
Age	Age	The age of the questioned person	Years	Quadratic
Education	Level of education	The level of education of the questioned person	None/some secondary/Secondary Post-Secondary/Graduate	Negative <sup>a</sup>
Income	Household income	The questioned person was asked about the range that best describes the total annual income of all the members of his/her household including his/her income	In the lower 33%/middle 33%/upper 33%	Positive
Work status	Work status	The work status of the questioned person	Not working/full time or part time/retired or student	Positive
Skills	Skill perception (self-efficacy)	The questioned person answered if he/she considers that he/she has the knowledge, skill and experience required to start a new business	[No = 0, Yes = 1]	Positive
Know	Knows other entrepreneurs	The questioned person answered if he/she knows personally someone who started a business in the past 2 years	[No = 0, Yes = 1]	Positive
Opportunity	Opportunity driven	The questioned person answered if he/she sees good business opportunities in the area he/she lives in the next 6 months	[No = 0, Yes = 1]	Positive
Fear of failure	Fear of failure	The questioned person answered whether he/she considers that fear of failure prevents him/her from starting a business	[No = 0, Yes = 1]	Negative
Close	Closed a business	The questioned person answered if he/she sold, closed, shut down,	[No = 0, Yes = 1]	Positive

(continued)

**Table 1** (continued)

Name	Label	Description	Values	Expected sign of coefficient
		discontinued or quit a business in the last 12 months		
Busang	Business angel	The questioned person answered if he/she in the past 3 years, personally provided funds for a new business started by someone else, excluding any purchases of stocks or mutual funds	[No = 0, Yes = 1]	Positive

<sup>a</sup>Based on Chapter “Introduction”

In order to determine the factors that affect the involvement in entrepreneurial activity rates the study uses the Conditional (recursive) Mixed Process estimation (CMP) which was developed by Roodman (2009). In order to correct the endogeneity problem we utilize the instrumental variable model as follows:

$$Y_i = \alpha_0 + \alpha_1 X_i + \alpha_2 S_i + \varepsilon_i \tag{1}$$

$$S_i = \beta_0 + \beta_1 X_i + \beta_2 IV_i + \mu_i \tag{2}$$

where  $Y_i$  stands for the TEA,  $X_i$  represents the vector of variables that are expected to affect TEA, and  $S_i$  stands for the skill perception variable for  $i = 1, 2, 3, \dots, n$  individuals.<sup>5</sup> The CMP fits a large family of estimators, including the bivariate probit. The CMP estimates Eqs. (1) and (2) simultaneously, and the errors are assumed to be jointly normally distributed. Indeed, the CMP is proper for models in which there is simultaneity, where the estimated coefficients are consistent and efficient (Roodman 2009). To set up the regression we have to find at least one variable that affects S without having a direct effect on Y. The instrument we use to control for the effect of endogeneity is such that the correlation with the probit error is minimal and maximal with the potentially endogenous variables.<sup>6</sup> This is found to be the case with “Equalinc” which records the lowest (nearly zero) correlation with the residuals compared to the other variables whilst a higher correlation with skills.<sup>7</sup> Equalinc stands for the individual’s answer on the question “whether or not most

<sup>5</sup>For more information about the variables and their expected sign see Table 1.

<sup>6</sup>The weak instrument test of Finlay and Magnusson (2009) could not be applied here, since it needs continuous dependent variable, while in this study the dependent variable (TEA) is binary.

<sup>7</sup>The correlation coefficient between Equalinc and the residuals is 0.02 compared to around 0.04 between Equalinc and skills, marginally higher.

people prefer that everyone had a similar standard of living in the country where she/he lives" (yes = 1, no = 0).<sup>8</sup>

Equations (1) and (2) are jointly estimated, the estimation is achieved via limited information maximum likelihood. Using the estimate of  $\text{athanh}\rho$ ,<sup>9</sup> which is related to the correlation between the error terms ( $\epsilon$ ,  $\mu$ ) of Eqs. (1) and (2) to test the hypothesis that this correlation is zero. If the null is rejected, this implies that there must be unobservable external factors that influence both  $Y$  and  $S$ . While if the null cannot be rejected this implies that there is no need for a CMP estimation and the estimates of standard probit model will be more efficient (Roodman 2009).

## 4 Results and Discussion

### 4.1 Gender Gap in Entrepreneurship

To investigate the factors that affect an individual's decision to start a business (TEA) and to analyze how the gender gap is affected by the control of these covariates, the TEA equation is estimated by probit through four steps<sup>10</sup>; in the first model, gender is the only explanatory variable, the coefficient of gender gives the change in average predicted probability of being TEA entrepreneur, if negative would imply that females have a lower predicted probability of being entrepreneurs. Model 2 adds (demographic and personal attributes) age, age squared, level of education and work status. Model 3 adds the perceptual variables. Finally, model 4 adds the variables related to experience gained from closing previous businesses (close) and from being an informal investor though providing funds to businesses started by friends or relatives (Busang).

Table 2 provides the results; model 1 show that the gender coefficient is  $-0.37$  and is significant. This implies that women are less likely than men to start a business.<sup>11</sup> The demographic characteristics explain a high proportion of the gender

<sup>8</sup>The two conditions: a variable that is not correlated with the residuals of the output but to be correlated with self-efficacy are found more applicable to Equalinc compared to the other variables that were correlated with the error term. However, using the other endogenous variables in the CMP model instead of Skills (as endogenous for TEA) yields nearly the same results without eliminating the gender gap.

<sup>9</sup>The parameter  $\text{athanh}\rho$  represents an unbounded transformation of the usual rho-statistic. It is the arc-hyperbolic tangent of rho, and has the property of being unbounded compared to rho (rho is bounded in value between 1 and  $-1$ ). Hence, it is suitable to be used as a base for testing the null hypothesis of no correlation between the error terms (Roodman 2009).

<sup>10</sup>We follow the same steps of Koellinger et al. (2013) to highlight any differences that may arise and to show later that unlike their finding, the gender gap in activity rates still remains negative and statistically significant after controlling for the individuals' variables and correcting for the endogeneity problem. The CMP model yields more efficient results compared with bivariate probit model.

<sup>11</sup>Given that gender dummy is coded as (1: male, 2: female).

**Table 2** Probit estimates of the TEA equation

Dependent variable: TEA	Model 1	Model 2	Model 3	Model 4
Female	-0.37***	-0.18***	-0.07***	-0.06***
Age		0.01**	0.01**	0.01**
Age squared		0***	0***	0***
Income		0.04**	0.05**	0.05**
Education		0.14***	0.09***	0.08***
Some secondary		-0.08***	-0.09***	-0.09***
Secondary		0.02	-0.04	-0.05
Post secondary		0.02	-0.08**	-0.08**
Graduate		0.04	-0.1**	-0.1**
Work status		0.85***	0.9***	0.91***
Full time or Part time				
Retired or student		-0.09***	-0.03	-0.01
Knows other entrepreneurs			0.36***	0.33***
Fear of failure			-0.17***	-0.17***
Skill perceptions			0.59***	0.58***
Opportunity driven			0.25***	0.24***
Business angle				0.23***
Closed a business				0.23***
Constant	-0.79***	-2.32***	-2.69***	-2.66***
Model diagnostics				
Pseudo R squared	0.11	0.19	0.26	0.26
Loglikelihood	-28,769.99	-21,428.94	-15,858.89	-15,623.93
Prob > chi2	0	0	0	0
N	95,298	73,878	51,219	50,740

Reference categories: Gender: Male, Income: lowest 33%, education: none, work status: not working

Country and year dummies are included in the estimations in order to include fixed effects and for controlling differences across countries in any observable or unobservable predictors

Survey weights for 18-64 labor force are used

\*\*\*Significance at >99% confidence; \*\*Significance at >95% confidence; \*Significance at >90% confidence

gap, while controlling for personal and demographic characteristics reduces the predicted probability by as much as 50% (the coefficient has decreased to  $-0.18$ ). As for the perceptual variables: self-efficacy, seeing good business opportunities, knowing other entrepreneurs, and fear of failure explain an additional substantial portion of the gender differences; when they are included in model (3), the gender coefficient decreases from  $(-0.18)$  to  $(-0.07)$ . Finally, the experience gained from closing a previous business and informal investment shrinks the gender gap from  $(-0.07)$  to  $(-0.06)$ .<sup>12</sup> The contribution to business closure while being a business angel in the past is not very large, no matter how, significant. It may consequently, after the control of the above variables, it is still found that being female reduces the likelihood of starting a business. This means that there are other “unobserved factors” which are responsible for gender differences in starting businesses. Unlike Koellinger et al. (2013) the gender gap did not disappear after the control for the endogeneity between the decision to start a business and the perceptual variables. The gender gap becomes statistically insignificant when they use the recursive simultaneous-equation bivariate probit model and control for the endogeneity problem. Koellinger et al. (2013) used self-efficacy as an endogenous variable for the decision to start a business because it is the one that results in the disappearance of the gender gap; indeed, this is the reason why they use self-efficacy as endogenous rather than other perceptual variables. This result may be due to the fact that they use nascent entrepreneurship rather than TEA. As a robustness check, we carry out the same procedure on nascent entrepreneurship below.

This study follows the procedure of Koellinger et al. (2013) in testing the potential endogeneity of skill perception, whereas, in controlling the endogeneity, this study applies different estimation technique which is the Conditional Mixed Process (CMP) which suggests a more consistent and efficient estimators (Roodman 2009). In addition, the dependent variable in this study is TEA which embraces both nascent and new entrepreneurs rather than nascent entrepreneurs which is a better measure because of its wider coverage.

The CMP estimates Eqs. (1) and (2) simultaneously. Based on Koellinger et al. (2013), self-efficacy (skills), knowing other entrepreneurs (know), or seeing good business opportunity (Opportunity) and fear of failure may suffer from endogeneity. To test whether these variables are endogenous with TEA or not, the TEA equation is estimated by probit. The residuals resulting from this regression correlate with the following: skills, opportunity, fear of failure and know. The results provide evidence for the existence of simultaneity (endogeneity) between each of them and the likelihood of being involved in entrepreneurship. The skill perception records the highest correlation with the residuals of the TEA equation; hence, it is used as

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<sup>12</sup>The model selection criteria (AIC and BIC) as well as log likelihood and Pseudo R<sup>2</sup> confirm *improvement of model* fit when moving across models 1–4.

endogenous for TEA.<sup>13</sup> Self-efficacy is higher among individuals who recognize good business opportunities and who know other entrepreneurs, but it is lower among individuals who have fear of failure, see Figs. 2, 3, and 4.

Moreover, the figures indicate that women who either see good business opportunities or know other entrepreneurs or have less fear of failure have less self-efficacy than men. This might be the case because men and women have different skills and circumstances, or because they are different in perceiving their own skills or entrepreneurial opportunities (Koellinger et al. 2013). Croson and Gneezy (2009) suggest that men are more likely to consider risky situation as a challenge for participation, while women interpret risky situations as threats that must be avoided. The significant coefficients of the perceptual variables in the probit regression and the coefficients of the perceptual variables illustrated in Table 2 and Figs. 2, 3, and 4 assert the evidence for endogeneity between skills and TEA; both are higher among individuals of low fear of failure, have the knowledge of other entrepreneurs, and see good business opportunities. The existence of endogeneity problem biases the estimated coefficients of the probit model. Endogeneity may exist because “individuals reveal their preference for entrepreneurship at the moment of the survey which deviates from the desired situation in which preferences are measured at the moment of engaging into entrepreneurship” (Verheul et al. 2011).

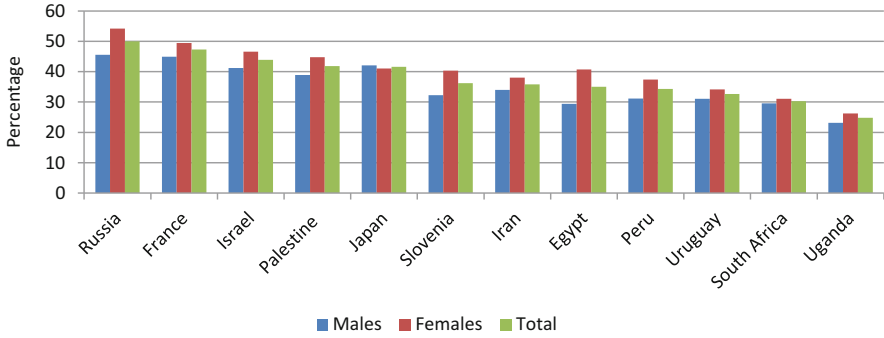
The results of the CMP estimation show that even after the control of the endogeneity the gender gap is still significant. The coefficient of gender is almost the same compared to its value before controlling for endogeneity ( $-0.06$ ).<sup>14</sup> This implies that a significant portion of the gender differences in the entrepreneurial decision could not be explained by the factors included in the model together with the variation in self-efficacy. This result is not in line with Koellinger et al. (2013), but, it is somehow consistent with the finding of Daoud et al. (2015). Our study uses other explanatory variables in predicting the probability of starting new businesses such as education, work status and previous experience in informal investment which make the gender gap narrower compared to that in Daoud et al. (2015); however, others, pointed out that the entrepreneurial behaviors of women and men are almost affected by the same variables across countries. The observed gender differences are due to the intensity by which each of these variables affects individuals which varies across countries based on the level of development (Minniti and Naudé 2010).

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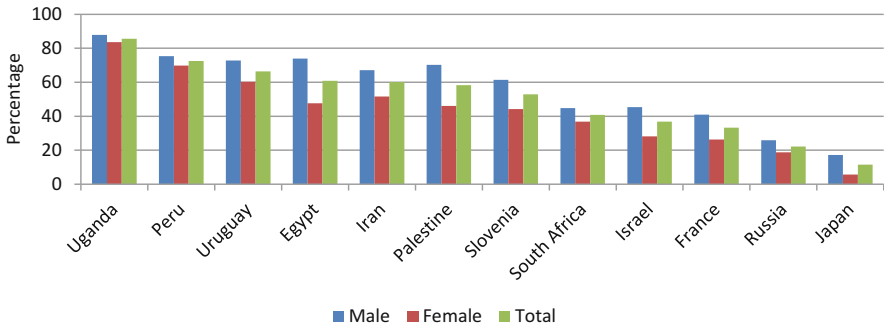
<sup>13</sup>Self-efficacy records the highest correlation with the residuals (0.55) followed by know (0.44), opportunity (0.41), and fear of failure ( $-0.21$ ).

<sup>14</sup>The gender gap slightly decreases, it is estimated to  $-0.057$  in the CMP model compared to ( $-0.064$ ) in the probit model and approximated to ( $-0.06$ ).

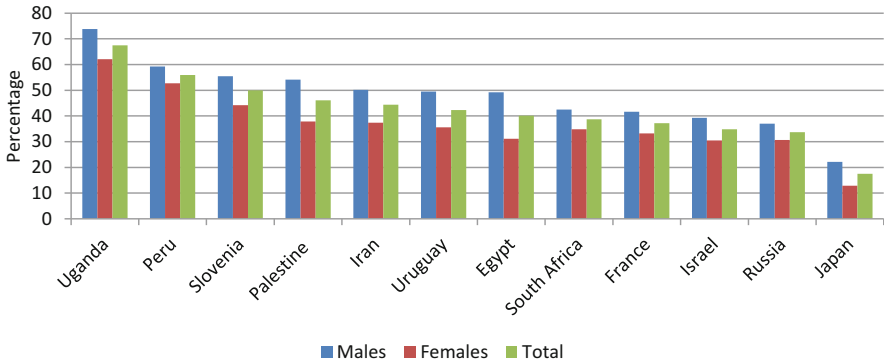




**Fig. 2** Fear of failure rates across countries for the period (averages 2008–2010 and 2012). Countries are ordered according to fear of failure rates (total), decreasing from left to right



**Fig. 3** Skill perception rates across countries for the period (averages 2008–2010 and 2012). Countries are ordered according to skills perception rates (total), decreasing from left to right



**Fig. 4** Knowing other entrepreneurs' rates across countries for the period (averages 2008–2010 and 2012). Countries are ordered according to knowing someone who started a business rates (total), decreasing from left to right

## 4.2 *Unobserved Factors in Gender Gap*

A substantial part of the gender gap has been eliminated by the control for the demographic and the perceptual variables. However, there is significant evidence that women are less likely to start a business compared to men. Gender differences in entrepreneurship are significant in each of the 12 countries included in this study. The highest gender gap is observed in Egypt followed by Palestine, Iran and Japan respectively. In what follows, we provide a review of the main obstacles that women face in business start-up.

In Egypt, women are faced with less social and educational opportunities, and less access to resources due to gender discrimination and gender stereotyping; they suffer from lack of financial support. They face social restrictions related to culture and women's role in society, especially for married women and those who are responsible for child care Hattab (2012).

In the Palestinian context, social problems and the traditional role of women associated with the composition of the Palestinian society is one of the most important problems facing the Palestinian business women, Sadeq et al. (2011). Moreover, Daoud et al. (2015) point to local traditions and expectations towards females' role in the household, difficulty of doing business and tax systems are some of the factors that business women identify as impediments to their business endeavors. Moreover, Gaza women experienced severe repercussions resulting from Israeli wars (2008, 2012, and 2014) against the Strip. These wars damaged buildings, factories, farmland, and public infrastructure (Althalathini 2015; IMF 2014). The severe blockade of the Strip made it even much more difficult for anyone to interact with the outside world. What distinguishes the Palestinian women (especially in Gaza) from others is that they are living in a male-dominated society. Gaza women do not have the control over their own income. They cover household and education expenses, but nevertheless, this does not increase their power and decision making ability in traditionally male-dominated society (Althalathini 2015).

In Iran, women are faced with gender discrimination and "visible and invisible structural" restrictions in terms of social, cultural, bureaucratic, and economic aspects, they suffer from lack of financial support and gender stereotyping and discrimination. Women in Iran are less interested in launching a business and less confident in their capabilities; the lack of confidence is attributed to society's wrong perception of women where women are considered as "an inferior sex" compared to men. The common view is that the primary role for women in society is as homemakers, mothers and wives rather than successful entrepreneurs. This, therefore, has a negative impact on women's participation in the economy as entrepreneurs. In addition, married women have less freedom to participate in economic and social activities rather than single ones, Sarfaraz and Faghieh (2011) and Halimi et al. (2011).

Finally, in Japan, the biggest problem women face is the lack of skills and knowledge in business management. In addition, the lack of financial support, support systems, fundamental household support including childcare, access to

information, and networking are considered perpetual challenges. See the Japanese Ministry of Economy, Trade, and Industry (2010) and Debroux (2004).

The preceding discussion has important policy implications for the MENA Region; Although the sample from MENA is restricted to Palestine and Egypt from the Arab countries, the findings indicate higher gender gap, higher fear of failure, lower skill perception, and medium activity rates compared to the rest of the sample. As a result, media campaigns and training that improve skill perception are steps in the right direction.

### 4.3 *CMP Regression Diagnostics*

The test of significance of the correlation ( $\text{athanhrho}$ ) between the errors ( $\epsilon$ ,  $\mu$ ) is found to be significant implying that the CMP regression is justified and there is evidence for the existence of unobserved factors that have a joint effect on self-efficacy and starting a new business. Furthermore, the negative sign of  $\text{athanhrho}$  signifies a negative correlation between the error terms of TEA and skills equations which means that the effect of the unobservable factors on skills and TEA is in an opposite direction.

Such unobserved factors have effects similar to the education effect (which is observed and included) on starting a business, education might increase self-efficacy, but on the other hand, education could sometimes reduce the likelihood of starting a business rather than increasing it. Educated individuals could find more job opportunities than less educated individuals, hence, they might prefer to be employed rather than take the risk in starting a new business. The human capital theory postulates that private returns to education vary from one country to another, but it is particularly low in Palestine (Daoud 2005). Ability is often cited as one of the factors that lead to heterogeneity bias in estimating returns to education; it could be argued that starting a new business may be influenced by one's ability which may be a trait that one gets from being in a family of entrepreneurs. The remaining significant gender gap in activity rates could very well be the result of such variables. Since on the one hand country-fixed effects are already included in the regression, and on the other hand, family background variables may be consistent with the negative correlation between  $\epsilon$  and  $\mu$ . Education is included as an explanatory variable for both equations, but other unobserved variables might be training and job experience, family background variables, and ability. However, such individuals might decide to start their own business and use the experience they gained, while others might not take the risk and look forward for a higher position in the institutions they work for. Another unobserved factor is job satisfaction; the more satisfied a person is in his/her work the higher the self-efficacy and the lower the probability for him/her to start his/her own business. Indeed, it is worth testing such multifaceted effect of job experience and job satisfaction since such relations have not been tested yet.

**Table 3** CMP regression results with TEA as dependent variable

		Tea equation		Skill equation
		$\beta$	Marginal effect	$\beta$
Female		-0.06***	-0.01	-0.24***
Age		0.01*	0	0.02***
Age squared		0.00**	0	0.00***
Income	Middle 33% income	0.05*	0.01	0.06**
	Upper 33% income	0.08***	0.01	0.02
Education	Some secondary	-0.09***	-0.01	0.11***
	Secondary	-0.05	-0.01	0.22***
	Post secondary	-0.08**	-0.01	0.29***
	Graduate	-0.11**	-0.02	0.42***
Work status	Full time or part time	0.91***	0.12	0.13***
	Retired or student	-0.01	0	-0.14***
Knows other entrepreneurs		0.33***	0.05	0.41***
Fear of failure		-0.16***	-0.02	-0.29***
Skill perception		0.65***	0.1	-
Opportunity driven		0.23***	0.03	0.40***
Business angle		0.22***	0.04	0.16***
Closed a business		0.22***	0.04	0.48***
Equalinc		-	-	0.02
Constant		-2.48***	-	0.06
Atanrho_12		-0.05***		
Rho_12		-0.05		
Pseudo likelihood		-37,360.764		
Prob > chi2		0		
N		50,740		

See notes to Table 2

Table 3 presents the regression results based on CMP regression applied to the pooled data set of 12 countries for the years 2008–2010 and 2012. After controlling the influence of other variables and the endogeneity problem, the gender gap shrunk sharply; however, being female reduces the likelihood of starting a business. Based on the marginal effect, being a female reduces the likelihood of starting a business by 1% on average.

Individual's age is important in predicting the probability of starting a business; the results show that age affects the involvement in entrepreneurship activities in a quadratic relationship; the entrepreneurship activities increase with age, reach a peak then decrease. The income effect shows that the upper 33rd percentile and the middle 33rd percentile are more likely to start a business compared to the lowest 33% income individuals; this finding is in line with Daoud et al. (2015).

With respect to education, the results indicate that more educated individuals are less likely to be self-employed (compared to not educated base group). Individuals who have either some secondary, post-secondary or graduate schooling are less likely to start a business compared to non-educated individuals. This result is in line with Blanchflower (2004) study which reports that education is negatively correlated with self-employment<sup>15</sup> in Europe, and suggests that less educated individuals may choose self-employment driven by lack of other economic alternatives (Blanchflower 2004). This is consistent with the findings that most of the entrepreneurs are driven by needs and necessity, are less educated and use relatively old production techniques as well as most concentrated in the consumer oriented sector. On the other hand, skilled individuals who have achieved some post-compulsory education might prefer to be self-employed and choose to practice vocational rather than professional skills (Dawson et al. 2009).

The results indicate that individuals who have a full or part time job are more likely to become entrepreneurs; the marginal effect reveals that full or part time employees are 12% more likely to start a business than individuals who are not working. This is expected because working might provide individuals with experience and skills, having access to the resources, social capital and ideas needed in establishing businesses (Minniti et al. 2005).

In line with the literature, the perceptual variables (Skills, Opportunity, Know and Fear of failure) have significant effect in influencing the propensity of individuals to become entrepreneurs. Individuals who perceive they have the knowledge and sufficient skills to start a business are 10% more likely to start a business when compared to individuals who report less self-efficacy. Personal networks and knowing other entrepreneurs are important too; the probability of starting a new business for individuals who know other entrepreneurs is higher by 5% than the individuals who do not know other entrepreneurs who started a business in the past year. Risk averse individuals who have fear of failure are 2% less likely to start a business than risk tolerant (do not fear failure). Finally, perceiving good business opportunities increases the probability for individual to start a business by 3%. Evidently, skill perception and having a job are the most influential in enhancing the probability of business startups. The education effect on startups is also the strongest indirectly through skill perception.

The experience in informal investment increases the probability of starting a business by 3%. Similarly, the experience gained from closing (shutting down) a business increases the likelihood to become an entrepreneur by 4%. The positive relation between closing business and starting a new business implies that individuals in this study are considering business discontinuation as a learning process rather than a barrier to starting new businesses (challenge effect).

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<sup>15</sup>An entrepreneur is not just self-employed, the term is best described the cost of self-employment which is the wage and the cost of the entrepreneur who does not gain any profit. However, it is often used to mean business startup.

Turning to the skills perception equation, the gender differences are highly significant; women are significantly less confident in their entrepreneurial skills than men. The impact of age on skills is similar to its effect on probability starting business (inverted U-shaped relation). As to education, skill perception increases with the increase of the level of education (not educated is the base group). In addition, working in a full of part time job increases the probability of having self-efficacy. The opposite is true for the retired or student group (compared to unemployed base group). Finally, the instrumental variable used in the Skills equation (Equalinc) becomes insignificant after the control for country fixed effects, another specification excluding the fixed effects resulted in lower model selection criteria (AIC and BIC, the Log likelihood and Pseudo R<sup>2</sup>).

Indeed, the country fixed effects are found to play an important role in influencing the decision of individuals to start a business (Table 4). Three observations can be made: The first is that there are three countries which consistently (in all specifications) record lower average propensity to start a business compared to Palestine, these are France and Slovenia (innovation driven), and Russia (efficiency driven). On the other hand, two efficiency driven countries (Peru and Uruguay) and Iran and Uganda which are factor driven are reported to have higher average propensity to start a business relative to Palestine. Figure 1 shows Egypt to have a lower TEA rate, Table 4 reveals that the rates are not statistically significant from one another. Finally, Japan and Israel have significantly lower rates in models 1 and 2 (Table 4), however, after controlling the perceptual variables, country- fixed effects have become statistically insignificant. Thus country differences are not (in most cases) explicable by personal traits, perceptual variables, and other socio-economic covariates, but occasionally, inclusion of such variables renders such differences insignificant as is the case with Israel and Japan.

**Table 4** Country fixed effects of the probit and CMP models

Country	Model 1	Model 2	Model 3	Model 4	CMP model	
	Dep. TEA	Dep. TEA	Dep. TEA	Dep. TEA	Dep. TEA	Dep. skills
Egypt	-0.04	-0.02	-0.01	-0.02	-0.02	0.08**
South Africa	-0.14***	-0.03	0.14***	0.14***	0.15***	-0.36***
France	-0.34***	-0.41***	-0.31***	-0.30***	-0.28***	-0.55***
Peru	0.62***	0.63***	0.60***	0.59***	0.58***	0.20***
Japan	-0.48***	-0.54***	0.03	0.04	0.07	-1.24***
Iran	0.08***	0.24***	0.37***	0.38***	0.38***	-0.01
Uganda	1.17***	1.26***	1.01***	0.92***	0.91***	0.47***
Slovenia	-0.30***	-0.38***	-0.28***	-0.26***	-0.26***	-0.09**
Uruguay	0.18***	0.12***	0.15***	0.14***	0.14***	0.10**
Russia	-0.46***	-0.62***	-0.24***	-0.22***	-0.20***	-0.94***
Israel	-0.26***	-0.33***	-0.06	-0.07	-0.05	-0.61***

Reference category is Palestine

\*\*\* $P < 0.01$ ; \*\* $P < 0.05$ ; \* $P < 0.1$

Interestingly, in model 1 (where gender is the only explanatory variable) individuals in South Africa are found less entrepreneurially active compared to individuals in Palestine. However, controlling for the demographic factors shrinks the gap and makes individuals in the two countries equally likely in the involvement in entrepreneurship activities. For example, the proportion of none educated entrepreneurs in Palestine is higher than in South Africa. Further, the distribution of the South African entrepreneurs by income is like a U-shaped relation while the proportion of entrepreneurs decreases with the increase of income in Palestine. Since The coefficient of South African fixed effect becomes significant and positive after model 2 indicates that the direct effect of self-efficacy on TEA, as well as the indirect positive effect on TEA of skills and other perceptual variables improve the predicted probability of South Africa relative to Palestine. A similar story can be said about Israel and Japan; the addition of the perceptual variables to the probit equation reduces the seemingly lower activity rates in these two countries to mere random differences. In other words, seeing good opportunities, fear of failure, knowing other entrepreneurs, skill perception, and closing a business account for country differences in activity rates. The country dummies coefficients in self-efficacy equation, confirm significant differences between Palestine and other countries regarding skills perceptions (except in Iran). However, controlling for endogeneity does not make big differences in the country fixed effects compared to the previous model (model 4).

#### **4.4 Robustness**

To check the robustness of our results, we first run probit regressions on nascent entrepreneurship as was reported in Table 2, the new results are reported in Table 5. The same information can be deduced from the gender gap and expanding a set of explanatory variables shrinks the gap, though, to a lesser degree with nascent entrepreneurs indicating that the gap is larger in favor of males in nascent entrepreneurship. But in all models it remains significantly negative. The income effect is an important departure from the results in Table 2. While it is found to be significant in the case of TEA, it is not true with of nascent entrepreneurship. The opposite is true for education, It is more important in the case of nascent entrepreneurs than in TEA. The remaining variables are similar in sign and magnitude. Thus the results are robust to the choice of dependent variable.

We then run the same regression reported in Table 3 using bivariate probit model; again it can be said without loss of generality that the same findings are confirmed (aside from the gain in efficiency as a result of the CMP model) (Table 6). Table 7 also reports CMP of results on nascent entrepreneurship, the gap is the same as in Table 5, and it is also significant and negative. The insignificance of  $\text{atanhrho}$  in Table 7 reveals that the use of CMP is not justified on nascent entrepreneurship. Finally, the country fixed-effects on nascent entrepreneurs is similar for 10 of the

**Table 5** Probit estimates with nascent as dependent variable

Variable		Model 1	Model 2	Model 3	Model 4
		$\beta$	$\beta$	$\beta$	$\beta$
Female		-0.31***	-0.20***	-0.10***	-0.09***
Age			0.01**	0.01**	0.01**
Age squared			0.00***	-0.00***	0.00***
Income	Middle 33% income		0.03	0.04	0.03
	Upper 33% income		0.08***	0.03	0.02
Education	Some secondary		-0.02	-0.02	-0.01
	Secondary		0.11***	0.07**	0.08**
	Post secondary		0.19***	0.12***	0.13***
	Graduate		0.23***	0.10*	0.11**
Work status	Full time or part time		0.42***	0.41***	0.41***
	Retired or student		-0.15***	-0.11***	-0.09**
Knows other entrepreneurs				0.35***	0.33***
Fear of failure				-0.12***	-0.11***
Skill perceptions				0.56***	0.55***
Opp. driven				0.22***	0.21***
Business angle					0.27***
Closed a business					0.20***
Constant		-1.03***	-1.70***	-2.38***	-2.38***
Model diagnostics					
Pseudo R squared		0.0794	0.1127	0.1721	0.1779
Loglikelihood		-19,596.3	-15,308.2	-11,616.7	-11,432.3
Prob > chi2		0	0	0	0
N		95,298	73,878	51,219	50,740

See notes to Table 2

12 countries; only Egypt and Israel become significantly lower than Palestine for all specifications illustrated in Table 8.

Finally, we ran a few more regressions involving the use of CMP and bivariate probit for estimation on both TEA and nascent entrepreneurship, the results (not reported) indicate the superiority of closed a business in the past as an instrument for skill perception in terms of pseudo log likelihood; however, this variable has higher correlation with the errors from the TEA equation than with skill perception. Having said that, the gender gap is still negative and significant at the 5% level. Comparing bivariate probit with CMP using business discontinuation, we find better fit with the CMP model. The same can be said about using nascent as a dependent variable, business discontinuation for the CMP is best though, the gap does not totally disappear and remains significant (lower levels in the case of bivariate probit).



**Table 6** Bivariate probit regression results

Variable		TEA	Skill	Nascent	Skill
Female		-0.05**	-0.25***	-0.06**	-0.24***
Age		0.01	0.02***	0.01*	0.02***
Age squared		0.00*	0.00***	0.00**	0.00***
Income	Middle 33% income	0.04	0.06***	0.04	0.06***
	Upper 33% income	0.08***	0.02	0.03	0.02
Education	Some secondary	-0.04	0.11***	-0.01	0.11***
	Secondary	-0.01	0.22***	0.06	0.22***
	Post secondary	-0.05	0.29***	0.10**	0.29***
	Graduate	-0.08	0.42***	0.08	0.42***
Work status	Full time or part time	0.82***	0.13***	0.38***	0.13***
	Retired or student	-0.03	-0.14***	-0.08	-0.14***
Knows other entrepreneurs		0.25***	0.41***	0.25***	0.41***
Fear of failure		-0.12***	-0.29***	-0.08***	-0.29***
Skill perception		0.99***	-	0.90***	-
Opportunity driven		0.15***	0.40***	0.14***	0.40***
Business angle		0.15***	0.17***	0.14***	0.16***
Closed a business		0.08***	0.41***	0.13***	0.41***
Equalinc		-	0.02	-	0.02
Constant		-2.29***	0.05	-2.30***	0.05
Model diagnostics					
Atanrho_12		-0.29***		-0.25***	
Rho_12		-0.28		-0.24	
Log pseudo likelihood		-34,980.2		-31,707.2	
Prob > chi2		0.000		0.000	
N		39,223		39,223	

See notes to Table 2

## 5 Conclusion

This paper aims at analyzing the factors that affect an individual's decision to engage in new entrepreneurial activity using the GEM data for 12 countries from 3 different levels of economic development in 2008–2010, and 2012 periods. Noticeably, the entrepreneurship activity rates are higher among the developing countries than the developed countries included in this study. Nevertheless, the rate of the entrepreneurial activities among countries included in this study does not reflect their level of development. The contribution of this paper is twofold: the first is that it confirms the expectations that “the so called unobserved factors” may be attributable to country level covariates. The second is actually a consequence of the first, it points

**Table 7** CMP regression results with nascent as dependent variable

Variable		Nascent	Skill
Female		-0.09***	-0.24***
Age		0.01*	0.02***
Age squared		0.00**	0.00***
Income	Middle 33% income	0.03	0.06***
	Upper 33% income	0.02	0.02
Education	Some secondary	-0.02	0.11***
	Secondary	0.08*	0.22***
	Post secondary	0.13***	0.29***
	Graduate	0.11*	0.42***
Work status	Full time or Part time	0.41***	0.13***
	Retired or student	-0.09**	-0.14***
Knows other entrepreneurs		0.33***	0.41***
Fear of failure		-0.11***	-0.29***
Skill perception		0.58***	-
Opportunity driven		0.21***	0.40***
Business angle		0.20***	0.16***
Closed a business		0.27***	0.41***
Equalinc		-	0.02
Constant		-2.40***	0.05
Model diagnostics			
Atanrho_12		-0.02	
Rho_12		-0.02	
Log pseudo likelihood		-33,171.29	
Prob > chi2		0.000	
N		50,740	

See notes to Table 2

**Table 8** Country fixed effects with nascent as dependent variable

Country	Model 1	Model 2	Model 3	Model 4
Egypt	-0.17***	-0.17***	-0.16***	-0.16***
South Africa	-0.12***	-0.02	0.10**	0.09**
France	-0.24***	-0.29***	-0.18***	-0.16***
Peru	0.69***	0.70***	0.66***	0.65***
Japan	-0.49***	-0.53***	0	0.01
Iran	-0.02	0.04	0.13***	0.13***
Uganda	0.46***	0.51***	0.24***	0.14***
Slovenia	-0.30***	-0.35***	-0.26***	-0.24***
Uruguay	0.21***	0.20***	0.24***	0.24***
Russia	-0.45***	-0.54***	-0.18***	-0.16**
Israel	-0.27***	-0.37***	-0.13**	-0.14***

to the use of multilevel analysis to see if the gender gap totally disappears after controlling the country level variables.

The determinants of entrepreneurship maintained by the CMP regression suggest that women are less likely than men to start a business. In addition, age, household income, education, work status, perceptual variables (self-efficacy, knowing other entrepreneurs, seeing business opportunity and fear of failure), closing a business and previous experience in informal investment are significant factors in predicting the probability of starting business. Moreover, based on the average marginal effect, self-employment (full or part time employment), self-efficacy and knowing other entrepreneurs are the major factors that affect an individual's decision to being involved in entrepreneurial activity. In addition, this study notices a signal for unobserved factors that affect both self-efficacy and the likelihood of starting a business in a negative direction.

The gender gap in entrepreneurship does not disappear completely after the control of all covariates and correcting for endogeneity. This implies that the remaining portion (although small) is due to "unobserved factors". According to the results the demographic factors (e.g. age, education, income and work status) and the perceptual factors (self-efficacy, knowing other entrepreneurs, seeing good business opportunities and fear of failure) in addition to other regressors included in this study account for a substantial portion of the gap. However, their effects are different across countries based on the level of development. This provides signs for governments and policy makers to play a key role in reducing the gap by education, through providing alternative or supplementary education for young individuals (particularly women) who were permanently excluded from schools. Such alternatives should focus on technical education and training to boost the entrepreneurial skills and abilities among less educated individuals.<sup>16</sup> In addition, it is important for governments to provide credit facilities and financial support to help women entrepreneurs to start up their businesses. Policy makers could work to alter some of the unobserved factors that are expected to be responsible for the gender gap, such as working towards changing the cultural norms related to gender stereotypes and fight gender discrimination which prevents women from perceiving equal opportunities through cultural, social, bureaucratic and economic obstacles. Increasing female employment also increases entrepreneurial propensity significantly directly and indirectly through its effect on self-efficacy.

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<sup>16</sup>Given that nearly 37% of the entrepreneurs in this study are not educated or have some secondary education.

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# Insights from Female Entrepreneurs in MENA Countries: Barriers and Success Factors



Catherine Laffineur, Mohsen Tavakoli, Alain Fayolle, Neila Amara, and Monica Carco

**Abstract** The objective of this chapter is to provide a comprehensive picture of the situation of women entrepreneurs in the MENA region. The study is based on an original survey conducted by the United Nations Industrial Development Organization (UNIDO) in six countries—Egypt, Jordan, Lebanon, Morocco, Palestine and Tunisia, between 2015 and 2016. The main results of the study are as follows. First, there exists a discriminatory environment for women entrepreneurs in MENA regions. They encounter difficulties in accessing finance, which constitutes their principal obstacle to entrepreneurship. They feel that the existence of stereotypes and preconceptions about the role and abilities of women are important barriers to entrepreneurship. Secondly, their primary need in terms of their activities is entrepreneurial education—they must learn how to manage others successfully and to maximise their entrepreneurial skills. Thirdly, the socio-economic characteristics of women entrepreneurs are important determinants of business growth and dedication. Specifically, we observe that education, networks, and experience in business are important drivers of firms' size and export potential, whilst governance, structure and marital status are factors influencing the percentage of women employed in women's businesses. Finally, we note that married women who have their own

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premises to house their entrepreneurial activities, as well as less educated single women, are more engaged in the pursuit of their entrepreneurial activities.

**Keywords** Female entrepreneurship · Middle East and North Africa · Entrepreneurial commitment

## 1 Introduction

Women's entrepreneurship is a key issue on both political and academic agendas. The phenomenon and its development are of concern to political decision-makers in most countries, at a time when women are laying claim to the opportunity to enjoy—under the same conditions as men—professional status in line with their qualifications, either as salaried employees or as entrepreneurs. From an academic standpoint, research on the topic has expanded considerably over the past few years in an attempt to better understand the precursors and economic and social repercussions of women's entrepreneurship.

The question of women's entrepreneurship in the MENA region is of paramount importance as the region has the world's largest disparity between men and women in terms of entrepreneurship (OECD 2014). According to recent data, while women own and manage between 31% and 38% of enterprises on a worldwide level, in the countries of the MENA region, this number is only 13% (ILO 2015) to 15% (World Bank 2013<sup>1</sup>).

Unfortunately, there is no standardised national data that would allow for a comparison of entrepreneurship rates, but in 2013, it was estimated that the percentage of enterprises belonging at least in part to women in the MENA region was 22.7%, compared with the worldwide average of 35.2%. In the six countries covered by the project, the rates were as follows: Egypt: 16.1%, Jordan: 15.7%, Lebanon: 43.5%, Morocco: 31.3%, West Bank and Gaza: 12.6%, and Tunisia: 49.5%. The respective figures for these countries with regard to women-run enterprises are: 7.1%, 2.4%, 4.4%, 4.3%, 1.2% and 8.5%.<sup>2</sup>

Therefore, the objective of this study is to fill this gap by providing a comprehensive picture of the situation of women entrepreneurs in six MENA countries: Egypt, Jordan, Lebanon, Morocco, Palestine and Tunisia.<sup>3</sup> In order to answer this empirical challenge, an original survey was conducted by the United Nations

<sup>1</sup>The World Bank conducted a survey of 5887 enterprises in 10 countries in the MENA region between 2003 and 2010. The findings showed that only 15% of the enterprises belonged to women.

<sup>2</sup>Source: <http://www.enterprisesurveys.org/Data/ExploreTopics/gender#middle-east-north-africa>

<sup>3</sup>The implementation of the project is based on a strong partnership with six local, national associations in the countries concerned: Association for Women's Total Advancement and Development (AWTAD, Egypt), Business & Professional Women Amman (BPWA, Jordan), The Lebanese Association for Development, Al Majmoua (Lebanon), Association des Femmes Chefs d'Entreprises du Maroc (AFEM, Morocco), Business Women Forum (BWF, Palestine), Femmes et Leadership (F&L, Tunisia), and their respective ministries of industry.

Industrial Development Organization (UNIDO) between 2015 and 2016, as part of the project “Promoting Women’s empowerment for Inclusive and Sustainable Industrial Development in the MENA region”. The survey was conducted online on the basis of a literature review covering seven areas of investigation and consisting of 55 questions, developed by the Centre of Arab Women for Training and Research (CAWTAR) in close collaboration with project partner women’s associations in the countries concerned and UNIDO. A first iteration was conducted over August and September 2015, which collected data from approximately 400 female entrepreneurs in the target countries. A second iteration of data collection was conducted in April and May 2016. This second wave of the survey comprised some modifications to the methodology, including a translation of the questionnaire into Arabic and the recruitment of researchers. Through this second wave, 810 additional female entrepreneurs were consulted, bringing the total number of respondents to 1210.

Hence, we provide an up-to-date set of information regarding the state of development of female entrepreneurship in the targeted countries. The survey allows the challenges faced by women in the creation and development of their enterprises to be identified, as well as the socio-economic characteristics in the MENA region. More importantly, women’s perceptions of themselves as entrepreneurs was also investigated. We are thus able to give a very clear picture of women’s business environments, the constraints and challenges they face in the creation and development of their businesses and the effects of culture and social norms in their countries. We conclude by making recommendations for an entrepreneurial ecosystem that is more favorable to women.

The following section looks at the literature relating to female entrepreneurship with a focus on the MENA countries. The third section describes the sample, data collection process, and the data used for the study. Section 4 analyses the socio-economic characteristics of women entrepreneurs in the MENA region as well as features of businesses run by women in the six countries. Two subsequent sub-categories represent the results of analysis concerning the barriers women entrepreneurs face when starting and running their business, the determinants of business growth, dedication to entrepreneurship, and entrepreneurial satisfaction amongst women entrepreneurs. In the discussion in Sect. 5, we summarize the main findings and provide several recommendations for the development of female entrepreneurship in the MENA countries. The sixth and final section is dedicated to the conclusions of our study, providing a number of recommendations for supporting women entrepreneurs in MENA countries.

## 2 Literature Review

The critical role female entrepreneurs play in economic growth has been widely highlighted (Brush et al. 2006: 3; Brush and Cooper 2012). Indeed, their contribution to poverty reduction and alleviation leaves no doubt that this topic represents a



vital issue for developing countries. The Middle East and North African (MENA) nations are particularly interested in the fact that females' participation in economic activities provides them with a great opportunity (Stevenson 2011). Indeed, to date, due to cultural and religious guidelines, women's presence in the daily economic life of those developing countries is far below the global average.

Existing reports monitoring global entrepreneurial activities provide useful insights into different aspects of entrepreneurship in general, and female entrepreneurship more specifically. The GEM report of 2016/17 (*GEM Global Entrepreneurship Monitor 2016/17 2017*), for instance, illustrates the positive perception of entrepreneurs in different parts of the world. Concerning the MENA countries (mostly factor-driven economies), three-quarters of the sample expressed a positive feeling towards them. The number of people willing to start a new company within the next 3 years was higher than in the rest of the world. A large number of female entrepreneurs were motivated by necessity, rather than their mostly opportunity-driven men counterparts. In terms of the male-female ratio, nascent female entrepreneurs represent approximately half the number of men nascent entrepreneurs. Principal barriers to female entrepreneurship in developing countries are a lack of financial support and education (Aguirre et al. 2012). The Female Entrepreneurship Index (FEI) report of 2015 (Terjesen and Lloyd 2015) confirms these findings for MENA countries and adds another element that is impeding female entrepreneurship advancement in the region: a lack of individual willingness to start a business.

From a more academic point of view, several decades of extensive research into entrepreneurship and gender has found no psychological or performance-related differences between men and women (Fischer et al. 1993; Sexton and Bowman-Upton 1990). Although it has been demonstrated that men's and women's way of thinking about entrepreneurship and their attitudes towards it are quite similar (Kourilsky and Walstad 1998), in terms of real entrepreneurial engagement, men's rate of engagement outperforms women's (cf. abovementioned reports). Brush (1992) highlights the idea that psychological aspects of women's engagement in new venture creation are influenced by the context (family, presuppositions) and proposes a new theoretical framework (i.e. integrative perspective) enabling us to better understand women's entrepreneurial engagement. Indeed, taking into account the importance of localization and especially the culture in which future female entrepreneurs evolve improved consistency of results of the "integrative perspective" (Chell and Baines 1998; Davidsson and Wiklund 1997; Greene et al. 2003; Shane et al. 1991; Terjesen et al. 2016).

Moreover, the theory of normative institutions opened a new way of seeing female entrepreneurship (Baughn et al. 2006). Based on the data collected through GEM annual surveys, they flesh out the impact of the socio-cultural environment and, more specifically, gender equality in terms of female entrepreneurial activities. Following this ground-breaking study, Langowitz and Minniti contended that context impacts subjective perception of entrepreneurship, and consequently entrepreneurial intention (Santos et al. 2016) and entrepreneurial behaviours (Langowitz and Minniti 2007; Yousafzai et al. 2015).

Taking into account the critical impact of socio-cultural context on entrepreneurial engagement (Greene et al. 2003; Terjesen et al. 2016), the literature provides useful insights into the specificity of the MENA region in terms of entrepreneurship. Hattab (2011) finds the level of innovation of entrepreneurs in the MENA region to be lower than that of the other regions of the world, with gender playing a significant role (Hattab 2011). Stevenson (2011) observes that the existence of a “very young” unemployed population and saturated labour market results in a relatively high overall unemployment rate which limits women’s involvement. He shows that educated females have greater chances of making their new small firms grow, and thus a stronger propensity to participate more actively in the country’s economic growth. The emergence of family businesses is also illustrated as a solution to gender inequality in terms of access to entrepreneurship in MENA countries (Pistrui and Fahed-Sreih 2010).

### 3 Methodology

#### 3.1 Sample

This section presents the results of a survey taken by a sample of 1210 women entrepreneurs, conducted between Summer 2015 and Spring 2016, in six countries of the Middle East and North Africa (MENA) region: Egypt, Jordan, Lebanon, Morocco, Palestine and Tunisia.

The survey was conducted by the United Nations Industrial Development Organization (UNIDO) as part of the project “Promoting Women’s Empowerment for Inclusive and Sustainable Industrial Development in the MENA region”. The complete survey report was published by UNIDO in April 2017.<sup>4</sup>

#### 3.2 Questionnaire and Data Gathering

The survey questionnaire was developed by the Centre of Arab Women for Training and Research (CAWTAR), in close conjunction with women’s professional associations in the relevant countries and the United Nations Industrial Development Organization (UNIDO). In addition to the quantitative data, the questionnaire was designed to emphasise women’s voices and perceptions, giving them a central place throughout the entire process of data collection and analysis.

The conceptual framework that guided the formulation of the questionnaire were based on seven interconnected areas through 55 questions. The seven areas of

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<sup>4</sup>UNIDO (2017): *A study on women entrepreneurship development in Egypt, Jordan, Lebanon, Morocco, Palestine and Tunisia—Technical Report—to be published*

investigation are: (i) Personal and business characteristics that distinguish women business owners, (ii) Social norms and perspectives, (iii) Optimism and outlook for business growth, (iv) Membership of associations and networking, (v) The business environment: government policies, regulations and laws, (vi) Institutional support and access to credit and financial services, (vii) Technology, mentoring, counselling and training.

Taking into account the lack of reliable and standardized data on the female entrepreneur population in the target countries, a non-probability quota sampling method was adopted with the aim of surveying 200 women entrepreneurs per country. The chosen definition for a woman entrepreneur is “*a woman who has, alone or with one or more partners, started up, bought or inherited a business, is assuming the related financial, administrative and social risks and responsibilities and is participating in the firm’s day-to-day management*” (Lavoie 1988).<sup>5</sup>

The questionnaire was conducted online via the SurveyMonkey platform, through six women’s associations in the countries included in the study: *the Association for Women’s Total Advancement and Development* (Egypt), *Business and Professional Women Amman* (Jordan), *Lebanese Association for Development, Al Majmoua* (Lebanon), *Association des Femmes Chefs d’Entreprises du Maroc* (Morocco), *Business Women Forum* (Palestine), *Femmes Et Leadership* (Tunisia).

1210 questionnaires were completed and submitted for use, divided between 6 countries—Egypt (177 respondents), Jordan (203 respondents), Lebanon (210 respondents), Morocco (204 respondents), Palestine (214 respondents) and Tunisia (202 respondents).

### 3.3 Data Analysis

We used STATA to analyse the collected data. As a first step, we conducted a descriptive analysis to summarise the characteristics of the women entrepreneurs who participated in our study, their motivational factors, their commitment level and the characteristics of their respective companies. Then, and in order to determine the main aspects influencing the survival and development of those companies, we employed crossing statistical analysis between different variables. In the following section, we describe results of our analysis.

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<sup>5</sup>LAVOIE, D. 1988. *Women entrepreneurs: Building a stronger Canadian Economy*. Ottawa: Canadian Advisory Council on the Status of Women, 64 p.

**Table 1** Socio-demographic characteristics of women entrepreneurs

	Age	Average number of children	Fertility rate (World Bank)	Marital status (% of respondents)			
				Single	Married	Divorced	Widowed
Egypt	35.11	1.43	3.3	51.18	38.82	7.65	2.35
Jordan	42.24	2.37	3.4	26.73	64.36	5.45	3.47
Lebanon	41.73	2.77	1.7	27.4	55.29	12.02	5.29
Morocco	41.82	1.62	2.5	24.26	58.42	14.36	2.97
Palestine	38.18	3.14	4.2	30.43	59.42	4.83	5.31
Tunisia	42.74	1.92	2.1	23.88	59.7	11.44	4.98

Note: The fertility rate is defined as the average number of children per woman, as provided by the World Bank (2014)

Source: UNIDO survey on women entrepreneurs

## 4 Results

### 4.1 Socio-economic Characteristics of Women Entrepreneurs in MENA Countries

The average age of women in the sample is between 35.11 (Egypt) and 42.74 (Tunisia). Respondents were relatively young, as entrepreneurship is an activity undertaken for the most part between the ages of 30 and 35 (see Table 1).

Regarding the family status of women entrepreneurs, we observe that in most of the countries, the share of women entrepreneurs who are married is in the range of 55 to 60%, peaking in Jordan (64.36%) and particularly low in Egypt, a country in which the percentage of single women entrepreneurs is by far the highest (51.18%). It should be noted that in three out of the six countries, divorced women account for more than 10% of the population surveyed (Morocco: 14.36%; Lebanon: 12.02%; Tunisia: 11.44%).

The average number of children was greater than two in three countries: Palestine (3.14), Lebanon (2.77) and Jordan (2.37). It is lowest in Egypt (1.43), where it appears to be consistent with the percentage of single women in the sample of women entrepreneurs in the country.<sup>6</sup>

Across all six countries, the women entrepreneurs in the sample have a high level of education (see Table 2). However, we observe a number of variations between Egypt, where 92.4% of the women entrepreneurs surveyed have a university education, and Lebanon, a country in which only 32.35% of the individuals in the sample have reached that level of education. In the latter country, 34.31% of women entrepreneurs have received secondary education and 16.18% technical training. In addition, a high share of women entrepreneurs were enrolled in technical education in the samples in Morocco (27.36%) and Tunisia (19.8%).

<sup>6</sup>In all sub-samples, the average number of children is significantly lower than the average number of children across the population (source: World Bank), except Lebanon (2.77 vs. 1.7).

**Table 2** Level of education of women entrepreneurs

	Education (% of respondents)				Share of women having been enrolled in tertiary education (Source: UNESCO)
	Primary	Secondary	Technical	University	
Egypt	1.16	5.81	0.58	92.44	52.08
Jordan	4.48	11.94	3.48	80.1	48.41
Lebanon	17.16	34.31	16.18	32.35	55.74
Morocco	1	5.47	27.36	66.17	46.28
Palestine	1.91	17.7	11	69.38	58.52
Tunisia	3.47	19.31	19.8	57.43	64.32

Note: UNESCO data: Egypt (2013), Jordan (2011), Lebanon (2010), Morocco (2010), Palestine (2011), Tunisia (2011)

Source: UNIDO survey on women entrepreneurs

The differences in levels of education is not a reflection of major variations in the MENA countries, but rather in the sample structures. When comparing UNESCO figures on the percentage of educated women enrolled in tertiary education in MENA countries with the percentage observed in this sample, significant differences emerge. In Egypt and Jordan, educated women entrepreneurs in the sample (92.44% and 80.1%) are over-represented compared to the average percentage of educated women having been enrolled in tertiary education in the said countries (52.08% and 48.41%). In contrast, in Lebanon, the population of non-educated entrepreneurs is particularly large when compared to the average number of women enrolled in tertiary education in those countries, according to UNESCO data. These differences reflect a sampling bias in the data gathered. The results shown in this chapter consequently reflect the standing of women entrepreneurs surveyed in these countries. We interpret these relations as being indicative of the standing of women in our sample, without generalizing about all women entrepreneurs in MENA countries.

Concerning support for women entrepreneurs, we observe that many women entrepreneurs have access to a mentor and benefit from the relationship with an experienced person who can help them find their way as entrepreneurs (see Table 3). Specifically, Lebanese (52%) and Tunisian (50%) women call upon mentors, in contrast with the Egyptian (27%), Jordanian (34%), Moroccan and Palestinian (38%) women.

Moreover, a significant percentage of women entrepreneurs in the sample benefited from some form of support or assistance (see Table 4). Disparities can be noted between Lebanon (13.68% of the women entrepreneurs surveyed) and, at the other end, Morocco (31.86% of women). This aid encompasses a wide range of services such as access to financing, management training, work/life balance and technical training.

Finally, we observe that motivations for starting a business vary between countries (see Table 4). In Lebanon, the motivations are primarily of the “push” variety, resulting from a need to earn a living through entrepreneurship in the context of insufficient means. Most respondents reported that the lack of salaried pay (24.2%) and unemployment (31.4%) are the main motivations for launching a business.

**Table 3** Access to a mentor (% of respondents)

	Access to a mentor	Family member	Outside the family
Egypt	27.12	11.80	19.70
Jordan	33.99	19.70	16.70
Lebanon	51.90	42.40	24.30
Morocco	38.73	33.80	32.80
Palestine	38.32	21.00	23.80
Tunisia	50.50	41.10	39.10

Source: UNIDO survey on women entrepreneurs

**Table 4** Motivations for starting a business (% of respondents)

	Egypt	Jordan	Lebanon	Morocco	Palestine	Tunisia
Unemployment	12.40	11.30	31.40	9.80	28.90	23.30
Job loss	5.60	2.90	9.50	11.70	13.50	3.90
Lack of salaried revenue	11.30	18.70	24.20	19.60	36.90	17.30
Responsibility for managing family business	9.60	5.90	11.40	16.60	13.50	22.20
On advice	3.90	5.90	10.40	8.30	9.80	9.40
Need to secure employment for descendants	5.10	8.30	8.60	12.20	19.60	15.80
Opportunity identified	37.30	46.80	33.80	41.10	51.80	47.50
Skills for the project	48.60	54.60	24.70	22.50	65.40	50.50
Confidence in the product/service	42.90	42.30	10.90	15.20	51.80	28.70
As a means of supplementing income/profits	36.10	45.80	23.30	21.10	62.60	42.10
Need for self-sufficiency	37.80	44.30	12.40	43.10	44.40	41.50
Need for personal freedom	37.20	40.40	9.10	32.80	53.30	41.10
Need for freedom in the workplace	37.30	44.80	8.60	25.50	53.20	40.60
Social status	14.10	13.80	14.70	5.40	31.30	24.70
Personal accomplishment	58.20	64.50	17.60	17.10	71.40	51.90
Vocation	23.70	27.60	3.80	11.70	45.70	33.60

Note: The percentage reflects the number of respondents out of the total number of women

Source: UNIDO survey on women entrepreneurs

In contrast, in other countries in the sample, “pull”-type motivations drive the process—i.e. entrepreneurs are responding to opportunities they have identified. In Palestine and Tunisia, 51.8% and 47.5% of respondents respectively report the existence of opportunities as the main motivation for starting a business. Motivations such as a yearning for personal accomplishment and the feeling that they have the necessary skills are also important, in particular in Palestine (71.4% and 65.4%) and in Jordan (64.5% and 54.6%).

**Table 5** Would you recommend entrepreneurship to other women? (% of respondents)

	Egypt	Jordan	Lebanon	Morocco	Palestine	Tunisia
Never	2.20	0.90	5.70	0.90	2.30	2.50
Yes, it is an absolute necessity for success	29.70	42.80	66.10	68.10	43.40	50.00
Consider starting a business, but...	27.70	30.10	18.10	23.10	27.60	37.60

Note: The percentage reflects the number of respondents out of the total number of women

Source: UNIDO survey on women entrepreneurs

**Table 6** Percentage of businesses registered

Egypt	61.67
Jordan	79.55
Lebanon	39.51
Morocco	95.92
Palestine	67.88
Tunisia	89.5

Source: UNIDO survey on women entrepreneurs

This positive dynamic in motivations for starting a business is confirmed when respondents are asked whether they would be willing to trade their situation for a salaried job. Only 20.45% of them, on average, responded in the affirmative.

There are, however, differences in entrepreneurial persistence by country (see Table 5). Only 17.26% of the women entrepreneurs in Tunisia and 13.57% in Morocco would give up their business to take up a salaried job, a statistic that highlights the extent of opportunity-based entrepreneurship in the country.

Further confirmation is found in the responses of women entrepreneurs when asked what recommendations they would give to other women who are in a position to start a business. 0.9% (Jordan) to 5.7% (Lebanon) of women entrepreneurs would recommend not starting a business. A large majority (57.4% in Egypt and 91.2% in Morocco) would recommend going ahead with starting a business, sometimes with a caveat.

#### 4.2 *Specificity of Women Entrepreneurs' Businesses in MENA Countries*

In three out of five countries, nearly 80% or more of the businesses founded had been officially registered (Jordan: 79.55%; Tunisia: 89.5%; Morocco: 95.92%). Palestine (67.88%) and Egypt (61.67%) come in last. Lebanon, where 39.51% of the businesses had been officially registered, posts the highest percentage of informal women's entrepreneurship observed in the sample (see Table 6). These results obviously pertain only to the population surveyed and are not representative of the situations in each of the countries.

**Table 7** Forms of female entrepreneurship (% of respondents)

	New business	Family business
Egypt	79.38	15.00
Jordan	83.16	10.71
Lebanon	75.37	15.76
Morocco	66.50	20.00
Palestine	77.49	16.75
Tunisia	64.29	13.78

Source: UNIDO survey on women entrepreneurs

**Table 8** Businesses by sector (% of respondents)

	Sector				
	Agriculture	Manufacturing Industries	Services	Trade	Craft
Egypt	1.60	18.4	26.4	13.6	40.00
Jordan	2.60	11.04	44.16	22.73	19.48
Lebanon	4.06	10.15	23.86	48.73	13.20
Morocco	3.11	11.92	48.19	26.42	10.36
Palestine	3.85	9.34	22.53	14.29	50.00
Tunisia	14.81	13.76	32.8	13.76	24.87

Source: UNIDO survey on women entrepreneurs

Creating a new business appears to be the most typical form of entrepreneurship for the majority of women entrepreneurs in the survey (see Table 7), with Jordan posting the highest figure (83.16%) and Tunisia the lowest (64.29%). Taking over the family enterprise is the second most common form of entrepreneurial behaviour chosen by women entrepreneurs, as illustrated by the figures from Morocco (20%), Palestine (16.75%) and Lebanon (15.76%). This outcome is not surprising in cases where the family is central to the social and economic fabric of the country.

The women entrepreneurs in our sample established their companies primarily in the services, trade and craft sectors, often with significant differences across countries (see Table 8). In Tunisia, for instance, the agricultural sector (14.81%) is more heavily represented among surveyed women than in any other country. As for manufacturing industries, Egypt (18.4%) and, to a lesser degree, Tunisia (13.76%) top the list. In the services sector, Morocco (48.19%) and Jordan (44.16%) are in the lead. In Lebanon, women entrepreneurs are heavily involved in trade (48.73%), while in the craft sector, Palestine (50%), Egypt (40%) and Tunisia (24.87%) are the stand-out countries.

Overall, only Tunisia exhibits a relatively well-balanced portfolio, with positions ranging from 13.76% (manufacturing and trade industries) to 32.8% (services), in each of the service areas analysed. In the other countries, businesses run by women tend to be concentrated in certain sectors. This is true in Egypt, with craft (40%), Jordan with services (44.16%), Lebanon with trade (48.73%), Morocco with services (48.19%), and Palestine with craft (50%). Agriculture-related activities are under-represented in the sample, which seems to emphasise the mostly urban nature of entrepreneurial activities in these countries.



**Table 9** Number of employees (% of respondents)

	Average	Newly founded business	Family business	Percentage of women
Egypt	6.71	5.47	13.95	0.575
Jordan	7.68	7.69	8.22	0.609
Lebanon	2.03	2.00	2.04	0.821
Morocco	9.37	5.92	15.00	0.625
Palestine	6.32	4.44	11.51	0.731
Tunisia	8.89	7.75	7.03	0.632

Note: Statistics apply to businesses with fewer than 50 employees

Source: UNIDO survey on women entrepreneurs

Regarding the size of women's businesses, we observe that the average number of people employed by businesses run by women entrepreneurs in the sample varies between 2.03 (Lebanon) and 9.37 (Morocco), (see Table 9). With the exception of Lebanon, the average number of employees is greater than 6, which is significant, considering the surveyed companies' number of years in the business is, on average, between 6.32 and 9.37 years (see following item). This difference is due to a higher number of employees in family-owned businesses than in newly founded businesses. For instance, the average number of employees in Morocco amounted to 15 in family owned businesses and to only 5.92 in newly founded businesses. The size gap disparity between newly founded businesses and family owned businesses is also noteworthy in Palestine (4.44 as compared to 11.11) and in Egypt (5.47 compared to 13.95), but far less noticeable in Jordan (7.69 compared to 8.22), Tunisia (7.75 and 7.03) and Lebanon (2.00 and 2.04). Lebanon's results can be attributed to the fact that the women surveyed in Lebanon are, for the most part, entrepreneurs with access to micro-credit, relevant primarily to very small enterprises.

Interestingly, we also observe that women entrepreneurs primarily hire women. Indeed, the women entrepreneurs in the sample aim either to exclusively hire women (Lebanon: 48.34%, Palestine: 28.82%, Jordan: 27.06%) or both men and women (the percentages vary from 23.53% and 39.74% of respondents). An extremely small minority reports only seeking male employees (between 1.18% and 2.65%). These results demonstrate a clear preference for hiring women. Vocational education degrees appear to be of little interest to the women entrepreneurs in the sample (the highest share was found in Morocco: 13.61%). Rather, they tend to seek qualified employees with specific professional skills (between 40% and 47% of respondents). The exception is the Lebanese, with only 8% reporting an interest in such profiles<sup>7</sup> (see Table 10).

Concerning the sources of financing of the start-ups, we observe unsurprisingly that start-up capital comes from equity capital, informally referred to as the Three Fs (*Family, Friends, Fools*), with significant differences observed between Egypt (80.8%) and Jordan (58.6%), (see Table 11). The latter is the country in which women entrepreneurs most frequently call upon business angels (22.6%) and make

<sup>7</sup>This finding is also due to the specifics of the Lebanese sample.

**Table 10** Recruitment target (% of respondents)

	Women	Men	Both	With degree from vocational training programme	Qualified employees with professional skills
Egypt	13.01	1.63	38.21	7.32	39.84
Jordan	27.06	1.18	28.24	3.53	40
Lebanon	48.34	2.65	39.74	1.32	7.95
Morocco	8.9	2.09	36.65	13.61	38.74
Palestine	28.82	2.35	23.53	4.71	40.59
Tunisia	11.43	1.14	33.14	7.43	46.86

Source: UNIDO survey of women entrepreneurs

**Table 11** Start-up financing (% of respondents)

	Bank credit	Business Angels	Equity capital
Egypt	11.3	4.5	80.8
Jordan	28.1	22.6	58.6
Lebanon	25.2	12.8	64.7
Morocco	46.5	2.4	70.5
Palestine	14.1	10.7	76.1
Tunisia	34.6	7.9	75.2

Source: UNIDO survey on women entrepreneurs

**Table 12** Percentage of export in sales revenue (% of respondents)

	Egypt	Jordan	Lebanon	Morocco	Palestine	Tunisia
0%	54.55	50.31	69.38	74.36	64.74	62.5
<20%	24.55	24.54	8.75	13.85	18.59	10.8
20–50%	13.64	12.27	8.13	7.69	9.62	6.82
50–80%	4.55	7.36	13.75	3.08	5.77	2.84
>80%	0.91	5.52	0.00	1.03	0.64	9.09
100%	1.82	0.00	0.00	0.00	0.64	7.95

Source: UNIDO survey of women entrepreneurs

significant use of bank credit (28.1%). It should be noted that woman entrepreneurs in Morocco (46.5%) and Tunisia (34.6%) are the ones in the sample who most frequently make use of bank credit, in contrast with Palestine (14.1%), a country where it appears difficult to secure bank credit, at least in the early years of the start-up. This appears consistent with the fact that only 24% of the Moroccan women entrepreneurs in the sample deemed lack of access to finance an impediment to entrepreneurship and 19.6% reported that access to capital was an obstacle to growth, showing that, for them, financial difficulties appear less marked than for other respondents in the sample. Lastly, it is worth mentioning that certain women entrepreneurs resort to costly sources of financing—23.3% of the Lebanese women, for instance, had used pawnbrokers.

Regarding their activity on the export market, we observe that their businesses export remarkably low levels of the goods they produce (see Table 12). In Palestine, for instance, 64.74% of the businesses surveyed did not export at all. Morocco shows

**Table 13** Percentage of businesses run by women involved in export, as determined by business status and level of entrepreneur's education

Export	Newly founded business		Family-owned business	
	No university degree	University degree	No university degree	University degree
0%	73.02	63	58.18	55.88
<20%	8.84	19.66	14.55	18.63
20–50%	7.91	8.46	9.09	14.71
50–80%	7.91	4.23	10.91	6.86
>80%	2.33	3.38	–	2.94
100%	–	1.27	7.27	0.98

Note: Percentage of respondents

Source: UNIDO survey of women entrepreneurs

an even higher percentage (74.36%). However, in countries such as Egypt (38%) and Jordan (36%), the businesses run by women entrepreneurs earn between 0 and 50% of their sales revenue from export. In Tunisia, 17% of the businesses in the sample report export levels in excess of 80%. This is probably due in part to the size of the domestic market and the national export strategies.

Educated women entrepreneurs export more on average than their less educated counterparts. Out of the newly founded businesses, 73.02% of the businesses headed by less educated women are not involved in export, compared to only 63% of those led by educated women entrepreneurs. To a lesser extent, the same disparity can be found in the panel of family-owned businesses. 58.18% of women entrepreneurs without a degree are not involved in export, compared to only 55.8% of educated women entrepreneurs (see Table 13).

Finally, in terms of their general aspirations, their main goals for their businesses are geared towards development and growth (see Table 14). However, once again we observe differences between countries. For instance, in the three main target areas for growth—recruitment, capital increase and international market share increase—Moroccan, Palestinian and Tunisian women entrepreneurs report a higher percentage sharing those growth targets compared to their Egyptian, Jordanian and Lebanese counterparts.

The women entrepreneurs in the sample have also clearly stated their objectives in terms of capital increase (48% of women entrepreneurs in Tunisia, 42% in Palestine, 41% in Lebanon). In Tunisia, the main growth target is capital increase (48.1%) in the coming year, while in Morocco it is recruitment (44.1%). With the exception of Lebanon, where only 16% of respondents are planning to hire in the short-term, in the other countries, recruitment targets are high (44% in Morocco, 40% in Palestine, and 38% in Jordan). Lebanon also stands out from the other countries in that its women entrepreneurs have a limited international focus, whereas in Palestine, over 30% of women entrepreneurs state that they wish to increase their market share internationally.

Sales revenue growth through an increase in market share is also seen as a goal at the local level (56% in Palestine, 51% in Morocco). This is also true at the international level, where most women entrepreneurs recorded between 20% and

**Table 14** Business development in the years to come (% of respondents)

	Egypt	Jordan	Lebanon	Morocco	Palestine	Tunisia
Recruitment	33.30	37.90	16.20	44.10	40.20	35.60
Increase capital	32.80	33.90	41.40	39.20	42.10	48.10
Increase local market share	37.30	36.40	40.40	51.40	56.10	48.50
Increase international market share	20.90	21.70	8.10	27.90	32.70	25.20
Take part in local trade shows and exhibitions	23.10	19.70	18.60	19.10	50.90	39.10
Take part in international trade shows and exhibitions	14.70	21.20	4.30	18.10	40.20	25.20
Identify foreign commercial partners	9.60	15.80	5.70	17.10	21.90	18.80
Secure government assistance	12.90	16.20	3.80	6.40	17.30	15.30
Reduce headcount	0.50	1.50	1.90	0.50	2.30	1.10
Reduce capital	1.10	0.50	0.50	0.90	3.30	1.10
Maintain jobs and capital	8.50	6.90	5.70	3.90	7.90	10.90
Identify a new product line	22.60	26.20	14.30	25.40	29.90	32.10
Maintain business	5.10	8.40	5.70	3.40	3.40	12.40
Shut down	1.70	2.50	0.90	1.40	0.50	1.90

Source: UNIDO survey on women entrepreneurs

30%. One noteworthy exception is Lebanon, where only 8% of respondents shared this goal. The low propensity to internationalise displayed by women entrepreneurs in Lebanon is confirmed by their limited desire to take part in international trade shows and fairs (approximately 4%) and by a lack of interest in seeking international commercial partners (5.7%).

Developing a new line of products is also one of the entrepreneurs' goals and is reported as a key objective for 32% of the Tunisians, 30% of the Palestinians, 26% of the Jordanians, but only 14% the Lebanese in the sample.<sup>8</sup>

### 4.3 Barriers Specific to Women Entrepreneurs

In general, women entrepreneurs in the survey reported that the regulatory environment, laws and public order are the factors most negatively affecting their businesses (see Table 15). Therefore, women entrepreneurs wish to see improvements in the business environment at all levels (see Table 16). For instance, one-fourth of respondents overall would like to see a reduction in administrative processes. In terms of business registration costs, 45.2% of Lebanese and 45.1% of Tunisians would be in favour of them. Morocco is the only country that did not show clearly their intention to

<sup>8</sup>The more modest aims of the Lebanese women entrepreneurs in the sample are probably due to the fact that the women surveyed benefited from micro-credit, in contrast with other respondents.

**Table 15** Perceived impediments to entrepreneurship<sup>a</sup>

	Egypt	Jordan	Lebanon	Morocco	Palestine	Tunisia
Regulatory environment	3.32	3.4	3.37	3.32	3.29	3.76
Laws and public order	3.42	3.43	3.23	3.08	3.43	3.57
Lack of financing	2.5	2.36	3.04	2.66	2.55	2.57
Lack of support services to businesses	2.91	2.87	3.12	2.67	2.96	2.88
Economic slowdown	2.68	2.81	2.21	3.19	2.56	2.23

Note: Likert scale, in which 1 denotes a little negative effect and 5 a major negative effect

Source: UNIDO survey of women entrepreneurs

<sup>a</sup>Idem

**Table 16** Improvements sought for entrepreneurship (% of respondents)

	Egypt	Jordan	Lebanon	Morocco	Palestine	Tunisia
Less administrative red tape	27.70	28.60	23.30	12.20	21.10	27.20
Lower business start-up expenses	22.10	23.60	45.20	16.20	32.20	45.10
Improved training in entrepreneurial skills	24.80	26.10	20.90	29.40	35.10	24.70
Improved training in entrepreneurial skills for women	20.40	22.60	22.40	50.00	26.20	22.20
Provide public grants for women entrepreneurs	23.10	22.20	19.50	49.10	30.80	16.80
Facilitate recruitment	12.90	19.20	16.20	26.50	17.30	17.30
Simplify transfer of ownership	14.70	23.60	21.00	10.20	22.90	17.30
Create credit lines for VSBs	22.10	42.80	11.00	24.50	31.30	48.50
Improve access to public contracts	14.70	29.10	12.80	14.70	31.30	18.30
Simplify export procedures	11.80	15.30	12.80	14.70	25.70	27.20
Foster women's entrepreneurship	25.40	48.70	18.10	26.50	37.40	29.20
Improve access to public contracts for women entrepreneurs	16.90	23.10	9.50	22.50	30.40	16.30

Note: Percentage of respondents

Source: UNIDO survey of women entrepreneurs

see women entrepreneurship promoted. Only 12.2% of the women entrepreneurs in Morocco reported the need for a reduction in administrative processes and only 16.2% reported the need for a reduction in registration costs. Morocco's women entrepreneurs are twice as likely (50%) to be interested in entrepreneurship training specifically for women. They are also twice as likely to expect public grants for women entrepreneurs (49.1%). Likewise, 48.5% of Tunisian women and 42.8% of Jordanian women wish to see credit lines created specifically for Very Small Businesses (VSBs). Meanwhile only 11.1% of Moroccan women entrepreneurs report the same desire. These differences are probably a reflection of business size, in that Moroccan companies are the largest in the sample (9.37 employees, on average), and thus they are less in need of access to VSB-dedicated credit lines.

**Table 17** Obstacles to starting a business (percentage of respondents)

	Egypt	Jordan	Lebanon	Morocco	Palestine	Tunisia
No obstacles	3.30	11.80	28.60	9.30	9.30	17.30
Lack of Self-confidence	18.60	10.80	21.40	18.60	16.30	11.30
Fear of failure	6.70	3.90	13.80	11.70	7.90	3.90
Lack of experience	40.60	25.10	25.70	29.90	30.40	29.20
Fear of risk-taking	7.90	5.90	15.70	7.80	8.80	9.90
Lack of information	27.10	22.10	16.20	24.50	25.20	16.30
Lack of contacts	32.20	29.10	12.30	31.30	37.40	31.20
Lack of assistance	33.30	27.50	8.10	24.10	32.70	15.80
Lack of family support	14.10	11.30	7.60	9.80	17.30	6.90
Lack of financing	50.80	43.80	20.90	24.10	48.10	37.10
Lack of management skills	25.90	22.10	8.10	15.60	20.10	10.90
Lack of entrepreneurial experience	24.20	17.70	7.10	28.40	22.40	11.80
Responsibility for family care	19.70	23.10	10.00	21.40	22.90	26.20
Discrimination against women	16.40	18.20	4.30	11.70	25.70	14.80
Mobility issues	12.90	10.30	3.90	1.90	37.80	12.90

Note: The percentage reflects the number of respondents out of the total number of women

Source: UNIDO survey of women entrepreneurs

When looking specifically at obstacles to starting a business, the sample populations cited<sup>9</sup> lack of financing (36.7%), lack of experience (29.3%), lack of contacts (28.4%), lack of assistance (23.2%), lack of information (21.6%) and family duties (20.2%).

These obstacles are particularly daunting for Egyptian women (Table 17)—40.6% of them report that lack of experience is an obstacle to launching a business. Lack of financing is a major obstacle to women in Egypt, Jordan and Palestine (for 50.8%, 43.8% and 48.1% of them, respectively). For approximately 30% of respondents in Egypt, Jordan, Morocco, and Palestine, the lack of assistance and contacts are major impediments to starting a business.

Lebanese women respondents list other obstacles that are stumbling blocks to starting a business. Approximately 30% report no obstacles to starting a business in their country, in contrast to Egyptian (3.3%), Moroccan (9.3%) and Palestinian women (9.3%). Lebanese women list fear of failure and risk-taking as major obstacles to starting a business. In the other countries, those fears are not significant impediments, especially in Jordan, where only 3.9% and 5.9% of female respondents report these same obstacles to starting a business. Yet, most of the obstacles could be mitigated by the setting up of support and assistance systems for women entrepreneurs, and by attempting to design more effective financing systems.

Women in the sample have also reported obstacles to business growth (Table 18). In all countries in the sample, difficulty in accessing new markets is a significant obstacle

<sup>9</sup>The percentages reflect the average percentage of respondents across the whole of the sample.

**Table 18** Obstacles to growth (% of respondents)

	Egypt	Jordan	Lebanon	Morocco	Palestine	Tunisia
Access to capital	42.30	39.90	37.60	19.60	36.40	22.20
Difficulty in finding good workers	31.60	34.90	21.90	41.60	27.10	35.10
Low productivity	14.10	12.30	27.60	29.90	15.80	14.80
Lack of access to new markets	29.30	34.90	10.50	55.30	41.50	35.10
Need to develop management skills	14.70	12.30	15.70	17.10	17.30	7.90
Business model structure	18.60	14.20	5.20	7.30	14.90	5.40
Competition from other countries	12.40	7.30	3.30	23.10	14.90	13.30
Competition from the informal sector	7.30	14.30	9.50	32.30	22.90	32.20
Cost of public services	18.10	39.40	17.60	5.30	25.20	30.20
Access to technologies	14.10	11.80	2.30	12.70	18.20	13.80
Lack of economic growth	17.50	13.70	20.90	17.60	31.70	49.50
Political conditions	16.40	23.60	28.50	5.30	46.70	28.20
Access to international markets	15.80	20.10	2.40	20.50	32.20	29.70

Note: The percentage reflects the number of respondents out of the total number of women

Source: UNIDO survey of women entrepreneurs

to business growth, in particular in Morocco, where 55.3% of respondents identify this issue as an impediment to growth. In contrast, in Lebanon, only 10.5% of respondents identify it as an obstacle to growth, which is consistent with the data demonstrating that internationalisation is not a priority for women entrepreneurs in Lebanon. In Lebanon, access to capital is the main impediment to growth (37.6%), just as it is for women entrepreneurs in Egypt (42.3%), Jordan (39.9%) and Palestine (36.4%).

To a lesser extent, political conditions and the cost of public services are obstacles to growth, especially in Palestine, where 46.7% and 25.2% of women identified these aspects as obstacles to their businesses' growth. In Lebanon and Tunisia, competition with the informal sector is identified as an obstacle to growth for 32.3% and 32.2% of women, respectively.

Finally, and more importantly, we observe that gender discrimination is an important barrier for women in entrepreneurship. Approximately 15% of the women questioned view discrimination against women as an obstacle to starting a business in the countries observed. The share of women respondents reporting discrimination against women was highest in Palestine, where 25.7% of them felt discriminated against compared to their male counterparts, and particularly low in Lebanon, where only 4.3% of women list discrimination against women as an obstacle to starting a business.

We observe that between 21.49% (Egypt) and 39.8% (Lebanon) of female entrepreneurs feel that their environment is discriminatory toward women (see Table 19). Only 12.78% of Tunisian women entrepreneurs, however, reported this view. This is most likely the result of active policies initiated to foster women's empowerment over the past 60 years.

**Table 19** Perceived discrimination against women (% of respondents)

	Egypt	Jordan	Lebanon	Morocco	Palestine	Tunisia
Yes	21.49	25.71	39.8	25.79	35.54	12.78
No	49.59	56	44.39	41.58	41.57	57.78
No opinion	28.93	18.29	15.82	32.63	22.89	29.44

Note: Percentage of respondents

Source: UNIDO survey of women entrepreneurs

**Table 20** Support for women in entrepreneurship<sup>a</sup>

Are women's businesses 'supported' to the same degree as men's? (% responding yes)	
Egypt	66.67
Jordan	60.87
Lebanon	46.99
Morocco	62.03
Palestine	47.22
Tunisia	78.49

Source: UNIDO survey of women entrepreneurs

<sup>a</sup>Idem

Differences in the perception of a discriminatory environment are consistent with the variations in perception of the support provided to women entrepreneurs as compared to men (see Table 20). Although women entrepreneurs in the sample mainly responded affirmatively to the question *Are women's businesses 'supported' to the same degree as men's?*, significant differences can be observed between Lebanese (46.99%), Palestinian (47.22%) and Tunisian (78.49%) women. The Lebanese (39.8%) and Palestinian (35.54%) women are also more likely to report feeling discriminated against because they are women.

We also observe self-reported discrimination with regards to access to finance. With the exception of Egypt, a country in which “only” 24.2% of women entrepreneurs in the sample responded “yes” when asked whether it is more difficult for women to gain access to finance, the large majority of women respondents across the other countries supported that assertion (see Table 21). In particular, 66.6% of Lebanese, 51.14% of Tunisians and 43.8% of Jordanians reported difficulties in accessing finance. A majority of Moroccan women also reported that access to finance is more of a challenge for women than for men. This finding is probably due to the high percentage of Moroccan women who make use of credit, compared to other countries in the sample. As a result, they are more likely to have experience of interacting with credit institutions. The main reasons listed by all respondents to explain their difficulty accessing finance were, first, a lack of necessary guarantees, and second, complex financing application procedures.

Besides their difficulty to secure finance, women entrepreneurs reported other difficulties, in particular, not being taken seriously. Moroccan and Lebanese women entrepreneurs also report experiencing greater difficulty in being taken seriously in the business world, compared to men. Women entrepreneurs are generally dissatisfied with



**Table 21** Women's perceptions of accessing finance (% of respondents)

	Egypt	Jordan	Lebanon	Morocco	Palestine	Tunisia
No, access to finance is not more challenging for women	14.70	21.70	9.50	35.80	28.50	18.30
Yes, access to finance is more challenging for women:	24.20	43.80	66.60	41.10	31.30	51.40
Problems with guarantees	9.60	15.70	10.40	18.10	16.20	24.70
Women are not taken seriously	8.50	5.90	8.60	28.90	12.10	6.40
The procedures are complicated	17.50	18.20	6.20	25.00	17.70	18.80
Lack of efficient human resources	2.80	2.90	0.50	0.90	4.70	3.90

Note: Percentage of respondents

Source: UNIDO survey of women entrepreneurs

**Table 22** Perceived difficulty of being a women entrepreneur compared to a male entrepreneur (% of respondents)

	Egypt	Jordan	Lebanon	Morocco	Palestine	Tunisia
Access to finance	19.80	29.60	29.00	49.50	36.40	25.70
Joining networks	14.10	20.70	18.60	12.30	18.20	20.30
Managing male employees	20.90	28.60	33.30	41.70	26.60	29.20
Managing female employees	11.30	9.40	12.90	10.30	7.90	14.40
Working with clients/suppliers	19.20	18.70	16.70	34.30	17.80	14.90
Being taken seriously	27.70	28.60	47.60	46.60	33.20	26.70
Dealing with the administration	23.20	21.70	23.30	49.00	18.20	19.30
Achieving work/life balance	31.10	41.40	46.20	23.00	37.90	37.10
Developing a network	21.50	34.00	23.30	18.10	24.30	27.20

Note: Percentage of respondents

Source: UNIDO survey of women entrepreneurs

the general perception that they lack credibility (approximately 30% of those in Egypt, Jordan, Palestine and Tunisia, and 47% in Lebanon and Morocco). Managing male employees, achieving work-life balance and effectively dealing with administration are also challenges specific to women (Table 22). Finally, the inability of political and economic leaders to grant decision-making positions to women, in particular in Morocco and Tunisia, was cited as a problem. Exclusion from informal networks appears to be the least problematic barrier, particularly in Lebanon and Morocco.

The existence of stereotypes and preconceptions about the role and capabilities of women is cited as the main barrier to entrepreneurship, a perception that is even stronger in Morocco and Tunisia. One possible interpretation is that they perceive only mild discrimination at the institutional level, while society as a whole remains discriminatory. Indeed, when asked to assess their performance compared to men on a list of management skills, the women entrepreneurs in the sample rated themselves for the most part at the same level as their male counterparts (Table 23). It can be noted, however, that they

**Table 23** Perceived management skills

	Women	Men	Gap
Communicating at the international level	2.531	2.249	-0.282
Networking	2.204	2.091	-0.113
Delegating	2.293	2.206	-0.087
Consulting	2.231	2.162	-0.069
Making decisions	2.081	2.026	-0.055
Mentoring	2.201	2.207	0.006
Building a team	2.149	2.162	0.013
Influencing upward	2.173	2.212	0.039
Solving problems	2.089	2.131	0.042
Providing support	2.041	2.135	0.094
Providing remuneration	2.127	2.235	0.108
Inspiring	2.099	2.354	0.255

Note: The figures connected with each skill are based on a Likert scale, on which a value of 1 means that the woman perceives her skills as excellent, while a value of 5 indicates that she sees them as poor. Consequently, a positive gap means that the women view their entrepreneurial skills as superior to those of men. A negative gap means that the women think that men have greater entrepreneurial skill on each item when compared to women

Source: UNIDO survey of women entrepreneurs

perceive themselves to be more skilled than men when it comes to inspiring others, and less skilled in terms of international communication and networking.

This gender gap is particularly important as women entrepreneurs in the sample cite self-management as the primary success factor, particularly in Jordan (see Table 24). Egyptian and Jordanian women report gaining recognised experience in a specific field as the main guarantee of success. Palestinian, Moroccan and Jordanian women entrepreneurs, in contrast, see the main success factor as optimising entrepreneurial skills. Egyptian and Tunisian women consider linguistic and intercultural skills as relatively important. This specificity is probably due to the significant participation of both Egyptian and Tunisian companies in our sample in international trade and their wish to improve access to foreign markets.

#### ***4.4 Determinants of Business Development and Dedication***

The previous sections have highlighted important barriers for women entrepreneurs compared to their male counterparts but they still report significant growth aspirations for their businesses. This section aims to identify the characteristics of successful women entrepreneurs, i.e., those who perform well in their roles, and provide employment for other women in MENA countries. The issue of female employment by women entrepreneurs is crucial because entrepreneurship is a major driver in supporting women's employment, particularly in a world region where gender inequalities in terms of access to the labour market remain strong and where women's employment continues to be extremely low.

**Table 24** Perceived success factors for women

	Egypt	Jordan	Lebanon	Morocco	Palestine	Tunisia
Knowing how to optimise their entrepreneurial skills	4.057	4.132	3.859	3.835	3.971	3.442
Always out-performing expectations	3.624	3.741	3.733	3.740	3.583	3.863
Successfully managing others	4.068	3.930	3.740	3.724	3.746	3.938
Successfully managing themselves	4.071	4.155	3.835	3.904	3.825	4.000
Having recognised experience in the field	4.023	4.105	3.840	3.685	3.696	3.957
Gaining language and inter-cultural skills	3.976	3.685	3.387	3.578	3.750	3.854
Seeking out challenging and high-profile undertakings	3.372	3.483	3.313	3.217	3.388	3.675

Note: The figures in this table reflect the average order of importance reported by women in terms of the factors that enable them to enjoy a successful career, where a value of 1 denotes a factor of low significance and a value of 5 denotes a factor of great significance

Source: UNIDO survey of women entrepreneurs

#### 4.4.1 Women Entrepreneurs Recruiting Women

This section aims to identify which socio-demographic features and business characteristics influence women leaders' decision to hire women workers. Specifically, we have identified that (i) two socio-demographic characteristics (marital status, level of education), (ii) experience in the business, and (iii) ownership structure, are important determinants of hiring decisions. We detail, in the same order, how the three above-mentioned items influence employment and the proportion of women employees.

Firstly, we observe that education is an important determinant of firm size (number of employees), (see Table 25). The businesses started by women with a university degree are significantly larger in size than those created by those without a degree (see Table 26),<sup>10</sup> which might be attributed to the more developed management skills and larger network typical of educated women.

Moreover, while differences in levels of education influence employment in businesses headed by women, differences in marital status explain the main

<sup>10</sup>Married women have also a larger number of employees compared to single women entrepreneurs. This difference is not observed in Morocco, a country in which single women with lower levels of education have a larger number of employees than educated single women. This Moroccan specificity is probably due to the fact that there are more women with lower levels of education heading family-owned companies (37.04% of less educated women, as opposed to 20.33% of educated women). These companies, in turn, have a significantly higher number of employees compared to newly founded businesses. The average number of employees hired by less educated women managing family-owned businesses is 17.52, compared to only 6.21 for less educated women heading businesses which they founded themselves.

**Table 25** Equality of means test

	Number of employees	Percentage of women
Country		
Egypt	t = -1.2287 [0.2195]	t = 3.0292 [0.0025]
Jordan	t = -1.2013 [0.2299]	t = 2.0130 [0.0444]
Lebanon	t = 3.8915 [0.000]	t = -5.5418 [0.000]
Morocco	t = -1.0234 [0.306]	t = 1.4760 [0.140]
Palestine	t = 0.4340 [0.644]	t = -3.1099 [0.002]
Tunisia	t = -0.7202 [0.472]	t = 1.0403 [0.298]
Marital status (married)		
	t = -1.5737 [0.1158]	t = 2.0749 [0.0383]
Education (university degree)		
	t = -2.8890 [0.0039]	t = -1.5737 [0.1158]

Note: t-test diff = mean(0) – mean(1), H0: diff = 0 – Pr(|T| > |t|) in brackets – firm <50 employees

Source: UNIDO survey of women entrepreneurs

differences in the proportion of women. Single women are more likely to give preference to female employees than are married women, regardless of their level of education.

This discrepancy in the number of women hired by married and single women is particularly significant in Egypt, with a differential of approximately 20 percentage points, regardless of levels of education. This situation likely illustrates the difficulty for women in managing male employees, as confirmed to a certain extent by the survey. This difficulty is likely to be greater when women are single, as they cannot rely on the support of their husband in managing their employees.

The number of women employees is also higher for the sample of less educated entrepreneurs. We could interpret the highest proportion of female employees in the sample of less educated women entrepreneurs as a solidarity effect, because they are more aware of the difficulty of finding a salaried job without diplomas in Middle Eastern societies. For instance, in Palestine, the percentage of women on payroll amounts to 94.7% in businesses managed by less educated women and 75.5% on those managed by educated women.

Gender discrimination at the hiring stage is confirmed by self-reported answers regarding the choices of women entrepreneurs (see Table 27). Discrimination at the hiring stage is particularly acute in the case of single women (except in Lebanon).

Secondly, we observe that experience in the business is also an important determinant of women entrepreneurs’ hiring decisions. A positive and significant

**Table 26** Size of business, according to marital status and education

		No university degree		University degree	
		Single	Married	Single	Married
Egypt	Frequency	6	6	79	53
	Number of employees	1.33	4	4.835	10.169
		[2.161]	[3.224]	[4.781]	[10.281]
	Percentage of women	1.000	0.786	0.635	0.475
		[0.000]	[0.307]	[0.305]	[0.316]
	Age	24.000	39.000	31.759	40.221
Jordan	Frequency	8	26	53	91
	Number of employees	1.375	4.038	7.264	9.615
		[1.061]	[5.347]	[8.232]	[10.564]
	Percentage of women	1.000	0.678	0.556	0.594
		[0.000]	[0.381]	[0.341]	[0.276]
	Age	43.750	47.769	37.843	43.518
Lebanon	Frequency	36	62	30	32
	Number of employees	1.361	1.387	2.233	4.031
		[1.692]	[2.511]	[3.988]	[5.533]
	Percentage of women	0.889	0.827	0.842	0.747
		[0.269]	[0.333]	[0.263]	[0.277]
	Age	43.000	43.356	38.286	39.032
Morocco	Frequency	25	40	55	68
	Number of employees	8.640	11.850	5.854	11.294
		[9.017]	[11.396]	[8.171]	[13.895]
	Percentage of women	0.733	0.578	0.652	0.617
		[0.231]	[0.274]	[0.311]	[0.266]
	Age	46.000	47.513	34.321	41.235
Palestine	Frequency	13	40	54	74
	Number of employees	2.846	4.701	5.871	8.284
		[1.405]	[7.377]	[9.441]	[11.459]
	Percentage of women	0.947	0.822	0.755	0.641
		[0.119]	[0.258]	[0.322]	[0.356]
	Age	43.333	40.703	31.274	40.324
Tunisia	Frequency	32	48	42	61
	Number of employees	7.937	7.291	7.095	11.885
		[12.692]	[8.102]	[9.057]	[11.361]
	Percentage of women	0.579	0.628	0.637	0.631
		[0.418]	[0.319]	[0.266]	[0.278]
	Age	45.531	46.739	33.795	44.311

Note: Statistics applying to businesses with 0–50 employees. No university degree: primary, secondary or technological degree. Single: widowed, divorced or single. Standard deviation shown in brackets

Source: UNIDO survey of women entrepreneurs

**Table 27** Discrimination at the hiring stage (% of respondents)

		No university degree		University degree	
		Single	Married	Single	Married
Egypt	Women	16.67	16.67	13.92	11.32
	Men	0.00	0.00	0.00	3.77
	Both	33.33	33.33	54.43	47.17
Jordan	Women	100.00	65.38	15.09	26.37
	Men	0.00	0.00	1.89	2.20
	Both	0.00	50.00	66.04	43.96
Lebanon	Women	44.44	38.71	12.73	37.50
	Men	2.78	4.84	0.00	0.00
	Both	22.22	27.42	63.33	56.25
Morocco	Women	28.00	20.00	18.18	17.65
	Men	0.00	2.50	1.82	4.41
	Both	60.00	65.00	67.27	66.18
Palestine	Women	61.54	45.00	33.33	35.14
	Men	0.00	2.50	5.56	4.05
	Both	30.77	45.00	27.78	41.89
Tunisia	Women	28.13	31.25	23.81	13.11
	Men	15.63	4.17	2.38	0.00
	Both	53.13	52.08	54.76	72.13

Note: Percentage of respondents

Source: UNIDO survey of women entrepreneurs

correlation is observed between the number of employees and the level of experience in three countries in the sample: Egypt, Morocco and Palestine (see Table 28). Unsurprisingly, this correlation implies that the firm's time spent in the business correlates positively to company size. More interestingly, it can be observed that time of operation is negatively correlated with the percentage of women employed, especially in Morocco. Moroccan women employ more male employees once the business is well established. This result can be explained by the fact that Moroccan businesses specialize primarily in the services sector (see Sect. 2), a sector in which demand for qualified workers is particularly high. Since the percentage of educated women is lower than that of educated men in Morocco,<sup>11</sup> it may be difficult for established businesses to find educated women to hire. This in turn might lead to an artificial increase in the male employment rate (on average more qualified) thereby lowering the female employment rate.

Thirdly, ownership structure is an important factor driving size and employment composition of a firm. Indeed, business size is dependent on ownership structure. Businesses managed by women are markedly smaller than those with mixed or male

<sup>11</sup>20.7% of women aged 25 and over have been educated to secondary level, as compared to 30.2% of men (source: United Nations, *Human Development Reports*).

**Table 28** Correlation between business time in operation and employment

Business time in operation	Number of employees	Percentage of women
Egypt	0.228*	-0.212
Jordan	0.069	-0.074
Lebanon	0.098	-0.174
Morocco	0.397*	-0.380*
Palestine	0.314*	0.204
Tunisia	0.183	-0.126

Note: The coefficients with a star reflect statistically significant correlations at a threshold of 1%  
Source: UNIDO survey of women entrepreneurs

shareholder structure. In Egypt, for instance, family-owned businesses in which the shareholder structure is composed of a majority of women employ approximately three times fewer employees compared to businesses in which shareholders are men or with a male-female shareholder structure. This gap is also observed in newly founded businesses. The businesses in which shareholders are women are significantly smaller than businesses in which shareholder structure is made up primarily of men. Several different explanations can be put forth to explain this gap.

The first explanation for these gaps relates to the firm's financing, which is more restricted when the business is managed by women. 42.92% of the women in the sample report that accessing finance is more difficult for women. The second explanation has to do with a lack of credibility that holds women entrepreneurs back in these countries, making it more difficult for them to gain access to networks or qualified employees. 47.93% of the women entrepreneurs in the sample responded that it is more difficult for a woman entrepreneur to be taken seriously compared to a man.

Shareholder gender in businesses is also an important determinant of the rate of female employment. The proportion of women employed in businesses with a single shareholder is slightly lower than that of multi-shareholder businesses composed solely of women (Table 29). The said percentage is 65% in Egypt and 68% in Morocco, in businesses managed by one woman alone, compared to 72.1% and 71.2% in multi-shareholder female businesses.

In Palestine, 82% of the payroll is composed of women when the shareholders are all women, but falls to 56% when the shareholders are all men and 66% when there are both male and female shareholders. This difference holds regardless of the business status (family-owned or newly founded business). The share of women employed in businesses is invariably lower when all other business shareholders are men, and is particularly low in Egypt (44.7%) and Morocco (49.2%). This result is not surprising, insofar as Morocco and Egypt are the countries with the highest gender inequality levels (United Nations Development Programme).

The reasons why women entrepreneurs primarily hire women when they are majority shareholders could be a reflection of the perception that female employees are easier to manage. Indeed, 32% of the women in the sample stated it is easier to

**Table 29** Size of business according to gender of associates and ownership structure

	Multi-shareholder						Women entrepreneur only		
	Newly founded business			Family business			Both	Newly founded	Family-owned
	Female	Male	Both	Female	Male	Both			
Egypt	Frequency	29.000	19.000	19.000	6.000	6.000	3.000	28.000	N/A
	Number of employees	<b>3.241</b>	<b>8.684</b>	<b>6.947</b>	<b>5.167</b>	<b>14.500</b>	<b>18.667</b>	<b>3.821</b>	<b>N/A</b>
	<i>Standard deviation</i>	<i>4.611</i>	<i>8.603</i>	<i>4.262</i>	<i>3.488</i>	<i>6.863</i>	<i>14.572</i>	<i>4.595</i>	<i>N/A</i>
	Percentage of women	<b>0.721</b>	<b>0.447</b>	<b>0.656</b>	<b>0.610</b>	<b>0.267</b>	<b>0.524</b>	<b>0.650</b>	<b>N/A</b>
	<i>Standard deviation</i>	<i>0.310</i>	<i>0.383</i>	<i>0.247</i>	<i>0.388</i>	<i>0.174</i>	<i>0.082</i>	<i>0.247</i>	<i>N/A</i>
Jordan	Frequency	21.000	36.000	11.000	2.000	3.000	4.000	70.000	4.000
	Number of employees	<b>7.333</b>	<b>8.500</b>	<b>12.182</b>	<b>2.000</b>	<b>6.667</b>	<b>11.500</b>	<b>6.957</b>	<b>15.750</b>
	<i>Standard deviation</i>	<i>7.418</i>	<i>9.635</i>	<i>13.190</i>	<i>2.828</i>	<i>3.215</i>	<i>12.369</i>	<i>8.679</i>	<i>20.742</i>
	Percentage of women	<b>0.576</b>	<b>0.482</b>	<b>0.625</b>	<b>1.000</b>	<b>0.537</b>	<b>0.420</b>	<b>0.687</b>	<b>0.813</b>
	<i>Standard deviation</i>	<i>0.300</i>	<i>0.387</i>	<i>0.144</i>	<i>0.000</i>	<i>0.116</i>	<i>0.161</i>	<i>0.307</i>	<i>0.325</i>
Lebanon	Frequency	9.000	9.000	2.000	2.000	10.000	N/A	52.000	1.000
	Number of employees	<b>1.889</b>	<b>5.889</b>	<b>3.500</b>	<b>6.000</b>	<b>2.200</b>	<b>N/A</b>	<b>1.846</b>	<b>0.000</b>
	<i>Standard deviation</i>	<i>1.054</i>	<i>8.100</i>	<i>0.707</i>	<i>8.485</i>	<i>4.590</i>	<i>N/A</i>	<i>2.173</i>	<i>N/A</i>
	Percentage of women	<b>1.000</b>	<b>0.621</b>	<b>0.875</b>	<b>0.500</b>	<b>0.650</b>	<b>N/A</b>	<b>0.891</b>	<b>N/A</b>
	<i>Standard deviation</i>	<i>0.000</i>	<i>0.417</i>	<i>0.177</i>	<i>0.000</i>	<i>0.405</i>	<i>N/A</i>	<i>0.232</i>	<i>N/A</i>
Morocco	Frequency	11.000	16.000	4.000	2.000	19.000	7.000	86.000	5.000
	Number of employees	<b>5.182</b>	<b>7.875</b>	<b>28.750</b>	<b>7.000</b>	<b>17.632</b>	<b>30.857</b>	<b>5.860</b>	<b>6.800</b>
	<i>Standard deviation</i>	<i>4.215</i>	<i>7.924</i>	<i>19.738</i>	<i>1.414</i>	<i>13.330</i>	<i>15.900</i>	<i>8.800</i>	<i>5.762</i>
	Percentage of women	<b>0.714</b>	<b>0.492</b>	<b>0.714</b>	<b>0.479</b>	<b>0.438</b>	<b>0.532</b>	<b>0.687</b>	<b>0.681</b>
	<i>Standard deviation</i>	<i>0.252</i>	<i>0.295</i>	<i>0.194</i>	<i>0.206</i>	<i>0.186</i>	<i>0.156</i>	<i>0.299</i>	<i>0.380</i>
Palestine	Frequency	34.000	13.000	2.000	5.000	9.000	7.000	53.000	4.000
	Number of employees	<b>5.441</b>	<b>3.692</b>	<b>5.500</b>	<b>9.800</b>	<b>20.667</b>	<b>11.429</b>	<b>3.925</b>	<b>4.250</b>
	<i>Standard deviation</i>	<i>7.187</i>	<i>2.496</i>	<i>2.121</i>	<i>14.533</i>	<i>17.664</i>	<i>13.415</i>	<i>6.155</i>	<i>1.500</i>
	Percentage of women	<b>0.817</b>	<b>0.562</b>	<b>0.661</b>	<b>1.000</b>	<b>0.377</b>	<b>0.462</b>	<b>0.806</b>	<b>0.608</b>
	<i>Standard deviation</i>	<i>0.225</i>	<i>0.331</i>	<i>0.126</i>	<i>0.000</i>	<i>0.304</i>	<i>0.448</i>	<i>0.264</i>	<i>0.079</i>

(continued)



Table 29 (continued)

	Multi-shareholder						Women entrepreneur only		
	Newly founded business			Family business			Newly founded	Family-owned	
	Female	Male	Both	Female	Male	Both			
Tunisia	17.000	13.000	7.000	4.000	7.000	6.000	68.000	6.000	
Frequency	<b>5.412</b>	<b>8.769</b>	<b>15.857</b>	<b>15.500</b>	<b>7.000</b>	<b>25.333</b>	<b>7.191</b>	<b>6.000</b>	
Number of employees	<i>4.651</i>	<i>8.814</i>	<i>14.871</i>	<i>13.128</i>	<i>4.830</i>	<i>21.463</i>	<i>9.945</i>	<i>5.367</i>	
Standard deviation	<b>0.712</b>	<b>0.462</b>	<b>0.630</b>	<b>0.679</b>	<b>0.530</b>	<b>0.700</b>	<b>0.720</b>	<b>0.578</b>	
Percentage of women	<i>0.333</i>	<i>0.284</i>	<i>0.288</i>	<i>0.088</i>	<i>0.200</i>	<i>0.313</i>	<i>0.289</i>	<i>0.280</i>	
Standard deviation									

Source: UNIDO survey of women entrepreneurs

**Table 30** 2014 Gender Inequality Index (Source: United Nations)

Egypt	0.573
Jordan	0.473
Lebanon	0.385
Morocco	0.525
Palestine	N/A
Tunisia	0.240
Very high human development	0.199
High human development	0.310
Medium human development	0.506
Low human development	0.583

Note: The list of countries in the last four lines of the chart is detailed below: <http://hdr.undp.org/en/composite/GII>. The indicator is measured using women’s mortality during childbirth, the share of women in Parliament, the share of women with a secondary-level education, and women’s participation in the labour market

Key: The closer the index is to 1, the starker the gender inequalities

Source: United Nations Development Program, Gender Inequality Index

manage female employees, while 41.7% stated it is more challenging to manage male employees.

Positive discrimination towards women at the time of hiring can also be a reflection of strong solidarity between women, especially in countries where male-female inequalities are extremely prominent. Table 30 highlights the gender inequality index results from the United Nations Development Programme (UNDP) specific to the countries in the sample. On average, the inequality indices are extremely high in all six countries in the sample, which may reflect the greater challenges women face in becoming entrepreneurs and securing jobs overall, compared to men. Gender inequality is most acute in Egypt (0.573) and lowest in Tunisia (0.240).

#### 4.4.2 Business Profitability

This section analyses the determinants of entrepreneurial performance in terms of business profitability. More specifically, we analyse the percentage of women who pay themselves a regular salary derived from their firm’s income.

Regardless of the sector, Morocco is the country from our sample with the highest percentage of women entrepreneurs able to provide themselves with regular remuneration (see Table 31). In contrast, Palestine has a particularly low percentage of women able to provide themselves with a regular salary. Only 14.29% of women in the agriculture sector are able to derive regular pay from their entrepreneurial activity.

Examining all countries, the craft sector has the lowest rate of regularly remunerated women entrepreneurs, while in the manufacturing sector the majority of

**Table 31** Percentage of women who pay themselves a regular salary

	Agriculture	Manufacturing	Services	Trade	Craft
Egypt	50.00	52.17	27.27	41.18	34.00
Jordan	50.00	47.06	41.18	42.86	33.33
Lebanon	25.00	45.00	46.81	40.63	23.08
Morocco	83.33	95.65	68.82	76.47	75.00
Palestine	14.29	41.18	41.46	34.62	32.97
Tunisia	17.86	57.69	50.00	34.62	25.53

Note: Percentage of respondents

Source: UNIDO survey of women entrepreneurs

women are able to enjoy remuneration from their entrepreneurial activities. For instance, in the Moroccan manufacturing sector, 95.65% of women are able to derive remuneration from their entrepreneurial activities. These sector-specific differences appear to be related to the proportion of businesses registered in each sector. Businesses not formally listed with the Registry of Commerce are more frequent in the craft sector (32.58%), merchant activity (39.66%) and agriculture (30.77%), and less frequent in the manufacturing industry (19.81%), which may explain the high percentage of women able to secure their remuneration from the manufacturing sector.

Socio-demographic factors also influence the business's profitability (see Table 32). Women entrepreneurs who are married and educated pay themselves more regularly than do less educated women, with the exception of Egyptian and Moroccan women.<sup>12</sup> The opposite trend is found in the sample of single women. Less educated women secure their own remuneration more often in proportion to educated women, with the exception of Tunisian women and, to a lesser extent, Lebanese women.

These disparities can be partly ascribed to differences in the amount of time spent in association networks, which vary by level of education (see Table 33). We find that single, less educated women spend more time in networks than do their counterparts with degrees (except in Lebanon and Morocco), which explains the superior performance of single, less educated women. This finding is also borne out by the amount of time that married and educated women spend in association networks in connection with their entrepreneurial activities. Married and educated women dedicate more hours per week compared to married less educated women, which could explain the better performance of married educated women.

Therefore, there appears to be a connection between involvement in association networks and business performance, in terms of the ability of businesses to generate regular income for their leaders. Involvement in association networks not only helps businesses expand in order to secure profits, but it also reflects greater entrepreneurial engagement on the part of those categories of female entrepreneurs.

<sup>12</sup>It should be noted, however, that the number of less-educated women observed in Egypt is particularly low.

**Table 32** Percentage of women entrepreneurs regularly able to derive remuneration from their business, by degree and marital status<sup>a</sup>

	No university degree		University degree	
	Single	Married	Single	Married
Egypt	71.40	60.00	26.30	50.00
Jordan	25.00	37.10	47.30	40.00
Lebanon	29.10	45.33	25.00	51.52
Morocco	80.80	90.00	64.90	72.90
Palestine	44.40	28.20	41.90	34.60
Tunisia	29.10	32.10	50.00	37.50

Note: Percentage of respondents

Source: UNIDO survey of women entrepreneurs

<sup>a</sup>UNIDO (2017): A study on women's entrepreneurship development in Egypt, Jordan, Lebanon, Morocco, Palestine and Tunisia—Technical Report—to be published

**Table 33** Time spent weekly in association networks

	No university degree		University degree	
	Single	Married	Single	Married
Egypt	10.000	20.000	8.953	9.444
Jordan	8.333	10.000	7.424	6.206
Lebanon	5.000	6.666	7.307	16.333
Morocco	5.909	5.909	6.400	6.562
Palestine	13.333	8.636	9.146	7.982
Tunisia	16.000	10.789	8.500	11.000

Note: The time spent is an average based on an extrapolation of the number of hours spent in association networks. We ascribed a value of 5 h to women reporting that they spent less than 10 h in the networks, a value of 15 h to those responding between 10 h and 20 h, and a value of 35 h to women reporting that they spent more than 20 h there

Source: UNIDO survey of women entrepreneurs

#### 4.4.3 Women's Dedication to Their Business

In this section, we report the determinants of entrepreneurial dedication. Lower entrepreneurial dedication can be explained by three factors. First, it can occur where the business is considered a “back-up” activity, intended primarily as a means of supplementing existing income. Secondly, it may be due to the business being in its nascent phase, or in the development stage, which cannot provide secure, regular and adequate revenue, thus making it necessary to turn to another salaried activity. Lastly, lesser entrepreneurial engagement can be a direct result of a women's role in the business. Some women entrepreneurs are not able to play a prominent leading role in the business but perform an assistance or advisory role. This also results in lower remuneration for the woman entrepreneur, which could explain their need to find another salaried activity.

We also observe that education is an important factor in women's dedication to their business (see Table 34). On average, in all countries in the sample with the

**Table 34** Entrepreneurial dedication

		No university degree		University degree	
		Single	Married	Single	Married
Egypt	Number of hours	36.000	30.000	41.294	40.577
		[8.944]	[11.547]	[16.332]	[14.438]
	Other salaried activity (%)	14.29	16.67	52.58	45.76
Jordan	Number of hours	40.833	37.307	45.625	43.622
		[13.624]	[17.845]	[15.552]	[15.056]
	Other salaried activity (%)	33.33	17.86	58.33	55.45
Lebanon	Number of hours	52.000	46.187	44.545	50.000
		[13.864]	[14.846]	[15.378]	[13.521]
	Other salaried activity (%)	3.64	7.41	45.45	33.33
Morocco	Number of hours	43.800	40.975	46.315	41.013
		[15.294]	[14.284]	[15.251]	[12.162]
	Other salaried activity (%)	11.54	14.63	33.33	36.00
Palestine	Number of hours	37.777	42.500	44.636	40.202
		[17.508]	[13.759]	[16.718]	[16.989]
	Other salaried activity (%)	36.84	25.58	45.31	52.50
Tunisia	Number of hours	42.031	45.882	47.872	46.094
		[11.631]	[14.307]	[14.697]	[15.209]
	Other salaried activity (%)	12.50	15.09	24.49	32.84

Note: The “other salaried activity” variable is measured by the percentage of respondents. The “number of hours” variable is an average extrapolated from responses on time spent working for their businesses. We ascribed a value of 20 h per week to women reporting that they worked less than 30 h, a value of 35 h to those reporting that they worked 30 to 40 h, a value of 40 h to those responding that they worked 30 to 50 h and a value of 65 to those responding that they worked more than 50 h per week

Source: UNIDO survey of women entrepreneurs

exception of Lebanon, women with degrees dedicate more time to their businesses than do women without degrees. Tunisian and Lebanese women work the most hours per week out of the six countries analysed (48 h/week on average for Lebanese women, and 46 h/week for Tunisian women).

There are also differences depending on marital status. Among the educated women, those who are single work an average of two additional hours per week compared to their married counterparts (with the exception of Lebanon, where married women work an average of 5 h more per week than do single women). Among the less educated women, the number of hours dedicated to entrepreneurial activity is also higher in single women from all countries across the sample, with the exception of Palestine (42 h for single women and 46 h for married women) and Tunisia (38 h for single women and 42.5% hours for married women). This difference might be due to the greater flexibility that single women enjoy. With no family for which to provide, they are able to fully devote themselves to their entrepreneurial activities. The level of engagement of educated and single women

is particularly noticeable in Morocco, where this segment dedicates an average of five additional hours to business, compared to married women.

The second variable that captures entrepreneurial dedication is the presence of another salaried activity. Where entrepreneurial activity is not the woman's main activity, this is indicative of a lower degree of entrepreneurial engagement.

Women with a university degree spend more time carrying out their entrepreneurial activities and have better-performing activities. Paradoxically, however, an average of one out of every two educated women exercises another salaried activity alongside her entrepreneurial activities, more so than less educated women. In Egypt, approximately 15% of less educated women have another salaried activity, compared to approximately 50% of educated women. This difference is observed across all countries in the sample. In Lebanon, very few women without a university degree are involved in another salaried activity (3.64% of single women and 7.41% of married women), while approximately 47% of educated women are involved in another activity while managing their business. In Palestine, women without a degree have higher activity levels than women in Lebanon. Approximately 30% of Palestinian women are involved in another activity, but that percentage remains far lower than what is observed in the sample of educated women (approximately 50% of educated women are involved in another salaried activity). This result may be attributed to three different assumptions.

Firstly, educated entrepreneurs may exercise another activity because they are more likely to work in multi-shareholder businesses, giving them the opportunity to rely on other shareholders to manage their business while at the same time offering them more time to exercise another paid activity. This hypothesis is in part supported by the results obtained in Table 35 which shows a higher share of educated women working in multi-shareholder businesses compared to less educated women, especially in Jordan and Palestine.

Secondly, educated entrepreneurs are more likely to turn to salaried work due to their involvement in a family-owned business. Indeed, women entrepreneurs in family owned business may use the business as a supplementary source of revenue in which the business is considered as a "back-up" option where women play only a secondary role in assisting and supporting the company. The results reveal that the share of women entrepreneurs in family businesses is higher in the sample of educated women than in the sample of less-educated women, except in Morocco and Tunisia (see Table 36). This result gives partial support to our second assumption.

Thirdly, experience in business could explain why educated entrepreneurs have a salaried activity on top of their business. Indeed, heading a newly founded business could make it harder for women to earn a regular income, which might require them to take on additional salaried work in order to secure revenue. This assumption is also verified. All educated women in the sample spent significantly less time in their business than less educated women (see Table 37).

Education is not the only determinant of business dedication though; business location also matters (see Table 38). Indeed, women entrepreneurs working from home are for the most part less invested in their businesses and more involved in

**Table 35** Percentage of educated and less educated women in multi- and single-shareholder businesses

	Egypt		Jordan		Lebanon		Morocco		Palestine		Tunisia	
	LE	E	LE	E	LE	E	LE	E	LE	E	LE	E
Single-shareholder	18.18	24.17	73.68	38.3	54.84	44.9	46.88	56.35	65.71	32.76	53.95	50
Multi-shareholder	81.82	75.83	26.32	61.7	45.16	55.1	53.13	43.65	34.29	67.24	46.05	50

Note: The LE column reflects the sample of less educated women (LE), and the E column the sample of educated women (E). The figures in the table show the percentage of respondents in each category

Source: UNIDO survey of women entrepreneurs

**Table 36** Percentage of educated and non-educated women in family-owned and newly founded businesses<sup>a</sup>

	Egypt		Jordan		Lebanon		Morocco		Palestine		Tunisia	
	LE	E	LE	E	LE	E	LE	E	LE	E	LE	E
Newly founded business	87.5	81.51	90.91	87.74	78.74	85.96	62.96	79.67	91.38	77.6	73.77	84
Family business	12.5	18.49	9.09	12.26	21.26	14.04	37.04	20.33	8.62	22.4	26.23	16

Note: The LE column reflects the sample of less educated women (LE), and the E column the sample of educated women (E). The figures in the table show the percentage of respondents in each category

Source: UNIDO survey of women entrepreneurs

<sup>a</sup>Idem



**Table 37** Experience in the business and level of education

	Egypt		Jordan		Lebanon		Morocco		Palestine		Tunisia	
	LE	E	LE	E	LE	E	LE	E	LE	E	LE	E
Time spent in the business	3.667	7.332	13.128	11.1	9.81	6.92	14.88	8.31	7.56	6.71	12.87	7.64

Note: The LE column reflects the sample of less educated women (LE), and the E column the sample of educated women (E). The figures in the table show the percentage of respondents in each category

Source: UNIDO survey of women entrepreneurs

**Table 38** Entrepreneurial dedication, according to level of education, ownership structure and status of premises

	Premises	Governance						Education			
		Alone		Multi-shareholder		No university degree		University degree			
		Single	Married	Single	Married	Single	Married	Single	Married		
Frequency	Outside the home	128	163	244	354	109	183	257	331		
Number of hours		<b>46.890</b>	<b>46.646</b>	<b>46.776</b>	<b>44.172</b>	<b>46.449</b>	<b>45.281</b>	<b>46.839</b>	<b>44.875</b>		
<i>Standard deviation</i>		<i>15.261</i>	<i>14.448</i>	<i>15.460</i>	<i>14.507</i>	<i>15.203</i>	<i>14.889</i>	<i>15.508</i>	<i>14.328</i>		
Salaried activity (percentage of respondents)		<b>0.354</b>	<b>0.426</b>	<b>0.474</b>	<b>0.444</b>	<b>0.128</b>	<b>0.098</b>	<b>0.436</b>	<b>0.438</b>		
Frequency	Home	59	69	62	61	38	61	83	68		
Number of hours		<b>39.649</b>	<b>38.043</b>	<b>40.364</b>	<b>35.536</b>	<b>42.162</b>	<b>38.051</b>	<b>38.933</b>	<b>35.846</b>		
<i>Standard deviation</i>		<i>12.951</i>	<i>15.840</i>	<i>15.571</i>	<i>13.905</i>	<i>14.169</i>	<i>14.504</i>	<i>14.244</i>	<i>15.577</i>		
Salaried activity (percentage of respondents)		<b>0.639</b>	<b>0.571</b>	<b>0.404</b>	<b>0.424</b>	<b>0.158</b>	<b>0.279</b>	<b>0.506</b>	<b>0.500</b>		

Note: The first four columns on the right pertain to the number of hours and percentage of women involved in another salaried activity, out of the total number of educated women

Source: UNIDO survey of women entrepreneurs

**Table 39** Entrepreneurial dedication, according to type of business financing and level of education

		Equity capital		Bank credit	
		No degree	University degree	No degree	University degree
Single	Frequency	96	227	35	87
	Number of hours	44.468	43.521	45.735	47.976
	<i>Standard deviation</i>	<i>15.107</i>	<i>15.678</i>	<i>14.931</i>	<i>15.330</i>
	Other salaried activity (percentage of respondents)	<b>0.146</b>	<b>0.463</b>	<b>0.171</b>	<b>0.379</b>
Married	Frequency	150	269	83	114
	Number of hours	43.414	41.327	43.313	47.409
	<i>Standard deviation</i>	<i>14.973</i>	<i>14.805</i>	<i>15.407</i>	<i>14.056</i>
	Other salaried activity (percentage of respondents)	<b>0.133</b>	<b>0.454</b>	<b>0.193</b>	<b>0.456</b>

Note: The percentage of women with another salaried activity is measured by the number of respondents over the total number observed in each category. Women who financed their business using both bank credit and equity capital are not counted in the bank credit category

Source: UNIDO survey of women entrepreneurs

supplementary activity alongside their entrepreneurial work. Among women with a university degree, 50% of those who work from home have an additional salaried activity, compared to only 43% of those working outside the home. This variation is also observed in less educated women entrepreneurs. Among less educated women, the entrepreneurs who are least engaged in their entrepreneurial activity are married women working at home (27.9% of them also have another salaried activity), probably because married women are more able to rely on their husbands' capacity to provide for family needs. As a result, they do not need to exercise additional salaried activities, except in cases where the activity is minor and run from the home.

In contrast, the most dedicated women are those who are married and who have premises specific to their entrepreneurial activity (only 9.8% of them have another salaried activity). Having premises specific to the business appears to be a sign of greater entrepreneurial commitment, regardless of marital status.

Finally, the source of a business' finance is a determinant of women's dedication (Table 39). Both less educated and educated women spend more time in their business when it was started using bank credit. Educated women spend an average of 42 h per week in their business in cases where it was started thanks to equity capital, compared to 47.5 h per week in cases where it was started using bank credit. This difference is not as evident in the sample of less educated women, who spend approximately 45 h per week in their business in cases where they have financed it using credit, in contrast to only 44 h per week in cases where the business has been financed using equity.

Overall, single women who have financed their company using bank credit work more for their business than do married women or those having financed their business using capital equity. They are also more likely to have a salaried activity

on the side, particularly in cases where they are less educated. We consequently emphasise the need to support entrepreneurship for less educated women, especially when their business is loan-financed, so that they can dedicate more time to their entrepreneurial activities.

## 5 Discussion

As a first step towards a better understanding of the characteristics of female entrepreneurs in 6 MENA countries and the main factors influencing their success, we studied 1210 different cases. Our findings show that women entrepreneurs in the sample tended to be young (age 40, on average), and for the most part university graduates. The vast majority founded their own businesses (between 65% and 83%), or took over their family businesses as leaders. The respondents' entrepreneurial motives were positive in the sense that they arose from identified business opportunities, from a yearning for personal achievement, independence or freedom, or from a recognition of their own qualifications and skills.

However, on average, the surveyed women entrepreneurs do not receive regular remuneration from their businesses, and often report having to turn to other sources of paid activity to supplement their income, especially when women have a university degree, which highlights their a low levels of dedication to their businesses.

The main obstacles to entrepreneurship cited by women entrepreneurs in the sample are, by order of importance, lack of finance, lack of experience, and lack of contacts. In some countries (Egypt, Jordan, Palestine), these obstacles are felt even more acutely. Obstacles to growth are connected, generally, with access to capital, recruitment, access to new markets and international markets and, in certain countries, to political conditions (Jordan, Lebanon, Palestine and Tunisia), the cost of public services (Jordan, Palestine, and Tunisia), or the lack of economic growth (Lebanon, Palestine and Tunisia). During the months leading up to the survey, the main sources of finance included self-financing, equity funds (savings, family, friends) and bank credit, with variations, to a certain extent, by country.

The short-term business objectives of the women entrepreneurs tend to focus on growth and expansion, albeit with differences between countries. Women entrepreneurs in Morocco, Tunisia and Palestine, for instance, list 1-year objectives that focus more strongly on recruitment, capital increase and market share abroad than those of respondents from the other three countries. Moreover, where recruitment is concerned, the women entrepreneurs questioned had a relatively strong preference for hiring women and qualified employees with professional skills. The factors driving the proportion of women employed in businesses are marital status and governance structure. When businesses are managed by multiple shareholders, the percentage of women employees is always higher when the business leaders are women. The positive discrimination towards women at the time of hiring, which emerges from the above observations, is probably more a result of the difficulties

women face managing male employees, as confirmed to a certain extent by the survey, rather than a reflection of solidarity between women.

The last objective of the study is to identify the determinants of business growth and success of women entrepreneurs. The results highlight two important determinants: education and experience in the business. Educated women entrepreneurs have greater growth aspirations in terms of hiring, capital increase and increase in export than do less educated women. Stated aims are higher on average when the woman is single, probably because single women are more inclined to take the risks inherent to growth compared to married women. Women with a university degree work more for their businesses than women without degrees.

Regarding business growth, we observe that on average, among married women, educated women grant themselves remuneration more often than less educated women, while among single women, those who are less educated grant themselves remuneration more regularly than do women with a university degree. There appears to be a connection between the involvement of women entrepreneurs in association networks and business performance, in terms of their ability to generate regular income for their leaders. Involvement in association networks can help businesses expand and also be a reflection of more pronounced entrepreneurial engagement on the part of these female entrepreneurs. The effect of the network is particularly significant for less educated women entrepreneurs without a university degree and the family network proves most decisive for them.

Paradoxically, whereas women entrepreneurs with university degrees are more involved in their entrepreneurial activities and perform better, one out of every two educated women also maintains another salaried activity, a characteristic that clearly sets them apart from their less educated counterparts. Home-based working women entrepreneurs in the sample are, overall, less engaged in their businesses, and continue to hold supplementary work on the side. The women most engaged in their businesses are those who are married and have their own premises to host their entrepreneurial activities. Single women who are less educated and are sole shareholders in their businesses also post very high levels of engagement, especially when they have financed their activity with bank credit.

Regarding the role of experience, we observe that the longer women have been entrepreneurs, the larger their businesses; however, that same level of experience in business is negatively correlated with the percentage of women employed in the business.

## ***5.1 Contributions to Policy Makers***

We make recommendations that suggest adjustments to the systems that incentivise, support and develop women's entrepreneurship in the MENA countries.

### 5.1.1 Promoting Women's Entrepreneurship and Facilitating Entrepreneurial Behaviour

Certain policy measures in the field of entrepreneurship can offer a more attractive and conducive institutional framework for women. One series of measures could consist, for instance, of communications (including poster campaigns) that give exposure to the role models who have inspired female entrepreneurs and show that starting a business has become an easy (or easier) undertaking for women. Promoting women's entrepreneurship and facilitating access to entrepreneurship for women also implies bringing about a change in the way women's roles are perceived (woman, mother, employee, entrepreneur, etc.) and providing them with the means to achieve balance in their personal/family/working lives. More specific communications measures (media, poster campaigns) could focus on these questions. The Nord-Pas-de-Calais Region, in France, for example, ran communications campaigns for years to promote entrepreneurship, starting a business and entrepreneurial behaviour in general.<sup>13</sup> In Quebec, in particular, television programmes feature successful women entrepreneurs and the businesses they created. Inspiration can be drawn from these practices to develop communications initiatives geared toward women's entrepreneurship and tailored to the context, in particular the cultural context, of MENA countries.

Adjustments to existing formal institutional frameworks for incentivising/supporting entrepreneurship should primarily focus on access to finance, access to new markets (public markets, major corporations, international markets), and recruitment facilitation (e.g., recruitment bonuses, reduced employer charges).

In addition, in order to enable women to have access to useful contacts, general information and specific information on entrepreneurship, the creation and development of women's entrepreneur networks should be encouraged and facilitated.<sup>14</sup> Drawing on the experience of other women and men entrepreneurs who have experienced the same situations and faced similar challenges and problems can be a way of countering the lack of experience women cite as a major barrier to entrepreneurship.

Promoting women's entrepreneurship is also a matter of education. Specifically-tailored educational programmes and initiatives could be designed and developed (potentially getting inspiration from what is being done in other countries, like Finland and Canada, specifically Quebec) in the MENA countries to target school-age girls (lower and upper secondary school), to raise their awareness of entrepreneurship and its social and economic importance. In the final year of secondary

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<sup>13</sup>The surrounding communications campaigns were not assessed in order to "measure" their direct effects, however. The question of programme, measure or policy assessment remains complex and should be made the focus of specific studies.

<sup>14</sup>The women entrepreneurs surveyed emphasise that one stumbling block on the way to entrepreneurship is the "lack of support services to businesses" (Table 31) and that major obstacles to starting a business include the "lack of information", "lack of contacts", and "lack of assistance" (Table 19).

school and in universities, programmes could place more focus on developing entrepreneurial skills, since the survey results showed that the respondents identified “lack of skill” and “lack of entrepreneurial experience” as major obstacles to starting a business. In light of this, MOOCs (Massive Open Online Courses) dedicated to female entrepreneurship could be offered specifically to women in the MENA countries, on topics such as taking advantage of, or identifying entrepreneurial opportunities for women. Education in general, and entrepreneurial training more specifically, are thus key factors for developing and improving the quality of female entrepreneurship in the MENA countries.

But developing teaching and training programmes is just a first step. Assessing the programmes’ effectiveness and real impact, measured in terms of changes in perception and intention, knowledge gained, and development of entrepreneurial behaviour, is just as important, in our view. Thus, we recommend that teaching and training programmes be developed together with the implementation of schemes and tools designed to measure their effectiveness in three areas: learning, transformation of learning into entrepreneurial behaviour, results of that behaviour at the organisational and societal levels.

In addition to the recommendations regarding quantitative development of teaching and training programmes in entrepreneurship, we would therefore insist on the need to develop and organise qualification programmes (for entrepreneurial content and teaching techniques) for teachers, educators and trainers.

All the different training activities should take into account the specificities of the target group of women. In fact, the concept of the educational model found in educational sciences highlights the need to take into account the characteristics, background and psychological profile of the target populations (in this case, school-girls or female university students), as a significant didactic dimension interacting with other dimensions: objectives, instructional methods, content and assessment.

Finally, we feel that public policies in favour of female entrepreneurship need to be targeted in accordance with identified needs and priorities. A distinction needs to be made, at the motivational level, between “push” and “pull” motivations. “Push” motivations are connected with unemployment, job loss, or even inadequate income, which drive individuals into necessity-based entrepreneurship. In such cases, support (in large part, psychological) and financing (micro-credit and VSB credit) are likely needed. “Pull” motivations are connected with opportunity-based entrepreneurship. Individuals with “pull” motivations are more likely to contribute to the creation of economic and social wealth. Promoting and facilitating female necessity-based entrepreneurship offers a response to the need for insertion and integration, while supporting opportunity-based female entrepreneurship aims at satisfying a need for job creation, economic growth, and export or technological development, amongst others.

Needs and priorities can also be shaped by the specific form of entrepreneurship: continuation of an existing family-owned business, social entrepreneurship or NGO creation, academic or other start-up, revitalisation of large SMEs and major corporations (organisational entrepreneurship).

Thus, we recommended designing or re-designing women-focused public policies that take into account this diverse range of targets and situations, and adapting aid, support and finance schemes accordingly.

### **5.1.2 Establishing the Conditions Needed for Long-term, Wealth-Creating Women's Entrepreneurship**

Motivating and supporting women to become entrepreneurs through cultural and economic mechanisms are necessary steps in countries with a relatively low women's entrepreneurship rate. These steps alone are not sufficient, however. Entrepreneurial behaviour, once facilitated, must concretely result in the creation of lasting jobs and the development of enterprises that generate economic growth and innovation. The following recommendations are designed with these goals in mind.

Making universities more entrepreneurial and turning them into "hotbeds of entrepreneurial culture" implies developing a range of courses and programmes in entrepreneurship aimed at honing entrepreneurial skills, creating incubators to support project owners, setting up (and/or ramping up) technology transfer and research promotion schemes through academic start-ups, providing start-up funds, and mushrooming public-private partnerships. As was previously mentioned, simply implementing these schemes is not enough. They must also be subjected to an assessment that clearly measures their effects.

The survey findings show that women entrepreneurs with university degrees create more jobs, are more engaged in their business, have higher growth targets and aspirations, and are more inclined to implement export strategies. This greater inclination toward export can be attributed to their superior proficiency in foreign languages and greater openness to other cultures. Looking at this issue from another angle raises the question of what kind of assistance should be provided to those women entrepreneurs who do not benefit from such training? One option could be to hold training sessions on the administrative and practical aspects of export and/or incentivise them to use the services of agencies or structures specialised in export assistance. Furthermore, training focused on foreign language proficiency, in particular English, and on commercial negotiations with counterparts from different cultures, could help foster the development of those skills most needed for export activities.

Facilitating access to university training could have counter-productive effects, which must be kept under control. Our findings show that women entrepreneurs who have graduated from a university are more likely to enter hybrid forms of entrepreneurship, combining an entrepreneurial position with a salaried job, as part of an opportunistic strategy aimed at maximising their revenue. One way of remedying these effects could be to connect entrepreneurial performance (job creation, innovation, export, sales revenue growth, material and immaterial investments in the business) with measures that lighten corporate tax on profits, professional taxes and social contributions and charges.



One of the survey's blind spots results from the fact that it does not take into account the impact of the entrepreneurial training that could be provided to female university students and women entrepreneurs. Yet research shows that such training plays a significant part in developing entrepreneurial skills and company performance. Universities could, further to their third core aim, actively contribute to developing entrepreneurship in general and women's entrepreneurship in particular. These training programmes should be run in conjunction with incubator structures, and should give priority to partnerships with associations and networks of professional players. They could be carried out through an experience-based learning paradigm and thus make it possible to tackle the lack of entrepreneurial experience and self-confidence that women consider as major barriers to female entrepreneurship.

Specifically-designed venues, which could be supplemented by co-working spaces for women, would help relieve the isolation too often felt by women entrepreneurs, especially those working from home. Some of these support structures could be specialised and dedicated to opportunity-based or innovative entrepreneurship, to list just two examples. A training and services offer could be rolled out for women entrepreneurs, helping them develop the entrepreneurial skills they lack and to assist/support them in their endeavours to innovate, hire employees and access new markets.

The benefits of such support mechanisms would in particular help secure greater dedication to (compared to home-based work), and satisfaction in, the entrepreneurial undertaking.

Admittedly, such structures already exist. Our recommendations pertain less to their quantitative development and much more to their qualitative development.

As mentioned before with respect to teaching and training, the effectiveness of these structures must be subjected to regular measurement and assessment. How are these structures supporting women entrepreneurs to improve the quality of their learning and to develop the skills needed, in light of their project development dynamics? How do they enable young businesses to survive, develop, grow and export?

Follow-up work with women entrepreneurs and projects participating in these structures could be better organised, drawing on examples such as the 'Entrepreneurs en France' network and its support mechanisms.

Just like teachers and instructors in universities, support providers need to be specifically trained, prepared for the wide range of situations they will encounter, and qualified to carry out training. Providing support to entrepreneurs and women entrepreneurs in particular is a complex activity, featuring a significant human component, which requires an ability to identify the needs of women entrepreneurs and to adapt to them by changing support attitudes. In certain cases, the psychological dimension of support (with women engaged in necessity-based entrepreneurship, or at the head of failing businesses, for instance) is crucial toward achieving results. Support for women entrepreneurs has become a topic in and of itself in the field of entrepreneurship and is starting to benefit from high quality literature.

We feel that pilot experiments in creating business centres (or incubators) dedicated to women could be initiated and analysed to determine the opportunity, following a specific assessment, of extending this type of initiative to other places.

The survey results reveal that industrial businesses are particularly low in number, despite the fact that the women entrepreneurs in the sample are driven more by an opportunity-based entrepreneurial rationale. Yet the survey findings also show, unsurprisingly, that job and economic wealth creation are greater in the manufacturing industries.

Initiatives to guide women toward starting a business in an industrial sector with high added value could be implemented at an early upstream level. For instance, appropriate actions (such as teaching technological entrepreneurship) can be targeted toward female university (or doctoral) students in engineering schools or technological universities.

Facilitating contact between women who wish to become entrepreneurs and organisations granting patents for inventions and/or “dormant” business plans, could enable women to identify opportunities to create technological or industrial enterprises.

The resulting ecosystems would bring together all stakeholders within a single region or territory (universities, laboratory researchers, finance players, established businesses, support players, public authorities, the media, etc.) and make it possible to create and expand businesses strongly anchored in professional and business networks. The survey findings show the extreme importance of networks, regardless of type (networks of women entrepreneurs, business leaders, corporate clubs, support groups, export assistance groups, etc.), in particular for women who do not have university training.

## 6 Conclusion

Without forgetting the biases underscored throughout this chapter, this survey’s results reveal a number of points on the basis of which general recommendations can be issued, for the MENA countries and, more specifically, for each of the six countries studied.

First, countries should develop and assess the effectiveness of teaching entrepreneurship in schools and universities. Countries should design and implement women-specific programmes at all levels of the educational system, in particular drawing on new technologies (e.g. MOOCs). They also need to develop training and qualification programmes on entrepreneurship for teachers, with the aim of achieving multiple targets: raising awareness, skills acquisition, and the development of new types of behaviour, as well as developing tools and programmes to measure the impact of this teaching.

Public policies should be targeted according to different situations (setting up a business, taking over a business, taking over a family business, growth vs. necessity entrepreneurship, social entrepreneurship, organisational entrepreneurship, rural

entrepreneurship, etc.) and profiles (youths/seniors, educated/less educated, scientific, engineers and researchers, job-seekers, disadvantaged populations, etc.).

In the same vein, public policies should foster access to entrepreneurial “know-how” for women whilst at the same time making universities more “entrepreneurial”. Developing public-private partnerships focused on entrepreneurship would be a useful step in this direction. Policies could also focus on designing and setting up university training programmes focused on the main needs of women entrepreneurs, where prioritizing experience-based learning would allow them to develop their entrepreneurial skills. Policies could also steer women’s entrepreneurship towards industrial sectors and sectors with high added-value. Governments should concentrate on female doctoral candidates and female students at engineering schools and technological universities, offering them learning programmes specifically focused on technological and industrial research. They should also target female laboratory researchers, organise research promotion initiatives building upon entrepreneurial activities, and connect women who wish to become entrepreneurs but who have not yet identified opportunities with invention patent banks, research laboratories and projects that are “dormant” in companies. Finally, governments should build or reinforce entrepreneurial ecosystems at the local level. These ecosystems could involve all local stakeholders and draw upon the strengths, resources and characteristics of urban or rural territories in a significant and meaningful way.

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# The Impact of Age and Entrepreneurial Age-Based Self-Image on Entrepreneurial Competencies of Male and Female: Evidence of GEM-Iran 2016 Data



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**Abstract** Entrepreneurship is not an easy field to act. Therefore, entrepreneurs have entrepreneurial competencies (such as entrepreneurial self-efficacy, perceived entrepreneurial opportunity, no fear of failure and role model) distinguishing them from other people. Of course, the more they get older, the less competencies they have.

The aim of this paper is to study the impact of age and entrepreneurial age-based self-image on entrepreneurial competencies of males and females based on the Global Entrepreneurship Monitor (GEM) 2016 data. The total number of respondents were 3259 (52% males) and (48% females), mainly in the age range of 25–34 and 18–24 respectively. In addition, a majority of respondents had post-secondary education.

The study results show that females' age has more impact on their entrepreneurial competencies (0.071) than that of males (0.050). Females' entrepreneurial age-based self-image has more effect on their entrepreneurial competencies (0.171) than those of males (0.127) as well. Moreover, the research findings indicate that entrepreneurial age-based self-image has a moderating effect on the relationship between age and entrepreneurial competencies of men and women. Furthermore, this study suggests that people who perceive they have entrepreneurial competencies, should reinforce their entrepreneurial age-based self-image.

**Keywords** Age · Entrepreneurial age-based self-image · Entrepreneurial competencies · Male and female

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## 1 Introduction

Age as a determinant of entrepreneurial activities, is related to psychological, financial, social and human capitals for launching new business activities (Johansson 2000; Müller and Arum 2004; Stefanović and Stošić 2012). However, entrepreneurs' age as an important variable has been neglected in entrepreneurship research (Zhao et al. 2015). For instance, age has relatively attracted little attention to have a potential influence on entrepreneurial intention (Sahut et al. 2015). However early literature reviews and research have greatly emphasized the potential importance of entrepreneurs' age for understanding entrepreneurial motivation and behavior (Reynolds et al. 1999). In addition, the ageing population in most Western countries and some developing countries is assumed to have significant effects on entrepreneurial activities over the next decades (Gielnik et al. 2017). For example, Iran as the 18th largest country in the world has a population of over 70 million.<sup>1</sup> It is a country of particular geostrategic significance owing to its location in the Middle East and Central Eurasia and North Africa. The country is home to one of the world's oldest continuous major civilizations. In the beginning of 2017, Iran had the following population age distribution (Table 1).

As shown in Table 1, majority of Iran's population is between 25 and 54 years old (48%) and between 0 and 14 years old (24%). Currently, Iran population pyramid is a stationary type. Countries with this type of population pyramid usually have declining birth rate and relatively low death rate, which is more common for developed countries. Regarding population age distribution, there are three dependency ratios: (1) Child dependency ratio, (2) Aged dependency ratio, and (3) total dependency ratio. Child dependency ratio is a ratio of people below working age (under 15) of a country's workforce. Child dependency ratio in Iran is 33.1%. Aged dependency ratio is a ratio of people above working age (above 65) of a workforce of a country which is 7.1% in Iran. Finally, total dependency ratio is a measure showing the number of dependents, aged below 14 and above 65, from the total population of 15–64 years old. The total dependency ratio is an age-population ratio of those

**Table 1** Iran population age distribution

Age	Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent
≤14	10,037,814	0.24	9,546,710	0.23	19,584,524	0.24
15–24	7,041,801	0.17	6,675,656	0.16	13,717,457	0.17
25–54	20,085,331	0.48	19,319,933	0.47	39,405,264	0.48
55–64	2,770,618	0.07	2,855,362	0.07	5,625,980	0.07
≥65	2,052,541	0.05	2,415,867	0.06	4,468,408	0.05
Median age	29.1		29.7		29.4	

[http://www.indexmundi.com/iran/demographics\\_profile.html](http://www.indexmundi.com/iran/demographics_profile.html)

<sup>1</sup><http://countrymeters.info/en/Iran>

**Table 2** Dependency ratios in Iran

Dependency ratios	Definition	Measure in Iran (%)
Child dependency ratio	Is defined as the number of children (0–14 years old) related to the working-age population (15–64 years old)	33.1
Aged (elderly) dependency ratio	Is defined as a ratio of people above working age (65+) to workforce of a country	7.1
Total dependency ratio	Is a measure showing the number of dependents, aged 0–14 and over 65, related to the total population, aged between 15 and 64	40.2

typically not included in the labor force (the dependent part age ranges are below 14 and over 65) and those typically in the labor force (the productive part aged 15–64). Total dependency ratio in Iran is 40.2% (Table 2).<sup>2</sup>

Although the working-age is between 15 and 64 but the survey in the Global Entrepreneurship Monitor (GEM), is conducted for the 18–64 age ranges. The total early-stage activities (TEA) of entrepreneurs tend to be relatively low in the 18–24 years cohort, which peaks among 25–34 year olds. As age goes up, the TEA percentage decreases and its sharpest decline is seen after the age of 54. The higher prevalence of entrepreneurial activity between the ages of 25 and 44 could be attributed to the fact that these individuals have had time to develop their skills and knowledge through education as well as through work experience and building their confidence in their own abilities. In fact, the question that arises in Iran is this: Does people's age have any impact on the entrepreneurial competencies of male and female individuals? In order to provide an answer to this research question, we will review the age and entrepreneurship literature in the following section. Finally, the research hypotheses will be introduced and tested.

## 2 Literature Review and Research Hypotheses

### 2.1 Age and Entrepreneurship

People's age can affect different aspects of their lives. That's why people achieve the best of their lives in their younger ages, including entrepreneurial activities. Therefore, the age distribution of a population affects the people attitude toward entrepreneurship. According to Kautonen et al. (2015) the age structure of the population can have both a direct and indirect effect on the level of entrepreneurial activities. The direct effect implies that individuals in a certain age are more likely to launch a new business. For example, the number of nascent entrepreneurs in the Netherlands is most frequent among the age group between 25 and 34. A declining age of the

<sup>2</sup>[http://www.indexmundi.com/iran/demographics\\_profile.html](http://www.indexmundi.com/iran/demographics_profile.html)

population has a negative effect on the level of self-employment, whereas Reynolds et al. (1999) report that those who initiate start-ups are most likely to be between 25 and 44 years old. So, do countries with more individuals in this age range have more start-ups? The answer is “yes.” The correlation of 0.74 for men of 35–44 years old (which is statistically significant), proves that the presence of early career individuals in the population is an important determinant for the level of business start-ups. Countries with a low proportion of early career men, such as Japan, may need to adjust efforts to encourage start-ups from other age groups (Reynolds et al. 1999).

However, people always talk about successful entrepreneurs such as Bill Gates, Steve Jobs, Mark Zuckerberg, but they do not know at what age these entrepreneurs really launched their new ventures. Some of the most successful entrepreneurs in business explore the ages at which they hit various landmarks, such as starting their own business and earning their first million dollars. The most successful entrepreneurs come from very humble backgrounds and anyone at any age can overcome their circumstances and achieve great success. Ages were as follows, from youngest to oldest. According to Table 3: Mark Zuckerberg was just 20 years old when he launched Facebook and 23 when he made his first million dollars and stole the crown

**Table 3** The pivotal ages of the world’s most successful entrepreneurs

Successful entrepreneurs	Started working with their industry	Founder/Co-founder	Age which became a		Net worth \$ Billion
			Millionaire	Billionaire	
Mark Zuckerberg	20	Facebook	22	23	44.6
William Henry Gates	20	Microsoft	23	31	75
Steven Paul Jobs	21	Apple	23	40	10.2
Alan Sugar	21	Amstrad company	24	68	1.8
Carlos Slim	21	Stock Brokerage Inversora Bursatil	25	51	50
Sir Richard Charles Nicholas Branson	22	Virgin Group	23	41	4.9
Evan Thomas Spiegel	22	Mobile app	23	25	2.1
Elon Musk	24	Zip2	27	41	10.7
Larry Page	25	Google	25	30	35.2
Sara Blakely	27	Spanx	29	41	1
Jeff Bezos	30	Cadabra	33	35	45.2
Larry Ellison	33	Relational Software Inc.	24	49	43.6
Mark Cuban	37	Audionet Inc.	32	40	3.2

<https://www.entrepreneur.com/article/281169>



of the ‘youngest self-made billionaire’ from Bill Gates who had been 31 at the time of hitting this landmark (Leadem 2016).

Significantly, the age structure influences indirectly the level of entrepreneurial activities through different contingency factors, such as psychological and social characteristics of the entrepreneur, financial resources and personal/social networks. These factors all depend on the age of the entrepreneur (Kautonen et al. 2015).

Generally, there are two views in relation to age of entrepreneurs:

1. The first view: Entrepreneurship is young people’s game. This is a notion that has been held by many for years. We have all heard the stories about the 20-something year-old technology geniuses who built multi-million dollar corporations from their garages before they turned 30. Sergey Brin and Larry Page were each about 25 years old when they launched [Google](#). Mark Zuckerberg was 20 when he gave us [Facebook](#) and Sean Parker was in his 20s when he first launched “[Napster](#)” (Spiropoulos 2014). In fact, many researches have tried to correlate an entrepreneur’s age when they launched their startup, with the ultimate success of that startup (Zhao et al. 2015; Deeb 2015). According to a recent, [Forbes](#) article, “Without having been in the workplace, the young entrepreneur has a fresh perspective untainted from the way-it-is-supposed-to-be mindset that is so prevalent in most boardrooms. Consequently, their solutions are new, innovative, and groundbreaking” (Spiropoulos 2014). Therefore, the young age is a pivotal age for entrepreneurial activities.
2. The second view: Entrepreneurship is not just young people’s game. Research results show while there is a perception that entrepreneurship is a young person’s game, the reality is rather different. When he founded IBM, Charles Flint was 61 years of age, an age many consider close to retirement (Murray 2017). Johnson (2013) and Deeb (2015) also found “The average age of a successful entrepreneur in high-growth industries such as computers, health care, and aerospace is 40”. [Wadhwa](#) who studied 549 successful technology ventures showed that twice as many successful entrepreneurs are over 50 years old as under 25 years of age. The vast majority (75%) of them had more than 6 years of industry experience and half had more than 10 years when they launched their startup (Murray 2017). A survey conducted by the [Kaufmann Foundation](#) showed “nominal shifts in age composition of the sample between 2012 and 2013, with slightly fewer entrepreneurs aged 18–29 and 50–59, and slightly more aged 30–39 and 60-plus.” In fact, entrepreneurs aged between 50 and 59 started 20% of all new businesses. About 15% of the new businesses were started by people aged 60 and above. In his book *The Illusions of Entrepreneurship*, Scott Shane says, “Most studies show that people aged between 25 and 34 are either less likely or no more likely than people between the ages of 35 and 44 to start a business” (Spiropoulos 2014). In addition, worldwide data shows that people are at their most entrepreneurial flair between 50 and 64. They are better educated and in better health than previous generations. They want to live independently, continue to contribute to their communities and enjoy their future life. Another interesting dimension is that people at a certain stage in life tend to get more

focused on purposeful life and on what they can give back, so social entrepreneurship can become an attractive option (Murray 2017). This implies that age is less of a driver to entrepreneurial success than previous startup and industry experience (Deeb 2015). For example, Deeb as an entrepreneur, says:

I have been an entrepreneur most of my life. I founded five companies over the years: (i) an odd job business at the age of 18; (ii) a collectible comic books business at the age of 20; (iii) an adventure travel website at the age of 29; (iv) a growth consulting firm at the age of 41; and (v) a startup excubator at the age of 44.

According to the second view, the people from 23 to 52 years of age during which they have made their pivotal achievements is expansive. From humble beginning to pure luck, the world's wealthiest and most successful people remind us that determination, courage and perseverance can drive anyone—at any age—to achieve great success (Leadem 2016).

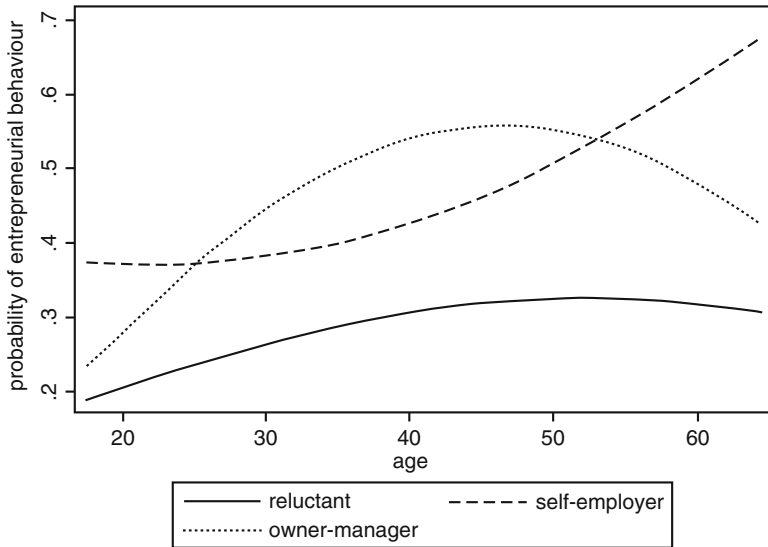
Previous research on age and entrepreneurship assumed homogeneity and downplayed age-related differences in the motives and aims underlying entrepreneurial behavior. Kautonen et al. (2014) have studied three groups: (1) Owner-managers, (2) Self-employers and (3) Reluctant or necessity-based entrepreneurs. Owner-managers are individuals whose enterprising ambitions extend beyond employing themselves, to owning and running a business and hiring others. However, since owning and managing a business requires a significant time commitment, the acceptance of deferred gratifications, and higher risks, the discount rate owner-managers apply to entrepreneurial income increases over time.

While self-employers are individuals for whom self-employment is a desired employment status, they seek to employ themselves instead of investing in the business and hiring employees. Compared to owner-managers, these individuals are less likely to pursue growth-oriented strategies, and more likely to seek non-pecuniary benefits, such as flexibility and autonomy.

Reluctant entrepreneurs are individuals pushed into self-employment by the lack of waged employment options. They tend to choose low-risk forms of self-employment. Since the value that reluctant entrepreneurs attach to independence is considerably lower than the value attached to it by self-employers and owner managers, the general entrepreneurial propensity of reluctant entrepreneurs should be lower, resulting in a downward shift of the age curve compared to other groups.

Study results of Kautonen et al. (2014) showed that entrepreneurial activity increases almost linearly with age for individuals who prefer to only employ themselves whereas it increases up to a critical threshold age (late 40s) and decreases thereafter for those who aspire to hire workers (owner-managers). Age has a considerably smaller effect on entrepreneurial behavior for those who do not prefer self-employment but are pushed into it by lack of alternative employment opportunities.

In fact, based on this typology, they propose and empirically demonstrate that the inverse U-shaped age effect applies only to owner-managers, while the effect of ageing is different for those who aspire to become own-account workers but who do not anticipate hiring employees (self-employers) and those who are pushed towards



**Fig. 1** Relationship between age and entrepreneurial behavior

self-employment even if they prefer salaried employment (reluctant entrepreneurs) (Fig. 1).

In this paper, we would like to correlate age and entrepreneurial competencies. Entrepreneurial competencies have been identified as a specific set of competencies relevant to launch and run of successful entrepreneurial activities. Bird (1995) defined entrepreneurial competencies as abilities such as specific knowledge, motives, traits, self-images, social roles and skills which result in venture birth, its survival and/or growth. Baum et al. (2001) identified the following entrepreneurship competencies: knowledge, cognitive ability, self-management, administration, human resource, decision-making skills, leadership, opportunity recognition, opportunity development, and organizational skills. Man et al. (2002), in their process/behavioral approach based on a review of previous empirical studies, identified six competency areas under entrepreneurial competencies. These were: (1) opportunity, (2) relationships; (3) conceptual; (4) organizing; (5) strategic; and (6) commitment competencies (Mitchelmore and Rowley 2013).

Recent reviews of the literature have acknowledged that many gaps exist in the knowledge regarding female entrepreneurs and their businesses. Relevant to this research, there is a distinct gap in understanding the impact of age on entrepreneurial competencies in females and males. Life-balance issues show no statistically significant gender differences in the living standards of these successful men and women. Their average ages when founding their first companies were early 40s (Cphoon et al. 2010). These observations suggest that successful entrepreneurs of both genders tend to have similar living conditions.

Further, research shows that a majority of older entrepreneurs are male, although the number of older female entrepreneurs is increasing. They are also less likely to

possess formal educational qualifications than younger entrepreneurs are. Some of the advantages that such entrepreneurs possess include greater levels of technical, industrial and managerial experiences, superior personal networks, and a stronger financial asset base. Some of the disadvantages or potential barriers faced by older entrepreneurs can include lower levels of health, energy and productivity; ageism, and the value that his or her society places on active (“productive”) ageing (Weber and Schaper 2004).

Moreover, Rotefoss and Kolvereid (2005) found that entrepreneurial intentions decrease with age while entrepreneurial competencies increase. Self-employment and small-business ownership already exist amongst older people. Curran and Blackburn (2001) also showed that while entrepreneurial competencies increase with age, entrepreneurial intentions seem to drop off more rapidly for women than men.

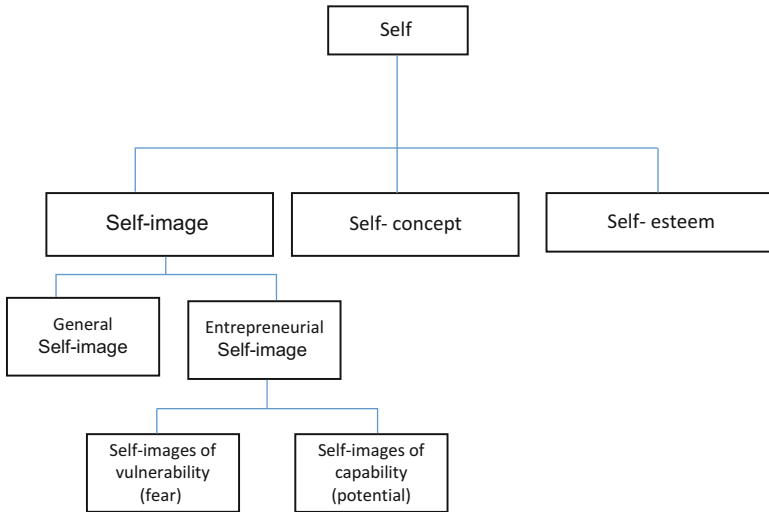
Notably, it seems that women are more sensitive to old age in their lives compared to men. This situation could be caused by life expectancy. Life expectancy is a component of the UN’s Human Development Index (HDI) together with years of schooling and income per capita (UNDP 2016). Life expectancy contains the average number of years to be lived by a group of people born in the same year. Life expectancy is also a measure of overall quality of life in a country. In all developed countries and most undeveloped ones, women outlive men. According to Human Development Index of 2016, life expectancy in Iran is 75.6. The general increase in life expectancy means that older people have many healthy and productive years ahead. In 2014, 11% of entrepreneurs in the United States were in the 55–64 age group (UNDP 2016). Many older people are still capable and willing to work, and many need to continue working if adequate retirement schemes are not in place. In 2015, life expectancy in Iran was 76.7 and 74.5 for females and males respectively (UNDP 2016). However, to have a higher female’s life expectancy means that older women have many healthy and productive years ahead compared to men. Furthermore, age’s positive effect on success is more among female entrepreneurs (Zhao et al. 2015). Therefore, we formulate the first hypothesis (H1) as follows:

**H1:** Age has more positive effect on females’ entrepreneurial competencies than those of males.

Of course, individuals have self-image from their age that is different from chronological age which leads to the second hypothesis which is going to be discussed later.

## ***2.2 Age-Based Self-Image and Entrepreneurship***

Self-image, self-concept and self-esteem are some of the constructs used to attribute to an individual’s various personal traits. Self-image is how individuals see themselves. Image is about how people see themselves and how a person believes others



**Fig. 2** Categorizing self

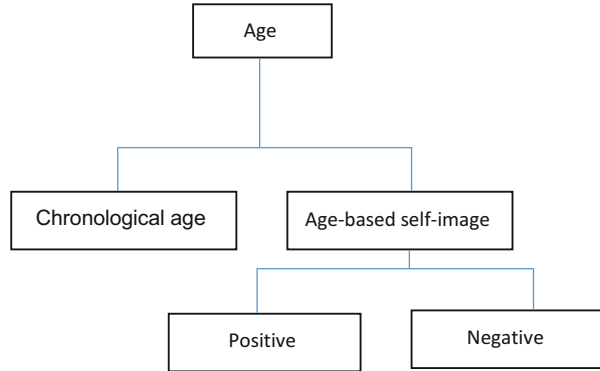
see him/her whereas a person’s self-concept is his knowledge about himself/herself (Fig. 2).

In self-concept, the question is: ‘Who am I? That how a person can know other people, and know facts about how they tend to think, and what they enjoy doing, and what their temperament is like; a person can also know these things about himself/herself.

In entrepreneurial context, often, the self is not taken into consideration when explaining entrepreneurial activity. Therefore, entrepreneurs’ rationale of entrepreneurial finance of opportunities is likely to focus more on their images of opportunities and less on their images of self, while we should pay attention to images of opportunity and images of self. Self-images denote “the total set of beliefs about and attitudes toward the self as an object of reflection” (Morgan and Schwalbe 1990). These beliefs can be positive or negative, actual or ideal, in the present or in the past and/or future (Markus and Wurf 1987, p. 302). In essence, these beliefs are prototypes of the self.

Prior entrepreneurship research suggests that these ‘prototypes of the self’ (Mitchell and Shepherd 2010, p. 142) are key drivers of entrepreneurial behavior (McMullen and Shepherd 2006; Wood et al. 2014). Whereas Farmer et al. (2011) found strong links between the belief towards the self as an entrepreneur and start-up behavior, Mitchell and Shepherd (2010) showed that different images of the self, namely images of vulnerability and images of capability, affect the intention to act on an entrepreneurial opportunity (Fig. 3).

The present study follows Mitchell and Shepherd (2010) by focusing on one element of the self that is based on an individual’s potential to perform a particular behavior. Specifically, Kautonen et al. (2015) introduce age-based self-image as an alternative conceptualization of age to complement the chronological age as a

**Fig. 3** Categorizing age

determinant of entrepreneurial behavior. Kautonen et al. (2015) propose that an individual's age-based self-image accorded to entrepreneurship moderates the entrepreneurial intention–behavior relationship. Following Kautonen et al. (2015) in the present paper, we define the concept of age-based self-image as the individual's image of their entrepreneurial potential in terms of their age.

Age as a research variable has been faced with a fundamental challenge in the study of human science. Chronological age is the basic dimension along which behaviors are described and investigated, and thus theorists have made a case that our understanding of development would be enhanced by exploring alternative age-related constructs tied more closely to intrinsic developmental and ageing processes. However, the reality is that some people feel young after 50 even 60 years of age and vice versa. Some other people feel that they are very old while they are still very young. Therefore, perception of our age will be different from real chronological age and it depends on our mindset which is fully subjective. Subjective age, or how young or old individuals perceive themselves to be, has been identified as one such construct. Subjective age was introduced in the 1950s by investigators interested in understanding adults' attitudes toward ageing. Subjective age was a complex personal construct that reflected different "ages of me", or how old individuals perceived themselves to feel, look, act and desire to be. Subsequent research suggested that individuals' subjective ages manifested systematic and distinct patterns across the lifespan (Montepare 2009).

Mitchell and Shepherd (2010) found that self-image had a significant impact on the types of opportunities an entrepreneur chose to pursue. According to GEM, the entrepreneurs who can perceive opportunities in their environment, have the capabilities to start new businesses and get undeterred by fear of failure (Daniels and Kew 2016). Fear of failure is defined as a percentage of the population between 18 and 64 years of age who indicate that fear of failure would prevent them from setting up a business. Fear of failure as a psychological factor is an important barrier to pursuing entrepreneurial opportunities. Mitchell and Shepherd (2010) revealed that people who had a higher fear of failure placed a greater emphasis on the desirability or potential value of an opportunity than those with less fear of failure. For them, only

when the value of an opportunity was high did the benefits of pursuing the opportunity seem to outweigh the risk of failure. Further, according to the results of GEM 2016 program, women are more risk averse than men in terms of entrepreneurial behavior. In the GEM sample as a whole, 41% of women who perceive opportunities would prevent starting a business due to fear of failure, compared to 34% of men. In the present study, no fear of failure is considered as a component of entrepreneurial competencies. Therefore, we formulate the second hypothesis (H2) as follows:

**H2:** Age-based self-image has effects on male entrepreneurial competencies more than those of females.

### 3 Research Methodology

In this paper, we have used multi-regression techniques in order to analyze our research hypotheses. The goal of this research is to investigate the impact of age and age-based self-image on entrepreneurial competencies of males and females based on Global Entrepreneurship Monitor (GEM) 2016 data. The data was gathered through Adult Survey Population (APS) questionnaires by face-to-face interviews from Iran's urban regions.

We have used a multi regression model to test whether age and age-based self-image accorded to entrepreneurship moderates the age-entrepreneurial competencies relationship. The equation summarizes the regression model:

$$\text{Entrepreneurial competencies} = \alpha + \beta_1 \text{ age} + \beta_2 \text{ age-based self-image} + \beta_3 (\text{age} * \text{age-based image}) + \beta_c \text{ education} + \beta_d \text{ entrepreneurial experiences} + \varepsilon$$

In this study, we regressed entrepreneurial competencies based on the GEM 2016 data on the age, age-based entrepreneurial self-image, their interaction, and education and entrepreneurial experiences as the control variables. The residual error is denoted by  $\varepsilon$ ,  $\alpha$  stands for the intercept and  $\beta_i$  is the regression coefficients.

As Table 4 shows, age is an independent variable measuring the participants' chronological age from 18 to 64 years old. Additionally entrepreneurial age-based self-image means how a person perceives and assesses his or her age in terms of entrepreneurship: whether his or her age is a hindrance to start a new business or not, to be at the best age right now to take steps to start a business in the next 12 months while taking steps to start a business in the next 12 months; or, whether a person's age would provide him or her with a significant advantage. And finally, most people think that his or her age can very well take steps to start a business in the next 12 months (Kautonen et al. 2015).

**Table 4** Variables and operational definitions and scale

Variable	Operational definitions	Scale
Age	Chronological age of the respondents in years	Numeric scale from 18 to 64 in terms of year
Age-based entrepreneurial self-image	Age-based self-image ('how do I perceive my age in terms of entrepreneurship?') If I wanted to take steps to start a business in the next 12 months, my age would not be a hindrance for me In my opinion I am at the best age right now to take steps to start a business in the next 12 months If I took steps to start a business in the next 12 months, my age would provide me with a significant advantage Most people important to me think that a person of my age can very well take steps to start a business in the next 12 months	Very low to very high
Entrepreneurial competencies	Sum of "role model", "perceived capability, perceived opportunity" and "no fear failure" which were perceived by individuals	In a nominal scale Yes = 1 and No = 0) which has been converted to the numerical scale
Education	Education is measured in terms of attainment levels	From "some secondary", "secondary degree", "post secondary", and "graduate experience"

## 4 Results

According to Table 5, the total respondents were 3259 that included 1679 (52%) males and 3259 (48%) females. The majority of the participants had post-secondary education as well.

Further as Table 6 shows mainly men and women respondents were in the age range of 25–34 and 18–24 respectively. Therefore, the majority of the respondents were young and had more age readiness to launch new businesses.

Assuredly, launching a new venture needs entrepreneurial competencies too. Entrepreneurial competencies as a dependent variable in the current study included role model, perceived opportunity, perceived capability and lack of fear of failure. GEM research has shown that women are generally less likely to know an entrepreneur, compared to men. In this way, from the beginning, women had fewer role models (which could affect their willingness to engage in entrepreneurial activities) as well as mentorship opportunities and professional connections, which could affect the sustainability of their businesses in the long run (GEM Global report 2016/17).

As it is shown in Table 7, 55.5% of male participants and 45.5% of female participants have an entrepreneur role model who has started his/her business during the last 12 months.



**Table 5** Cross-tabulation of gender and educational attainment

Gender		Educational attainment					Total
		None	Some secondary	Secondary degree	Post secondary	Graduate experience	
Male	Count	141	136	589	642	171	1679
	%	8.4	8.1	35.1	38.2	10.2	100.0
Female	Count	178	128	509	616	149	1580
	%	11.3	8.1	32.2	39.0	9.4	100.0
Total	Count	319	264	1098	1258	320	3259
	%	9.8	8.1	33.7	38.6	9.8	100.0

**Table 6** Cross tabulation of Gender and age range

Gender		Age range					Total
		18–24	25–34	35–44	45–54	55–64	
Male	Count	471	504	351	237	138	1701
	%	27.7	29.6	20.6	13.9	8.1	100.0
Female	Count	454	465	325	233	117	1594
	%	28.5	29.2	20.4	14.6	7.3	100.0
Total	Count	925	969	676	470	255	3295
	%	28.1	29.4	20.5	14.3	7.7	100.0

In addition, the perceived entrepreneurial capability by females (50.1%) is lower than males (67.9%). While, the degree of perceived opportunity by males and females is almost the same (approximately 34%). However, the important point is that risk-taking (no fear of failure) regarded as an entrepreneurial competency of females (50.6%) is more than that of males (41.7%). It means Iranian women are so risk takers than men.

In the current study, we have aggregated four competencies of role model, perceived opportunity, perceived capability and risk taking and then transferred them into a single variable named “entrepreneurial competencies”. Those four competencies have been measured in a nominal scale (Yes = 1 and No = 0) and we have converted them to the numerical scale (0–4) by simple accumulation of the above four competencies.

Generally, as Table 8 shows 8.2% of male and 15.1% of female respondents have had none of the four entrepreneurial competencies (role model, perceived opportunity, perceived capability and risk taking). While 11.1% of males and just 8.9% of females have had fully four entrepreneurial competencies. As it stands, the mean of male entrepreneurial competencies (2.094) is more than that of female (1.69).

Although, the legal age (18 plus) is a necessity to become an entrepreneur, what is more important for “people’s self-image” is their age to create a new business. As Table 9 shows 58.5% of males and 56.9% of females believed that if they wanted to

**Table 7** Entrepreneurial competencies of males and females

Gender	Role model		Perceived opportunity		Perceived capability		No fear failure (risk taking)	
	No	Yes	No	Yes	No	Yes	No	Yes
Male	752 (44.5%)	937 (55.5%)	1046 (65.2%)	559 (34.8%)	543 (32.1%)	1146 (67.9%)	963 (56.6%)	709 (41.7%)
Female	864 (54.5%)	722 (45.5%)	965 (66.1%)	495 (33.9%)	784 (49.9%)	788 (50.1%)	750 (47.1%)	806 (50.6%)
Total	1616 (49.3%)	1659 (50.7%)	2011 (65.6%)	1054 (34.4%)	1327 (40.7%)	1934 (59.3%)	1713 (52.0%)	1515 (46.0%)

**Table 8** Gender and entrepreneurial competencies cross tabulation

Gender	Scale							Total	Mean
	Refuse	Don't know	None	Low	Moderate	High	Full		
Male	8 (0.5%)	5 (0.3%)	139 (8.2%)	356 (20.9%)	540 (31.7%)	465 (27.3%)	188 (11.1%)	1701 (100.0%)	2.094
Female	6 (0.4%)	14 (0.9%)	240 (15.1%)	454 (28.5%)	465 (29.2%)	310 (19.4%)	105 (6.6%)	1594 (100.0%)	1.69
Total	14 (0.4%)	19 (0.6%)	379 (11.5%)	810 (24.6%)	1005 (30.5%)	775 (23.5%)	293 (8.9%)	3295 (100.0%)	

**Table 9** Entrepreneurial age- based self-image of males and females

Gender	If I wanted to take steps to start a business in the next 12 months, my age would not be a hindrance for me		In my opinion I am at the best age right now to take steps to start a business in the next 12 months		If I took steps to start a business in the next 12 months, my age would accord me a significant advantage		The people who are important to me think that a person of my age will be able to start a business in the next 12 months		Mean of entrepreneurial age-based self-image
	No	Yes	No	Yes	No	Yes	No	Yes	
Male	696 (41.5%)	980 (58.5%)	533 (32.0%)	1131 (68.0%)	633 (38.5%)	1013 (61.5%)	442 (27.7%)	1151 (72.3%)	2.53
Female	669 (43.1%)	882 (56.9%)	614 (40.1%)	919 (59.9%)	663 (43.9%)	846 (56.1%)	576 (40.0%)	865 (60.0%)	2.32
Total	1365 (42.3%)	1862 (57.7%)	1147 (35.9%)	2050 (64.1%)	1296 (41.1%)	1859 (58.9%)	1018 (33.6%)	2016 (66.4%)	2.39

take steps to start a business in the following 12 months, their age would not be a hindrance for them. Further, in their opinion, they (68.0% of males and 59.9% of females) are at the best age right now to take steps to start a business in the next 12 months.

Moreover, respondents believed that if they (61.5% of males and 56.1% of females) could take steps to start a business in the next 12 months, their age would provide them with a significant advantage and for many of the them it was important to think that their age could help them take steps to start a business in the following 12 months.

We have used multi regression techniques in order to investigate the relationship between age and entrepreneurial age-based self-image and male and female entrepreneurial competencies.

Table 10 depicts regression coefficients in 4 models. As Table 10 indicates, in model 1, we have just included education and entrepreneurial experiences as control variables. In the second stage (in model 2), we have included control variables along with respondents' age to the regression equation. According to the model 2, unlike males, age does not have any effect on females' entrepreneurial competencies.

In the third stage, we have included variables of age and entrepreneurial age-based self-image into the third regression model, as both variables coefficients are significant.

Finally, in model 4, in order to consider "entrepreneurial age-based self-image" as the moderating variable, we have multiplied and entered logarithm of "entrepreneurial age-based self-image" by "age" logarithm. According to model 4, "entrepreneurial age-based self-image" does not have an effect on entrepreneurial competencies of females and males and their R-squared coefficients of determination have been decreased for both males, (0.069) and females (0.081) compared to model 3. In fact, in model 4, findings indicate that the interaction between age and entrepreneurial age-based self-image is not acting as a moderating variable between the relationship of age and entrepreneurial competencies of men and women age. Accordingly, "R-squared" as the coefficient of determination, is used as a guideline to measure the accuracy of the regression model. "R-squared" has not been improved in model 4 compared to model 3.

Therefore, the best regression model is model 3 (with highest R-squared 0.086 and 0.104 for men and women respectively). Model 3 shows that age has a significant impact on female (0.071) entrepreneurial competencies more than those of males (0.051). In addition, entrepreneurial age-based self-image has more effect on female entrepreneurial competencies (0.161) than those of males (0.127).

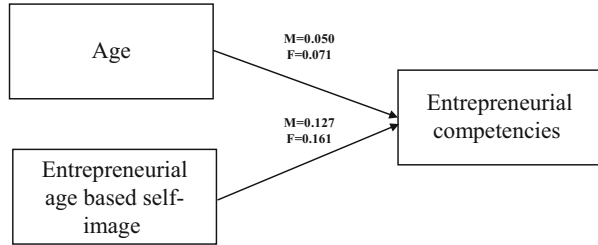
## 5 Discussion and Conclusion

The goal of the current study is to investigate the impact of age and age-based self-image on entrepreneurial competencies. A person can launch a new business when he or she has reached the legal age (18 plus). Often it is said that entrepreneurship is a

**Table 10** The importance of age and age-based self-image on male and female entrepreneurial competencies

Variables	Model 1		Model 2		Model 3		Model 4	
	Male	Female	Male	Female	Male	Female	Male	Female
Education	0.120	0.129	0.125	0.137	0.106	0.112	0.094	0.102 (0.001)
Entrepreneurial experience	0.237 (0.000)	0.234 (0.000)	0.237 (0.02)	0.234 (0.003)	0.219 (0.014)	0.211 (0.000)	0.205 (0.000)	0.204 (0.377) (0.000)
Age			0.015 (0.000)	0.017 (0.534)	0.050 (0.002)	0.071 (0.003)	0.113 (0.014)	0.068 (0.156)
Entrepreneurial age based self-image					0.127 (0.000)	0.161 (0.000)	0.299 (0.000)	0.076 (0.502)
Age (log) × entrepreneurial age based self-image (log)							-0.183 (0.067)	0.055 (0.619)
R <sup>2</sup>	0.073	0.085	0.074	0.085	0.086	0.104	0.069	0.081
Δ R <sup>2</sup>			0.001	0.000	0.012	0.029	-0.029	-0.023

Fig. 4 The final model



youth (18–34) game. At this time, an individual would decide to work for others or for his own as an entrepreneur. In fact, individuals' entrepreneurial behavior depends on their age. For instance, The United States will undoubtedly have an ageing population over the next few decades. Older individuals (over 55 years of age) tend not to become new entrepreneurs aside from self-employment. Older people have a lower level of risk taking. But, contrary to these expectations, there is compelling evidence to expect that entrepreneurship will not decrease in the USA. From now until 2030, the absolute number of Americans in their 30s–40s will be larger than ever before (Stangler and Spulber 2013).

According to multi-regression model results, in Iran, the age of respondents has impact on their entrepreneurial competencies and this effect for females (0.082) is more for men (0.067). It means that with the ageing process, females feel to own more entrepreneurial competencies compared to males. This result is supported by the empirical research results which indicate that gender impacts entrepreneurial intention (Kautonen et al. 2014; Daima et al. 2016). According to Fig. 4, women's age has effect on their entrepreneurial competencies more than that of men. In fact, with the increasing age of females, their entrepreneurial competencies will be enhanced. It means, unlike the common sense, increasing the females' age is not only a barrier to them but also leads to developing their entrepreneurial competencies.

Of course, one of the most important factors in this issue is age-based self-image. Self-image as 'beliefs and attitudes towards the self as an object of reflection' may be positive or negative (Markus and Wurf 1987) and it is different from self-perception. According to Bem's (1972) self-perception theory, we interpret our own actions in the way we interpret others' actions, and our actions are often socially influenced by and not produced out of our own free will, as we might expect (Bem 1972). Self-perception is different from self-image. Also Burke (1980) believes that 'self-image is the image, not the identity, which does the work in guiding moment-to-moment interaction' (Burke 1980).

According to current research results (Fig. 4), entrepreneurial age based self-image has effect on entrepreneurial competencies of women (0.161) more than those of men (0.127). This finding is supported by some research. For instance, findings of entrepreneurship studies indicating 'prototypes of the self' are key drivers of entrepreneurial behavior (McMullen and Shepherd 2006; Wood et al. 2014). Mitchell and Shepherd (2010) showed that different images of the self, namely images of

vulnerability and images of capability, affect the intention to act as an opportunity-based entrepreneur.

Overall, our study results prove that although women's age leads to improvement of entrepreneurial competencies more than that of men, entrepreneurial age-based self-image is more important compared to age for men rather than for women. Therefore, we suggest reinforcement of entrepreneurial age-based self-image through entrepreneurship education especially for women.

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# The Role of Culture and Gender in E-commerce Entrepreneurship: Three Jordanian Case Studies



D. Qasim, A. Bany Mohammed, and F. Liñán

**Abstract** The number of entrepreneurs using e-commerce to start their own online business up is continuously growing. In this chapter, the current literature on e-commerce entrepreneurship is reviewed and attention is paid to the situation in Jordan, a representative Middle East and Northern Africa (MENA) country. In particular, our focus is on the role of culture and gender in local potential, nascent and new e-entrepreneurs. Three Jordan case studies are presented (ZINC, Oasis500 and CashBasha), showing an increased attention and support for entrepreneurship in general, and e-entrepreneurship in particular, in Jordan. In addition, some special programs are aimed at promoting women e-entrepreneurship, since it is seen as a way of overcoming some of the cultural barriers to female entrepreneurial activity.

**Keywords** E-commerce · Entrepreneurship · Jordan · Culture · Gender

## 1 Introduction

The rapid development in the online and e-commerce business sectors has linked different communities in global online market. This has made many organizations launch their own websites to interact with their local customers and other potential customers around the world. According to Turban et al. (2000), e-business involves

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the buying and selling or exchanging of the goods, services and information through computer networks via internet. Because of the ultimate growth of the e-business sector, venture capitalists and investors are coming to invest their funds in this sector. E-commerce is defined by Zwass (1996) as “the sharing of business information, maintaining business relationships and conducting business transactions by means of telecommunication networks”. Other researchers support this view as e-commerce includes buying and selling activities in addition to inclusion of different processes across the organization (Applegate 1999; Fellenstein and Wood 2000). E-commerce in a broader sense also includes servicing customers and collaboration among the business partners (David and Benamati 2002). Thus, e-commerce has increased rapidly and attracted more and more customers from Tier 2 and Tier 3 cities, where people have restricted access to brands with high brand equity.

Entrepreneurs are increasingly using e-commerce to start-up their own online business. A nascent entrepreneur is someone who starts carrying out a series of activities intended to culminate in a fertile business start-up (Reynolds 1994). It may include individuals or organizations engaged in the entrepreneurship process (Naffziger et al. 1994). Entrepreneurship is the process comprising the creation of something new and associated with the handling of risk and reward measures. It encompasses acts of organizational creation, renewal, or innovation that occur within or outside an existing organization (Sharma and Chrisman 2007).

On the other hand, E-commerce and entrepreneurship generate income and sustain economic development and growth (Reynolds et al. 2003; UNCTAD 2003). Moreover creating a successful e-commerce venture could be affected by factors such as entrepreneurial characteristics and other critical factors defined by Seborá et al. (2009). A successful E-commerce entrepreneur is one who has launched an e-commerce venture, profitable in monetary terms, and has also survived to external and internal factors. Nevertheless e-business is also characterized by selling or buying a service or product (including rental and books, computers, cell phones, software) through online sources, such as email service. The e-commerce enables the single computer owner to interact with the whole world of consumers and can run their business with them. The concept has a wider scope and is not limited to small e-businesses or organisations, but also includes big corporate entrepreneurship (Burgelman 1983).

The use of information and communication technologies (ICT) has been seen as a good opportunity for developing countries (Fryad Henari and Mahboob 2008; Kahttab and Qutaishat 2012). E-business activity may compensate for the lack of adequate physical infrastructure, or the small local markets. For this reason, ICT are being promoted in several of these countries. This is the case of Jordan, where the government is actively pursuing the modernization and development of the ICT sector (UNCTAD 2003). In particular, special attention has been paid to e-business as a possibility to promote women empowerment and reduce gender inequality (Meenakshi 2015; Mellita and Cholil 2012).

In the present chapter, we present an overview of the previous literature on the effects of gender and culture on e-commerce entrepreneurship in Jordan, as a case representing Middle East and North Africa (MENA) countries. In addition, the

chapter represent three Jordanian case studies of initiatives to support the local entrepreneurs in this country with a special focus on e-entrepreneurship.

## 2 E-commerce Entrepreneurship

The concept of infrastructure related to e-commerce is a relevant factor impacting on the adoption of e-commerce by developing-nation entrepreneurs for their businesses. The infrastructure for the e-business firm includes the internet compatibility, technical skills and experience of the employees with respect to the business. Internet compatibility refers to the availability of telecommunication systems, hardware and software and internet services, to the entrepreneur. It also includes knowledge about how to use and apply it to the business.

Grandon and Pearson (2004) identify different variables as useful to perceive the strategic value of e-commerce adoption, such as organizational support, decision-making abilities and managerial productivity in SMEs. This specific knowledge allows the entrepreneurs and their employees to choose e-commerce as a beneficial strategy for their businesses. Technical computing skills and experience of the employees and the entrepreneurs will support the implementation of strategies to expand or develop their business through e-commerce. The customer ability to use internet and infrastructure is also considered as a leading component for adopting e-commerce by an entrepreneur. The infrastructure is a prime component for e-commerce to work for entrepreneurs and to support their business (Grandon and Pearson 2004).

The main concern for entrepreneurs while seeking new strategies are the customers. Whatever decisions an entrepreneur takes to expand her/his business depends on customers' -or potential customer's- acceptance. It is derived that the customers are primary harbingers for an entrepreneur to decide whether adopting e-commerce for her/his business or not. The decision to take up e-commerce as a business strategy could be affected by the customers and their trust in e-commerce (Shuhaiber et al. 2014). Change takes time to get accepted and the same applies to the e-commerce, as there is lack of awareness and popularity of e-marketing among customers. The existing culture of shopping can act as a barrier to the growth of e-commerce in developing countries.

Related to this situation, the entrepreneurs of these countries are often afraid of trying new strategies (Alzubi et al. 2015). According to Alzubi et al. (2015), this is related to some additional factors affecting the adoption of e-commerce management, including top management support (TMS), financial resources (FR), University readiness (UR), attitudes and subjective norms (SNKS).

The market environment is also a factor that influences e-commerce entrepreneurship. Wymer and Regan (2005) study the application of e-business and e-commerce information technology (EEIT) in small and medium enterprises (SMEs). The primary objective is to analyse the barriers and incentives found by SMEs in using EEIT and the influence of demographic characteristics on the adopter's decision. Market environment is a combination of competitors, suppliers, vendors and customers. The existence of competition in the market motivates

vendors to stay one step ahead of their competitors. Competitors play a major role as they are the main element forcing entrepreneurs to present themselves with uniqueness and provide the customer with easy to access to facilities to purchase their products.

Vendors may also attract customers by using alternative strategies: allowing them to access the market from the comfort of their homes, providing a variety of quality options, and allowing comparison of their products with other vendors' products. In this sense, e-commerce provides entrepreneurs with benefits attached to it, which allows them to cover wider markets with cost efficiency and less effort. The trends running in the market place will influence the decision of the entrepreneur to choose the promotion strategy for her/his products. If the trend is in favour of e-commerce, the entrepreneur tends to select it (Wymer and Regan 2005).

According to Kapurubandara and Lawson (2006), studies reveal the significant barriers at different levels with regard to e-commerce Information and Communication Technology (ICT) adoption in developing countries. The nature of market changes with the transformation in government policies, rules and regulations related to market transactions. When government introduces any new policies regarding taxes, subsidies or rules and regulations, all these factors provide some flexibility or rigidity in the working procedure of an entrepreneur. These aforementioned elements have their direct impact on the adoption of e-commerce by an entrepreneur. If these elements are in favour of e-commerce with respect to a traditional business, then the entrepreneur will have an incentive to adopt e-commerce as her/his mode of transaction.

Contradictory to the preceding situation, entrepreneurs do not use e-commerce as their manner of dealing in the market if the government policies are not supporting their business through e-commerce. Thus, government policies, rules and regulations are considered as a crucial factor for entrepreneurs to take up e-commerce to promote their business and attract the attention of the customers (Kapurubandara and Lawson 2006).

According to Fryad and Mahboob (2008) the internet users have an experience in this field and are considering the internet technology to be a new and possibly the greatest opportunity for commercialism in this century. This, at one time known as an information revolution, is now called the internet and e-commerce revolution (Henari and Mahboob 2008). There are many cultural and social aspects against different nations which are considered a major obstacle to the spread of e-commerce. The e-commerce is being considered as a leading indicator for economic advancement and growth in the developed and developing countries (Edvinsson and Stenfelt 1999).

### **3 Culture, Gender and E-commerce Entrepreneurship**

Culture may be defined as the set of basic common values which will contribute to shaping people's behaviour in a society (Inglehart 1997). It also includes patterns of thinking, feeling and acting, which are learned and shared by people living within the same social environment (Hofstede and Hofstede 2005). The first and most

common classification of cultures distinguishes between individualist and collectivist ones (Hofstede and Hofstede 2005; Schwartz 1999). The more general set of cultural dimensions defined by Hofstede (1980) has been frequently applied in the study of these countries. These four underlying value dimensions are used to position countries into cultural regions. These dimensions include power distance, uncertainty avoidance, individualism vs collectivism, and masculinity vs femininity. All of these dimensions are rated on a different scale from the lowest to the highest (Hofstede 1980).

The cultural dimension of collectivism appears to be a sort of functional, social closeness. It is measured with respect to parents, friends and others. The collectivist society consists of collective identity, emotional dependency, sharing of duties and obligations, which are needed for stable and predetermined friendship, group decision, and participation. On the other hand, individualism is a multidimensional concept. The behavioural aspects of individualism act according to the personal attitudes and preferences of people, rather than being influenced by others' opinions and perception level (Buda and Elsayed-Elkhouly 1998). The cultural difference of both, individualism and collectivism, affects the business and the economy in several ways because of their interrelated functions (Hofstede and Hofstede 2005).

The findings of various research studies suggest that culture in the Arab countries should be a barrier to the internet usage because of the highly social and family oriented culture of the Arab region. There could be a threatening effect of the internet and e-commerce in the life of family and community. According to Lauzikas and Mokseckiene (2013), in a society, culture affects the decisions of young people about focusing on innovation, employment or starting a new venture. The role of a society's lifestyle, religions, customs, rules and other similar aspects in the business and organisations of a country is relatively under-explored. The influence of human resources and their intercultural backgrounds are generally ignored when identifying the role of culture in entrepreneurship activities. Nevertheless, it has a deep impact on entrepreneurship. Entrepreneurs cannot get the desired results from their business activities without having adequate knowledge about the culture of the country where their business is located (Lauzikas and Mokseckiene 2013).

The Lack of cultural awareness may also result in the vanishing of some financial benefits of the business. In the view of Sajjad et al. (2012), the entrepreneur's intentions are substantially affected by the culture of a country. They propose the model of persuasion as consisting of Appropriateness, Consistency and Effectiveness (ACE). This model assumes that entrepreneurs will choose between adding a new concept to the existing trends of business or introducing an entirely new concept to generate a striking image of their venture in the market. The decision will depend on the evaluation of appropriateness, consistency and effectiveness of the alternative opinions.

The feasibility of the entrepreneur's ideas will depend on the customers' demand which ultimately is influenced by their culture. Thus, the importance of culture is revealed by factors such as the customers' acceptance of the idea, or the entrepreneur's efficiency to stabilize her/his business. It is evident that the thinking, values and beliefs of people have impression of the culture by which they are surrounded

(Liñán et al. 2016). Similarly, the morals, actions, and behaviour of the people are developed under the same culture which is accepted by the society (Leung and Morris 2015). Generally, it is observed that an entrepreneur's intentions are also influenced by individual thoughts, but which are nurtured by the cultural influence of the country or region (Liñán et al. 2016).

Thus, it is accepted that a nation's culture has a moderating impact on the intentions of the entrepreneur with regard to e-commerce (Sajjad et al. 2012). Entrepreneurship is considered as the essential element that promotes competition, innovation and employment. The entrepreneurial intention is one key step in the process of entrepreneurship (Sajjad et al. 2012). However, entrepreneurial intentions influence the entrepreneurial behaviour depending on previous specific business knowledge. Most people, even if they exhibit high entrepreneurial intention, begin undertaking an employee position before they launch their own business, due to lack of sufficient start-up capital and specific knowledge.

Pavlou and Chai (2002) develop a research instrument to measure collectivism and individualism along with the theory of planned behaviour constructs. The use of internet and the process of globalisation develop the activities of e-commerce across nations. These actions develop a new framework of online consumer behaviour that exceeds the national boundaries along with cross-cultural effects. They found a significant relationship between attitude and intention for collectivistic cultures, but insignificant for individualist cultures. However, the findings from various studies state that customer loyalty, in lieu of business to consumers in e-commerce, is not influenced by the individualism or collectivist cultural dimension. Furthermore, individualism and collectivism explain the differences among online and offline commerce. Online shopping pulls in individualists because people do not have to interact in cooperation with other individuals. Therefore, most users of online commerce express individualistic values (Frost et al. 2010). In Arab countries, such as Jordan, where collectivistic values tend to prevail, this would imply a hurdle for the development of e-entrepreneurship.

Shuhaiber et al. (2014) introduced a factorial model for consumer trust in mobile payments whether via mobile, cell phone or smartphone handsets. The study was conducted in the United Arab Emirates—a Middle Eastern country. One of the five main conceptualisations in the study model was environmental influences (social and cultural). It found that the word-of-mouth had a positive effect on the majority of people for trusting any online business, in addition to other factors related to the Emirates technological culture and environment (Shuhaiber et al. 2014).

In this context, some studies have tried to identify the main factors retarding the spread of e-commerce in many countries, including social and cultural reasons as one relevant element (Gibbs et al. 2003). A recent study has also shown the influence of individualist and collectivist cultural values toward e-commerce intentions in Jordan, moderated by the gender factor (Kahttab and Qutaishat 2012).

Gender is a relevant variable determining various roles in the society and lays different emphasis on the work goals and assertiveness in comparison to the personal goals and furtherance. According to the views of Sangwan et al. (2009), there is a significant role of gender in explaining the different motivational levels towards

e-commerce of males and females. The study has also mentioned various factors affecting males and females differently in their e-commerce purchase behaviour. These factors include: (a) reliable information available while shopping online; (b) purchasing behaviour of others, (c) having joy while shopping online; among others (Sangwan et al. 2009).

Various studies have identified a set of critical factors which underlie successful women entrepreneurs. In particular, government and institutional support, involvement of societal environment, training and management, increased access to the market, and best managerial practices are stressed. Thus, Minnitti et al. (2005) argue that men continue to exhibit a more active participation in entrepreneurship, as compared to women. The data suggested that the shortfalls occur more likely with the middle-income nations where women are 25% of entrepreneurs. In contrast, women entrepreneurs are more active comparatively in the high income countries, with over 33% of the total, and in the remaining low-income countries with a 41% participation rate (Minnitti et al. 2005).

In the case of Jordan, as in other Arab countries, traditional roles assigned to women do not fit well with the entrepreneurial activity (Sidani 2005). In this sense, it has been argued that e-entrepreneurship may be a way of overcoming some of these traditional cultural beliefs in Arab countries. Hence, Information and Communication Technologies (ICTs) provide women's empowerment, according to Kelkar and Nathan (2002). ICTs may contribute to redefine the traditional gender roles as the use of IT services will benefit both men and women who have limited knowledge and money for higher education (Kelkar and Nathan 2002).

Mitchell (2004) found the ways and targets of men and women are influenced by the stereotype behaviour. The stereotype indicators such as targets, negative perspective and self-appropriate behaviour are dangerous to their self-fulfilment cycle. Thus, many women entrepreneurs are motivated by the safety level measures for their families. Entrepreneurship combines caring for their families as well as bringing the money for them for their survival and achievement of their aspirations. This is visible in several Asian countries including Indonesia and Singapore (Mitchell 2004; Seborá et al. 2009).

According to the United Nations (2015), about half of the world's human capital and business owners are women. However, only around one-third of the work done by women in developing countries is measured in the national economic reports. In contrast, in some developed countries such as Germany, women using government incentives for their ventures are performing comparatively as satisfactorily as men are. Because of the thought that women bring fresh motivation and ideas in their professional work, women adjust better to the new service society as compared to the old industrial society. In this regard, Mellita and Cholil (2012) identified several factors as a helpful success motivator for females in e-commerce entrepreneurship in developing countries:

- New challenges and opportunities for self-fulfilment,
- Education and qualification,
- Support from the family members,
- Role models to others,

- Bright future of their children,
- Need for additional income,
- Family occupation,
- Authority in independent decision making,
- Employment generation, and
- Innovative thinking

Meenakshi (2015) argues that government is playing a vital role in influencing women to become entrepreneurs. The government's support is encouraging women to become an entrepreneur by developing entrepreneurial intention among them. In support of these views, Mat and Razak (2011) suggest that governmental policies are vital for encouraging women to become entrepreneurs. In their view, several factors affect the entrepreneurial activities of women, including education, attitude and experience level of the individual.

Education is found to be the most significant factor that affects the entrepreneurial development of women (Mat and Razak 2011). In the Arab world, female education has a strong effect on their employment status as educated females are more likely to be employed rather than uneducated females. However, 30% of educated females in Jordan were unemployed during the period 2011 and 2012, with an unemployment rate of 60%. Overall employment increased by 18% during the period 1991–2011 which made an average gain for Arab women in the region without a substantial change in Jordan (Momani 2016).

Education provides the knowledge about entrepreneurship and the confidence to become an entrepreneur. In addition to this, there are some environmental factors that affect the entrepreneurial intention and entrepreneurial development of women. These environmental factors include political and business market situations. Along with this, social and cultural factors like discrimination or preference of men over women are also considered as a significant factor that contributes towards the entrepreneurial intention and entrepreneurial development of women (Mat and Razak 2011),

## 4 Case Studies in Jordan

In this section, we describe three recent entrepreneurial projects. Two of them are aimed at promoting entrepreneurship in Jordan: Oasis5000 and ZINC. Although they are not exactly e-business ventures themselves, they both have a strong on-line presence. As entrepreneurial support centres, they aim at creating scalable businesses for which e-commerce and e-entrepreneurship components are given high priority. Additionally, they both have a commitment to promote entrepreneurship among less well-off members of the Jordanian society. In the case of Oasis500, they have an explicit focus on the promotion of women entrepreneurship. The third case study (CashBasha) is an e-entrepreneurship project itself, which has come out with support from ZINC.



## **4.1 Oasis500**

Our first case study in Jordan is Oasis500. This is one of the leading seed investment companies and business accelerators in the tech and creative industries within the country. Its aim is to enable nascent entrepreneurs to transform their viable ideas or creative talents into scalable businesses. This includes finding those entrepreneurs, investing in their start-ups, bridging their know-how gap, and eventually helping them get follow-on funding. In the process, it became one of the most influential players in advancing the entrepreneurship and innovation ecosystem in Jordan specifically, and the Middle East and North Africa (MENA) region in general. Oasis500 compels people to embrace the entrepreneurial drive and submit their start-up ideas.

It has provided an impetus to redefine entrepreneurship by being a partner on the Women Entrepreneurship Day (WED), the largest movement to support and empower women across 144 countries including Jordan. WED launched a returnship program which helped women return back to work through training and internship after being away from the workforce for a while.

In addition to that, Oasis500 encouraged Jordanian entrepreneurs to participate in the Queen Rania National Entrepreneurship Competition (QRNEC) to achieve a well-developed entrepreneurial eco-system in Jordan. It provides them with a platform to increase the Jordanian entrepreneurs, and innovators, interest, in addition to the national institutions in designing a path. The program pursues to advocate entrepreneurial skills as mature entrepreneurs and university students to merge their knowledge with the company resources to create a business plan that is both practical and innovative. Oasis500 statistics (March 2012), shows that out of the 500 trained entrepreneurs 123 are women (25%), 18 companies out of 52 were founded/co-founded by women (35%), women mentors are 30 out of 150 total mentors (20%). Oasis500 start-ups employed 48 women in between Sep, 2010 and Mar, 2012. Women who led start-ups at Oasis500 have managed to attract 1million USD for funding in less than 1 year. Not to mention that 8 out of 11 of their team are females. That shows their concentration on toward the female entrepreneurs specifically.

## **4.2 ZINC**

The second case study in Jordan is Zain Innovation Campus (ZINC). In 2013, Zain Jordan established the Corporate Entrepreneurship Responsibility Division (CER), an independent business unit aiming to build and empower entrepreneurial ecosystem in Jordan. CER's role was to establish partnerships that would strengthen the ecosystem and create a series of events, activities and workshops that are meant to enable entrepreneurs, build capacity, expose them to success stories and engage them with networks, mentors, potential partners and experiences. Two main roles of

CER are: Zain Innovation Campus (ZINC), and Zain Al Mubadara. ZINC is a platform, launched in 2014 for entrepreneurs and interested youth to connect, meet, work, interact and engage with one another to activate and ignite the start-up and entrepreneurship ecosystem in Jordan. ZINC, also, links Jordanian entrepreneurs inside the country with start-ups, mentors and investors around the world.

According to the Zain's 2016 report: ZINC offers entrepreneurs free membership in the campus, to meet leading mentors and experts in workshops and lectures, have access to the latest ICT technology, and the opportunity to connect with investors worldwide. ZINC has evolved into a nationally recognized entrepreneurial hub. It has attracted representatives from Google, Yahoo, Microsoft, regional e-commerce powerhouse Souq, along with ambassadors and international investors such as 500 start-ups and Eureeca. It established a host of strategic partnership with the Jordanian Government to develop smart government solutions and mobile apps (e-government), and partnership with the venture capital firm 500 start-ups to collaboratively invest \$2 million USD in local start-ups.

A significant aspect of ZINC is the inclusive nature in which it offers Jordanian youth the opportunities to learn and develop. Moreover it is accessible to all Jordanians; including those at the bottom of the pyramid that typically have difficulty attending educational forums and events. The events organized through ZINC in 2015 attracted more than 25,000 attendees. ZINC's leading successful start-ups are: A Minute Marvel, Amberley, AqarCirle, Cashbasha, Ekeif, Feesheh, Jobedu, LinaGas, Tamatem and Toffimelt.

The next project is to activate ZINC within universities in 2017, which will be the enterprise hosting workshops with public and private sector partners in an effort to promote students to pursue entrepreneurship and innovation in their future careers. ZINC Academy division is also planning new courses that will teach start-ups the fundament scaling and legitimizing business models. Recently Oasis500 started partnership with ZINC to explore the possible opportunities for entrepreneurship development in Jordan. Both parties have agreed to allow their members' have mutual access to the latest technology, knowledge sharing, mentoring and coaching sessions, training speakers and access to networks. Oasis500 and ZINC are committed to providing benefits to entrepreneurs in Jordan by leveraging a holistic package of support services derived from the expertise and resources available in both organizations.

### **4.3 CashBasha**

This is a cash collection network, where customers can shop online and pay for their purchases in cash at trusted locations near them, or at their doorsteps through the cash on delivery (COD) method. The decision to start CashBasha was a result of large scale research by the team, which showed them that 80% of e-commerce retail in the MENA region was flowing from capital global e-commerce players. One of the success points was the ability to map how emerging market customers want to be

served on international shopping sites in a way that completely hides all the complexities of purchasing from the customer.

The CashBasha team guaranteed that their solution supported any and all shopping sites. But at present, they are partnered with just one site, which is the first great partner to have, given its global e-commerce major Amazon. The decision to begin with Amazon was a result of co-founders research which showed that about 40% of any online purchases being made in (MENA) region all came from that one site. Without elaborating on the terms of the partnership with the e-commerce giant (owing to nondisclosure agreements), strategically, CashBasha is aligned with Amazon, designed with a personal distinctive technology to be agnostic and work on any e-commerce website by design. It resulted in requests from customers to integrate more sites, and they are considering it.

CashBasha was officially launched on May 2015, showing success the early results. They were able to achieve those within the first 2 days of operations, showing a solution and considerable growth. Currently, in Jordan alone, CashBasha claims to be shipping nearly six tons of goods per month. In the cash-dominated markets served by CashBasha, only 20% of the transactions are digital in nature. Moreover, CashBasha's tools also sustain in international sourcing, shipping, customs clearance and other allied needs, and are not just a means of payment. Their method of supporting COD, is "cash before delivery", and not COD, without necessarily advocating or overly encouraging cash payments, letting customers to transact in whatever way they are comfortable with.

## 5 Discussion and Conclusion

In this chapter, we have tried to present an overview of the literature about the roles of culture and gender in e-commerce and e-entrepreneurship. In particular, we have focused on Jordan, as a representative of the Middle East and Northern Africa (MENA) countries. A collectivistic culture typically prevails in Arab countries. This kind of cultural values may act as a barrier to the development of innovative entrepreneurial projects, as is the case of e-entrepreneurship. A positive relation has been found between e-commerce and individualism.

In this regard, some of the environmental factors that are relevant to affecting entrepreneurial activities include the market situation and the role of the government. Regarding the former, infrastructure and customers' practices do not seem to be too favourable for the development of e-commerce entrepreneurship. Customers need to accept and get used to e-commerce by changing their traditional ways of shopping and do shopping online in place of face-to-face interaction. They need to get used to utilising internet as their mode of shopping. The bargaining, interacting with the shopkeeper and getting the delivery of products directly from the hands of the shopkeeper will change to online transactions from their homes without direct personal contact.

In contrast, despite a not so positive initial situation, government policies and measures are being implemented to support entrepreneurship in general, and the use of ICT in entrepreneurship, in particular. Similarly, the Jordanian government is also encouraging women to become an entrepreneur by promoting the development of entrepreneurial intention among them. Our review has found indications that there is a considerable gender bias in the developing countries and specifically in Jordan with respect to entrepreneurship. For this reason, many countries are starting to provide support to their female population, as e-commerce enables them to conduct their business from the comfort and safety of their homes.

In particular, some of the initiatives implemented through Oasis500 are potentially very relevant and may be highly effective in this respect. In this sense, the initiative of entrepreneurship education may be especially useful to motivate women entrepreneurs to understand the importance of entrepreneurship. In order to promote women e-commerce entrepreneurs, the inclusion of ICT-specific content is an important factor to be considered.

Regarding the case studies, the initiatives analysed represent important steps to judge Jordan as a vital environment for entrepreneurs. As shown in Table 1, Jordan compares fairly well with other MENA countries and there is no strong regulatory discrimination against women in starting a business. Although one additional procedure is required (husband's permission), there is no extra cost for women when they are to launch a new venture. Additionally, recent initiatives as Oasis500 and ZINC are helping develop a more supportive environment for venture start-ups. As indicated above, there are still a relatively low percentage of newly funded companies launched by females.

**Table 1** Doing business report on starting a business 2017

Indicator	Jordan	Middle East & North Africa	OECD high income
Procedure—Men (number)	7.0	7.8	4.8
Time—Men (days)	12.0	20.1	8.3
Cost—Men (% of income per capita)	22.4	26.3	3.1
Procedure—Women (number)	8.0	8.6	4.8
Time—Women (days)	13.0	20.9	8.3
Cost—Women (% of income per capita)	22.4	26.3	3.1
Paid-in min. capital (% of income per capita)	0.1	11.2	9.2

Source: World Bank doing business project (<http://www.doingbusiness.org/data/exploreeconomies/jordan>)

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# Regional Disparities in Entrepreneurship in Turkey with Respect to Gender Using a Regression of Pooling Cross Sections: 2006–2015



Esra Karadeniz and Ahmet Özçam

**Abstract** Entrepreneurship is an important process in regional economic development. However, there is no dedicated research to determinants of entrepreneurship in relation to all regions of Turkey. The main objective of chapter is to find the extent to which the level of entrepreneurial activity varies between regions in Turkey. This chapter also contributes to the field of entrepreneurship studies by presenting, for the first time, the entrepreneurship data of women over the regions of Turkey and by analyzing the regional variations with respect to gender in the early stage of entrepreneurial activity.

Our findings support the fact that the entrepreneurial activity in the West Marmara, the Mediterranean, the West Black Sea and the West, Southeast and the Central Anatolia Regions, are no different from the base Region of Istanbul. The general entrepreneurship pursuit in Aegean, the East Marmara, the East Black Sea, the Northeast Anatolia and the Central East Anatolia Regions are found to be about 2% lower compared to the Region of Istanbul, on the average. On the other hand, the likelihood of being an entrepreneur among women is highest in the Aegean Region which is 9.4%. This likelihood is even higher than that in the Region of Istanbul which is 8.1%. Hence, the probability of being a woman entrepreneur ranges from 5.8 to 10.6% in Turkey. When the same probabilities are considered at the age of 45, they are lower and range from 5.4 to 9.7%.

Moreover, while the entrepreneurial attitudes, i.e. fear of failure in starting business, and education have a negative effect, the perceptions on start-up opportunities and believed to have knowledge, skill and experience have a positive effect on the probability of being an entrepreneur.

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The data used in this study were collected by means of the national adult population Survey (APS) from the Global Entrepreneurship monitor (GEM) project conducted in Turkey covering the years of 2006–2015 (except for the year of 2009). The dataset consisting of 56,142 interviews with a representative sample of adults (18–64 years old) covering 12 regions.

**Keywords** Probability of being an early-stage entrepreneur · Regional effects · Women and men entrepreneurship · Turkish population · Distribution of age · Logistic model

## 1 Introduction

Entrepreneurship is an important process in regional economic development. The entrepreneurship at sub-national level is also important for understanding differences in the levels of entrepreneurship (Bosma 2009). Not many studies focused on regional entrepreneurial activity and therefore more research seems to need to be done on this issue.

The determinants of entrepreneurial activity differ with the level of analysis, according to Eclectic Framework which may be conducted on individual (micro), meso (industry or region) or macro (country or group of countries) level (Grilo and Thurik 2004). The current chapter investigates the factors that influence the total entrepreneurship activities in Turkey within the Eclectic Framework at micro and meso level. We will deal with a range of determinants of entrepreneurship at the micro level: demographic factors, economic factors and perceptual factors based on subjective judgments of the individuals, and meso level: 12 regions of Turkey.

This study tries to contribute to the existing literature in many aspects; we have investigated previous empirical studies and conclude that there are not any studies dedicated to determinants of entrepreneurship in relation to all regions of Turkey. Accordingly, the main objective of chapter is to find the extent to which the level of entrepreneurial activity varies between regions in Turkey. This chapter also contributes to the field of entrepreneurship studies by presenting, for the first time, the entrepreneurship data of women over the regions of Turkey and by analyzing the regional variations with respect to gender in the early stage of entrepreneurial activity.

Structure of this paper is follows. In Sect. 2, is based upon a review of the literature and lists the determinants of entrepreneurship which distinguish between demographic factors, economic factors, perceptual factors and regions. Section 3 gives a description of the data and the variables used in the empirical analysis. Section 4 presents the results of the econometric estimation and discusses the effects of the regions and the entrepreneurship among women and men across regions. The study concludes with summarizing the results, recommending for topics of further research.



## 2 Literature Review: Determinants of Entrepreneurship

Entrepreneurship is a multifaced phenomenon crossing different units of observation ranging from the individual to the firm, region or industry and even nation (Verheul et al. 2002). This multifaced nature of entrepreneurship attracts researchers from various disciplines such as economics, psychology, sociology and economic geography to understand why some individuals start new business. According to Verheul et al. (2002), psychology has studied motives and characteristics of (potential) entrepreneurs, sociology has focused on collective background of entrepreneurs, and economics has emphasized the impact of economic climate.

The researchers also often view the entrepreneurship process at the different level of analysis, namely individual, market, and environment levels (Verheul et al. 2002). Therefore, entrepreneurship research has been approached from three levels, micro, meso and macro (Verheul et al. 2002). Studies at micro level focus on the decision-making progress by individuals and the motives of people to become business owners and self-employed. The primary analyses at this level have been on personal factors, such as personality traits, education levels, family background, and previous work experience. Research on meso levels has focused on market determinants of entrepreneurship (industry/region). Research at this level has studied what an industry/region can offer and if an industry/region presents any opportunities. The third level of analysis is to study how and why different countries have different pattern of entrepreneurial growth. The focus is on the external environment influencing the venture creation process.

These three levels of analyses to some extent correspond to the development of entrepreneurship studies. Verheul et al. (2002) develop an eclectic framework for the determinants of entrepreneurship distinguishing between the demand and supply side of entrepreneurship. The demand side perspective focuses on the opportunities available to enterprising individuals such as technology and the level of economic development. The supply side perspective places its focus on the individual preferences and capabilities (skills and resources) of the labor force such as population growth, urbanization rate, age structure, participation of women in labor market, and income levels.

In this paper, we use the Eclectic Framework of entrepreneurship to understand and analyze the determinants of entrepreneurship in Turkey by investigating from micro and meso level perspective. We will deal with a range of determinants of entrepreneurship categorized according to the following groups: personal attributes and entrepreneurial attitudes and regional variation.

The supply side of entrepreneurship is determined by the characteristics of the population such as age structure, gender, education and income. The age structure of the population effects entrepreneurship. The likelihood of becoming self-employed varies with age. Many business owners are within the age category of 25 to 45 years old (Ozdemir and Karadeniz 2011; Kautonen et al. 2014). Nascent entrepreneurship rates are highest in the age category of 25–34 years old and least prevalent in the 55–64 year old group (Bosma and Harding 2007). Delmar and Davidson (2000),

Arenius and Minniti (2005), Levesque and Minniti (2006) and Lamotte and Colovic (2013) suggest that people increasingly start a business at a younger age and decreases thereafter.

Regarding the gender, in general, and across all countries entrepreneurs are mostly men. Several studies have shown that there is significant difference in the rate of entrepreneurs between men and women (Allen et al. 2007). According to, men are about twice as likely involved in entrepreneurship activity than women. There is currently a general consensus in accepting that ‘the gender gap in entrepreneurship’ exists, but it depends on the way in which a country or region’s culture and customs accept and integrate female participation in economic activity (Allen et al. 2007).

The influence of education level on entrepreneurship is ambiguous. Delmar and Davidson (2000), and Arenius and Minniti (2005) show a clear education effect for nascent entrepreneurs. However, shows that a higher level of education in a country is accompanied by a lower self-employment rate. Blanchflower (2004) reports that education is positively correlated with self-employment in US, but negatively in Europe. Grili and Irigoyen (2006) report a U-shape relationship between education and entrepreneurs.

The entrepreneurial decision is positively related to individual’s incomes, because of the availability of income weakens financial constraints (Evans and Javanovic 1989; Smallbone and Welter 2001). These refer to an assumption in economics that only those with sufficient available financial resources are able to get involved in creating a new firm.

It is apparent that entrepreneurial attitudes have a major influence on the likelihood that a particular individual may become involved in early stage entrepreneurial activity. These relate in particular to individual’s belief in their skills to be able to successfully start a new enterprise (Verheul et al. 2003), their having recent entrepreneurs as role models within their personal network (Aldrich and Martinez 2001; Gibb and Nielsen 2014), and a reduced reluctance to become involved in entrepreneurial activity through fear of failure (Arenius and Minniti 2005; Koellinger et al. 2005; Brachert and Hyll 2017).

In terms of regional entrepreneurship, the level of entrepreneurship differs considerably across regions within country. The differences in entrepreneurial activity rates between regions may be explained by differences in the attitudes of the population towards entrepreneurship. Tamásy (2006) studied regional entrepreneurship in Germany and also reported significant regional differences in entrepreneurial attitudes. Fritsch and Mueller (2004) found considerable differences of regional start-up rates and it is quite likely that these differences have consequences for regional development.

### 3 Data and Definitions of Variables

#### 3.1 Data

The data used in this paper were collected by means of the national adult population survey (APS) of the Global Entrepreneurship Monitor (GEM) project conducted in Turkey covering the years of 2006–2015 (except for the year of 2009) in 12 NUTS Statistical Regions of Turkey. The original dataset which consisted of 81,489 interviews with a representative sample of adults (18–64 years old) were reduced down to 56,142 after eliminating the missing values for some of the individuals. We have modeled the characteristics of the respondents and their probability of being an entrepreneur by pooling these 12 regions. However, the differences in their unobserved factors and in their gender characteristics were taken into account. The number of observations that were available in these regions were 7774, 4307, 8537, 7916, 5572, 8861, 6330, 8191, 4539, 5310, 5878 and 8274 respective to the definitions of the regions given in Sect. 3.2. Random Sampling Method was used and CATI (Computer Assisted Telephone Interview) was conducted by the vendor company.<sup>1</sup>

#### 3.2 Definitions of Variables

##### Dependent Variable

Being a TEA Entrepreneur, (TEA = 1) or Not a TEA Entrepreneur, (TEA = 0);

##### Independent Variables

1. Age (AGE): between 18 and 64 years,
2. Household income (INC): Lower 33% = 1, Middle 33% = 2 and Upper 33% = 3.
3. Education (EDUCATION): 1 = up to Second degree, 2 = Second degree, 3 = Post Second, 4 = Graduate.
4. Gender (GEND): Male = 1 and Female = 2,
5. Knowing entrepreneurs (NETWORK): Respondents were asked whether they knew someone personally who had started a business in the 24 months preceding the survey: (NO = 0, YES = 1),
6. Opportunity perception (OPPORT): Respondents were asked if they believed that, in the 6 months following the survey, good business opportunities would exist in the area where they lived: (NO = 0, YES = 1),

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<sup>1</sup>The vendor companies, “Akademetre” and “Research Method Company” are a member of the European Society of Opinion, Marketing Researchers (ESOMAR), and the Turkish Association of Marketing, and Opinion Researchers. They have an honour agreement with Association of Researchers and possesses ISO 9000–2001 quality certification.

7. Self Confidence (SKILL): Respondents were asked whether they believed to have the knowledge, skill, and experience required to start a business: (NO = 0, YES = 1),
8. Fear of Failure (FF): Respondents were asked whether the fear of failure would prevent them from starting a business: (NO = 0, YES = 1).
9. Region Dummies (NUTS Statistical Regions of Turkey): Istanbul Region (TR1), West Marmara Region (TR2), Aegean Region (TR3), East Marmara region (TR4), West Anatolia Region (TR5), Mediterranean Region (TR6), Central Anatolia Region (TR7), West Black Sea Region (TR8), East Black Sea Region (TR9), Northeast Anatolia Region (TRA), Central East Anatolia Region (TRB) and Southeast Anatolia Region (TRC).

## 4 Econometric Estimation

### 4.1 *The Logistic Regression Model, the Region Effects and Entrepreneurship Among Women and Men Across Regions*

In Table 1, the Model-1 (column 2) is the *Logistic Regression Model* (LRM) with 8 independent variables: Age, Gender, Income, Educ, Skill, Network, FF and Opport) and the 11 region dummies (TR2, TR3 ...TRC) according to the 12 NUTS statistical regions of Turkey. The base category is Istanbul Region (TR1) and TR2 refers to the West Marmara region, TR3 to the Aegean Region and so on... The 11 region dummies are equal to 1 for the relevant region and 0 otherwise. The Age variable enters the regression in a quadratic fashion. This regression is augmented with the Gender variable interacted with all of the 11 region dummies. The *Logistic Regression Model* (LRM) is given as:

$$\begin{aligned}
 \Pr(TEA = 1) = & G(\beta_0 + \delta_2TR2 + \delta_3TR3 + \delta_4TR4 + \delta_5TR5 + \delta_6TR6 \\
 & + \delta_7TR7 + \delta_8TR8 + \delta_9TR9 + \delta_{10}TRA + \delta_{11}TRB + \delta_{12}TRC + \beta_1AGE \\
 & + \beta_2AGE^2 + \beta_3GEND + \beta_4INC + \beta_5EDUC + \beta_6SKILL + \beta_7NETWORK \\
 & + \beta_8FF + \beta_9OPPORT + \lambda_2TR2*GEND + \lambda_3TR3*GEND \\
 & + \lambda_4TR4 \dots + \lambda_{12}TRC*GEND = G(B'X)
 \end{aligned} \tag{1}$$

where  $G(\cdot)$  is the Cumulative Logistic Distribution Function,  $B$  is an  $(32 \times 1)$  vector of coefficients and  $X$  is an  $(32 \times 1)$  vector in which we have a constant term, 11 region dummies, 9 independent variables (Age and Age squared are separate

**Table 1** Estimation of being a tea entrepreneur

Independent variables	Logistic regression model-1	Logistic regression model-2
Constant	-1.867 (0.00)**	-2.072 (0.00)**
TR2	-0.334 (0.12)	-
TR3	-0.414 (0.02)**	-0.207 (0.09)*
TR4	-0.399 (0.03)**	-0.216 (0.00)**
TR5	-0.066 (0.74)	-
TR6	-0.247 (0.15)	-
TR7	-0.337 (0.07)*	-
TR8	-0.365 (0.05)**	-
TR9	-0.446 (0.03)**	-0.266 (0.00)**
TRA	-0.412 (0.04)**	-0.16 (0.00)**
TRB	-0.508 (0.01)**	-0.198 (0.00)**
TRC	-0.092 (0.61)	-
AGE	0.031 (0.00)**	0.031 (0.00)**
AGE <sup>2</sup>	-0.0005 (0.00)**	-0.0005 (0.00)**
GEND	-1.084 (0.00)**	-0.917 (0.00)**
INC	0.344 (0.00)**	0.503 (0.00)**
EDUC	-0.225 (0.00)**	-0.226 (0.00)**
SKILL	0.994 (0.00)**	0.995 (0.00)**
NETWORK	0.631 (0.00)**	0.63 (0.00)**
FF	-0.2207 (0.00)**	-0.207 (0.00)**
OPPORT	0.343 (0.00)**	0.344 (0.00)**
TR2*GEND	0.102 (0.54)	-0.158 (0.00)**
TR3*GEND	0.348 (0.01)**	0.182 (0.05)*
TR4*GEND	0.146 (0.29)	-
TR5*GEND	0.094 (0.54)	-
TR6*GEND	0.186 (0.16)	-
TR7*GEND	0.176 (0.24)	-0.091 (0.02)**
TR8*GEND	0.046 (0.75)	-0.243 (0.00)**
TR9*GEND	0.143 (0.39)	-
TRA*GEND	0.203 (0.19)	-
TRB*GEND	0.254 (0.09)*	-
TRC*GEND	-0.018 (0.90)	-0.09 (0.01)**
McFadden R-squared	0.142	0.141
No of Obs.	56,142	56,142

Dependent variable: Being an Entrepreneur = 1 and Not an Entrepreneur = 0

The numbers in parentheses are the p-values

\*\*5% significance level and \*10% significance level

variables) and 11 interaction terms involving the Gender variable and the region dummies.

All 9 independent variables (Age, Age<sup>2</sup>, Gender, Income, Educ, Skill, Network, FF and Opport) are statistically significant at even 1% and have the expected signs. However, some of the region dummies (TR2, TR5, TR6 and TRC) and most of the

interaction terms (all except TR3\*GEND and TRB\*GEND) are not significant. The interaction terms, all except TRC\*GEND have positive signs. This is not what we would have expected, since this would then imply that the gender gaps are narrower in other regions compared to the base region of Istanbul. Next, we follow a sequential elimination of the insignificant variables and arrive at our final version the Logistic Regression Model (LRM) which is displayed in the third column of Table 1 (Model-2). Among the region dummies, TR3, TR4, TR9, TRA and TRB which were statistically significant before continue to be significant and preserve the same minus sign. The remaining time dummies, TR2, TR5, TR6, TR7, TR8 and TRC are statistically insignificant. All 9 independent are once more statistically significant, preserve the same signs and the magnitudes of the estimated coefficients are similar to those in the first regression (Model-1). Interestingly, the estimated coefficients of the interaction terms now have the signs we would expect. The gender gap is higher in other regions (except for Aegean Region) compared to the Istanbul Region. The R-squared remains the same at 0.14.

In Table 2, the region effects are displayed (column 2). The regions of TR2, TR5, TR6, TR7, TR8 and TRC are not statistically different from the Istanbul Region (TR1). This means that *after controlling for the observed factors* which are included in the regression (Age, Gender, Income, Educ, Skill, Network, FF and Opport) the entrepreneurial activity is similar in these regions compared to the Istanbul Region (TR1). On the other hand, the remaining regions are dissimilar. To compute the probabilistic differentials, we take the difference in the Cumulative Logistic Distribution Function ( $G$ ) evaluated at the relevant region *with and without* that region's dummy intercept and using the estimated coefficients in Table 1. Not including these intercept differentials correspond to the base year of Istanbul Region (TR1). For example, for the Aegean Region (TR3):

**Table 2** Regional effects in entrepreneurial activity, and women and men entrepreneurship across regions

Regions	Regional effects	Women entrepreneurship	Men entrepreneurship
TR1	–	0.081	0.18
TR2	–	0.061	0.16
TR3	–0.022	0.094	0.18
TR4	–0.023	0.066	0.15
TR5	–	0.081	0.18
TR6	–	0.081	0.18
TR7	–	0.069	0.17
TR8	–	0.052	0.15
TR9	–0.028	0.064	0.15
TRA	–0.017	0.070	0.16
TRB	–0.021	0.067	0.15
TRC	–	0.069	0.17

$$\begin{aligned}
& \text{The effect of Aegean Region (TR3)} = G(-2.072 - 0.207 + 0.031 * \text{ave\_Age} \\
& - 0.0005 * \text{ave\_Age2} - 0.917 * \text{ave\_Gend} + 0.503 * \text{ave\_Inc} - 0.226 * \text{ave\_Educ} \\
& + 0.995 * \text{ave\_Skill} + 0.63 * \text{ave\_Network} - 0.207 * \text{ave\_FF} + 0.344 * \text{ave\_Opport}) \\
& - G(-2.072 + 0.031 * \text{ave\_Age} - 0.0005 * \text{ave\_Age2} - 0.917 * \text{ave\_Gend} \\
& + 0.503 * \text{ave\_Inc} - 0.226 * \text{ave\_Educ} + 0.995 * \text{ave\_Skill} + 0.63 * \text{ave\_Network} \\
& - 0.207 * \text{ave\_FF} + 0.344 * \text{ave\_Opport}) = -0.022. \quad (2)
\end{aligned}$$

where *ave\_Age* is the sample average of the Age variable over all 56,142 observations and so on... In Eq. (2), the only difference in the *G(.)* functions calculated at the Aegean Region (TR3) and the Istanbul Region (TR1) is the estimated coefficient of dummy intercept for the Aegean Region (TR3) which is  $-0.207$  that is relevant only for the former. The gender interaction terms are not accounted for since we are measuring only the overall regional unobserved factors' influences. *G(.)* function is evaluated at the sample means of the independent variables since we consider the typical characteristics of the respondents in the sample at hand. We conclude that the general environment conducive to the entrepreneurial activity in the West Marmara Region (TR2), the West Anatolia Region (TR5), the Mediterranean Region (TR6), the Central Anatolia Region (TR7), the West Black Sea Region (TR8) and the Southeast Anatolia Region (TRC) are no different from the base region of Istanbul (TR1) *after controlling for the observed factors* (our independent variables). However, the probability of being an entrepreneur is lower by 2.2%, 2.3%, 2.8%, 1.7% and 2.1% in the Aegean Region (TR3), the East Marmara Region (TR4), the East Black Sea Region (TR9), the Northeast Anatolia Region (TRA) and the Central East Anatolia Region (TRB) respectively. Therefore, taken together, the general entrepreneurship pursuit in these 5 regions are on the average about 2% lower compared to the Region of Istanbul (TR1).

In Table 2, the probabilities of being an entrepreneur among women are calculated as follows (column 3). For example in the base category of the Region of Istanbul (TR1):

$$\begin{aligned}
& \text{The probability of being an entrepreneur for a woman in the} \\
& \text{region of Istanbul (TR1)} = G(-2.072 + 0.031 * \text{ave\_Age} - 0.0005 * \text{ave\_Age2} \\
& - 0.917 * 2 + 0.503 * \text{ave\_Inc} - 0.226 * \text{ave\_Educ} + 0.995 * \text{ave\_Skill} \\
& + 0.63 * \text{ave\_Network} - 0.207 * \text{ave\_FF} + 0.344 * \text{ave\_Opport}) = 0.081. \quad (3)
\end{aligned}$$

In Eq. (3), 2 is inserted for a woman after the coefficient of  $-0.917$  which is the estimated coefficient of Gender variable. We observe that on the average, the likelihood of being an entrepreneur among women is highest in the Aegean Region (TR3) which is 9.4%. This likelihood is even higher than that in the Region of Istanbul (TR1) which is 8.1%. The situations in the West Anatolia Region (TR5) and

the Mediterranean Region (TR6) are similar to that in the Region of Istanbul (TR1). These likelihoods are lower and are approximately around 6.4–7.0% in all other regions, except in the West Black Sea Region (TR8) where it is the lowest and is equal to 5.2%.

The calculations for men are similar. Overall, the probability of being an entrepreneur is approximately twice as high among men compared to women. This finding conforms with those of and which assert that men are about twice as likely involved in entrepreneurship activity than women. In Table 2 (column 4), we notice that it is highest in the Region of Istanbul (TR1) along with the Aegean Region (TR3), the West Anatolia Region (TR5) and the Mediterranean Region (TR6) and is equal to 18%. This likelihood is around 17% in the Central Anatolia Region (TR7) and the Southeast Anatolia Region (TRC). While it is equal to about 16% in the West Marmara Region (TR2) and the Northeast Anatolia Region (TRA), it is lower and equal to about 15% in the remaining regions.

#### 4.2 *The Effects of Economic/Demographic and Perceptual Variables on Being an Entrepreneur*

In Table 3, the first column lists our economic/demographic and perceptual variables (except for Age which is discussed in the next section and Gender which was already discussed in Table 2). In column 2, we present the derivatives (or marginal effects) of the *Linear Probability Model* (LM), Model-3. The derivatives of the independent variables in LM are simply the estimated coefficients which show the marginal effects. However, the magnitudes of the estimated coefficients of LRM which are presented in the third column of the same Table (Model-2) are not directly comparable with the marginal effects of the LM. The marginal effects of the *Logistic Regression Model* (LRM) can be calculated only after we multiply the estimated coefficients of LRM which were presented in Table 1, by a Scaling Factor (SF). To show this, we write the derivatives (marginal effects) of the independent variables in LRM in general as:

**Table 3** Comparison of derivatives from the linear and the logistic regression models

Independent variables	Derivatives of linear regression (model-3)	Derivatives of logistic regression (model-2)
INC	0.061	0.058
EDUC	-0.032	-0.026
SKILL	0.101	0.114
NETWORK	0.094	0.073
FF	-0.027	-0.024
OPPORT	0.045	0.040

Note: The derivatives of both models are those of the Istanbul Region



$$\frac{\partial \Pr(TEA = 1)}{\partial x_j} = g(B'X) \frac{\partial (B'X)}{\partial x_j} \quad (4)$$

where the  $(32 \times 1)$  vectors of  $X$  and  $B$  are as defined above,  $g(\cdot)$  is the Probability Density Function of the Logistic random variable, and  $g(B'X)$  is a Scaling Factor (SF). The  $x_j$ 's are the independent variables except for Age and Gender,  $j = 1, 2, \dots, 6$ , (Inc, Educ, Skill, Network, FF, Opport).

For each of these 6 independent variables, Eq. (4) implies:

$$\frac{\partial \Pr(TEA = 1)}{\partial x_j} = g(B'X) * \beta_j \quad (5)$$

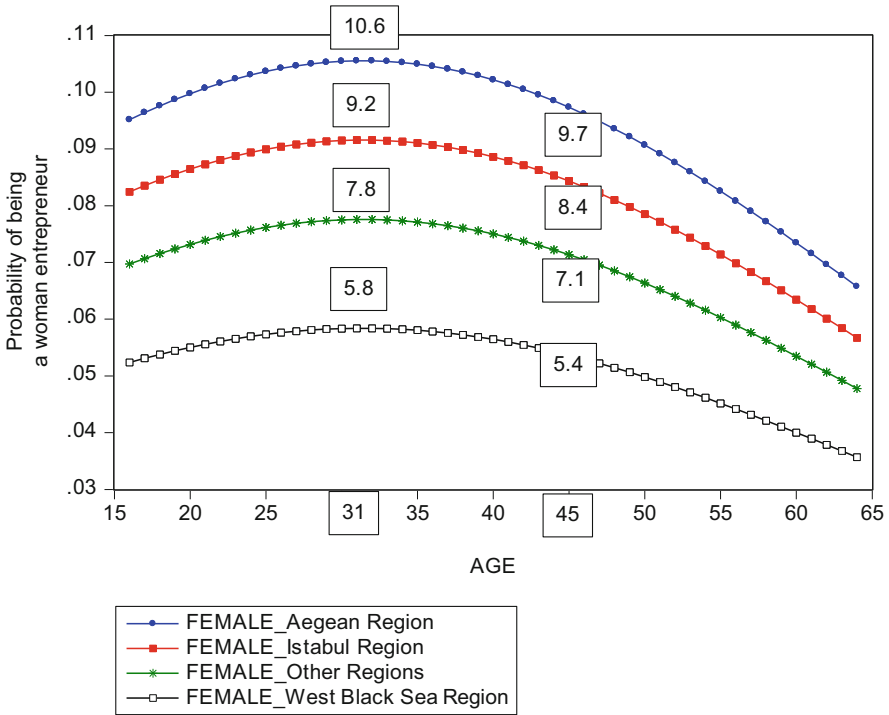
where  $\beta_j$  is the estimated coefficient of the independent variable  $j$ . In Table 3, we are now able to compare the derivatives (marginal effects) of the *Logistic Regression Model* (LRM) with those of the *Linear Probability Model* (LM) using Eq. (5). We observe that the derivatives obtained from these two models are extremely close to each other for each of these independent variables (except Network). Since LRM is a nonlinear model and the derivatives depend where the independent variables are evaluated, we use the sample means of the independent variables in order to represent the typical characteristics of entrepreneurs in the sample. The closeness' of estimated derivatives confirm that our calculations are correct.

These derivatives (marginal effects) in the *Logistic Regression Model* (LRM) in Table 3 (third column), imply that when a respondent's income (Inc) increases to the next upper class, for example from second class (2) to third class (3), then the probability of being an entrepreneur increases by 5.8% holding all other variables constant. Similarly, the probabilities of being an entrepreneur changes by -2.6%, 11.4%, 7.3%, -2.4 and 4% when the person's education increases and she/he belongs to the next upper education level (Educ), believes to have knowledge, skill and experience (Skill), knows an entrepreneur personally (Network), and has fear of failure (FF), believes good business opportunities exist in the area (Opport) respectively. We observe that Skill has the highest effect (11.4%) and Education has a negative effect (-2.6%) which is statistically significant but relatively less important.

In Sect. 4.3, we now turn to the estimation and graphing of the probability of being an entrepreneur among women and men in Turkey across regions and by allowing the Age variable to change from 18 years to 64 years using our Eq. (1).

### 4.3 The Probability of Being a Tea Entrepreneur Among Women and Men with Respect to Age and Region

We also like to investigate whether there is an inverse U-shaped concave relationship between the probability of being a TEA entrepreneur and age, and if so, what is this



**Graph 1** Probability of being a tea entrepreneur among women with respect to age and regions

threshold age level, using the Turkish GEM data. We try to answer this question by using the cumulative distribution function of the *Logistic Regression Model (LRM)* and measuring the age variable on the horizontal axis (Graph 1).

This threshold age level (31.39) can be found mathematically as follows:

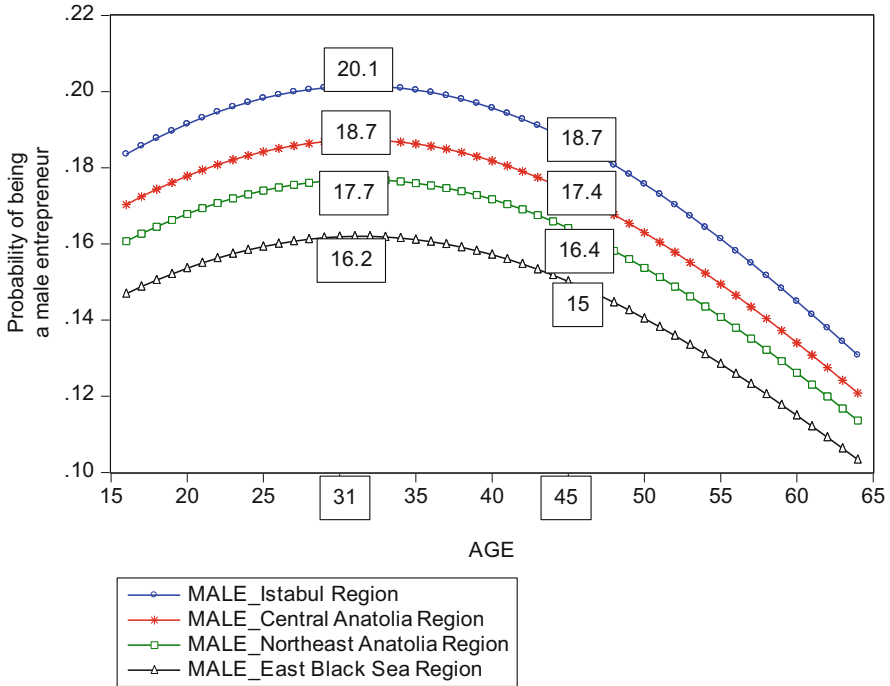
$$\begin{aligned} \frac{\partial \Pr(TEA = 1)}{\partial AGE} &= g(B' \bar{X}) * (\beta_1 + 2\beta_2 AGE) \\ &= \exp(B' \bar{X}) * (\beta_1 + 2\beta_2 AGE) / (1 + \exp(B' \bar{X}))^2 = 0 \end{aligned} \tag{6}$$

where  $\bar{X}$  is the vector in which all independent variables are held constant at their sample means. The solution to Eq. (6) is:

$$AGE = (-\beta_1) / (2\beta_2) = (-0.031) / (2 * -0.00489) = 31.69 \tag{7}$$

since exp(.) is strictly positive for all values in its domain.

In Graph 1, we show the probabilities of being a TEA entrepreneur among women with respect to Age and regions. At the threshold age of 31.69, the probability of being an entrepreneur among women is the highest and is equal to 10.6% in the Aegean Region (TR3) which is even higher than that in the Region of Istanbul (TR1) which is 9.2%. These likelihoods hover around 7.8% in all other regions, and



**Graph 2** Probability of being a tea entrepreneur among men with respect to age and regions

is the lowest in the West Black Sea Region (TR8) which is 5.8% for a typical female respondent in the sample (for ex: all the characteristics of the respondent except gender fixed at sample averages). Therefore we conclude that the probability of being a woman entrepreneur ranges from 5.8 to 10.6% in Turkey. However, in most regions (in 9 of them) they are around 7.8%. When the same probabilities are considered at the age of 45, they are lower and range from 5.4 to 9.7%.

In Graph 2, we show the probabilities of being a TEA entrepreneur among men, this time with respect to Age and regions.<sup>2</sup> At the age of 31, the probability of being an entrepreneur among men is the highest and is equal to 20.1% in the Istanbul Region (TR1). This probability is around 18.7% in the Central Anatolia Region (TR7). While it is equal to about 17.7% in the Northeast Anatolia Region (TRA), it is the lowest and is equal to 16.2% in the East Black Sea Region (TR9). When the same probabilities are considered at the age of 45, they are lower and range from 15 to 18.7%.

<sup>2</sup>Since we have not allowed the Age variable to interact with the gender variable the threshold age remains the same at 31.69.

## 5 Conclusion

This study uses the Regression of Pooling Cross Sections model to analyze the regional disparities with respect to gender using the data from the Global Entrepreneurship Monitor (GEM) for the years 2006–2015 for Turkey. The dataset consisted of 56,142 interviews with a representative sample of adults (18–64 years old). In addition, the model incorporates the *Logistic Regression Model* (LRM) since the dependent variable (being a TEA entrepreneur or not) is a binary variable. Using the Cumulative Logistic Distribution Function ( $G$ ) and evaluating it at the estimated coefficients allows us to compute the probability distribution of being an entrepreneur for the Turkish respondents. The following results were observed.

The general environment conducive to the entrepreneurial activity in the West Marmara, the Mediterranean, the West Black Sea and the West, Southeast and the Central Anatolia Regions, are no different from the base region of Istanbul *after controlling for the observed factors* (our independent variables). However, the probability of being an entrepreneur is lower by 2.2%, 2.3%, 2.8%, 1.7% and 2.1% in the Aegean, the East Marmara, the East Black Sea, the Northeast Anatolia and the Central East Anatolia Regions respectively. Therefore, the general entrepreneurship pursuit in these 5 regions are found to be about 2% lower compared to the Region of Istanbul, on the average.

We found that on the average, the likelihood of being an entrepreneur *among women* is highest in the Aegean Region which is 9.4%. This likelihood is even higher than that in the Region of Istanbul which is 8.1%. The situations in the West Anatolia and the Mediterranean Regions are similar to that in the Region of Istanbul. These likelihoods are lower and are approximately around 6.4–7.0% in all other regions, except in the West Black Sea Region where it is the lowest and is equal to 5.2%. Hence, we conclude that the probability of being a woman entrepreneur ranges from 5.8 to 10.6% in Turkey. When the same probabilities are considered at the age of 45, they are lower and range from 5.4 to 9.7%.

When men were considered, overall, the probability of being an entrepreneur is higher among men compared to women. This likelihood is highest in the Region of Istanbul along with the Aegean, the West Anatolia and the Mediterranean Regions and is equal to 18%. This likelihood is little lower and is around 17% in the Central Anatolia and the Southeast Anatolia Regions. While it is equal to about 16% in the West Marmara and the Northeast Anatolia Regions, it is even lower and equal to about 15% in the remaining regions.

Moreover, as far as the other demographic, economic and perceptual variables are concerned we found that when a respondent's income (Inc) increased to the next upper class, then the probability of being an entrepreneur increased by 5.8% holding all other variables constant. Similarly, the probabilities of being an entrepreneur were found to change by -2.6%, 11.4%, 7.3%, -2.4 and 4% when the person's education increased and she/he belonged to the next upper education level, believed to have knowledge, skill and experience, knew an entrepreneur personally, and had fear of failure, believed good business opportunities exist in the area respectively.

We observe that Skill has the highest effect (11.4%) and Education has a negative effect (−2.6%) which is statistically significant but relatively less important.

To sum up, we have found that the regional disparities exist in Turkey with respect to gender and to other unobserved characteristics besides the variables explicitly used in our regression model.

Our study suggests several possibilities for future research. We believe that multilevel modelling should be further empirically examined in order to find the regional characteristics by analyzing the advantage in urbanization, location, social capital, economic structure or difference in culture influencing the entrepreneurship level. This is a good direction for future research to find out which regional characteristics encourage entrepreneurship. Future research may also look into regional conditions that can also affect individual-level entrepreneurial attitudes.

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# A Study on Micro Women Entrepreneurs in UAE



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**Abstract** Nurturing entrepreneurial activity in growing economies is vital as it leads to improved economic efficiencies. The role of women entrepreneurs in the economic development is very crucial. The major objective of the study is to understand issues and challenges being faced by micro level women entrepreneurs in the UAE region, including their educational and training requirements. A sample of 200 micro women entrepreneurs from all the Emirates were identified through convenient sampling method, but only 121 (60.5% response rate) micro women entrepreneurs have responded from five Emirates (e.g., Dubai, Fujairah, Sharjah, Ajman, and Abu Dhabi). There were no responses from the other two Emirates (e.g., Ras-Al-Khaimah and Umm Al Quwain), as the micro women entrepreneurs under the study were not interested to participate in the survey. It was found that the micro women entrepreneurs under the study from the UAE are facing majorly two major challenges, viz: (i) Cost of Operations and (ii) Competition. As far as the ‘Cost of Operations’ are concerned, the major component goes to cost of rentals and leased accommodations. From the study, it was also observed that they completely lack knowledge and awareness on competitive strategy. It was also found that the micro women entrepreneurs under the study have no formal education and training on business management (or) entrepreneurial process. The study was original and carried out in UAE region in all the Emirates. It has some implications on Government policies with regard to micro women entrepreneurs.

**Keywords** Women · Entrepreneur · Emirate · Dubai · Sharjah · Ajman · Fujairah · Abu Dhabi · Micro · Training

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## 1 Introduction

Entrepreneurship is cited as a prime engine for economic growth and development in many transitional and emerging economies (Lau et al. 2007; Manev and Manolova 2010). It is the basic model for development in developing countries. Various empirical studies investigated the role of business ownership (Carree et al. 2002), and start-up entrepreneurship (Hessels and Van Stel 2011) in driving economic development, especially entrepreneurial characteristics such as innovation (Minniti and Lévesque 2010) and employment growth (Wong et al. 2005).

Needs of existing women entrepreneurs in emerging economies is not aligned with the role this particular segment has played in the economic development (Tan 2008). Moreover, across various nations, little attention is paid to factors, which might contribute to venture growth of the women entrepreneurs (Brush et al. 2006). Nurturing entrepreneurial activity in growing economies is vital as it leads to improved economic efficiencies, creation of new jobs, innovations, and sustenance of employment levels (Shane and Venkataraman 2000).

There is increasing volume of research which acknowledges the significance of entrepreneurship training and education as a source for improving intentions on start-ups, survival, and growth (Katz 2007). The role of women entrepreneurs in the economic development is very crucial for many reasons (Nicholas and Victoria 2010). The empirical study analyzed and investigated motivation of women participation and also importance of entrepreneurial activity in social and economic issues.

Entrepreneurship education emphasized on behavior mostly deals with entrepreneurial behavioral skills. The entrepreneurship training concentrated on creation of new firms, and specific situations. One of the key advantages of concentrating on new interpretations of competence is that they focus on the interrelatedness of skills, attitudes, and knowledge (Hayton and Kelley 2006; Markman 2007; Man 2006) and acknowledge the significance of the work context (Sandberg 2000).

Research studies exploring education as an important element of venture performance or growth in the emerging economies; however, have not proven to be conclusive. Lerner et al. (1997) found that education levels of the women entrepreneurs in Israel context were not related to the business performance. In a Singaporean context, Tan and Tay (1994) found negative relationship between the education level and sales growth of micro business owners.

Similarly, Manolova et al. (2007) did not find any relationship between growth expectations and education level for Bulgarian women entrepreneurs. In contrast, Yusuf (1995) reported that the education perceived to be a critical success factor for the business performance among South Pacific entrepreneurs. Lee and Tsang (2001) suggested that venture performance and the education level are positively related under certain conditions, depending on the specific size of the firm.

Research has shown that the entrepreneurship education for micro and small business owners primarily revolve around motivation aspects. It differs from that of typical students studying management education, whose primary aim is to acquire knowledge, whereas the entrepreneurial learning by small business owners is a



problem-centered, situation specific process (Cope and Watts 2000; Young and Sexton 1997).

The literature reveals lack of training on the entrepreneurial process. There is clear evidence that the entrepreneurship education and training increases one's confidence and knowledge levels for handling the significant process of opportunity recognition and assessment (DeTienne and Chandler 2004). There was a dire need to explore the relationships between education and training and the entrepreneurial process among various developing countries, including UAE, by using larger representative samples in each country.

Although many studies have been conducted on the entrepreneurship in general, there have been limited studies particularly from the developing world on Small and Medium Enterprises (SMEs) (Terjesen et al. 2013).

Our exploratory research is guided by the following key questions:

- (i) What are the challenges women entrepreneurs face during start-ups and growth phases; and
- (ii) What type of support do the women entrepreneurs require to overcome the challenges.

The major objective of the study is to understand issues and challenges being faced by micro level women entrepreneurs in the UAE region, including educational and training requirements and also to identify competency gaps which are considered to be important for their business performances and growth during initial phases.

The structure of this research paper is detailed here. In the first place, we review briefly literature on women entrepreneurs and also educational and culture contexts in the UAE. Second, we explain methodology and data collection process. Third, we narrate analysis and findings on each variable in detail and finally, we conclude with some suggestions/recommendations for further research on the subject.

## 2 Literature Review

Research studies report evidence of successful entrepreneurship education practices based on action learning programs (e.g. Kyrö and Carrier 2005; Bird 1988). The pattern of learning for the entrepreneurship education differs from typical management education; whereas the former is a situated, specific, problem-centered process and the latter requires knowledge acquisition and retention (Cope and Watts 2000; Young and Sexton 1997). Both experiential and situated learning components of entrepreneurial learning demand modern teaching methods which facilitate peer learning process and mutual support.

Personal characteristics such as good interpersonal, technical and mental skills, and being creative contribute to an entrepreneur's success (Hodgetts and Kuratko 1992). Further, being pragmatic, goal-oriented, flexible, self-confident, and determined are the attributes that add value to the entrepreneur's success.

Another significant contributing factor to successful entrepreneurs is overall knowledge that is acquired from many sources such as personal experience through education or training. Being knowledgeable can help an entrepreneur to generate innovative ideas, which in turn facilitates entrepreneurs to grab opportunities emerging from the environment.

In addition to the characteristics discussed above, leadership is another significant factor that contributes to business success (Dafha 2008; Jong and Hartog 2007). Dafha (2008) suggests that entrepreneurs who practice leadership skills can lead to innovations and organizational changes in their business ventures which will enable them to spot market opportunities (Reijonen 2008). Entrepreneurially competent not only refer how to write a business plan, it also implies acting on opportunities, and relate to potential suppliers and buyers. It also implies that the entrepreneur is able to exploit and identify an opportunity within a specific context, including evaluation and management in the long run. Further, entrepreneurial competencies are brought into practice and developed further through experience on critical incidents (Cope and Watts 2000), observation or experimentation (Mulder et al. 2007).

Traditional model of training is ineffective for the learning of owner—managers. New education programs for the entrepreneurs should be based on sharing good practices through networks and studies among various partners (entrepreneurs, researchers, advisors, policy-makers, financiers, and so on). To address needs of individual learners, attention must be given to the learning environment and adaptability of the curriculum. Worthy and true quality institutions should govern their instruction, curricula, support services, and instruction by standards and policies established to ensure success of the participants (Capogrossi 2007).

Institutions which are successful, must formulate their learning objectives to meet desired needs of the student audience. The professional and academic needs of the student audience will become the focus of curriculum and quality control process (Capogrossi 2007). To succeed entrepreneurs require two types of leadership competencies, including self-competencies and functional (Swiercz and Lydon 2002). Functional related competencies consist of four subsystems (i.e., finance, operations, human resources, and marketing), while the self competencies include utilizing external advisors, intellectual integrity, creating and developing a sustainable organization, and promoting the company rather than individual leaders. Further, successful entrepreneurs are effective leaders (Cutting and Kouzmin 2000), who have clear purpose, mission, and values (Thompson 1999).

These entrepreneurial competences have significant consequences for educational practices, particularly with respect to identification and diagnoses of the competencies as starting points for training and education (Sandberg 2000). The identification of vital entrepreneurial competencies require a dialogue between the educator, teacher, the (future) entrepreneur, and facilitator (Wesselink et al. 2007). Together, they have to actively develop the meaning of competence from the audiences' particular line of work. Furthermore, an integrative approach to the competence also emphasizes a direct relationship between worker and the work, and in this particular situation between (future) work/business environment and the (future) entrepreneur.

Reviewing relevant literature, it can be assumed that modern conceptualizations of the competences are not only restricted to behavioral elements of competences ('know how to behave'), but also include cognitive (understanding) as well as the functional elements (e.g., skills, know-how). Further, entrepreneurial competence must be viewed as learned and as a construct which requires the interpretation and understanding.

In the UAE context, women face many challenges which make it quite difficult for them to participate in the entrepreneurial activity. The UAE society is immensely influenced by culture and religion, particularly with respect to women's role in the society. Some sections of the society, even today, frown upon women running their own businesses. This really makes it difficult for the women Emiratis to harness entrepreneurial skills, and by balancing between families and the society. Despite very strong influence of culture and religion, the role of the Emirati women is going through major changes with increasing numbers of them joining the labor market.

The 1985 UAE census shows 3997 National women in the workforce. By 1995, the figure increased to 15,729 and in a 10 year period, according to the 2005 census, the number has further grown to 51,580 (United Arab Emirates Yearbook 2006).

An important UAE National Strategy for Advancement towards Women was for Businesswomen's Councils, linked to each of the Chambers of Commerce and Industry throughout the United Arab Emirates, with a view to assist women and to link business with public policy. This was done to facilitate policy making and to also influence policy legislators to lend support and to act as advocates for the business strategy. With these efforts, larger number of women have been joining the workforce; yet only a limited number of these women are opting to become entrepreneurs. In this context, it is ideal to understand the variables that are crucial for motivating Emirati women to develop their entrepreneurial talents. From gender perspective, women were seen as unique individuals, by end of the twentieth century (Kyrö 2001). Women started their own businesses and attempted to make their dreams come true. Historically, the female in the GCC have taken traditional roles in the society, e.g., taking care of their children and family. However, by the turn of the century women entrepreneurship in the GCC has been gaining gradually attention and momentum at a rapid pace as more and more women are slowly coming out of their traditional roles towards contributing to the society.

Brush (2006) argues that there are very limited studies related to the women entrepreneurs in the GCC region, inspite of the fact that increasing number of women contributing to the society. The number of women owned businesses in the Middle East is low when compared to other parts of the world; the reason being gender related barriers outside the business environment.

As per McIntosh and Islam (2010)'s study, Islamic traditions played a vital role in women's lives. It clearly shows that factors related to the women entrepreneurship in conservative Islamic countries are different from other North American and Western European countries.

Despite the constraints mentioned above, as per the recent reports, more and more women are encouraged to get on board and show interest and willingness to take risks to open up their own businesses. With regard to the women entrepreneurship

activity, countries like Bahrain, UAE, and the Saudi seem to be actively engaged. In terms of individual attitudes, Saudi women seem to be more optimistic regarding their short run business growth and prospects (70%), followed by the UAE women closely at 60% (Alturki and Braswell 2010).

The issues and challenges as identified by the United Nations (2006) include: lack of access to finance, and government regulations. In addition, the challenges for the GCC women include: risk avoidance, and lack of self-confidence. The expectations of the society and cultural norms, economic policies; and the availability of support services are crucial and different between the female and male entrepreneurs (Pitelis 2005). While it was acknowledged that in the GCC the role of women is gradually changing from a that of traditional family support to contributor to the economic growth, more specific actions are needed on a country basis.

The statistical figures for women owned businesses in various countries are very impressive for the most middle and high income countries, while the Middle East numbers are lower and is now on increasing phase. Upon reviewing the literature on the women's entrepreneurship, it was concluded that additional research is needed to fill the gaps particularly, to shed light on the barriers that could influence the women differently from the men (Baughn et al. 2006).

Women are viewed continually as different in these male dominated society (Bruni et al. 2005). Unfortunately, studies and literature on the women entrepreneurs in the UAE is very limited. There are four studies only which concentrate on women Emirati entrepreneurs. The first one is Baud and Mahgoub (1999) which briefly explores issues of women entrepreneurs such as establishment challenges, personal background, and social networking. The second study related to home-based small businesses (Haan 2002). The third one by Haan (2004) describes operational and start-up constraints women entrepreneurs in UAE face in small enterprises. Surprisingly, Haan finds the existence of two separate segments in the female managed small enterprises in the UAE: (i) old and traditional activities including perfume mixing and handicrafts; and (ii) new and modern activities including information and knowledge based businesses. The fourth one by Murat and Declan explores motivational aspects and the level of support received from their personal networks.

## ***2.1 The Role of Emirati Women in the UAE Society***

Due to various legal, political and socio-cultural factors, women from the UAE are very limited in their occupational and career options, and for this reason they give least preference to traditional male professions (Rhoudi-Fahimi and Moghadam 2004). Like any other country, UAE also cannot sustain long-term growth unless it makes plans for women improvement in their social, economic, and political status. One peculiarity of the local society in the UAE is that some occupations, which usually fall outside gender biases, are considered undesirable or inappropriate for the Emirati women (Nelson 2004).

Regarding cultural beliefs, Sheikh Zayed, the late president of the UAE, addressed by saying “*Women have the right to work everywhere. Islam affords to women their rightful status, and encourages them to work in all sectors, as long as they are afforded the appropriate respect.*”

Now the Government of UAE is committed to promoting the key role of women in economic, political, and the social development of the UAE society.

### 3 Method

Action research is based on the mutual problem—solving relationship between research subjects and the researcher to solve problem and generate new knowledge (McNiff and Whitehead 2003). It therefore, involves a process: diagnosis of a problem, systematic planning, collecting data, finding results, and again planning and taking action (Dickens and Watkins 1999; Lewin 1946).

Majority of the micro and small organizations run by women are unable to handle the unanticipated challenges during growth phase. The very important reason being lack of structured strategy from the beginning. Majority of micro women entrepreneurs tend to neglect well defined strategy for their businesses, which will hamper the growth. Hence, identification of issues and challenges being faced by the micro women entrepreneurs is the objective of our current research study and also recommending a suitable strategy to overcome such challenges.

Phase 1—Exploratory Study: During the phase 1 exploratory qualitative studies had been conducted from a select list of entrepreneurs from all the Emirates in UAE.

Variables related to micro level entrepreneurs have been identified through literature reviews and the same were validated with selected ten entrepreneurs by focused interviews.

Following variables have been identified during the exploratory study and the same have been incorporated in the questionnaire for data collection:

- Marketing
- Competition
- Finance
- Operation
- Networking
- Mentoring/Business advising
- Products/Services
- Government regulations
- Organization structure

Phase 2—Empirical Study: Based on the findings obtained from the above analysis, a suitable Questionnaire/instrument has been designed.

A data collection plan from micro level entrepreneurs had been scheduled from all the Emirates; it took 6 months for collecting the data. A sample of 200 micro women entrepreneurs from all the Emirates had been planned for data collection, but only

**Table 1** Emiratewise—Sectorwise Respondents' data

Sector	Emirate				
	Dubai	Fujairah	Sharjah	Ajman	Abu Dhabi
Manufacturing	12	6	11	6	9
Trading	18	2	10	4	8
Service	10	3	9	5	8
Total	40	11	30	15	25

121 (60.5% response rate) micro women entrepreneurs had responded from five Emirates (e.g., Dubai, Fujairah, Sharjah, Ajman, and Abu Dhabi). There were no responses from the other two Emirates (e.g., Ras-Al-Khaimah and Umm Al Quwain). This might be due to either they are not interested to participate in the survey due to other business related exigencies or may not have enough knowledge on various things under the study. Emiratewise/Sectorwise respondents' data is placed at Table 1.

## 4 Analysis and Findings

Each question in the questionnaire has been analyzed by using charts/graphs/pie diagrams. Figures 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, and 26(a–e) are placed below with explanations.

Majority of the micro women entrepreneurs have completed tertiary education (e.g. UG); Dubai (60%), Fujairah (62%), Sharjah (45%), Ajman (60%) and Abu Dhabi (45%), followed by Secondary education (10 + 2).

In this component, it is showing mixed response; mostly towards not agreeing to the importance of education in doing business. In Dubai emirate 85% of the respondents strongly disagreed to this followed by Fujairah (38%—Neither agree nor disagree); Sharjah (40%—Neither agree nor disagree); Ajman (33% Neither agree nor disagree); Abu Dhabi (38% Neither agree nor disagree).

On this dimension, majority of the respondents responded that they are running the enterprises first time; Dubai (60%), Fujairah (72%), Sharjah (50%), Ajman (67%) and Abu Dhabi (48%).

On this question, majority of the respondents said that they had prior experience in other organizations before starting their own businesses; Dubai (75%), Fujairah (50%), Sharjah (40%), Ajman (40%) and Abu Dhabi (48%).

From this question, it is very clear that majority of the micro women entrepreneurs under the study had no formal training; Dubai (90%), Fujairah (63%), Sharjah (80%), Ajman (60%) and Abu Dhabi (80%).

Regarding support from family, all the micro women entrepreneurs under the study have responded positively and nobody from our survey respondents has denied it.

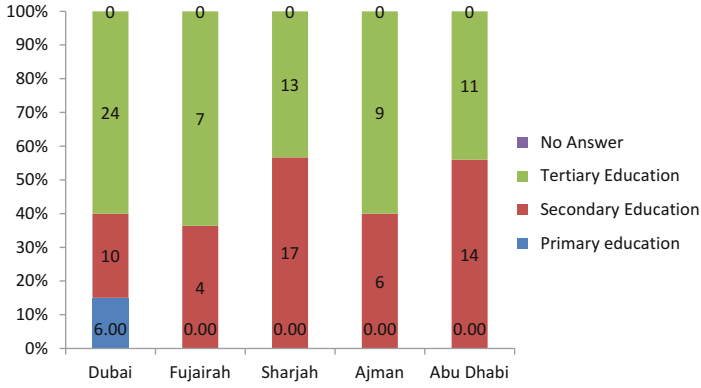


Fig. 1 Educational background

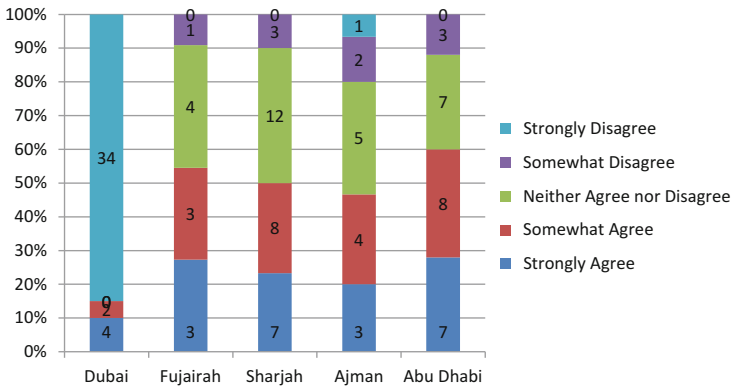


Fig. 2 Importance of education in doing business

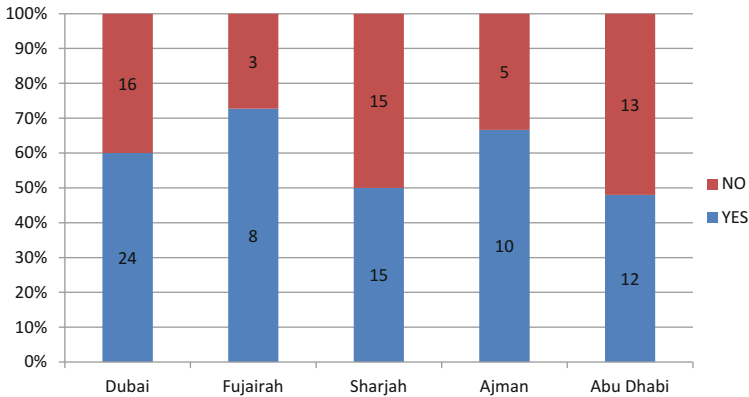


Fig. 3 Is this first enterprise?

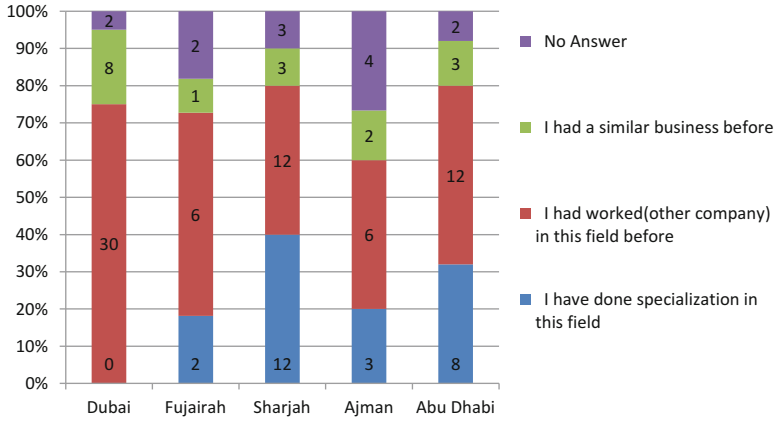


Fig. 4 Prior experience in this field of business

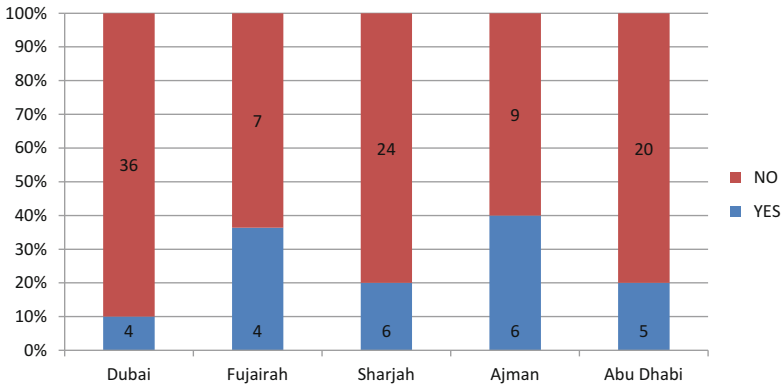


Fig. 5 Formal entrepreneurial training at any time?

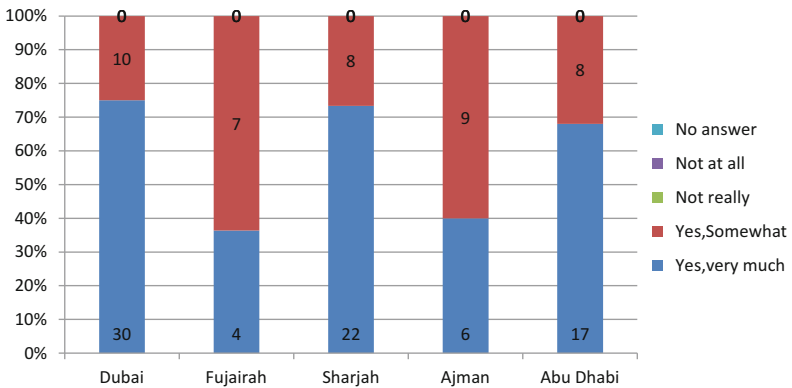


Fig. 6 Support from family in doing business



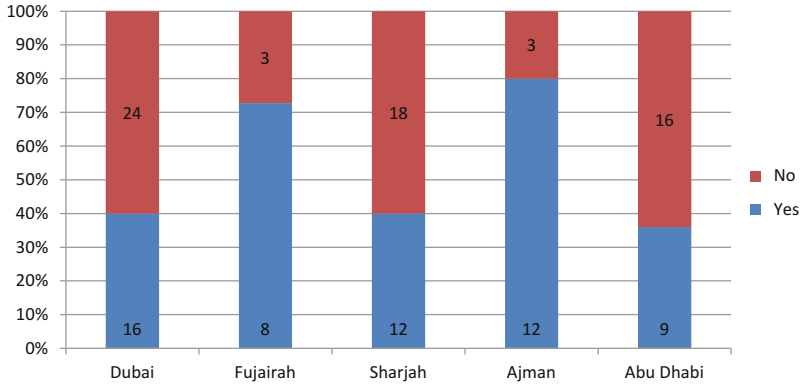


Fig. 7 Standard organizational structure

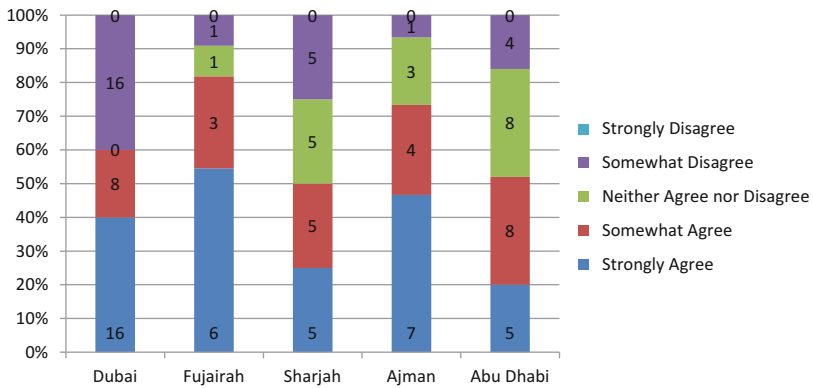


Fig. 8 Absence of the organizational structure is a challenge to growth of the organization

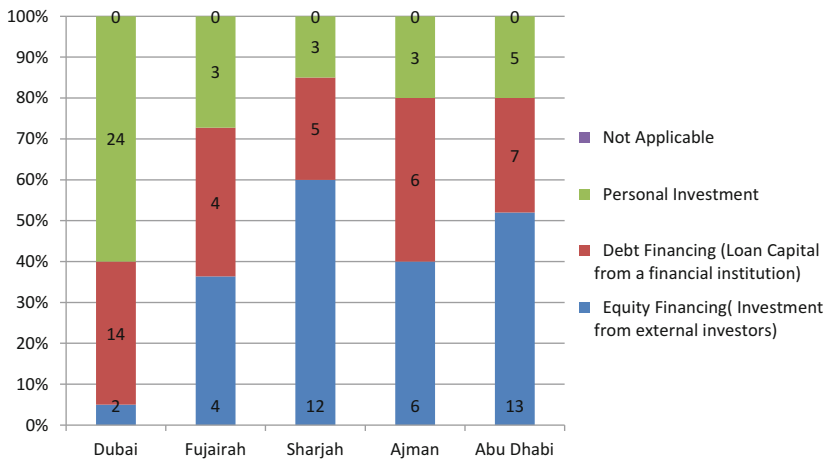
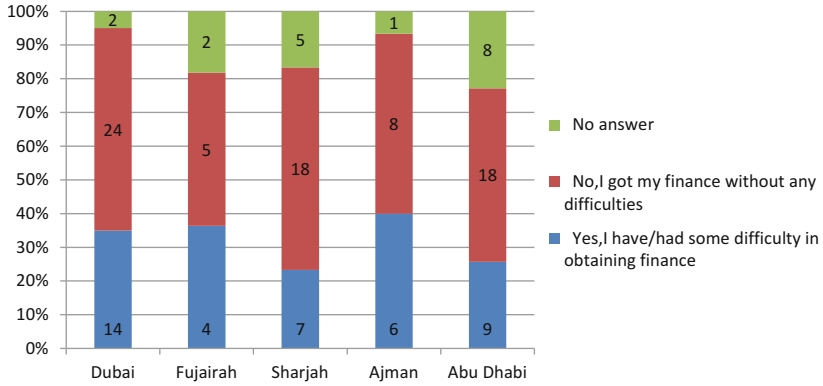
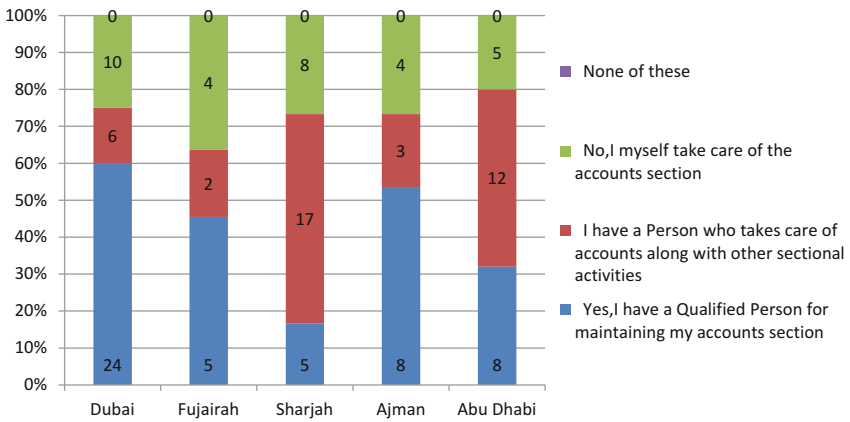


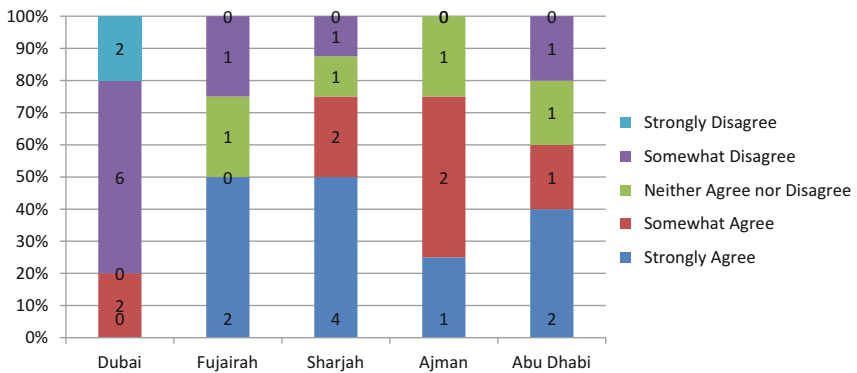
Fig. 9 Short term financing requirement



**Fig. 10** Obstacles in getting finances



**Fig. 11** Having skilled manpower in Finance/Accounts function



**Fig. 12** Absence of skilled finance person makes it difficult to manage finances

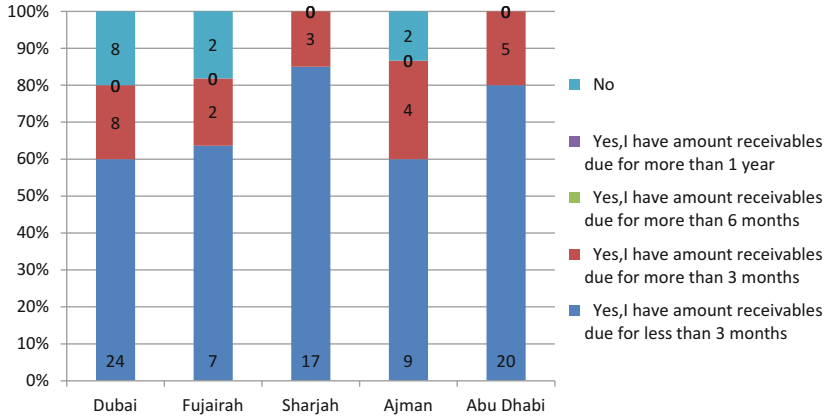


Fig. 13 Facing problem with delayed amount receivables

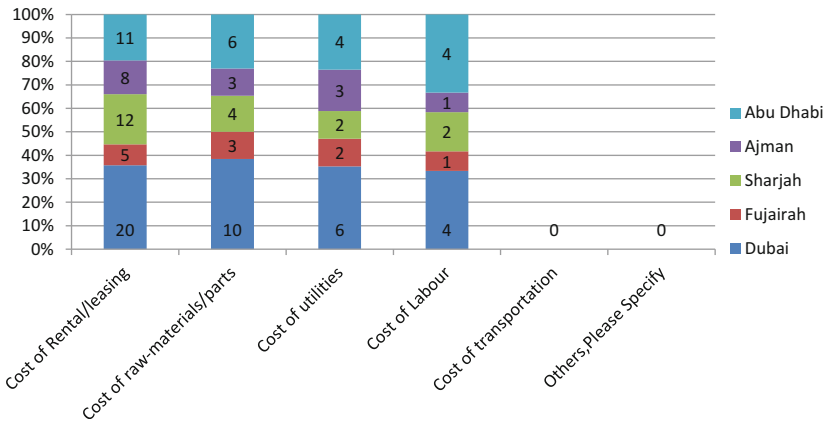


Fig. 14 Costs of operation causing challenge to business

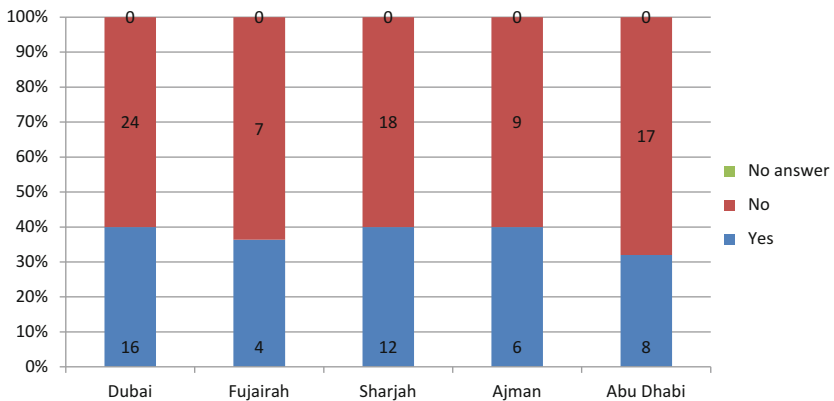


Fig. 15 Demand for products/services reduced in recent times

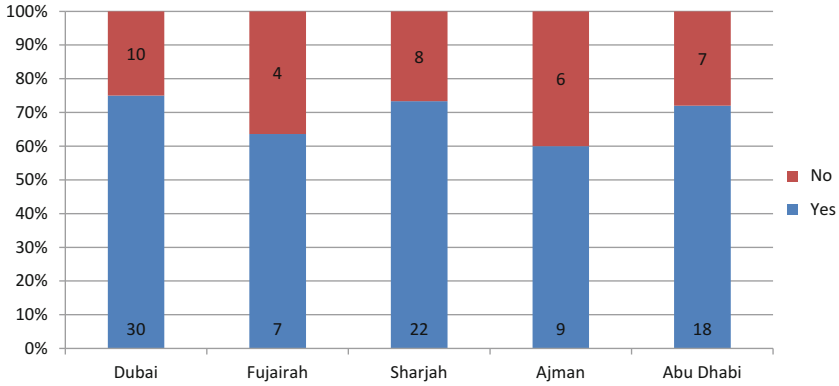


Fig. 16 Company having skilled/qualified professional workers

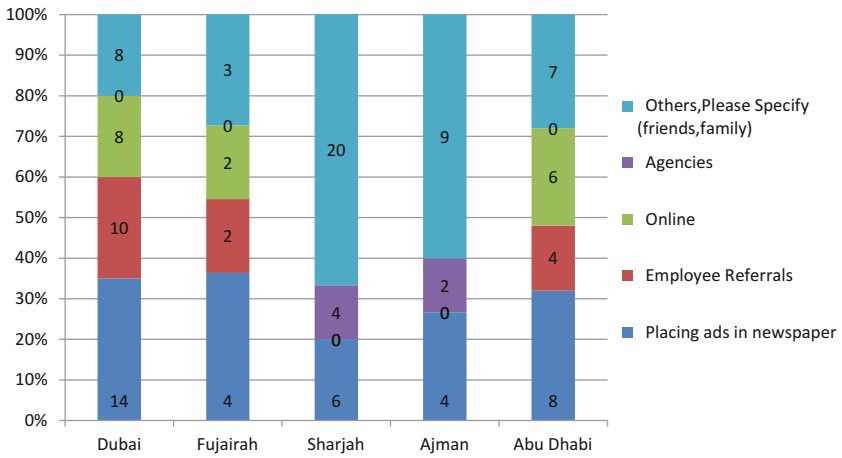


Fig. 17 Sources of recruiting new employees

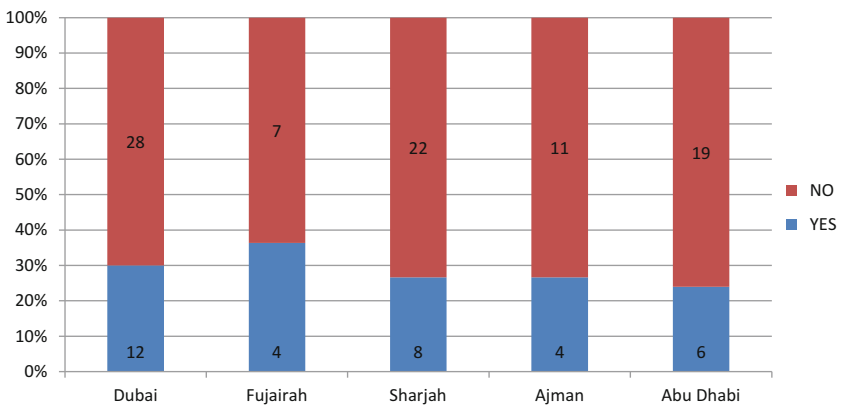


Fig. 18 Having competitive strategy

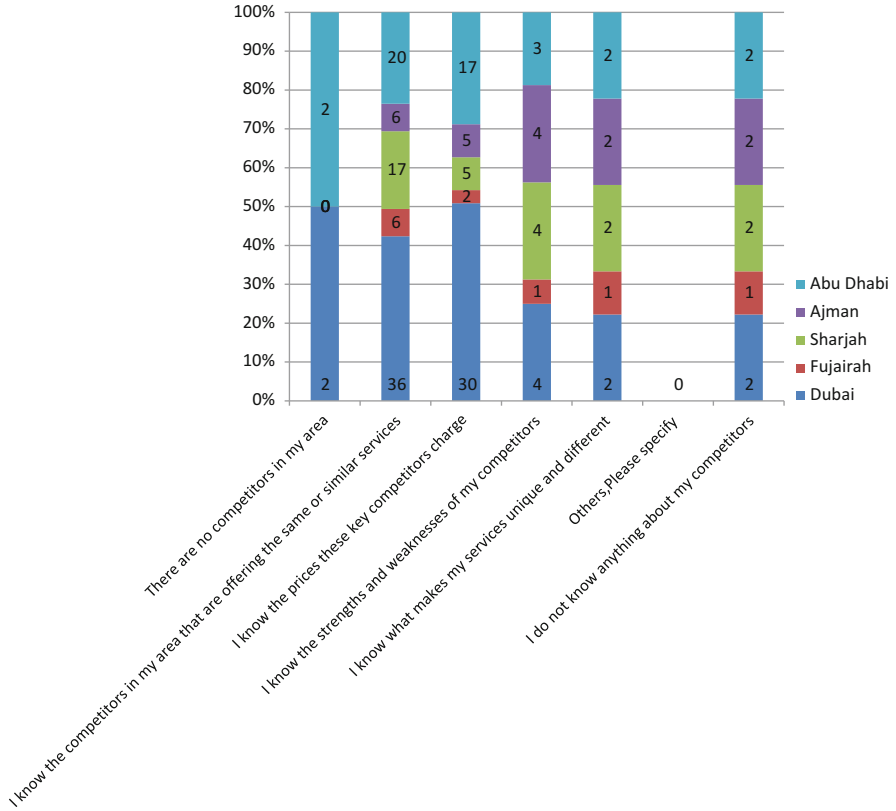


Fig. 19 Knowledge about competitors

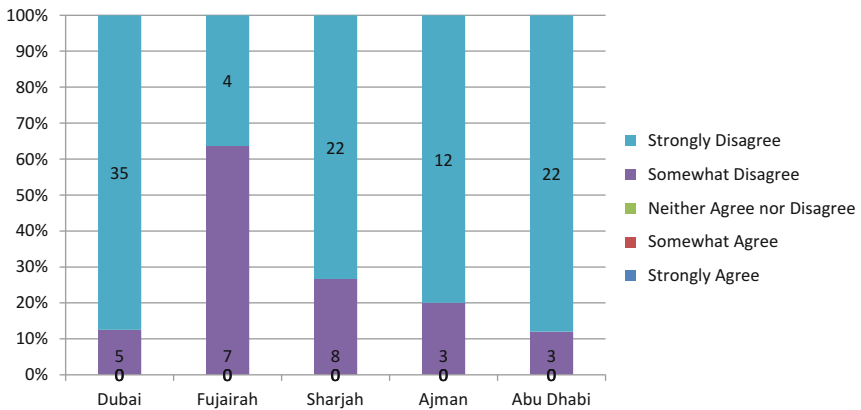


Fig. 20 Difficulties in getting resources/permissions from the Government

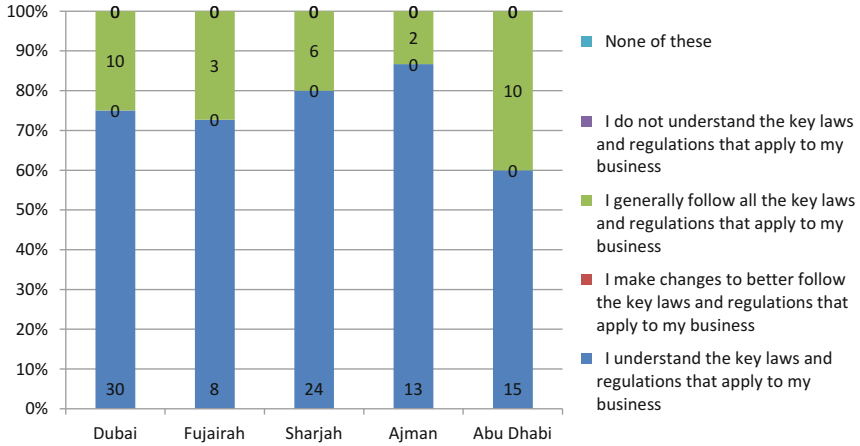


Fig. 21 Handling laws and regulations related to your business

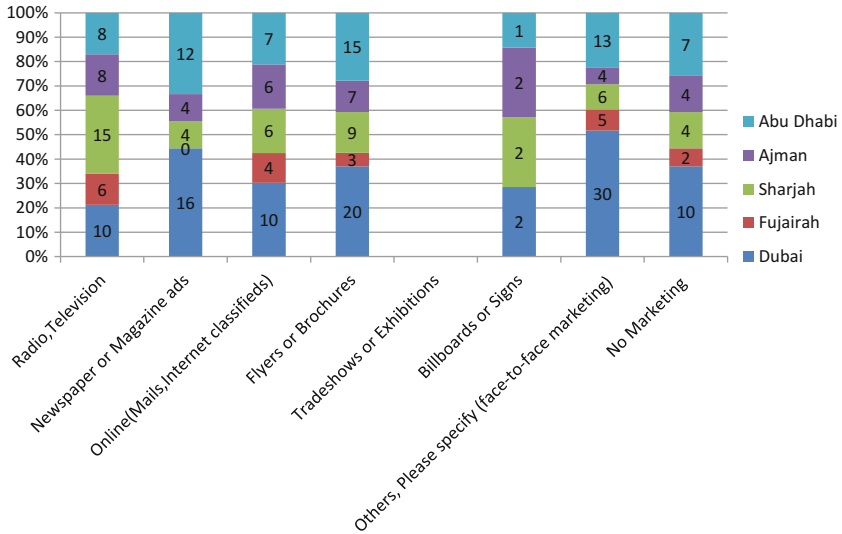
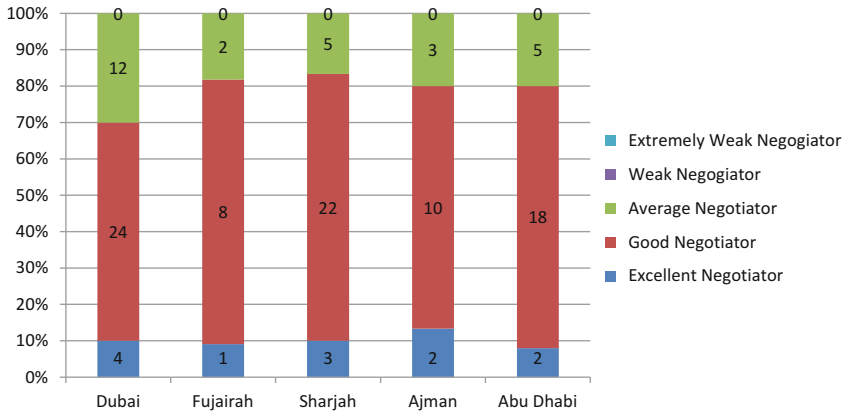


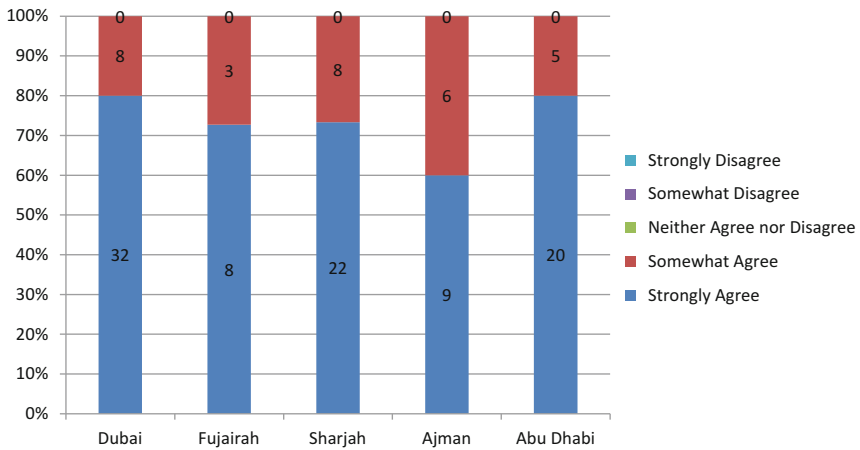
Fig. 22 Use of marketing techniques for promoting business

In this component, although it is showing mixed response, most of them have agreed that they have standard organizational structures; Dubai (40%), Fujairah ((72%), Sharjah (40%), Ajman (80%) and Abu Dhabi (37%).

Majority of the micro women entrepreneurs from Dubai (40%), Fujairah (55%) and Ajman (48%) have strongly agreed that the absence of the organizational structure is a challenge to growth of the organization. Other (e.g., Sharjah and Abu Dhabi) entrepreneurs have shown mixed response.



**Fig. 23** Effectiveness at negotiating with customers and suppliers

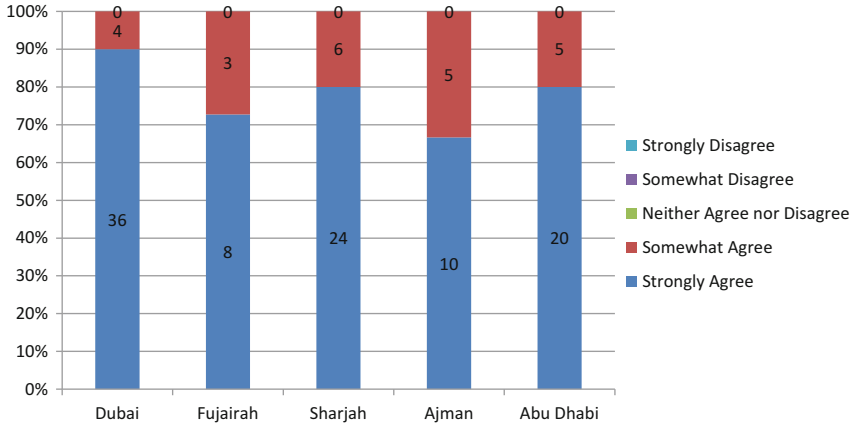


**Fig. 24** Mentoring support to grow business

Regarding short term financing requirement, except in Dubai emirate, all other emirates have expressed their concern for ‘Equity Financing’ aspect; Fujairah (37%), Sharjah (60%), Ajman (40%), Abu Dhabi (52%). In Dubai emirate, the micro women entrepreneurs have mentioned that they are investing their own personal money towards their businesses (60%).

Further, all the micro women entrepreneurs under the study from all the Emirates have mentioned that they do not have difficulties in obtaining finances; Dubai (60%), Fujairah (45%), Sharjah (60%), Ajman (50%), Abu Dhabi (55%).

Except in Sharjah and Abu Dhabi emirates, all the micro women entrepreneurs in other emirates [e.g. Dubai (60%), Fujairah (56%), Ajman (52%)] have mentioned that they have a qualified person exclusively for maintaining Accounts. In Sharjah (50%) and Abu Dhabi (48%) emirates, micro women entrepreneurs have expressed



**Fig. 25** Face-to-face networking to help grow business

that they have persons who take care of accounts along with other sectional activities.

In continuation of the above point, except Dubai and Ajman emirates, all the micro women entrepreneurs from other emirates [e.g. Fujairah (49%), Sharjah (49%), Abu Dhabi (40%)] have strongly agreed that absence of skilled persons makes it difficult in managing finances. In Dubai (60%) they have somewhat disagreed to this point. In the Ajman (50%) emirate, they have partially agreed to this point, if not fully.

Vast majority of the micro women entrepreneurs from all the emirates [e.g., Dubai (60%), Fujairah (62%), Sharjah (84%), Ajman (60%) and Abu Dhabi (80%)] have mentioned that they are receiving payments within 3 months from their respective clients/customers.

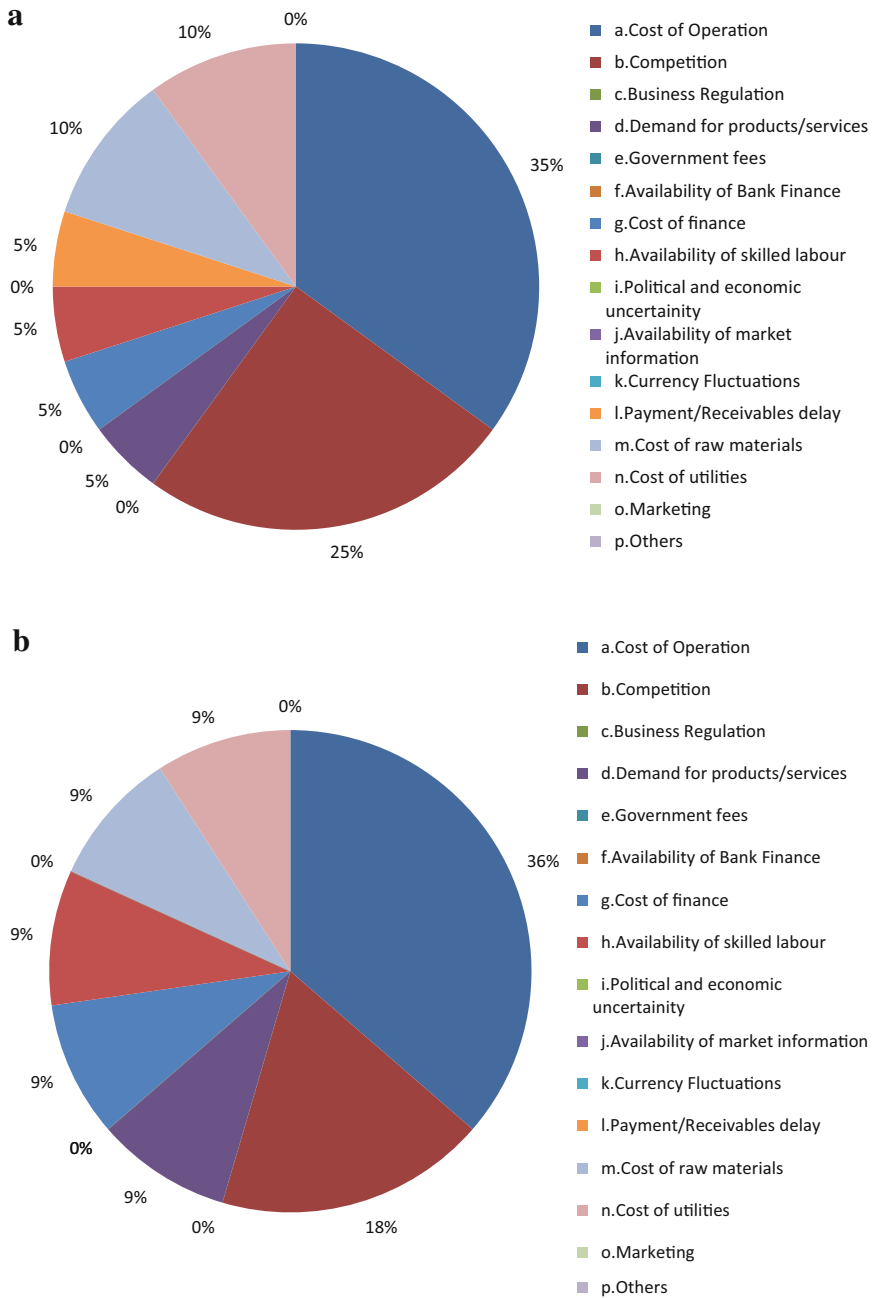
Regarding the dimension related to the ‘Costs of Operations’ majority of the micro women entrepreneurs from all the emirates [e.g., Dubai (50%), Fujairah (45.5%), Sharjah (60%), Ajman (53.3%) and Abu Dhabi (44%)] have expressed concern about ‘Cost of rentals/leasing’ aspect.

On this dimension, majority of the micro women entrepreneurs in all the emirates [e.g. Dubai (60%), Fujairah (62%), Sharjah (60%), Ajman (60%) and Abu Dhabi (68%)] have denied that the demand for their products/services have not reduced in recent times.

Regarding skilled and qualified professional workers, majority of the micro women entrepreneurs in all the emirates [e.g., Dubai (75%), Fujairah (63%), Sharjah (72%), Ajman (60%) and Abu Dhabi (72%)] have agreed that they have engaged qualified professional workers in their businesses.

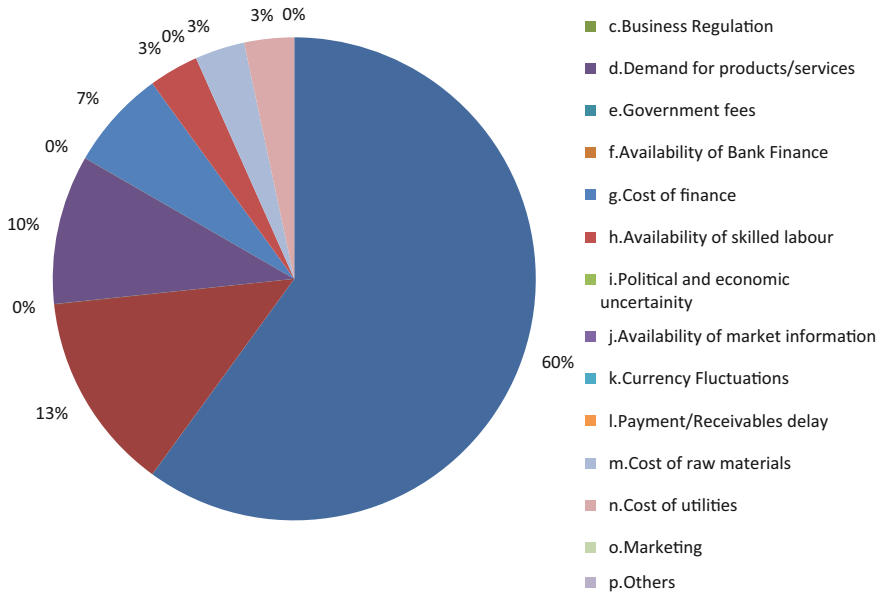
Except Sharjah and Ajman emirates, the micro women entrepreneurs under the study from all other emirates [e.g., Dubai (35%), Fujairah (37%) and Abu Dhabi (32%)] have mentioned that they are placing advertisement in local newspaper for recruiting employees in their businesses. Other micro women entrepreneurs under



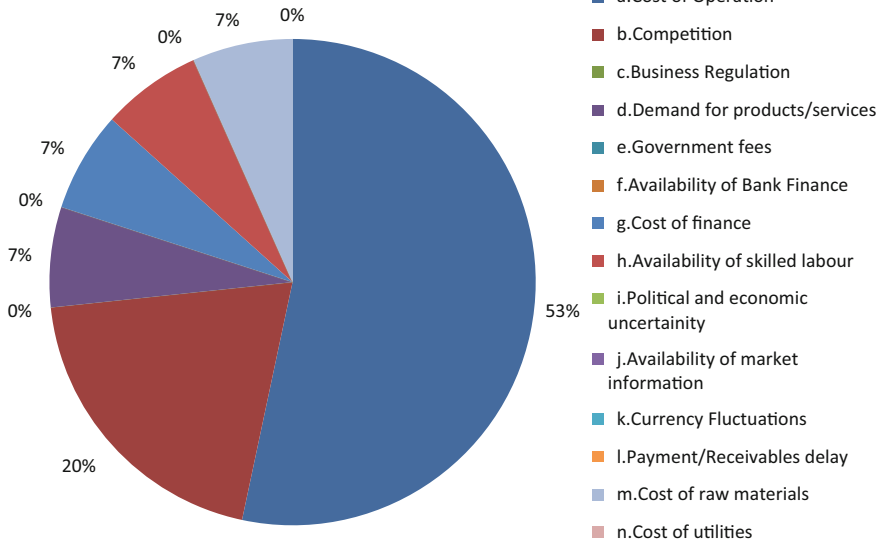


**Fig. 26** Challenges—(a) Dubai Emirate; (b) Fujairah Emirate; (c) Sharjah Emirate; (d) Ajman Emirate; and (e) Abu Dhabi Emirate

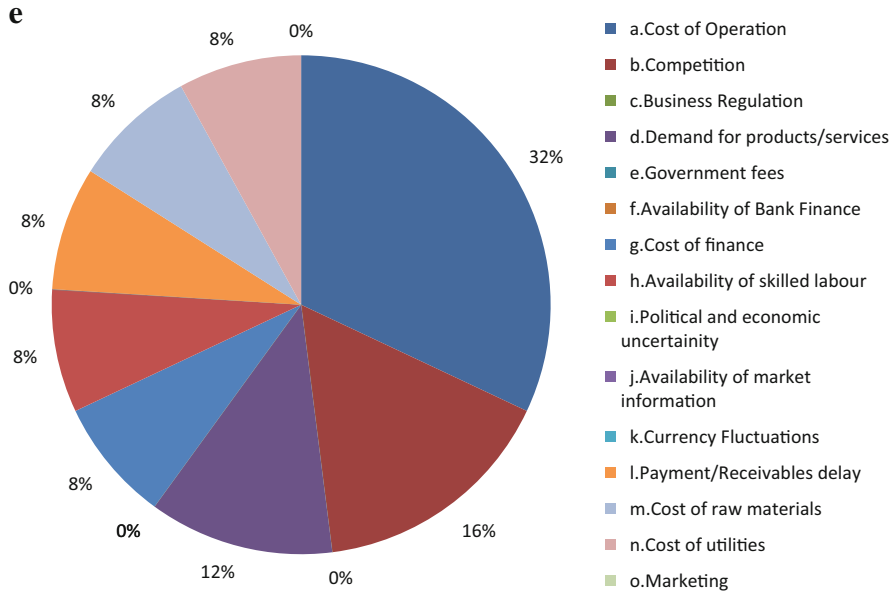
**c**



**d**



**Fig. 26** (continued)



**Fig. 26** (continued)

the study from other emirates [e.g., Sharjah (68%), Ajman (60%)] have said that they will engage employees by word of mouth through their friends and relatives.

Majority of the micro women entrepreneurs under the study from all the emirates [e.g., Dubai (70%), Fujairah (63%), Sharjah (72%), Ajman (72%) and Abu Dhabi (75%)] have clearly mentioned that they do not have competitive strategy for their businesses.

In continuation of the competition dimension, majority of the micro women entrepreneurs under the study from all the emirates have agreed on two aspects, viz: ‘In my area they are offering the same or similar products/services’ [Dubai (90%), Fujairah (54.5%), Sharjah (56%), Ajman (40%) and Abu Dhabi (80%)] and ‘I know the prices these competitors charge’ [Dubai (75%), Fujairah (18.1%), Sharjah (16.6), Ajman (33.3%) and Abu Dhabi (68%)].

Except the micro women entrepreneurs from the Fujairah emirates, all the micro women entrepreneurs under the study from other emirates [e.g., Dubai (88%), Sharjah (73%), Ajman (80%) and Abu Dhabi (88%)] have strongly denied about the difficulties they are facing from the Governments for getting permissions/resources, whereas the micro entrepreneurs under the study from Fujairah (63.6%) have partially disagreed.

Regarding legal and statutory requirements, majority of the micro women entrepreneurs under the study from all the emirates [e.g., Dubai (74%), Fujairah (71%), Sharjah (80%), Ajman (86%) and Abu Dhabi (60%)] have agreed that they understand the key laws and regulations that are applicable to their businesses.

Regarding use of marketing techniques for business promotion, majority of them under the study have expressed broadly three techniques (e.g., Radio, Television; Flyers/Brochures; and face-to-face/word of mouth marketing).

Regarding effectiveness of negotiations with customers and suppliers, majority of the micro women entrepreneurs under the study from all the emirates [e.g. Dubai (59%),Fujairah (72%), Sharjah (83%), Ajman (67%) and Abu Dhabi (70%)] have admitted that they are good negotiators.

Majority of the micro women entrepreneurs under the study from all the emirates (e.g., Dubai (80%), Fujairah (72%), Sharjah (72%), Ajman (60%) and Abu Dhabi (80%) have mentioned that they are receiving mentoring support for growth of their businesses.

Majority of the micro women entrepreneurs under the study from all the emirates (e.g., Dubai (90%), Fujairah (72%), Sharjah (80%), Ajman (66%) and Abu Dhabi (80%) have strongly agreed that face-to-face networking helped to grow their businesses.

#### ***4.1 Challenges Having Impact on Their Business***

If we look at challenges which the micro women entrepreneurs under the study are facing, it differs from emirate to emirate in the UAE

In Dubai emirate the micro women entrepreneurs under the study have highlighted two major challenges ‘Cost of Operation’ (35%), followed by ‘Competition’ (25%).

In Fujairah emirate the micro women entrepreneurs under the study have highlighted two major challenges ‘Cost of Operation’ (36%), followed by ‘Competition’ (18%).

In Sharjah emirate the micro women entrepreneurs under the study have highlighted two major challenges ‘Cost of Operation’ (60%), followed by ‘Competition’ (13%).

In Ajman emirate the micro women entrepreneurs under the study have expressed two major challenges ‘Cost of Operation’ (53%), followed by ‘Competition’ (20%).

In Abu Dhabi emirate the micro women entrepreneurs under the study have highlighted two major challenges ‘Cost of Operation’ (32%), followed by ‘Competition’ (16%).

## **5 Discussion**

Education: Majority of the micro women entrepreneurs under the study have completed tertiary education. It is also surprising to note they do not agree to the importance of education while doing their businesses. It is very clear from this dimension that the education they are receiving are not related/linked to their

business functioning. Education related to entrepreneurship aspects is clearly missing with the micro level women entrepreneurs in these emirates.

**First enterprise and prior experience:** In our study it was found that majority of the micro women entrepreneurs are running their enterprises for the first time. It is also observed from the study that they have prior experience in other organizations, prior to starting their own businesses.

**Formal training:** It is very clearly coming from the study that they have no formal training on business management (or) entrepreneurial process. There is absolutely a dire need of imparting training programs on entrepreneurship and business management processes.

**Support from family:** Regarding support from family, all the micro women entrepreneurs under the study have responded positively and nobody from our survey respondents has denied it. This is a positive aspect for the micro women entrepreneurs, particularly support from their Spouses.

**Standard organizational structure:** Regarding standard organizational structure, majority of the micro women entrepreneurs under the study have agreed that they have standard organizational structures. They have also strongly agreed that the absence of the organizational structure is a challenge to growth of the organization.

**Short term financing requirements:** It is revealed from the study that the investments in Dubai are their own which is clearly indicating that they are generating their own funds. On the other hand, the micro entrepreneurs under the study from other emirates (other than Dubai) are looking for Equity financing (from external investors). It might be quite possible that there are more expats setting up their micro level businesses in Dubai than other emirates, which is to be investigated further.

Further, all the micro women entrepreneurs under the study from all the Emirates have mentioned that they do not have difficulties in obtaining finances.

**Skilled person in finance:** Except in Sharjah and Abu Dhabi emirates, all the micro women entrepreneurs in other emirates have mentioned that they have a qualified person exclusively for maintaining Accounts. In Sharjah and Abu Dhabi emirates, micro women entrepreneurs have expressed that they have persons who take care of accounts along with other sectional activities. All of them have agreed that they need finance person to manage their finances.

This particular aspect can be taken care of when the formal training is imparted to them.

**Problems with delayed payments:** Regarding payment delivery, all the micro entrepreneurs have expressed positively that they are receiving payments within 3 months from their respective clients/customers.

**Reduced demand for products/services in recent times:** The micro entrepreneurs under the study have also agreed that the demand for their products/services have not reduced in recent past. They are very optimistic and confident about their products/services.

**Skilled/qualified professional workers:** Since they might not be aware of modern recruiting sources/methods (e.g., online, internet etc.), majority of them are using either word of mouth or local newspaper advertisements for recruiting new

employees. They also mentioned that they recruit qualified staff and workers in their businesses.

Having competitive strategy: Obviously, majority of them clearly mentioned they do not have competitive strategy for their businesses. It might be because they do not have formal education/training in these areas.

Further, they have also agreed that they are aware of their competitors and prices of their products/services.

Difficulties in getting resources/permissions from the Government: They have mentioned that they are not facing any difficulties in getting resources/permissions from the Government. They have also agreed they understand the key laws and regulations that are applicable to their businesses. Because of various measures adopted by the Government of UAE from time to time which is mandatory for any entrepreneur to adhere to, they have become aware of the rules and regulations of the government and also legal issues.

Marketing techniques: Regarding use of marketing techniques for business promotion, majority of them under the study have expressed broadly three techniques (e.g., Radio, Television; Flyers/Brochures; and face-to-face/word of mouth marketing). It is obvious that they might not be aware of other techniques, due to lack of formal related education or training.

Effectiveness in negotiations: Although, majority of the micro women entrepreneurs under the study from all the emirates have admitted that they are good negotiators, a formal training on this dimension would be very useful for their success.

Mentoring support: Majority of the micro women entrepreneurs under the study from all the emirates have mentioned that they are receiving mentoring support for growth of their businesses. They have also strongly agreed that face-to-face networking help them to grow their businesses. Formal training or related education would be helpful to grow their businesses.

Challenges: Clearly, there are two major challenges which are being faced by these micro level women entrepreneurs under the study in all the emirates, viz.: (i) Cost of Operations and (ii) Competition. As far as the 'Cost of Operations' are concerned, the major component goes to cost of rentals and leased accommodations. Since the UAE economy is booming and also the cost of living, real estate component plays major role for each individual living in the UAE in general, and entrepreneurs in particular. Although Government regulations are being enforced from time to time, the role of real estate builders and promoters is vital. The Government policies should ensure regularization of the systems and practices in this regard so as to enable micro and small entrepreneurs to perform and grow, for the larger benefit of the Society and economic growth of the country.

With regard to the competition component, obviously, micro and small entrepreneurs are to be trained and developed in areas like, opportunity recognition and identification; consumer behavior, market segmentation, competitors' analysis etc. Suitable Government policies on training and education for the benefit of micro and small entrepreneurs are to be formulated and implemented.

## 6 Limitations and Future Research

Although, the researcher planned to collect data from all the seven emirates, data was collected only from five emirates, and the data from other two emirates (e.g., RAK and Umm Al Quwain) could not be collected. This was either due to non-availability of the entrepreneurs or not interested to participate due to their pressing business schedules and exigencies. Future research may be addressed to understand the issues and challenges being faced by both Expats and Emiratis separately. A comparative study may be warranted. Culture is widely treated as a multidimensional phenomenon (e.g. Hofstede 1991; Trompenaars 1994). Empirical studies using cultural dimensions in the field of entrepreneurship are highly significant. Cross cultural comparative studies on SME practices among developing countries and also between developing and developed countries would be more relevant in future studies.

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**Part III**  
**Entrepreneurship and Economic**  
**Development in MENA**

# The Effect of Entrepreneurship on Economic Growth: A Panel Approach in MENA Countries



Ebru Tomris Aydoğın and Ayşe Sevencan

**Abstract** This study examines the effect of entrepreneurial activity on economic growth in MENA countries. Following the endogenous growth model, we included human capital and technology spillover variables into the analysis. Due to limited data of entrepreneurship measures in MENA countries this study employed self-employment rate as a proxy. As the level of education increases, absorptive capacity and innovation capacity of the entrepreneurs' increase. In order to adjust for human capital, the interaction variable of self-employment and average years of schooling are used. The fixed- effect panel regression estimates that the effect of self-employment on economic growth is negative in all specifications. However, the interaction estimate of self-employment and average years of schooling are positive and significant. Our results suggest that the driving force of entrepreneurship in MENA countries is also affected by the economic necessities. On the other hand, the level of education accelerates the effect of entrepreneurial activity on economic growth.

**Keywords** Entrepreneurship · Economic growth · Panel data · MENA

## 1 Introduction

After the emergence of endogenous growth theory -unlike the neoclassical growth model that takes technological progress as being exogenous- the role of entrepreneurship in economic development gained emphasis in the 1980s. The relationship between entrepreneurship and growth theory has been analysed in a few of the studies in the literature (Carree and Thurik 2002; Audretsch and Thurik 2000; Carlsson 1992). Schumpeterian development is characterized by the simultaneous interplay of growth and qualitative transformations of the economic system. Central

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to Schumpeter's (1942) process of 'creative destruction' is the entrepreneur who has an important role in economic growth. The incentives and barriers that the entrepreneurs come across are crucial for economic growth, provided that the technological progress depends on the innovations made by the entrepreneurs. Schumpeter (1942) described entrepreneurs as daring individualists who create technical and financial innovations in the face of competition and declining profits. He focused on the institutions that guided the activities of entrepreneurs.

Most of the literature on the relationship between entrepreneurship and economic growth focuses on the developed countries whereas this study examines the effect of entrepreneurial activity on economic growth of the MENA countries. Due to data restrictions in MENA countries we used self-employment rate as a proxy for entrepreneurial activity. Following the Schumpeterian view of an entrepreneur as an innovator who diffuses knowledge we adjust self-employment rate with the level of education. This study contributes to the literature by employing human capital adjusted entrepreneurship for the MENA countries which is measured by the interaction variable of average years of schooling and self-employment rate that reflects the positive and significant effect on economic development.

This study uses the World Bank data to estimate the impact of entrepreneurship on economic growth for 20 MENA countries over the 1971–2014 periods. Next section covers the literature review. Data and methodology are explained in section three. The fourth section presents the results. Section five ends up with conclusion.

## 2 Literature Review

Schumpeter (1934) in 'The Theory of Economic Development' treated innovation, entrepreneurship and credit as the essential elements that bring about economic growth. He emphasized that innovation was crucial and that the change in population and savings occurred slowly and generated a smooth growth of the system which was different from the development caused by innovations that assume a cyclical nature. According to Schumpeter, an entrepreneur is an innovator receiving profits for his innovations. Continuous profit and economic growth are the outcomes of continuous innovations.

As of the 1980s, the literature on the effects of entrepreneurship on economic growth has expanded with the endogenous growth theory that sheds light on the emphasis of the role of the entrepreneur in economic growth. The approaches put forward by Aghion and Howitt (1998) opened the way to analysing the long run growth influenced by the organizations and institutions on the innovative activities engaged in by the agent. Carree and Thurik (2002) state that most of the endogenous growth models exclude entrepreneurship's influence on technology and economic development which is expected to increase standard of living.

Globalization led to an increase in technological improvements. Knowledge investment, spillovers, innovation and research increased the number of entrepreneurs and hence, the number of newly established small businesses. Audretsch and

Thurik (2000) and Carlsson (1992) indicate that technological development changed the preferences of entrepreneurs from large to small businesses. In order to examine the effects of technology spillovers in MENA countries, our study uses openness and foreign direct investment in panel regressions.

According to Acs (1992) entrepreneurship, innovation and new employment opportunities increased the importance given to small firms. The influence of firm scale on entrepreneurship has also been analysed in the literature by Acs and Audretsch (1990), Cohen and Klepper (1992), and Audretsch (1995).

The willingness to become an entrepreneur rises as the years of schooling increases. In other words, as the level of education extends further the level of human capital also progresses. As the level of education increases, absorptive capacity and innovation capacity of the entrepreneurs' increase. Human capital theory suggests that knowledge and skills of an individual or a group increase through higher education (Ployhart and Moliterno 2011). Education and work experience are important aspects of human capital in the sense that they may grow into nascent entrepreneurship and start-up businesses (Kim et al. 2006).

Üçbaşıaran et al. (2008) define two types of human capital: (i) general human capital which refers to education and (ii) entrepreneurship-specific human capital which includes business ownership experience and capabilities. Many studies in the literature explore the relationship between education, human capital, and entrepreneurship or self-employment (Brüderl et al. 1992; Gimeno et al. 1997; Bates 1990; Wiklund and Shepherd 2003; Bosma et al. 2004).

Amaghouss and Ibouk (2013) analyse the relationship between entrepreneurship and economic growth for the 19 OECD countries over 2001–2009 period by utilizing entrepreneurial activities and potential innovation in assessing entrepreneurship. Authors indicate that panel data analysis of both measures affect economic growth positively and the results are significant as well.

Two Stage Least Squares (2SLS) estimation technique is employed by Acs et al. (2005) to interpret the relationship between per capita GDP growth and self-employment rate that denotes entrepreneurship. The estimation results reflect that entrepreneurship affects economic growth positively for both of the models.

Berthold and Gründler (2012) evaluated the influence of entrepreneurship on economic growth for 188 countries between 1980 and 2010 with the Three Least Squares (3SLS) estimation technique and observed that entrepreneurship's effect on economic growth is significantly positive.

Wennekers et al. (2005) maintain that at higher levels of economic development the negative relationship between real income and self-employment ameliorates. Authors employ the GEM data for 36 countries and find a U-shaped relationship between nascent entrepreneurship and economic development.

Twenty two OECD countries are examined by Salgado-Banda (2004) to predict entrepreneurship's role in economic growth. The results reflect that self-employment and economic growth are negatively correlated to each other. On the contrary, the studies of Holmes and Schmitz (1990), Thurik (1996), Carree and Thurik (1999), and Wong et al. (2005) underline the positive impact of entrepreneurship on economic growth.

A vast literature rests upon the Global Entrepreneurship Monitor (GEM) data for different years (Frederick and Monsen 2011; Alvarez et al. 2014; Wong et al. 2005; Lekovic and Maric 2015; Prieger et al. 2016; Valliere and Peterson 2009; Ferreira et al. 2016). Total Entrepreneurial Activity Index (TEA) of GEM (2004) has been used to explain entrepreneurship in many studies (van Stel et al. 2005; Wong et al. 2005).

### 3 Methodology and Empirical Analysis

#### 3.1 Data

The data set used in this study was acquired from the World Bank for the period between 1971 and 2014. There are two main measures of entrepreneurship used in the literature: self-employment rate of World Bank data set and total early-stage entrepreneurial activity (TEA) of Global Entrepreneurship Monitor (GEM). This study employs self-employment rate for the econometric analysis, since the GEM data for the period 1971–2014 was not available for the all countries in the sample.

The descriptive statistics of the variables employed in this paper are also presented. The data set of this study includes 20 countries for the time period between 1971 and 2014. An unbalanced data set is used for panel data analysis due to the unavailability of data for the countries that are covered in this study.

#### 3.2 Model

This study employs a linear Cobb-Douglas production function

$$y_{it} = F(h_{it}, Z_{it}) \quad (1)$$

where  $y_{it}$  denotes the logarithm of real GDP per capita for country  $i$  at time  $t$ ,  $h_{it}$  is the human capital per person for country  $i$  at the time  $t$ , and  $Z$  comprises an array of control and environmental variables. In our regression, we used the control variables aside from the entrepreneurship to control for environmental country-specific effects and to avoid significance of the desired entrepreneurship coefficient due to omitted variables or multi-collinearity.

Taking the output Eq. (1) in per capita terms, the variables in logarithmic form can be stated as:

$$\begin{aligned} \log(GDPC) = & \beta_0 + \beta_1 \log(lifexp) + \beta_2 \log(selfemp) \\ & + \beta_3 \log(govcon) + \beta_4 \log(inv) + \beta_5 \log(open) \\ & + \beta_6 \log(unemp) + \beta_7 \log(fer) + \beta_8 \log(selfemp * schl) \\ & + \eta_i + \epsilon_{it} \end{aligned} \quad (2)$$

where  $\log(\text{GDPC})$  is the natural logarithm of GDP per capita in real terms as a proxy for economic growth used as the dependent variable for all specifications.

This study argues that entrepreneurship alone does not account for economic growth; rather human capital adjusted entrepreneurship is important for economic growth especially in developing countries where entrepreneurship is not only a choice but also a necessity. Based on the literature (Bates 1990; Carree and Thurik 2002; Ployhart and Moliterno 2011; Thurik 1996) about the influence of entrepreneurship on economic growth, two hypotheses are tested in this study:

**Hypothesis 1** Entrepreneurship has a positive effect on economic growth in the MENA countries. The coefficient of self-employment is positive and significant.

**Hypothesis 2** Human capital adjusted entrepreneurship activity has a positive effect on economic growth in the MENA countries. The  $\beta_8$  coefficient of  $\log(\text{selfemp} * \text{schl})$  is positive and significant. In other words, this study tests whether the effect of self-employment on economic performance increases with the nation's overall level of education. In order to test these two hypotheses, the following model is run in such a way to control other variables which are defined below explicitly.

As in the standard growth model, this study includes the measure of physical capital in the production function.  $\log(\text{inv})$  is the natural logarithm of gross capital formation as a percentage of GDP per capita. Gross capital formation (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories.

The negative effect of population on economic performance is captured by the fertility rate.  $\log(\text{fer})$  is the natural logarithm of fertility rate total per woman. Total fertility rate (births per woman) represents the number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with age-specific fertility rates of the specified year. We expect the effect to be negative as in the neoclassical model.

Human capital is proxied with life expectancy and level of education.  $\text{Log}(\text{lifexp})$  is life expectancy at birth that also accounts for a proxy of human capital. Life expectancy at birth indicates the number of years a new born infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life.  $\text{Log}(\text{schl})$  is the log average years of total schooling of the population age 15 and older (Barro and Lee 2013).

Endogenous growth theory is based on the assumption of innovation driven economic growth that depends on the technological spillovers across countries. In order to measure the effect of technological diffusion we used openness and FDI as separate proxies.  $\log(\text{open})$  is the degree of openness measured as the natural logarithm of percentage of trade to GDP. Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product. **FDI** is the net inflows of investment to acquire a lasting management interest (10% or more of voting stock) in an enterprise operating in an economy other than that of the investor. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors and is divided by GDP.

**log(govcon)** is the natural logarithm of government consumption as a share of GDP. General government final consumption expenditure (formerly general government consumption) includes all government current expenditures for purchases of goods and services (including compensation of employees). It also includes most expenditure on national defence and security, but excludes government military expenditures that are a part of government capital formation.

The main entrepreneurship proxy in this study is the self-employment rate. Although self-employment rate does not capture all the characteristics of innovative entrepreneurship, data availability for MENA countries makes it the best option. **log(selfemp)** is the natural logarithm of self-employment rate. Self-employed workers are those workers who work on their own account or with one or a few partners or cooperative and hold the type of jobs defined as a “self-employment jobs.” i.e. jobs where the remuneration is directly dependent upon the profits derived from the goods and services produced. Self-employed workers include four sub-categories: employers, own-account workers, members of producers’ cooperatives, and contributing family workers.

**log(selfemp\*schl)** is the natural logarithm of the multiplication of self-employment rate and average years of schooling. This **interaction variable** captures the effect of education adjusted level of self-employment on economic growth.

**log(unemp)** is the logarithm of unemployment, total (% of total labor force). Controlling for unemployment allows us to examine the separate effect of entrepreneurship on economic growth (Table 1).

To separate the effect of independent variables on growth-rather than the opposite- we used lagged values of the independent variables in the analysis (Figs. 1, 2 and 3).

**Table 1** Descriptive statistics of regression variables, 1971–2014

Variable	Number of observations	Mean	Maximum	Minimum	Std. dev.
G	680	0.012	0.431	-1.050	0.088
LOGGDP	699	8.717	11.653	6.556	1.253
UNEMP	216	10.644	29.900	0.700	6.425
SELFEMP	160	32.481	67.100	0.500	18.524
SCHL	720	5.005	12.320	0.060	2.469
OPEN	746	75.311	251.139	0.021	36.298
LIFEXP	880	67.558	82.154	41.999	7.338
INV	709	24.530	52.219	-13.405	8.161
GOVCON	744	18.360	76.222	2.332	7.487
FDI	753	1.688	33.566	-13.605	3.166
LOG(FER)	880	3.799	5.132	1.799	0.860

Source: World Bank (2016) for all the variables except schooling data which was acquired from Barro and Lee (2013)



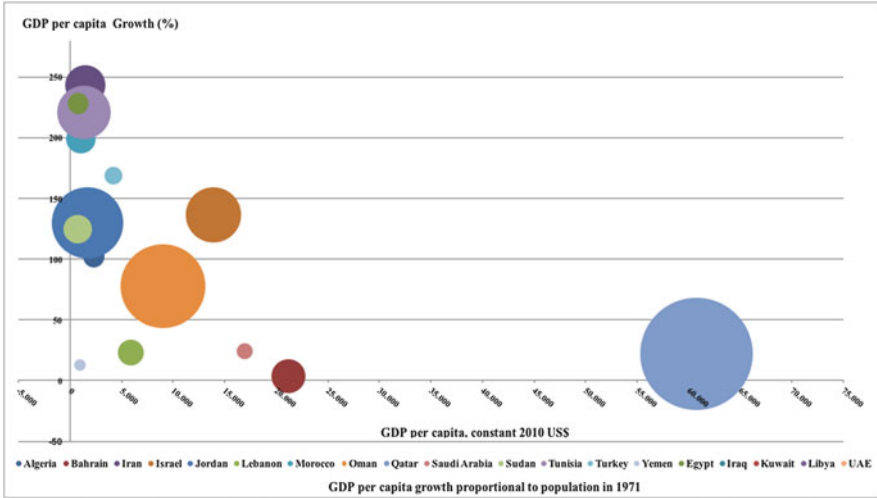


Fig. 1 Growth rates of the MENA countries (%), except Syria (1971–2014)

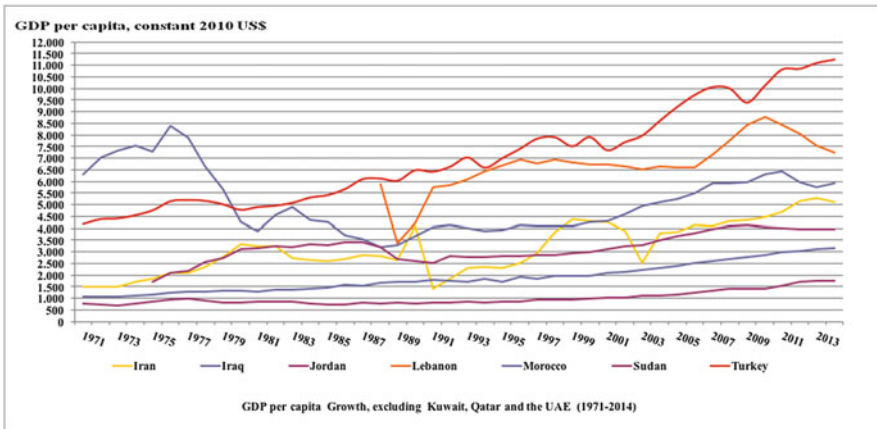


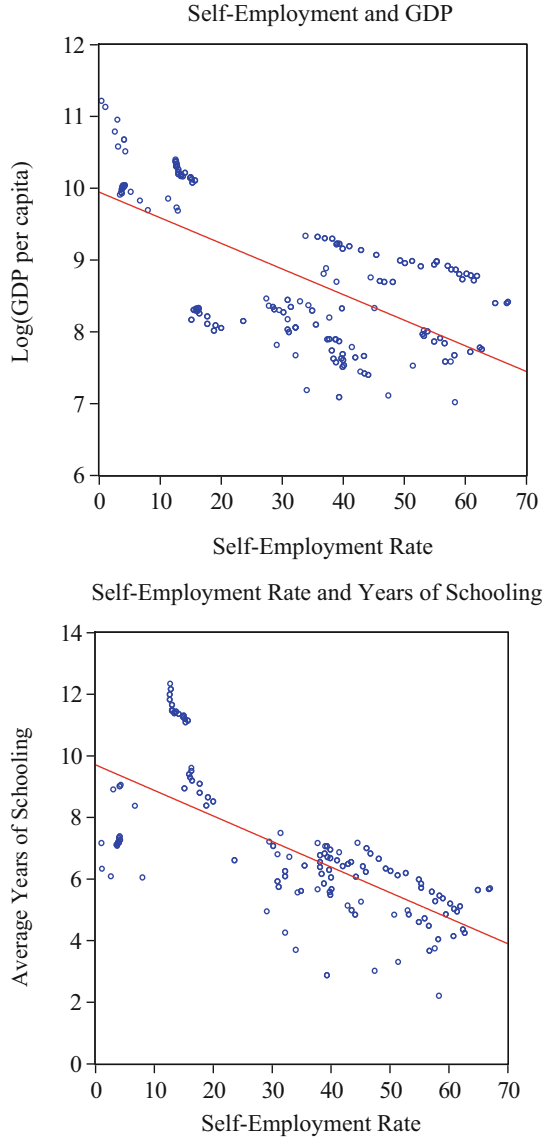
Fig. 2 GDP per capita growth (1971–2014)

### 4 Regression Results

The following table gives the results of the estimates of panel equation of the Cobb-Douglas model with country fixed effects. The Hausman test (1978) is applied to all specifications. Test results indicate that fixed- effect model is significant for all regressions. Lagged independent variables are employed as instruments in all specifications (Table 2).

Column (1) estimates the basic model. The effect of entrepreneurship is significantly negative in all of the specifications. This finding is in line with Schumpeter’s

**Fig. 3** Relationships between self-employment and GDP and self-employment and years of schooling



view of entrepreneurship, which states economic entrepreneurs' role as an innovator who absorbs technology through knowledge. In developing countries, self-employment rates are determined not only by choice, but also restrictions in the labor market and incentives of the entrepreneurs are not solely driven by innovation. On the other hand, level of human capital as measured by the average years of schooling has a positive and significant effect on economic growth. 1% increase in the average years of schooling results in 1.3% increase in the level of GDP.

**Table 2** Panel estimation of Eq. (1)

Regressor	Country fixed effects				
	1	2	3	4	5
log(selfemp)	-0.189*** (0.002)	-1.522*** (0.000)	-0673*** (0.002)	-1.167*** (0.000)	-1.425*** (0.000)
log(lifexp)			-0.139 (1.004)	0.016 (0.971)	-0.552 (0.733)
log(inv)	0.263*** (0.000)	0.263*** (0.000)	0.130 (0.319)	0.249*** (0.000)	0.036 (0.771)
log(open)				0.081 (0.182)	
log(govcon)			0.199 (0.139)	0.032 (0.785)	-0.519* (0.096)
log(fer)			-0.393 (0.255)	-0.126 (0.046)**	
log(schl)	1.333*** (0.000)				
FDI			0.010 (0.177)		
log(unemp)					-0.063 (0.432)
Interaction term log (schl*selfemp)		1.333*** (0.000)	0.563*** (0.009)	1.004*** (0.000)	1.660*** (0.000)
Constant	5.993*** (0.000)	5.993*** (0.000)	8.955* (0.061)	6.498*** (0.001)	
Periods included	22	22	22	22	17
Cross-sections included	11	11	11	11	6
No. of observations	93	93	93	93	93
J-statistic	18.268	18.268	13.383	36.388	17.087***
Sargan test (prob > $\chi^2$ )	0.075*	0.075*	0.269	0.000***	0.0168

Notes: Instruments are mainly lagged exogenous variables. Probabilities are shown in parentheses \*, \*\*, \*\*\* show the level of significance at 10, 5, and 1% respectively

The interaction term is positive and significant in all specifications. Human capital adjusted entrepreneurship accelerates economic development in developing countries. This is the main finding of this paper.

Fertility rate has significantly negative effect on growth in developing countries as expected. Physical capital is an important determinant of economic growth in developing countries. Government consumption has a negative and significant effect as suggested by the scholars such as Barro (2003) only when unemployment is controlled. In all other specifications, the effect is positive but insignificant.

Life expectancy does not have a significant effect on our regressions. Although, the literature clearly proves the importance of health for economic development, a significant relationship for developing MENA countries was not found in this study. One possible explanation could be that the period does not capture the required level of change in the life expectancy. Barro and Sala-i-Martin (2004) found significant

and positive effect of life expectancy on economic growth for MENA countries in their analyses of longer time spans.

As pointed by Reynolds et al. (1994) unemployment forces individuals to self-employment and thus stimulates the entrepreneurial activity. This effect is more important in developing countries which suffer higher unemployment rates. For this reason, we also control for the rate of unemployment in column 5. Although not significant, the effect is negative as expected. Furthermore, controlling for unemployment yields the highest estimate for the effect of human capital adjusted self-employment.

## 5 Conclusion

In this paper, the effect of entrepreneurship on the economic growth of the MENA countries between 1971 and 2014 is analysed. This study contributes to the literature by adjusting entrepreneurship with human capital. In all specifications, the level of human capital adjusted entrepreneurship measured by interaction variable of average years of schooling and self-employment rate has positive and significant effect on economic development of the sample countries. As the years of schooling increases, absorptive capacity and innovation capacity of the entrepreneurs' increase as well.

In order to boost the economic growth in MENA countries, this study suggests that entrepreneurial policies should also focus on increasing the level of education. As laid out by Schumpeterian theory, technology enhanced entrepreneurship is the engine for growth and technology accelerates with the level of education of the entrepreneurs. In that respect, policies promoting and subsidizing entrepreneurial activities and on the job training for the educated individuals would clearly benefit the economic growth of the MENA countries.

Our findings suggest that the policy makers should focus on increasing the opportunities for the higher educated entrepreneurs in the MENA region. One of the main limitations of this study is that not much GEM data is available for longer periods for the MENA countries. Surely the inclusion of the micro dynamics of entrepreneurship in these countries would enrich the economic development analysis.

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# The Innovation-Based Competitive Advantage in Oman's Transition to a Knowledge-Based Economy: Dynamics of Innovation for Promotion of Entrepreneurship



Mahshid Sazegar, Amir Forouharfar, Victoria Hill, and Nezameddin Faghieh

**Abstract** Oman, as a welfare state, should have effective administrative strategies for the promotion of entrepreneurship. The purpose of this paper is first to reveal the innovation-based competitive advantages of Oman's economy; then compare Oman with Qatar relative to the *Global Innovation Index's* (GII) sub-indices. The strategic vision and mission of the Sultanate's four administrative entrepreneurship-promoting strategies are relevant to indices based on GII. The secondary data of the paper is collected directly from the *Global Innovation Index Reports 2009–2017* and the regressions are calculated by the authors for both Oman and Qatar. In this study, Qatar, because of its international economic scores and rankings, has been assumed as a benchmark for comparing, evaluating and estimating the distances of the scores in each GII sub-index. After processing the data, the SWOT (SWOT is the acronym for an analysis of Strengths, Weaknesses, Opportunities and Threats) analysis of Oman relative to Qatar was developed as a reference point. The findings show Oman has near scores to Qatar in institutional aspects and distant scores with Qatar in infrastructure indices. The analysis of innovation-based competitive advantage is longitudinal and embraces the span of time from 2009 to 2017. The research implication is that formulated strategies could be applied by the Omani decision-makers for the promotion of entrepreneurship and subsequently improving economic and social welfare in the Sultanate (The social implication could be the facilitation and promotion of the sultanate economy for the betterment of economic prosperity

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through effective entrepreneurship). Moreover, as one of the pioneering studies in this area, the originality and value of this paper lies in its application of GII sub-indices for the first time to formulate administrative strategies for the promotion of entrepreneurship in Oman. Finally, four strategies are suggested: *Economic Diversification Strategy*, *Human Resources Upskilling Strategy*, *Economic Globalization Strategy* and *Economic Privatization Strategy*. These are in accordance with Oman's *Vision 2020*, and as such enhance economic diversification and the promotion of entrepreneurship in the Sultanate.

**Keywords** Oman · Entrepreneurship strategies · Administration · Global Innovation Index (GII)

## 1 Introduction

“Oman’s economy is suffering from an underlying entrepreneurial malaise” (Porter 2003: 51). This ‘entrepreneurial malaise’ is one of the principal problems of Oman’s economy. Al-Shanfari (2012: 3) believes “a small private sector” and “low national entrepreneurial activity” are two reasons for the ‘entrepreneurial malaise. Although Porter and Al-Shanfari labelled Oman’s economy as one suffering from ‘entrepreneurial malaise’ in 2003 and 2012, respectively, the authors concur that it still exists in 2017, based on findings discussed in this paper.

Amongst the Middle East North Africa (MENA) Region, a number of countries’ economies are dependent on oil production. The six<sup>1</sup> members of the Gulf Cooperation Council (GCC) have been particularly reliant. As with other economies heavily dependent on a single source of revenue, the GCC countries could be described as ‘petro-stricken economies’. Such economies are always in a state of flux between the price of oil and the supply and demand of oil products. When a country is so dependent on a mostly single source of revenue, any sign of innovation-based or even an orientation towards more innovation in such an economy is worthy of scrutiny and research.

Oman and Qatar are two of the GCC members and neither is exempt from these fluctuations. Petro-dollars still comprise a great bulk of their state budgets, but the welcoming signs for their economies are the innovation-based competitive advantages reflected in the recently released statistics from international organizations. These statistics are the harbingers of a long and bright future for innovation-based economies. Both of these countries have praise-worthy leadership that pursues the prosperity and welfare of their nations. Qatar has one of the strongest economies in the Middle East and at the same time is also a politically stable country. These characteristics suggest that Qatar could be used as a role model for economic prosperity.

An ‘improved situation’ is in reality an abstract concept. Therefore, one of the ways to operationalize these abstract concepts is to consider each of them as a standard, *i.e.* a measurable benchmark. Therefore, using Qatar as the benchmark country allows comparisons with regard to each of its measurable GII criteria.

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<sup>1</sup>The six GCC members are Kuwait, Bahrain, Qatar, U.A.E., Oman and Saudi Arabia.



By using the characteristics found in the Qatari GII sub-indices related to the application of innovation, a measurable set of benchmarks begins to emerge, relative to entrepreneurship-promoting strategies in Qatar. In this way, we can begin to draw out the emerging innovation-based competitive advantages of the Sultanate of Oman. This provides a set of specific benchmarks that may be used as a 'roadmap' for going forward in formulating viable entrepreneurship-enhancing strategies. It also provides a set of characteristics that isolate the more successful results from those that are less successful and require additional attention.

## 2 Literature Review

Oman has been a member of *World Trade Organization* (WTO) since 2000. The prevailing economic strategy of the Sultanate is one of diversification which benefits the small- and medium-sized enterprises (SMEs).<sup>2</sup> Another reason for Oman to pursue the diversification strategy is to gain more independence from its historical dependence on oil revenues. This safeguards the economy from as much turbulence as possible. Additionally, the Sultanate has been successful in getting signatures on international economic agreements (e.g. *The U.S.-Oman Free Trade Agreement*, 2006). Most of these agreements facilitate the trade of goods and services with the Sultanate. Generally, the prevailing goal of the country is to display the country's stability—this factor in particular is very significant in attracting international investment to the country. At the same time, stability also enhances the growth of entrepreneurship. There are a number of local and international organizations that actively promote entrepreneurship in Oman. Some of the more significant are: *National Business Centre*,<sup>3</sup> *SAS*,<sup>4</sup> *Intilaaqah*,<sup>5</sup> *Riyada*,<sup>6</sup> *The Cell*,<sup>7</sup> *Sharakah*,<sup>8</sup> *Zubair Sec*,<sup>9</sup> *Oman American Business Council*,<sup>10</sup> *Aiesec Oman*,<sup>11</sup> *Injaz*,<sup>12</sup> and *Jisser Internship Platform*.<sup>13</sup>

<sup>2</sup>The governmental body in charge of the promotion of SMEs within the country is *The Public Authority for Small and Medium-Sized Enterprise Development (PASMED)* which implements the official entrepreneurship strategies of the Government of Oman.

<sup>3</sup><https://www.nbc.om>

<sup>4</sup><http://sas.om/en/>

<sup>5</sup><https://www.intilaaqah.org/home>

<sup>6</sup><http://omansme.gov>

<sup>7</sup><http://www.alkhaliya.com/english/index.php>

<sup>8</sup><http://www.sharakah.om/site/entrepreneurship.php>

<sup>9</sup><http://www.zubairsec.org>

<sup>10</sup>[http://www.oabcoman.org/?page\\_id=1464#sthash.S4D1M0tq.dpuf](http://www.oabcoman.org/?page_id=1464#sthash.S4D1M0tq.dpuf)

<sup>11</sup><http://www.aiesecomman.org>

<sup>12</sup><http://www.injazalarab.org>

<sup>13</sup><https://www.jisseroman.com/start/>

## 2.1 Oman and Qatar’s Global Innovation Indices

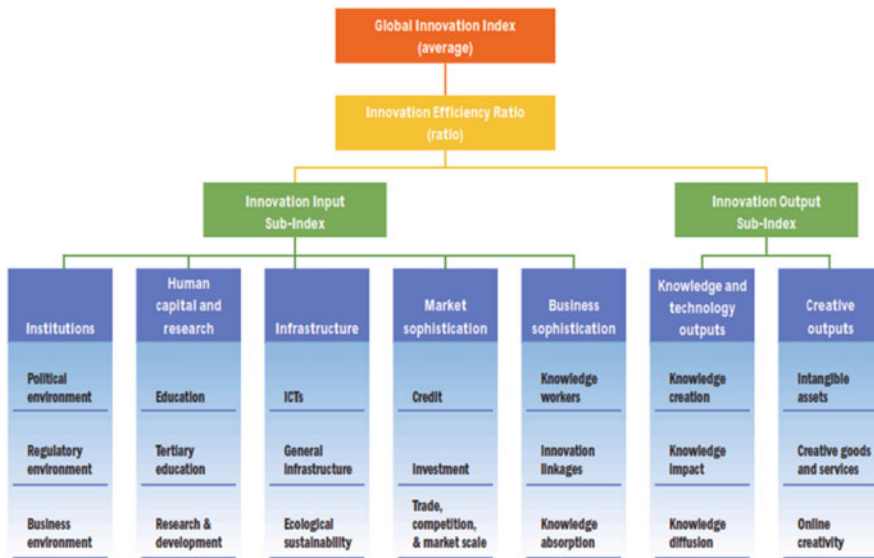
GII reports are released annually through the collaboration of three world-renowned organizations: *INSEAD*, *Cornell University* and the *World Intellectual Property Organization* (WIPO) (Global Innovation Index 2017). The indices, which constitute the GII, consist of five input indices and two output ones (Ibid). Throughout this paper, the GII for Oman and Qatar were evaluated by their *Overall Input Indices* and *Overall Output Indices* between the years 2009 through 2017. Such an approach was beneficial in the calculations and evaluations of the following:

- *Global Innovation Index*
- *Innovation Efficiency Ratio*
- *Innovation Input Sub-Index*
- *Innovation Output Sub-Index*

This approach was adopted from the procedures utilised by the *Global Innovation Index* (2017), shown in Fig. 1.

The GII is a combination of input and output indices. The overall GII is the simple statistical average of these input and output indices (Table 1).

In 2017 the GII included 127 countries which represent 92.5% of the world’s population and 97.6% of the world’s GDP (Global Innovation Index Report 2017). The GII reports for 2009–2017 indicate that Oman’s scores continuously fluctuated, but overall in a downward direction, causing Oman to fall from a worldwide rank of 52nd in 2009 to 77th place in 2017 (Table 2).



**Fig. 1** Framework for the *Global Innovation Index* (2017). Source: *Global Innovation Index* (2017: 11)

**Table 1** Input and output indices which constitute the overall GII

GII's input indices
Institution
Human capital and researcher
Infrastructure
Market sophistication
Business sophistication
GII's output indices
Knowledge and technology outputs
Creative output

Source: Global Innovation Index (2017)

**Table 2** Oman's annual GII scores for *Overall Input Indices* and *Overall Output Indices*

Oman	2009	2010	2011	2012	2013	2014	2015	2016	2017
Innovation country ranking	52	65	57	47	80	75	69	73	77
Global innovation index score	46.14	43.29	35.51	39.50	33.25	33.87	35.00	32.21	31.83
Overall input index	51.86	56.14	46.23	46.90	43.28	42.82	41.83	42.10	43.50
Overall output index	40.57	30.29	24.79	32.10	23.22	24.92	28.16	22.32	20.20
Innovation efficiency index	0.78	0.54	0.54	0.68	0.54	0.58	0.67	0.53	0.46

Source: GII reports from 2009 to 2017

Such a decrease (equal to a loss of 14.31 points in *Innovation Index Score*) is an alarming warning for the policymakers of entrepreneurship in the Sultanate. The significance of Table 2 lies in its illuminating contribution to see the broader picture of Oman's aspects of innovation. The Sultanate had its best scores in 2009 and the subsequent year, 2010. Additionally, except for 2012 with a country ranking of 47, Oman has suffered ever more decreases in country ranking following 2012. (Note: Numeric rank increases are negatively related to score decreases). The worst score, *i.e.* of 80 for *Innovation Country Ranking*, was the result of a *Global Innovation Index Score* of just 33.25 in 2013. These fluctuations reveal the changing dynamics of innovation for Oman.

### Overall Input Index, Overall Output Index and Innovation Efficiency Index

Regarding the *Overall Input Index*, Oman had its best score in 2010 (56.14). In other words, the Sultanate had the best overall function—not separately, but collectively—for all five input indices (*Institution*, *Human Capital and Researcher*, *Infrastructure*, *Market Sophistication* and *Business Sophistication*). By contrast, the worst year for *Overall Input Index*, in the time span from 2009 to 2017, was the year 2015 (41.83). These years (the best and the worst) should be closely studied in future research to cast light on the reason (s) that influence such scores. Concerning the *Overall Output Index*, the best score (40.57) was acquired in 2009. When we consider the best ranking of the country, which was also seen in 2009, and the much lower scores in the eight subsequent years, it's possible to infer that the scores of the *Overall Output Index* potentially could affect the global ranking of the Sultanate. This particular index is worthy of careful consideration by Oman's

**Table 3** Qatar's annual GII scores for *overall input indices* and *overall output indices*

Qatar	2009	2010	2011	2012	2013	2014	2015	2016	2017
Innovation country ranking	24	35	26	33	43	47	50	50	49
Global innovation index score	58.86	50.71	47.74	45.50	41.00	40.31	39.01	37.47	37.90
Overall input index	62.43	62.29	51.71	54.10	47.84	50.38	48.42	48.05	47.00
Overall output index	55.43	39.00	43.77	36.90	34.17	30.24	29.60	26.88	28.80
Innovation efficiency index	0.89	0.63	0.85	0.68	0.71	0.60	0.61	0.60	0.61

Source: GII reports from 2009 to 2017

entrepreneurship policymakers. Additionally, the same year (2009) has produced the most efficient year for innovation with an *Innovation Efficiency Index* score of 0.78. The lowest score for this index, as seen in 2017, was just 0.46. This characteristic in particular justifies the necessity of the current paper's title and discussions.

The reciprocal GII scores for Qatar are also presented (Table 3).

In this study, Qatar's international economic scores, rankings and its location in the Middle East beside its ethnic condition as an Arabic state justify its selection as the benchmark by the authors in comparing, evaluating and estimating of Oman's distance in each of the strategic scores in the sub-indices of the GII. For instance, according to Table 3, Qatar has always had better innovation rankings in comparison to Oman. The worst innovation ranking for Qatar was 50 in two subsequent years, 2015 and 2016; on the other hand, the best innovation ranking for Oman has been 52 in 2009 (Table 2), i.e. Qatar during 2009–2017 has always had better innovation rankings.

The data for calculation was derived from *Global Innovation Index (2017)*. This data could contribute greatly to strategy formulation and other administrative policymaking conducted by the governmental bodies in charge of the promotion and facilitation of entrepreneurship in Oman. Further comparisons between Oman and Qatar GII scores are rendered in subsequent parts of this study; e.g., in Sect. 4.8, Figs. 4–6 and in Figs. 9–13. Comparisons are also reflected in the Strengths, Weaknesses, Opportunities and Threats (SWOT) matrix in Sect. 4 of this paper.

## 2.2 Reviewing Oman's Economic Vision and Mission

The economic vision of the country was set by a decree through five-year plans. The initial economic vision covered the period up to 2020; presently this has been extended currently redefined up to 2040. The goals of Oman's economic vision are the following:

- Economic and financial stability;
- Reshaping the role of the government in the economy and broadening private sector participation;

**Table 4** Oman’s strategic views on economy and entrepreneurship

Sultanate’s strategic views	Significance
Economic vision	<ul style="list-style-type: none"> <li>• Economic and financial stability</li> <li>• Reshaping the role of the government in the economy and broadening private sector participation</li> <li>• Diversifying the economic base and sources of national income</li> <li>• Globalization of the Omani economy</li> <li>• Upgrading the skills of the Omani workforce and further developing human resources (Strolla and Peri 2016: 59)</li> </ul>
Regulations on entrepreneurship	All regulations for entrepreneurship are governed according to two policies: Privatization and liberalization (Lamloumi 2013)
Current administrative policies and strategies for entrepreneurship	Omanization strategy (Al-Shanfari 2012); global and National Economic Partnership Strategy, <sup>a</sup> tourism job-generating strategy (Khan and Krishnamurthy 2016) <sup>b</sup>

Source: Authors’ own work based on relevant citations

<sup>a</sup>The strategy implementation of partnerships for the promotion of entrepreneurship is through The Oman Authority for Partnership for Development (OAPFD)

<sup>b</sup>Oman is currently following the administrative strategies and policies to turn its economy from oil-based to a tourism-based economy (Khan and Krishnamurthy 2016)

- Diversifying the economic base and sources of national income;
- Globalization of the Omani economy;
- Upgrading the skills of the Omani workers (Strolla and Peri 2016: 59).

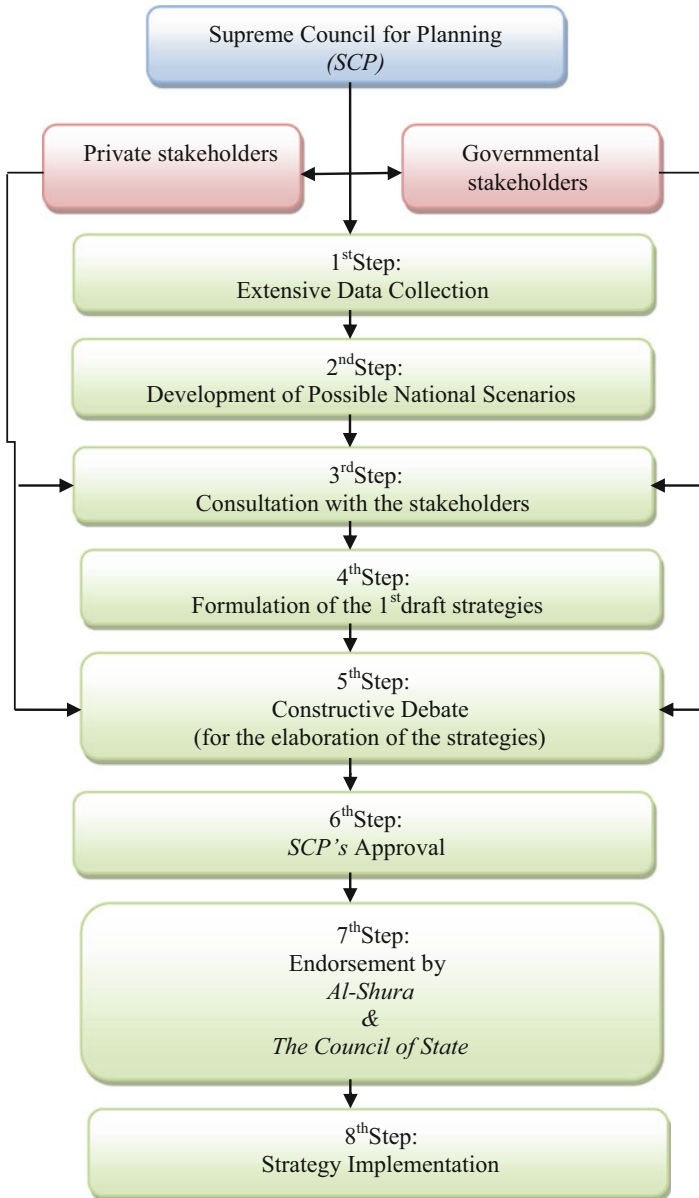
The planning of the country is under the authority of the Supreme Council for Planning. Based on the recent *Royal Decree No.1/2016*, the ninth *Five-Year Plan*, which covers the 2016–2020 timeframe, was approved for implementation (Supreme Council for Planning website). The main objectives of the current *Five-Year Plan (2016–2020)* according to the official website are:

- Economic diversity;
- Private sector participation in the development process of Oman (Ibid).

Table 4 summarizes some the strategic views on economy and entrepreneurship by the government of Oman.

### 2.3 Oman’s National Administrative Strategy Formulation Process

The national strategy setting by the Government of Oman is an eight-staged process, which consist of the steps that are shown in Fig. 2.



**Fig. 2** Administrative strategy formulation process by the government of Oman. Source: Authors' own work based on Supreme Council for Planning website

### 3 Methodology

The main goal of the paper is the formulation of a GII-based set of administrative strategies for the promotion of Oman's entrepreneurship. This is achieved by analysing the innovation-based competitive advantages of Oman's economy. To achieve the paper's goal, we calculated the related GII calculations<sup>14</sup> approach for Oman primarily and then we applied the same procedure for Qatar as well. Qatar's innovation facts and figures were used as the benchmark in this paper to be able to define a 'satisfactory situation'—both operationally and practically. In other words, the distance of sub-indices of Oman from Qatar are considered in determining whether a 'satisfactory' or 'unsatisfactory' situation is inherent in the relevant sub-indices. Later, the innovation-based SWOT analysis of Oman was designed by assessing the 'distance' of Oman with respect to Qatar's GII sub-indices based on the *Global Innovation index (2017)* data. Additionally, the formulation of administrative entrepreneurship-promoting strategies for some of the GII indices was also compiled (Fig. 3). The significance of the GII evaluation of Oman is, on one hand, a determination of the way in which the country has progressed from 2009 to 2017. This will be particularly of interest to the policymakers of the country. On the other hand, identifying the innovation-based competitive advantages of the Sultanate can translate to greater economic prosperity and better welfare for the Omanis. Therefore, the research question is:

What are the potential GII-based administrative strategies for the promotion of entrepreneurship in the Sultanate of Oman?

### 4 Results and Discussion

Oman (Country 1) and Qatar (Country 2) are compared with respect to the GII sub-indices (Table 5).

The following section discusses the strategic advantages and disadvantages for Oman in relation to benchmarked data for Qatar.

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<sup>14</sup>The following items are calculated by the authors:

- *Innovation Input Sub-Index*
- *Innovation Output Sub-Index*
- *Overall Global Innovation*
- *Innovation Efficiency Ratio*

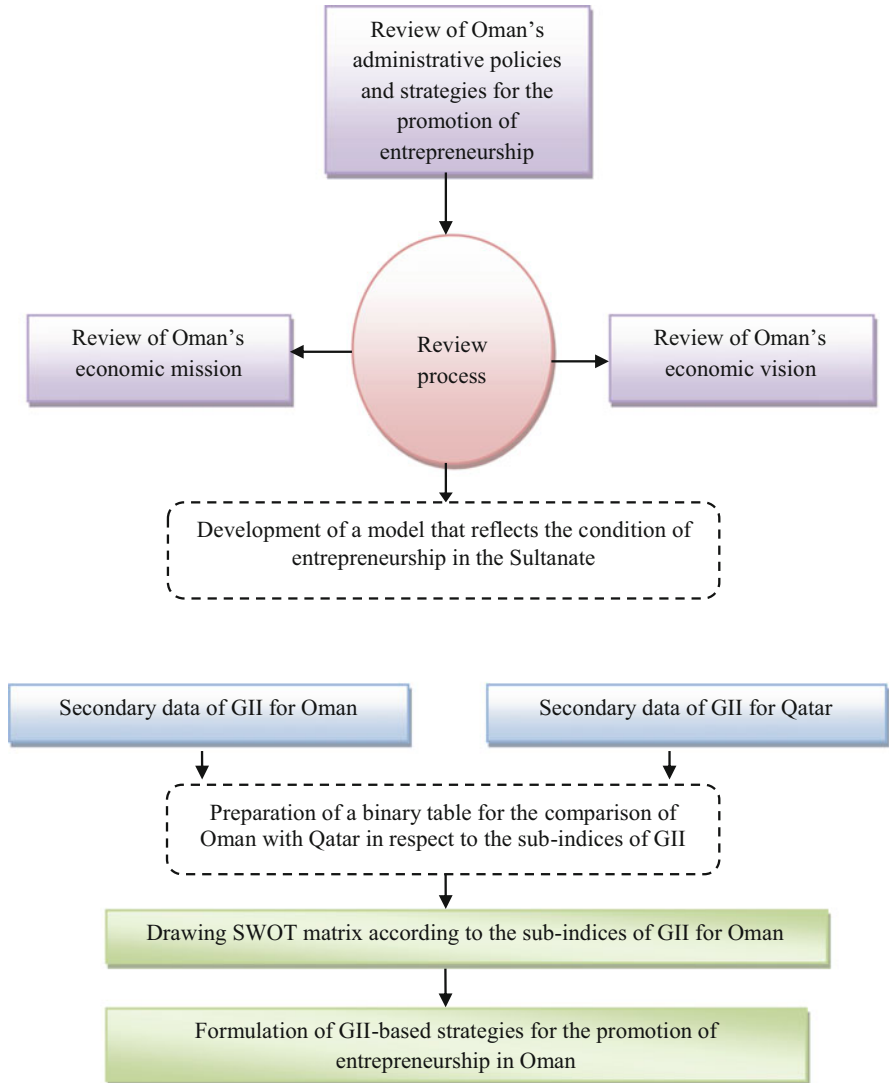


Fig. 3 The research stages summarized as a flow chart. Source: Author's own work

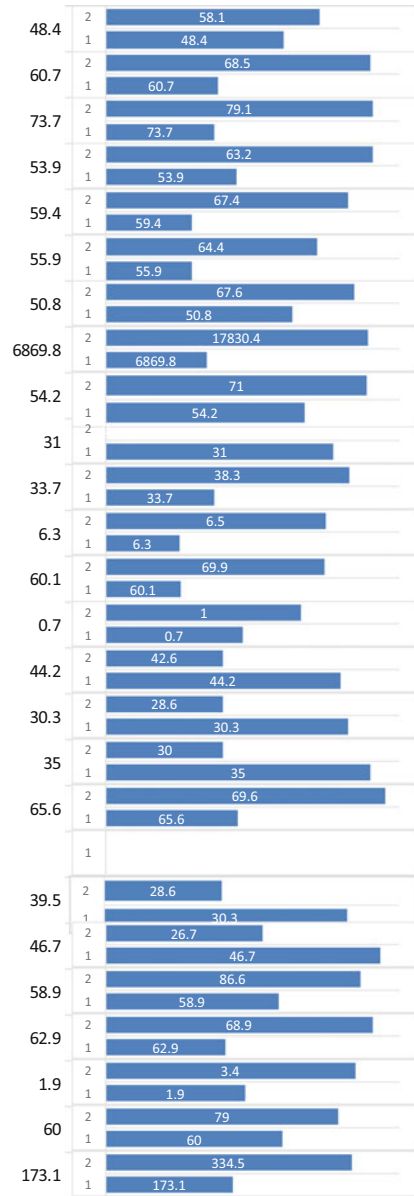


**Table 5** Benchmarks of GII sub-indices for Oman and Qatar

	Pillar/Sub-pillar/Indicators	Qatar(2)	Oman(1)	Graph View
1	Institution	72.8	71.8	
1.1	Political environment	77.6	62.6	
1.1.1	Political stability	87.5	80.7	
1.1.2	Government effectiveness	67.7	44.6	
1.2	Regulatory environment	66.2	77.5	
1.2.1	Regularity quality	59.8	57	
1.2.2	Rule of law	65.3	52.9	
1.2.3	Cost of redundancy dismissal, salary weeks	23.2	8	
1.3	Business environment	74.6	75.4	
1.3.1	Ease of starting business	86.1	92.9	
1.3.2	Ease of resolving insolvency	38.2	42.7	
1.3.3	Ease of paying taxes	99.4	90.6	
2	Human Capital & Research	33.3	35.8	
2.1	Education	37.2	42.8	
2.1.1	Expenditure on education, % GDP	3.5	5	
2.1.2	Gov't expenditure/pupil, secondary, %GDP/Cap	10.5	21.5	
2.1.3	School life expectancy, year	13.1	14.1	
2.2	Tertiary education	55.7	60.5	
2.2.1	tertiary enrolment, %gross	17.2	31.9	
2.2.2	Graduates in science &engineering %	27.6	48.7	
2.2.3	Tertiary inbound mobility	37.7	2.8	
2.3	Research& development(R&D)	7	4.2	
2.3.1	Researchers, FTE/mn pop	597.1	202	
2.3.2	Gross expenditure on R&D,%GDP	0.5	0.2	
2.3.3	QS university ranking, average score top 3	0	9.1	

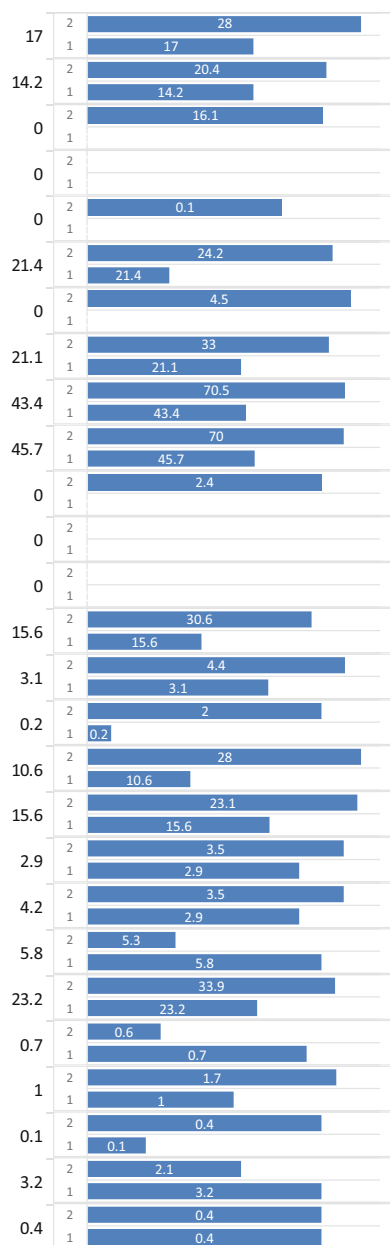
**Table 5** (continued)

3	Infrastructure	58.1
3.1	Information& communication technologies(ICTs)	68.5
3.1.1	ICT access	79.1
3.1.2	ICT use	63.2
3.1.3	Government's online service	67.4
3.1.4	E-Participation	64.4
3.2	General Infrastructure	67.6
3.2.1	Electricity Output, KWH/cap	17830.4
3.2.2	Logistics Performance	71
3.2.3	Gross capital formation, %GDP	0
3.3	Ecological sustainability	38.3
3.3.1	GDP/unit of energy use,2005 ppp\$/kg oil eq	6.5
3.3.2	Environmental performance	69.9
3.3.3	ISO 14001 environmental certificates/bn ppp\$ GDP	1
4	Market Sophistication	42.6
4.1	Credit	28.6
4.1.1	Ease of getting credit	30
4.1.2	Domestic credit to private sector,%GDP	69.6
4.1.3	Microfinance gross loans,% GDP	
4.2	Investment	30.1
4.2.1	Ease of protecting investors	26.7
4.2.2	Market capitalization,%GDP	86.6
4.3	Trade& Competition	68.9
4.3.1	Applied tariff rate, weighted mean,%	3.4
4.3.2	Intensity of local competition	79
4.3.3	Domestic market scale,bn ppp\$	334.5



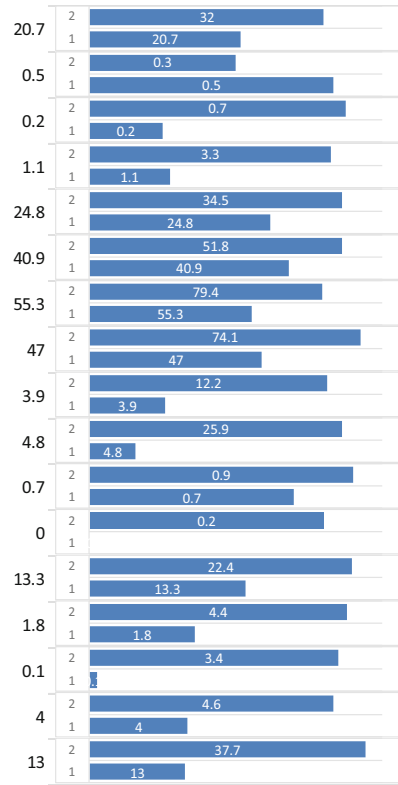
**Table 5** (continued)

5	Business sophistication	28
5.1	Knowledge workers	20.4
5.1.1	Knowledge-intensive employment,% firms	16.1
5.1.2	Firms Offering formal training,% of GDP	0
5.1.3	GERD performed by business,% of GDP	0.1
5.1.4	GERD financed by business,%	24.2
5.1.5	Females employed w/advanced degrees,% total	4.5
5.2	Innovation Linkages	33
5.2.1	University/industry research collaboration	70.5
5.2.2	State of cluster development	70
5.2.3	GERD financed by abroad	2.4
5.2.4	JV-strategic alliance deals/tr PPPS GDP	0
5.2.5	Patent families 3+ offices/bn PPPS GDP	0
5.3	Knowledge absorption	30.6
5.3.2	High-the imports less re-imports, % total trade	4.4
5.3.3	ICT services imp,% total trade	2
5.3.5	Research talent,% in business enterprise	28
6	Knowledge & technology outputs	23.1
6.1	Knowledge creation	3.5
6.1.4	Scientific & technical articles/bn PPPS GDP	6.3
6.1.5	Citable documents H index	5.3
6.2	Knowledge impact	33.9
6.2.1	Growth rate of PPPS GDP/worker,%	0.6
6.2.2	New businesses/th pop.15-64	1.7
6.2.3	computer software spending, % GDP	0.4
6.2.4	ISO 9001 quality certificates/bn PPPS GDP	2.1
6.2.5	High-& medium-high-tech manufactures, %	0.4



**Table 5** (continued)

6.3	Knowledge diffusion	32
6.3.2	High-tech exports less re-exports, % total trade	0.3
6.3.3	ICT. Services exp, % total trade	0.7
6.3.4	FDI net outflows, % GDP	3.3
7	Creative outputs	34.5
7.1	Intangible asset	51.8
7.1.3	ICTs & business model creation	79.4
7.1.4	ICTs& organizational model creation	74.1
7.2	Creative goods& services	12.2
7.2.3	Global ent. & media output/th pop. 15-69	25.9
7.2.4	Printing & publishing output manufactures, %	0.9
7.2.5	Creative goods exports, %total trade	0.2
7.3	Online creativity	22.4
7.3.1	Generic top-level domains (TLDs)/th pop.15-69	4.4
7.3.2	Country-code TLDs/th pop.15-69	3.4
7.3.3	Wikipedia edits/pop. 15-69	4.6
7.3.4	Video uploads on YouTube/pop. 15-69	37.7



Source: Authors’ own calculations based on *Global Innovation Index (2017)* data

### 4.1 GII for Oman and Qatar

With a score of 31.83, Oman is ranked 77th in the 2017 GII rankings among 127 countries.<sup>15</sup> Oman has had numerous vicissitudes and fluctuations through the span of time between 2009 and 2017. For example, the Sultanate’s rankings in 2009 and 2013 had been 52th and 69th, respectively. The rankings for Qatar in the corresponding years had been 24th in 2009 and 43rd in 2013. Qatar could be a potential benchmark for Oman’s innovative measures in economy because of its rankings. Table 5 compared the two countries with respect to the same GII sub-indices. The GII for both countries, Oman and Qatar, are normalized (in the range of 0–100) and presented as a table to facilitate their comparisons with respect to the related sub-indices.

<sup>15</sup>The highest score amongst the country rankings was Switzerland’s at 67.69 (*Global Innovation Index, 2017*).

## 4.2 *Oman's Institutional Aspects in Relation to Advantages and Disadvantages*

With respect to Institutional aspects of GII, the Institution score for Oman and Qatar are approximately the same (Oman 71.8 and Qatar 72.8). The scores for *Political stability* show the emphasis Oman placed on promoting their public governance especially in relation to political stability (Oman 80.7 and Qatar 87.5) a factor which is a pivotal point for national and international investments (Barro 1991) and also Foreign Direct Investment (FDI) (Schneider and Frey 1985) inside both countries. This is a political competitive advantage that could be translated to economic prosperity for the nations and its preservation is necessary for the continuation of economic growth. Moreover, in relation to *Regulatory environment*, Oman has a better score (77.5) than Qatar (66.2); this could be a benefit from its economic strategy as well as its measures for supervision and control. Additionally, one of the competitive advantages of Oman for the promotion of entrepreneurship is its *Ease of starting business* score (92.9), although Qatar's score is still noteworthy (86.1). In seven *Sanad* centres throughout Oman, the government assists individuals across 22 different categories to establish a business. The *Sanad* programme is an initiative of Oman's Ministry of Manpower.<sup>16</sup> Qatar also has a *Sanad* programme, but it is focused on the construction industry and is part of a national initiative led by ASTAD.<sup>17</sup>

Although Oman's score in *Ease of paying taxes* (90.6) is lower than that of Qatar (99.4), this is not the result of a weakness in the Omani system, but rather due to the exemplary strength of the Qatari administrative system. In fact, by country rank, Oman placed 12, putting it considerably ahead of Switzerland (17) and the U.S. (32). Finally, the government of Oman received a very low-ranking score for *Government effectiveness* (44.6); Oman's score is far from a satisfactory situation (e.g. Qatar at 67.7). *Government effectiveness* could be one of the factors that affect the feasibility of a successful entrepreneurship strategy in practice. Therefore, the institutional competitive advantage of Oman, according to GII, could be summarized in the following:

- Regulatory environment
- Ease of starting business
- Ease of paying taxes

One of the weak points of Oman's institutional sub-index, which could decrease the Sultanate's future score for the institution index, is:

- Government effectiveness

<sup>16</sup><http://www.omaninfo.com/manpower-and-employment/sanad-fund-supporting-and-developing-small-projects-ministry-manpower.asp>

<sup>17</sup><https://www.astad.qa/sites/website/default/en/>

### 4.3 *Oman's Human Capital and Research Advantages and Disadvantages*

One of the innovation-based competitive advantages of Oman is its graduates in science and engineering. These two groups potentially present two powerful forces for the promotion of future industrial and infrastructure projects in Oman. In addition, there are a number of science graduates who are potentially the future researchers in the strategic sciences under a sound governmental strategy. This could be especially helpful in providing international partnerships to provide more opportunities for researchers. In contrast to Qatar, Oman has a weaker *Research and development* sub-index (4.2) than Qatar (7.0). This weakness is particularly disruptive for an economy which tries to be diversified and innovative; in other words, Research and Development impacts economic growth (Berman 1990). Therefore, Oman should focus on strategies to develop a future innovation-based economy that enhances the opportunities for entrepreneurship to flourish inside the country. We can classify the competitive advantage of Oman in *Human capital and research* index mostly in:

- Education
- Graduates in science and engineering

In addition, Oman's considerable strategic weakness in *Human capital and research* index is seen in a single category:

- Research and development

### 4.4 *Oman's Infrastructural Advantages and Disadvantages*

Oman (48.4), in comparison to the benchmark country of Qatar, has a much weaker infrastructure (58.1). Oman's electricity output, at 6869.8 kilo watt hours per capita (kWh/cap), is inferior to that of Qatar, at 17830.4 kWh/cap; both countries are considerably below the world's top-ranked Iceland at 56,966.7 kWh/cap. However, kWh/cap represents total electrical energy produced rather than the amounts consumed per capita. Electricity is a necessity for economic development and production of both goods and services. The government of Oman cannot rely solely on its hydrocarbon resources to generate more electricity because drilling and reaching oil reserves are more difficult for Oman in comparison to Qatar, and also exploitation is more expensive (Price 2017). Therefore, the government of Oman will need to invest in renewable energy to provide its future entrepreneurial needs. The governmental body in Oman which is in charge of electricity generation and renewable energies regulation is '*Heya'at Tanzim al'Kahroba*' (Authority for Electricity Regulation) which at present is pursuing a strategy of renewable energy through the '*Solar Rooftop Initiative Launch*' (per Authority for Electricity Regulation website). Moreover, Oman's sub-indices of *Information and communications technologies (ICTs)*

and *ICT access* are (60.7 and 73.7, respectively) are lower than those of Qatar's (68.5 and 79.1, respectively); but these capabilities are still satisfactory for the promulgation of entrepreneurial internet- and communications-related businesses. However, Oman has very weak scores for *Ecological sustainability* (33.7) and *ISO 14001 environmental certificates* (0.7). [Note: ISO certificates are expressed as number of certificates issued in terms of billion of equivalent U.S. Dollars in Purchasing Power Parity of Gross Domestic Product]. Compared with the same scores for Qatar (38.3 and 1.0, respectively), it's clear that the Omani government needs to launch a much higher economic value of environmentally-friendly businesses. These could also compensate for future scarcities of electricity in the Sultanate. Therefore, the competitive advantages of Oman are the following:

- ICT's
- ICT access

In addition, the GII-based disadvantages are:

- Ecological sustainability
- ISO 14001 environmental certificates.

#### **4.5 Oman's Market Sophistication Advantages and Disadvantages**

The cumulative score of Oman in *Market sophistication* (44.2) is higher than that of Qatar (42.6):

- The sub-score for *Credit* indicates Oman (30.3) having a better score than Qatar (28.6). A main reason for this is the *Ease of getting credit* sub-score (within *Credit*), but neither Oman (35.0) nor Qatar (30.0) is appreciably better.
- The sub-index score for *Investment*, shows Oman's advantage (39.5) over Qatar (30.1). This is mostly coming from *Ease of protecting minority investors* in Oman (46.7) compared with Qatar (26.7). A protective atmosphere is an attractive message to local, regional and, especially, international investors; it's a competitive advantage for Oman in comparison with Qatar. However, enforcement in MENA isn't that similar to Western countries.<sup>18</sup>
- Within the sub-index of *Trade, competition and market scale*, Oman does not have a satisfactory score in the sub-score of *Domestic market scale* (173.1) in comparison with Qatar's score (334.5), both of which are expressed in billions of

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<sup>18</sup>It should be noted that protection of minority investors is interpreted differently in MENA than in Western countries. Mostly minority investors have same rights as majority investors, but these tend to be enforced as more of a cultural perspective that 'debts must be repaid' while Western systems expect protection of rights to be enshrined in the court system (Hill, V.).

U.S. Dollars in Purchasing Power Parity. Qatar's local market scale is nearly twice the size of Oman's.

The advantages for Oman in *Market sophistication* index are:

- Investment
- Ease of protecting investors

The *Market sophistication* index disadvantage is:

- Domestic market scale.

#### **4.6 Oman's Business Sophistication Advantages and Disadvantages**

The GII's *Business sophistication* index for Oman (17) is considerably below the score for Qatar (28). One of the main reasons for this low score in the *Knowledge workers* sub-index is the result of Oman's low score (14.2) compared with Qatar (20.4).

- For the sub-score category of *Knowledge-intensive employment*, expressed in terms of per cent of total workforce, the insignificantly small number of knowledge workers in Oman resulted in a score of 'No data available' compared with Qatar at 16.1% of the workforce.

In the sub-index category of *Knowledge absorption*, Oman's (15.6) compared poorly with Qatar (30.6).

In reality, it could be said that neither Oman nor Qatar scored that well for *Business sophistication*. In particular, the scarcity of knowledge workers in Oman suggests future issues will arise in adapting to some forms of entrepreneurial businesses. One way of addressing this could be pursuit of joint-venture strategies not only to increase knowledge-based projects, but also to supply enough knowledge workers for the promotion of entrepreneurship in high-tech industries or renewable energies which the country must promote.

#### **4.7 GII Outputs for Oman's Economy**

The final two GII sub-indices consist of the *Knowledge and technology outputs* and *Creative outputs* which are both essential for the promotion of entrepreneurship. Oman's scores in these two indices (15.6 and 24.8, respectively) are generally lower than those of Qatar (23.1 and 34.5, respectively). These scores imply a better entrepreneurship-promoting climate in Qatar in comparison with Oman. In particular, the *Creative outputs* sub-index shows an extremely unsatisfactory situation for development of entrepreneurship in Oman as the Creative goods and services



sub-index (4.8) is far below that of Qatar (25.9). Since this particular sub-index shows the small degree of development of creative and/or entrepreneurial goods and services—which are, in turn, the potential ‘fruits’ of entrepreneurial initiatives, it could be inferred that entrepreneurship hasn’t yet achieved a satisfactory level of operation in Oman. That also justifies the need for the present paper.

The previous section can be transferred to the following SWOT matrix according to the sub-indices of GII for Oman (Table 6).

In the next step, the regression lines of Oman and Qatar are shown through graphs and also by equations to reflect the conditions of these two countries (both graphically and mathematically as comparisons with one another) and to have a better mental image of Oman’s distance with its benchmark (Qatar) in entrepreneurship promotion strategy formulation for the Sultanate.

**Table 6** Oman’s GII-based SWOT matrix

Inside the Sultanate	
<i>Strengths (S)</i>	<i>Weaknesses (W)</i>
Institution: <ul style="list-style-type: none"> <li>• Political stability</li> <li>• Regulatory environment</li> <li>• Ease of starting business</li> <li>• Ease of paying taxes</li> </ul>	Institution: <ul style="list-style-type: none"> <li>• Government effectiveness</li> </ul>
Human capital and research: <ul style="list-style-type: none"> <li>• Education</li> <li>• Graduates in science and engineering</li> </ul>	Human capital and research: <ul style="list-style-type: none"> <li>• R&amp;D</li> </ul>
Infrastructure: <ul style="list-style-type: none"> <li>• ICT</li> <li>• ICT access</li> </ul>	Infrastructure: <ul style="list-style-type: none"> <li>• Ecological sustainability</li> <li>• ISO 14001 environmental certificates</li> </ul>
Business sophistication: <ul style="list-style-type: none"> <li>• No observed strength</li> </ul>	Business sophistication: <ul style="list-style-type: none"> <li>• Knowledge workers</li> <li>• Knowledge-intensive employment</li> <li>• Knowledge absorption</li> </ul>
Knowledge and technology outputs <ul style="list-style-type: none"> <li>• No observed strength</li> </ul>	Knowledge and technology outputs <ul style="list-style-type: none"> <li>• Knowledge creation</li> </ul>
Creative outputs <ul style="list-style-type: none"> <li>• No observed strength</li> </ul>	Creative outputs <ul style="list-style-type: none"> <li>• Creative goods and services</li> </ul>
International cooperation	Oil price fluctuation
GCC countries cooperation	Governmental revenues mostly dependent on a few products
Good reputation as a politically stable country	Dependence on foreign knowledge workers
<i>Opportunities (O)</i>	<i>Threats (T)</i>
Outside the sultanate	

The GII report indices do not include external opportunities or threats to the countries.

Therefore, this section of the table is complete based on the available data about Oman.

Source: Authors own work mainly based on information included in this paper

### 4.8 The GII-Related Graphs of Oman and Qatar

The GII-related graphs of Oman and Qatar are calculated by the authors and they are shown through Figs. 4–8 for Qatar and Figs. 9–13 for Oman in successive years from 2009 to 2017. In Fig. 4 Qatar’s *Global Innovation Index* is vertical line and time is shown on the horizontal line through the following Eq. (1):

$$GII = -2.4369 t + 4949.7 \quad (R^2 = 0.8717) \quad (1)$$

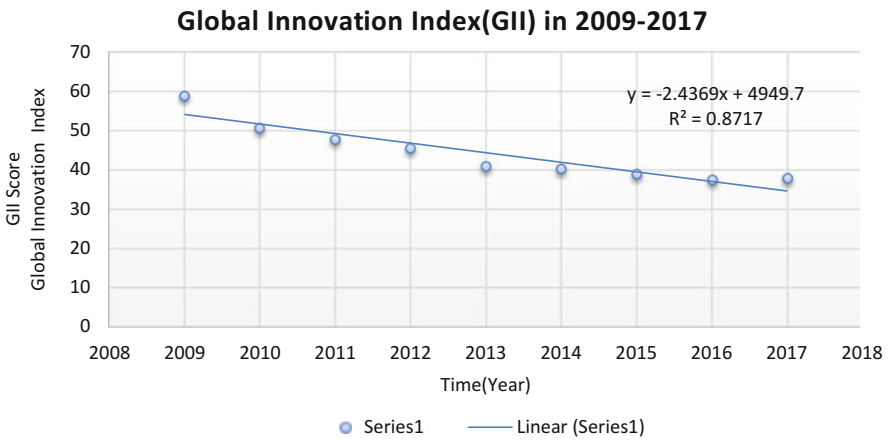


Fig. 4 Qatar’s GII (2009–2017)

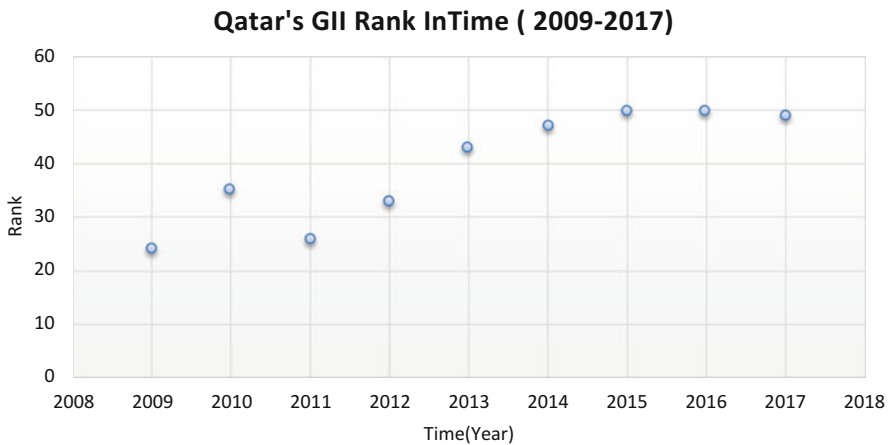


Fig. 5 Qatar’s Rank for the GII (2009–2017)

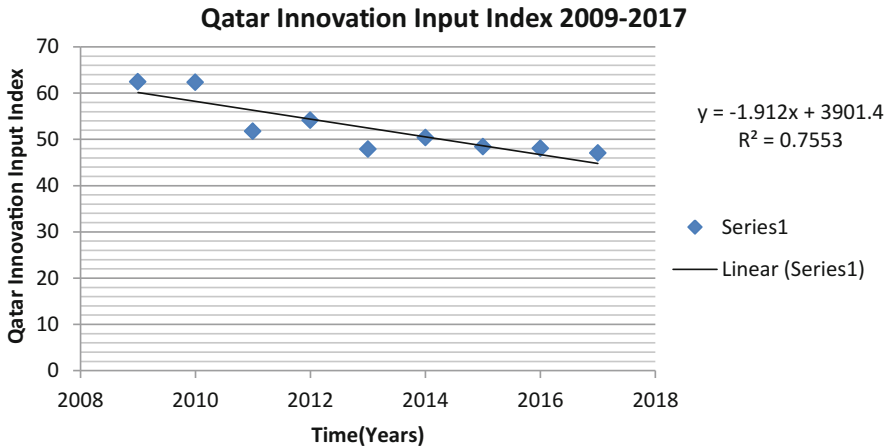


Fig. 6 Qatar GII (2009–2017)

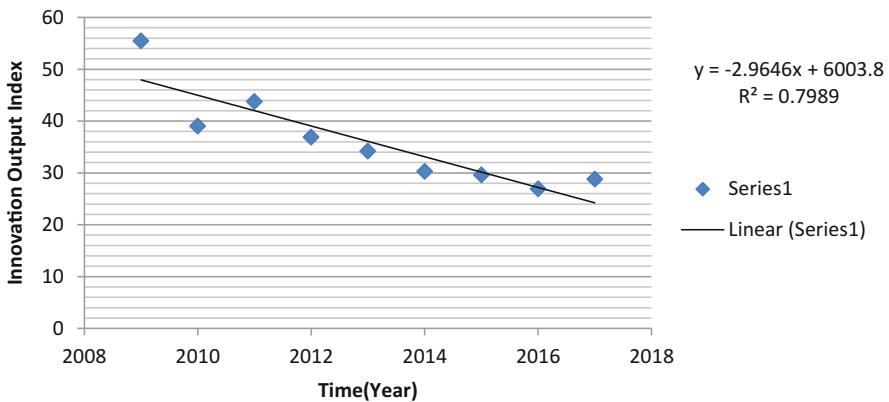


Fig. 7 Qatar’s Innovation Output Index (2009–2017)

Figure 5 is shown how Qatar’s GII Rankings increased through 2009–2017, which is a negative factor in evaluation of GII (since Qatar was dropping to the bottom of the GII list as its rankings increased).

Figure 6 shows Innovation Input Index (III) for Qatar during 2009–2017 with  $R^2 = 0.7553$  with declining result for Qatar in the time span Eq. (2):

$$III = -1.912 t + 3901.4 \quad (R^2 = 0.7553) \quad (2)$$

Qatar’s Innovation Output Index (IOI) during 2009–2017 was declining annually. It is shown in Fig. 7. Equation (3) reflects the decline:

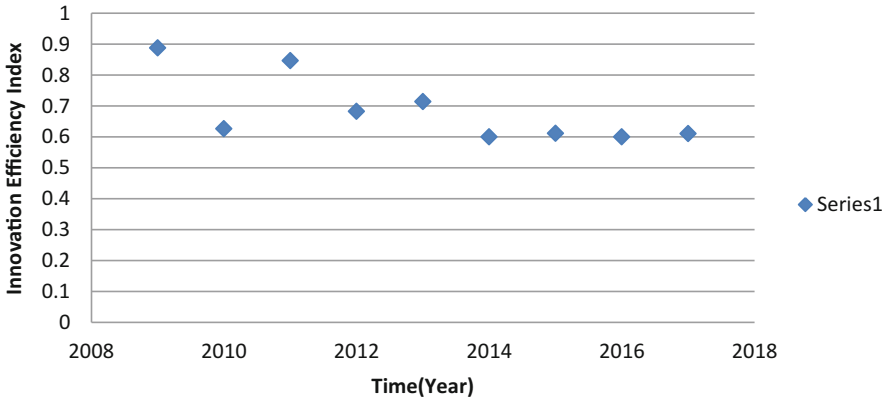


Fig. 8 Qatar's Innovation Efficiency Index (2009–2017)

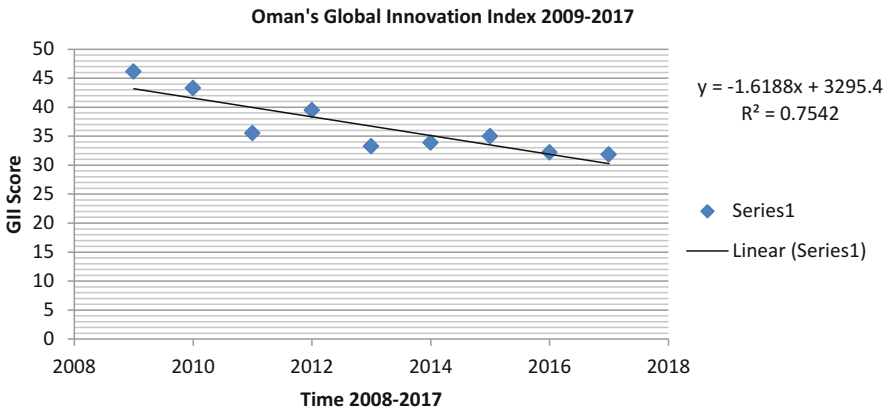


Fig. 9 Oman's GII (2009–2017)

$$IOI = -2.9646 t + 6003.8 \quad (R^2 = 0.7989) \quad (3)$$

By considering the graphs in Figs. 4, 5, 6 and 7, the Innovation Index activities' scores show decline for Qatar that is also reflected in Fig. 8.

Through Figs. 9–13, Oman's innovation situation during 2009–2017 was shown on the horizontal lines. GII score for Oman (2009–2017) is shown in Fig. 8 as a descending line Eq. (4):

$$GII = -1.6188 t + 3295.4 \quad (R^2 = 0.7542) \quad (4)$$

Figure 10 shows how Oman's GII Rankings increased through 2009–2017, which is a negative factor in evaluation of GII (as Oman was dropping to the bottom of the GII list as its rankings increased).

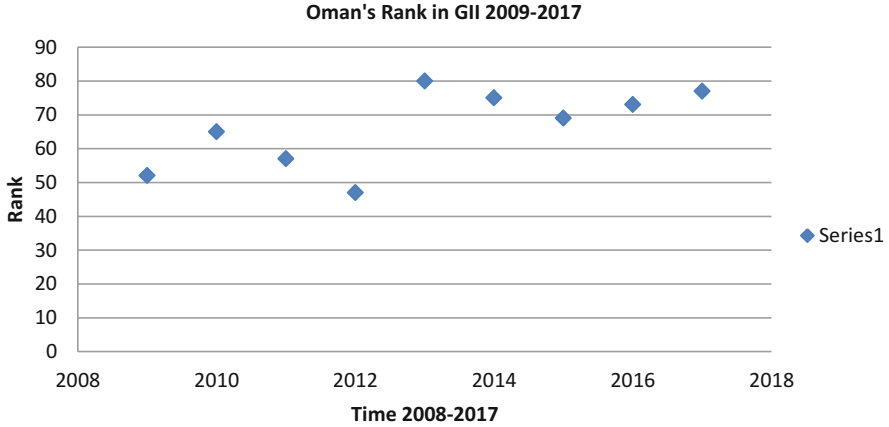


Fig. 10 Oman’s GII Rankings (2009–2017)

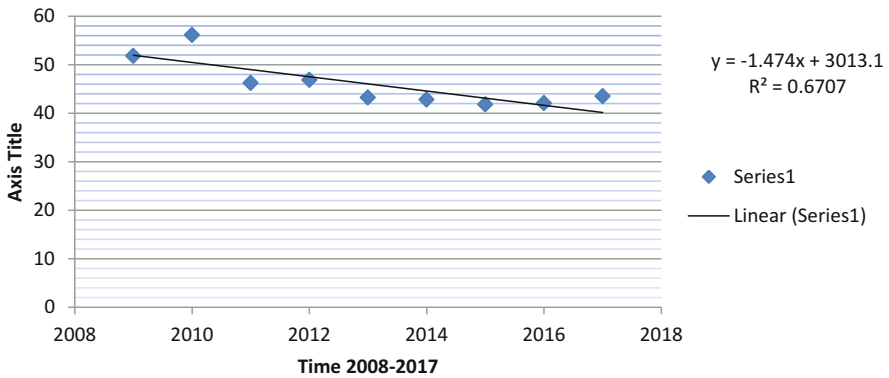


Fig. 11 Oman’s Overall Input Index (2009–2017)

Figure 11 shows Oman’s Overall Input Index in time span 2009–2017, which also shows decline during the time Eq. (5):

$$III = -1.474 t + 3013.1 \quad (R^2 = 0.6707) \quad (5)$$

Also in Fig. 12, Oman’s decline is obvious in Innovation Output Indices during 2009–2017 and by combining the data acquired in Eqs. (5 and 6) we can calculate and observe Oman’s descending situation through the time:

$$III = -1.7637 t + 3577.8 \quad (R^2 = 0.5971) \quad (6)$$

Oman’s Innovation Efficiency Index (2009–2017) which is shown in Fig. 13 also reflected the descending trend.

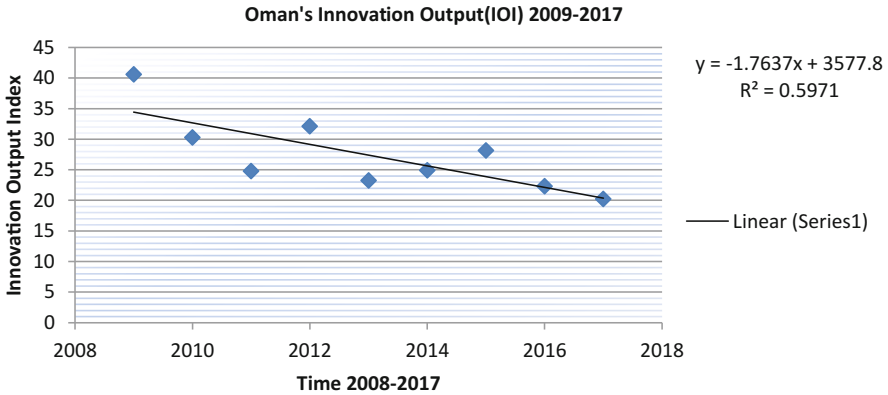


Fig. 12 Oman's Innovation Output (2009–2017)

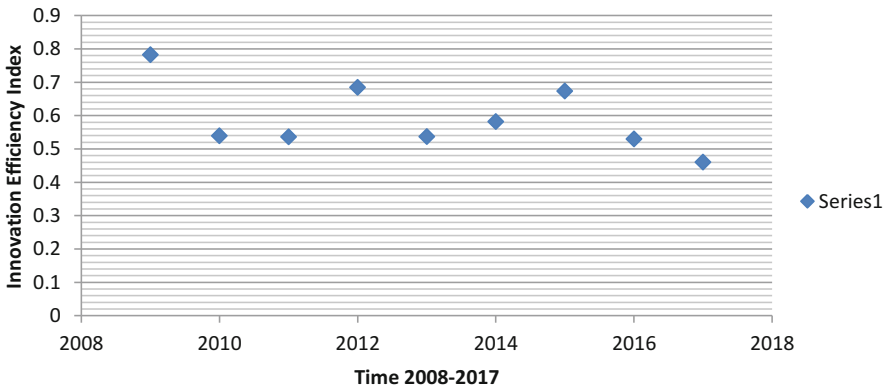


Fig. 13 Oman's Innovation Efficiency Index (2009–2017)

## 5 Conclusion

Promotion of entrepreneurship is one of the administrative roles of governments, which could be pushed forward by setting policies, regulating economic rules, formulating entrepreneurship strategies, setting new incentives, etc. The Supreme Council for Planning (SCP) as the governmental body in charge of strategy formulation for the development of the Sultanate could promote and facilitate entrepreneurship throughout the country by adding to the bottom-up suggestion processes. Presently, this is a 'missing link' for more comprehensive strategy formulation. Although the council invites the stakeholders to debate and raise their questions and concerns, it could use the ICT competitive advantage of the country (which was reflected in the SWOT matrix of this paper) to support a suggestion system for the participation of larger population blocs of the country in nation-wide strategy

formulations. Furthermore, the SCP that sets developmental strategies of the Sultanate should be the single supervisory governmental body for the operational level, too. There are multiple ministries<sup>19</sup> which implement the formulated entrepreneurial strategies and sometimes work in parallel with poor coordination (Al-Shanfari 2012: 4). Such a case violates one of the main managerial laws (especially in public administration) which is “unity of command”. This is one of the strategic pathologies of Oman in relation to entrepreneurship implementation. If there is the necessity of multiple governmental bodies’ presence, which could be on the other hand synergistically beneficial, it is recommendable to determine an administrative coordinating body to prevent potential parallel works. Furthermore, through Figs. 9–13 and Eqs. (4–6) of the paper, Oman’s innovation situation during 2009–2017 was shown in detail. The declining process of Oman’s GII should be stopped by careful consideration of the sub-indices of GII. The sub-indices considered by the authors were also reflected in the SWOT matrix. The SWOT matrix revealed that Oman has strengths in institutional sub-indices such as: *Political stability*, *Regulatory environment*, *Ease of business starting* and *Ease of paying taxes* which are inherently harbingers of a better and more prosperous future for the nation. The aforementioned institutional sub-indices show an administrative system within the country that could be trusted by the entrepreneurs. However, the sub-index for *Government effectiveness* was not satisfactory. Moreover, “inefficient government and bureaucracy” (Blanke et al. 2009) as the other barrier to entrepreneurship in Oman should be considered too.<sup>20</sup> To increase the effectiveness<sup>21</sup> of government, it could benefit from international cooperation to help reorganize, or if necessary, support in the restructuring of some relevant governmental bodies. Moreover, the Sultanate in the future could use its competitive advantages in human capital, e.g. *Graduates in science and engineering*. However, the country will not have enough knowledge workers to compensate for its lag in the *Research and development* section of the economy; this is extremely necessary for innovation in products and services. It is recommended that the Sultanate facilitates the possibility of holding regular workshops with well-known universities of developed countries. In this manner, the youth will become familiar with R&D tasks, which are prevalent in their field of study and will encourage familiarity with R&D perspectives of prominent researchers. By considering the abovementioned recommendations and Oman’s

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<sup>19</sup>Usually *Ministry of Commerce*, *Ministry of Social Development* and *Ministry of Manpower* work jointly for the implementation of entrepreneurial strategies for SMEs.

<sup>20</sup>“Inefficient government and bureaucracy” for entrepreneurship in Oman are *perceived* barriers by the Omani entrepreneurs. The justification to this claim is the research type of Blanke et al. (2009); which was a survey study and hence Omani respondents answered the research questions.

<sup>21</sup>Maybe this unsatisfactory situation for “government’s effectiveness” (i.e. unsatisfactory situation in reaching to the administrative goals in entrepreneurship) was originated from governmental *inefficiency* [lack of *effectiveness* is reflected in our research based on the analysis of the data from *Global Innovation Index (2009–2017)* and governmental inefficiency was reflected in Al-Shanfari (2012)].

official vision statement (reflected in *Oman 2020*), we propose the following GII-based administrative strategies for the promotion of Oman's entrepreneurship:

To attain the following objectives reflected in *Oman 2020* such as

- Economic and financial stability;
- Reshaping the role of the government in the economy and broadening private sector participation;
- Diversifying the economic base and sources of national income;
- Globalization of the Omani economy;
- Upgrading the skills of the Omani workforce and developing human resources (Strolla and Peri 2016:59).

We can recommend the following economic strategies<sup>22</sup> to reach the defined vision statement for entrepreneurship promotion.

### **Economic Diversification Strategy**

This strategy which is also pursued by the government should be continued and reinforced, based on the stated competitive advantage in the SWOT: "A good reputation as a politically stable country." By applying this competitive advantage, the government can convince their international partners to invest in the Sultanate. This could be accelerated by bringing new factories based on a needs study of the products, with particular focus on identifying those products and services which have a nascent need in the MENA Region. Oil revenues hand in hand with FDI could accelerate this diversification strategy (Shachmurove 2009). On the other hand, Oman's intervention in the labour market under the *Omanization Strategy*<sup>23</sup> will deprive the Sultanate from those experienced members of the work force who could potentially diversify the economy of the country by their entrepreneurial<sup>24</sup> or intrapreneurial<sup>25</sup> activities. Diversification of an economy is a great change which calls for experienced and talented entrepreneurs as the change-makers of the economy. The MENA region has the highest rates of unemployment, and youth unemployment in particular, in the world. Oman is not an exception and providing Omani youth with more job opportunities should be an important goal for the country. One strategic fault which inadvertently undermines the economic-diversification of entrepreneurial potential could come mostly from the foreign workforce, already active in the economy of Oman. The result of too much emphasis on the *Omanization Strategy* has also contributed to distortion of the labour market (Porter 2004).

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<sup>22</sup>Note: These economic strategies are not stated directly by the government of the Oman and they are inferred by the authors based on the stated economic objectives in the official vision statement.

<sup>23</sup>The dominant HR strategy of the government of Oman is *Omanization*, in other words the government of Oman tries to substitute as much as possible the occupied job opportunities by the foreigners with the national workforce jointly with the other complementary HR strategy. The *SANAD* programme, started in 2001 as a nation-wide programme for promotion of self-employment opportunities for the Omani youth under the supervision and contribution of *Ministry of Manpower*.

<sup>24</sup>If they are self-employed entrepreneurs active in the private sector.

<sup>25</sup>If they are working within the public or private Omani organizations.



### **Human Resources Upskilling Strategy**

The government of Oman can benefit from *Graduates in science and engineering* and by studying the potential and/or future needs for a workforce-run student exchange programme. Those students who are near to finishing their studies could participate in a vocational programme with well-known international companies who are active in the market of Oman. The government can also provide some incentives; (e.g. tax relief for international companies within the territory of Oman who help the government in its human resources training programmes). In this way, the country could solve the lack of knowledge workers among the Omanis, as well. Although both Qatar and Oman, as seen in the *Research and Development* sub-index, have not introduced policies that would lead to a satisfactory situation. The government of Oman should urgently start some policies such as offering more incentives for well-known international professors and researchers to cooperate with the research centres of Oman or based on the trade agreements such as *The U.S.-Oman Free Trade Agreement* ask the American organizations to establish a subsidiary of their research centre for the Research and Development of their products in Oman (for better promotion of their products in the MENA Region, as well as more efficient planning of their supply chains). If the government of Oman could implement such a policy successfully, it could also sign some contracts for the upskilling of some of its Omani residents as a supplement to its “*Omanization*” strategy of the workforce to be able to supply the future needs of its industries or research centres to skilled knowledge workers. Pursuing up-skilling strategy should be followed up seriously since according to *Arab Human Capital Challenge Report (2009)*, 62% of the top managers in the Arabic countries believe they are enduring the challenges of an unqualified national workforce. This issue, in particular, points to the need for a change in MENA education systems to introduce critical analysis, deductive reasoning, teamwork, class discussions, use of case studies, and above all, the removal of rote learning as a teaching method.<sup>26</sup>

### **Economic Globalization Strategy**

The government could establish some incubators inside the international companies under programmes such as job placement or apprenticeship for youth. It is recommended that the manufacturing companies, rather than the service ones, be chosen first since it will be easier to control product manufacturing than service provision. Later, if the manufacturing companies were interested, they could hire the Omanis who participated in the apprenticeship programmes. In addition, since Oman has good ports as a country located on the Gulf and Strait of Hormuz, it is advisable to invest in products that could be exported. Moreover, without innovation/entrepreneurship each economy falls in stagnation; in other words, the competitive advantages of a nation comes from “the capacity of its industry to innovate and upgrade” (Porter 1990: 73). It should be noted that Oman is not an exception.

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<sup>26</sup>The 15 April 2017 *Human Resource Development and Education Reform Decree* introduced in Jordan is an excellent example of what could be done.

### Economic Privatization Strategy

The taxes in Oman were considered low by the international reviewers (Shachmurove 2009). *Ease of business starting* and *Ease of paying taxes* could benefit the government in convincing the youth to establish home businesses. In turn this could lead to a decrease in “governmental revenues that are mostly dependent on a few products” (e.g. such as oil). The government could propose laws to benefit SMEs which: (a) merge to make larger businesses with more job-generating potential; (b) have governmental incentives for a fixed number of years.

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# Dynamics of Entrepreneurship in Egypt: Assessing the Entrepreneurial Ecosystem



## Can Entrepreneurship Contribute to the Economic Development in Egypt?

Dina M. Mansour, Silvia Rita Sedita, and Roberta Apa

**Abstract** The January 25th revolution in Egypt has inspired a spirit of motivation for youth to take matters into their hands and create their destiny. In less than 6 years the Egyptian Entrepreneurial Ecosystem (EE) managed to draw regional and global attention in terms of business support, funding, Foreign Direct Investment (FDI) and research. Tech-savvy and multi-lingual youth are the Egyptian EE's largest strength, and more constituents are joining the EE every hour. Despite the fact that more support services and stakeholders are emerging to promote entrepreneurship in Egypt, scattered efforts, uncoordinated initiatives, fragile legal framework and low-quality education do not seem to move the nascent ecosystem into a growth stage. Using a rigorous analysis, we conclude that the Egyptian EE is still at birth stage and most of its constituents are mostly fledgling organizations. The legal framework is inefficient. The market lacks genuine ideas and mentors. Venture capitalists still lack expertise, scientific research is not authoritative. Innovation infrastructure is underdeveloped, most of the patents are registered offshore, IP protection is practically inexistent. More worryingly the country is unable to retain its most qualified talents who immigrate to more robust innovation environments. To date, entrepreneurship in Egypt is unable to create sustainable employment or impact national economic growth. However, there is a significant opportunity for improvement. In this chapter we assess the Egyptian EE, then present a set of recommendations for policy makers and investors.

**Keywords** Entrepreneurship · Entrepreneurship ecosystem · Emerging countries · Egypt · Middle East · Entrepreneurship Policy · Economic development

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## 1 Introduction

There is a general agreement in the literature that successful new ventures contribute to employment, political and social stability, innovation and competition (Zedtwitz 2003; Thurik and Wennekers 2004; Ács 2006; Carree et al. 2007). Generally, in any given society the institutional environment comprising formal and informal norms, rules and values governing social and economic exchange, has a major influence on the nature of entrepreneurial activity (Chiles et al. 2007). Recent literature has been paying attention to the institutional dynamics of entrepreneurship in the developing and emerging economies. This includes the combination of resources and institutions which shape new ventures formation. This also includes the role of formal/informal networking in stimulating entrepreneurship in emerging countries among other factors. This chapter aims to give light to the growing phenomenon of entrepreneurship in emerging countries, looking at Egypt as the empirical setting.

## 2 The Entrepreneurship Ecosystem and Economic Development Argument

Recent literature suggests that entrepreneurship is a vital determinant of economic growth (Carree and Thurik 1999; Thurik and Wennekers 2004; Audretsch et al. 2006). However there is literature paucity on what conditions of entrepreneurship that can actually lead to economic growth.

An entrepreneurship ecosystem (EE) is how the social context allows or restricts entrepreneurship in a defined environment. Entrepreneurship is not only the output of the ecosystem; entrepreneurs are important players themselves in creating the ecosystem and keeping it healthy (Stam 2015). Accordingly it is crucial to study the creation of new ventures not as a result of individual actions, but as the interaction of different actors. Different studies try to identify the main components of the entrepreneurship ecosystem and their interaction in order to create a new venture. One of the first models that link entrepreneurship and economic growth was proposed by (Wennekers and Thurik 1999). Their model identifies the conditions for entrepreneurship, the crucial elements of entrepreneurship, and the impact of entrepreneurship. Other existing indicators try to measure entrepreneurship and compare it across countries like Global Entrepreneurship Monitor (GEM). The GEM research program assembles relevant harmonized data on an annual basis to facilitate cross national comparisons on the level of national entrepreneurial activity and to estimate the role of entrepreneurial activity in national economic growth. GEM's model reflects the causal mechanism considered to represent the impact of entrepreneurship on growth (Reynolds et al. 2005). GEM's entrepreneurial process outlines National Framework Conditions (NFCs), represented in the social, cultural, political and economic context, and Entrepreneurial Framework Conditions (EFCs) which relate more specifically to the quality of the entrepreneurial ecosystem (Table 1) (Global

**Table 1** Determinants of selected entrepreneurship measures

<p>Framework</p>	<p>Wennekers and Thurik (1999)</p> <ul style="list-style-type: none"> <li>- Psychological endowments</li> <li>- Institutions</li> <li>- Business culture</li> </ul>	<p>Ahmad and Hoffman (2008) OECD</p>	<p>Isenberg (2010, 2011) Babson Entrepreneurship Ecosystem Project (BEEP)</p>	<p>WEF's GCI</p> <ul style="list-style-type: none"> <li>- Institutions</li> <li>- Infrastructure</li> <li>- Macroeconomic environment</li> <li>- Health and primary education</li> </ul>	<p>GEM (2017), Reynolds et al. (2005)</p> <p>National Framework Conditions (NFCs):</p> <ul style="list-style-type: none"> <li>- openness</li> <li>- Government</li> <li>- Financial markets</li> <li>- Technology, R&amp;D</li> <li>- Infrastructure</li> <li>- Management (skills)</li> <li>- Labors markets</li> <li>- Institutions</li> </ul>
<p>Elements/Determinants of entrepreneurship</p>	<ul style="list-style-type: none"> <li>- Attitude</li> <li>- Skills</li> <li>- Actions</li> <li>- Start-ups</li> <li>- Entry into new markets</li> <li>- Innovation</li> <li>- Variety</li> <li>- Competition and selection</li> </ul>	<ul style="list-style-type: none"> <li>- Regulatory framework</li> <li>- Market conditions</li> <li>- Access to finance</li> <li>- R&amp;D and technology</li> <li>- Entrepreneurial capabilities</li> <li>- Culture</li> </ul>	<ul style="list-style-type: none"> <li>- Markets</li> <li>- Policy</li> <li>- Finance</li> <li>- Culture</li> <li>- Supports</li> <li>- Human capital</li> </ul>	<ul style="list-style-type: none"> <li>- Higher education and training</li> <li>- Goods market efficiency</li> <li>- Labor market efficiency</li> <li>- Financial market development</li> <li>- Technological readiness</li> <li>- Market size</li> </ul>	<p>Entrepreneurial Framework Conditions (EFCs):</p> <ul style="list-style-type: none"> <li>- Entrepreneurial finance</li> <li>- Government policy</li> <li>- Government entrepreneurship programs</li> <li>- Entrepreneurship education,</li> <li>- R&amp;D transfer</li> <li>- Commercial and legal infrastructure</li> <li>- Entry regulations</li> <li>- Physical infrastructure</li> <li>- Cultural and social norms</li> </ul>

(continued)

**Table 1** (continued)

Framework	Wennekers and Thurik (1999)	Ahmad and Hoffman (2008) OECD	Isenberg (2010, 2011) Babson Entrepreneurship Ecosystem Project (BEEP)	WEF's GCI	GEM (2017), Reynolds et al. (2005)
Entrepreneurship performance		<ul style="list-style-type: none"> <li>- Firms</li> <li>- Employment</li> <li>- Wealth</li> </ul>		<ul style="list-style-type: none"> <li>- Business sophistication</li> <li>- Innovation</li> </ul>	<ul style="list-style-type: none"> <li>Business (firms/jobs):</li> <li>Births, expansion, deaths, contractions</li> </ul>
Impact of entrepreneurship	<ul style="list-style-type: none"> <li>- Self-realization</li> <li>- Personal wealth</li> <li>- Firm performance</li> <li>- Competitiveness</li> <li>- Economic growth</li> </ul>	<ul style="list-style-type: none"> <li>- Job creation</li> <li>- Economic growth</li> <li>- Poverty reduction</li> <li>- Formalizing the informal sector</li> </ul>			<ul style="list-style-type: none"> <li>- Socio-economic development</li> <li>- Economic growth</li> <li>- GDP</li> <li>- Jobs</li> </ul>

Entrepreneurship Research Association 2017). Another renowned model is Isenberg's (2010, 2011) idea that "the entrepreneurship ecosystem strategy represents a novel and cost-effective strategy for stimulating economic prosperity" (p. 1). In his work, he identified six domains that characterized the EE (Table 1), these components interact in a complex way and they intact if entrepreneurship is self-sustaining (Isenberg 2011). Furthermore, the Organization for Economic Cooperation and Development (OECD)'s Entrepreneurship Indicator Program (EIP) identified three interconnected flows which evaluate an economy's entrepreneurship policies: Determinants, Entrepreneurship performance, and Impact (Table 1). Last but not least, the World Economic Forum's Growth Competitiveness Index (GCI) defines *competitiveness* as the "set of institutions, policies, and factors that determine the level of productivity of a country". GCI's competitiveness is composed of 12 pillars and is grouped into three levels of economic development of a given economy: factor-driven economy, one that is reliant on unskilled labor and natural resources, efficiency-driven economy, as the country becomes more competitive, raises labor skills, efficient product and financial markets, attracting FDI and harnessing benefits of existing technologies, and finally innovation-driven economy, one that enjoys high standards of living, high wages, highly-skilled labor and ability to innovate new technologies and production processes (Schwab 2016). A summary of the various determinants and how they are detailed in the discussed frameworks is presented in Table 1.

The reviewed measures and others have been developed for different purposes; however collective literature fails to include entrepreneurship as an important factor of the economic growth. Even less research is available on an ecosystem's determinants which could encourage or hinder growth. This is referred to the difficulty of defining and measuring entrepreneurial activity, which is one of the main justifications of the Global Entrepreneurship Monitor (GEM) project (van Stel et al. 2005). Our literature review revealed an agreement on the importance of institutions, legal setting, access to finance and business support for the entrepreneurship to actually lead to economic growth. Moreover, research is insufficiently developed around dynamics of entrepreneurship on an emerging country-level and what successful strategies can be adopted by governments, nascent and established entrepreneurs to enhance the growth potential of businesses within an emerging-country ecosystem. This chapter attempts to highlight the key growth factors influencing entrepreneurship and leading to significant insights into the dynamics of entrepreneurship in an emerging market like Egypt.

For low-developed countries government policy relation with entrepreneurship isn't straightforward. Recent studies emphasize entrepreneurship as a driver of economic development and an important factor in the macroeconomic production function (Audretsch and Keilbach 2004). Some researchers argue that entrepreneurship will impact economic development if a proper institutional setting is in place including formalizing the informal institutions and enhancing property rights for entrepreneurs (Boettke and Coyne 2003), in other words a certain threshold of development must be achieved by the given country so that the entrepreneurship can actually unlock economic development (Valliere and Peterson 2009). In their

study (Carree et al. 2002) compared GEM data of 23 OECD countries and they suggested that it is impossible to make perfect statistical comparisons across countries as sectoral diversity plays a role when explaining situational differences. This agrees with (Bruton et al. 2008) about how emerging countries are treated as a uniform bloc in the literature, with the majority of research conducted in transition countries and/or China. However, emerging economies in the Middle East and North Africa region are less explored in terms of entrepreneurship, even when they represent interesting research areas.

When relating entrepreneurship to economic growth, one should be cautious when comparing countries in different stages of economic development (van Stel et al. 2005). For example, in highly developed countries authors expect a positive impact of entrepreneurial activity on subsequent economic performance given the higher human capital levels of entrepreneurs. For relatively poor countries however high start-up rates may be a sign of a substantial 'informal sector' and not a synonym of a growing economy.

### 3 The Emerging Economies Entrepreneurship

Specifying the entrepreneurship argument to emerging countries doesn't come without challenges. As mentioned before entrepreneurship is considered to be an important mechanism for economic development through employment, innovation and welfare effects (Ács et al. 2008). This phenomenon is understudied for emerging countries despite the development of entrepreneurship could represent a possible solution for the country development considering their size and growing population and its impacts on the demand for employment and income generation (Priya et al. 2014). Valliere and Peterson (2009) analyzed some GEM data and identified the effect of different types of entrepreneurship on GDP growth of developed and emerging countries. Their results indicated that in emerging countries entrepreneurship contributes to only increasing the employment rate, and that these countries need to reach a threshold level of development before entrepreneurship can fully contribute to economic growth. It is important thus to consider the large differences in the economic levels and extent of institutional development between the developed and developing world, including the way this could impact economic growth. However, as explained before the majority of research treats emerging economies as a set uniform bloc, not considering the relevant peculiarities of each economies and little is known about their entrepreneurship dynamics (Bruton et al. 2008). Research is underdeveloped on how structural characteristics of the environment influence the expansion of start-up rates in a developing country context. Naudé et al. (2008) refer this to a number of reasons. For example, in a typical developing country the formal business ownership rate is often low, so that a focus on the factors constraining or assisting the start-up rates of small business firms may explain the impact on regional inequality.

GEM's measure of national entrepreneurship or total early-stage entrepreneurial activity (TEA) is relevant here. TEA is the percentage of the adult population



between the ages of 18 and 64 years who are in the process of starting a business (a nascent entrepreneur) or owner-manager of a new business which is less than 42 months old (Global Entrepreneurship Research Association 2017). van Stel et al. (2005) find that the TEA rate has a negative effect for the relatively poor countries, while it has a positive effect for the relatively rich countries. They refer this partially to a lack of larger companies present as large firms can exploit economies of scale, produce medium-tech, inject foreign investments in the local economy hence help in the process of transforming a developing nation into a developed one. This agrees with the argument that economic growth is most likely achieved with a mix of small but high-growth firms and large, mature firms as small and large companies can often complement each other (Nooteboom 1994; Baumol 2002).

Looking at some emerging country-specific studies, (Khan 2013) investigated the role of government institutions in Saudi Arabia as they help develop organizations in the private sector through providing funding, and suggested that networking activities among new ventures should be encouraged. Arruda et al. (2013) investigated the Brazilian EE and found that despite the availability of capital as the Brazilian economy has created potential investors; measures for investor protection are fragile. Such regulations can incentivize the transfer of investments from large to new ventures, and boost entrepreneurship development. Stam et al. (2007) analyzed transition countries (mostly Russian and Chinese context) and found the high degree of environmental dynamism in these countries requires ambitious and well-connected entrepreneurs in order to translate these abundant opportunities in economic growth. This entrepreneurial growth process is facilitated by the relatively high level of human capital but still relatively low opportunity costs of self-employment of the adult population in these countries. Additionally, Apa et al. (2018) explored if creative entrepreneurship in emerging market economies plays a relevant role in the attraction of foreign direct investments (FDI), thus generating opportunities for economic and social growth. In particular, they investigated the relationship between FDI and ICT new ventures in the ICT sector in Egypt, thus providing the basis of an increased understanding of the entrepreneurship dynamism in this country.

Other authors surveyed the literature on what hinders the entrepreneurship ecosystems of emerging countries to achieve economic growth, and they agreed on a number of institutional deficiencies including: underdeveloped enabling institutions, missing key stakeholders, unavailability of basic business support, unclear and inconsistent policies, disjointed infrastructure, limited funding options, inhibiting culture to innovators, ill-funded education system, reluctant internationalization, and high capital transaction costs (Manimala and Wasdani 2015; Hoffecker 2016).

Overall, the literature agrees that successful new ventures contribute to employment, political and social stability, innovation and competition (Thurik and Wenekers 2004; Ahmad and Hoffmann 2008). However, limited research is conducted on how entrepreneurship can contribute to economic growth in emerging countries. Scattered research on this front agreed that in the emerging countries national policies and government support are important factors for developing the entrepreneurship activities. Furthermore policy initiatives of the government need to

develop human resources on technical and skill levels that can support entrepreneurship research (Bruton et al. 2008; Valliere and Peterson 2009; Kiss et al. 2012; Priya et al. 2014; Keng Wan Ng 2015; Manimala and Wasdani 2015). A better understanding of the determinants and impacts of entrepreneurial activities in developing countries, the policies and institutions that support or hinder innovation is thus a rich research ground (Szirmai et al. 2011). Next section presents a snapshot of the Egyptian entrepreneurship scene and the ecosystem determinants.

## 4 Principal Objectives and Empirical Approach

Hoskisson et al. (2000) argue that replicating hypotheses and research instruments used in developed markets in an emerging market context can result in a mis-specified research design. This is related to the conceptual differences between developed and emerging economies. In addition (Bruton et al. 2008) referred to the importance of case studies and qualitative research on a country and regional levels to capture their particularity. In more detail, (Adly and Khatib 2014) argued that there is a considerable dearth of theoretical and empirical knowledge of entrepreneurship in Egypt, Tunisia and throughout the MENA region.

Using the discussed entrepreneurship measures, a survey of literature on entrepreneurship in emerging economies, as well as an analysis of the existing reports and publications on the Egyptian EE, this chapter tries to answer the following questions:

- Who are the current active players in the Egyptian EE? How are they connected?
- What are the main strengths, weaknesses and growth opportunities in the Egyptian EE?
- Are the current efforts of promoting entrepreneurship Egypt contributing to economic development?

After that a total of eighteen interviews were conducted from March 2016 to March 2017. Table 2 is a classification of the types of organizations/players interviewed. For each participant organization/player a background review was conducted. This includes online existence, case studies and published reports. After that a semi-structured interview based on themes of inquiry was conducted with a member of the management team, including co-founder, CEO, and/or senior leadership member.

Literature and empirical data produced emergent themes and next section presents our analysis. After that we generally assess the Egyptian EE, conduct a SWOT analysis, and present a set of recommendations.

**Table 2** Interviews classification

Governmental/Private accelerator/Incubator	Non-profit accelerator/Incubator	Governmental/Private VC/Angel network	Membership/Consulting/Research	Networking event/Competition	Crowdfunding platform	Academic experts
5	4	4	2	1	1	1

## 5 Analysis

### 5.1 *General Overview on Egypt as Seen from GEM and WB's Doing Business*

According to GEM Egypt the number of individuals engaged in starting a new business has doubled during the period between 2010 and 2015, however, rates of business discontinuation has almost doubled over that period due to difficulty of accessing capital and achieving profitability. 42.4% of early stage entrepreneurs in Egypt are necessity entrepreneurs which according to GEM have started their own businesses due to absence of other work alternatives. These kinds of entrepreneurs are running informal micro/small manufacturing or retail firms and they have limited or no aspirations for growth. Strongest identified areas of the Egyptian EE are the physical infrastructure and internal market dynamics. Weakest areas are entrepreneurial education at school and post-school stages and R&D transfer (Ismail et al. 2016a).

Egypt ranked 115th out of 138 economies on the World Economic Forum (WEF)'s Global Competitiveness Index (GCI) (Schwab 2016, p.168). GCI's framework perceives technological innovation as the most important factor and according to GCI 2016 Egypt is an efficiency-driven economy meaning it is a non-core economy. This means the country has a high ability to absorb advanced technologies of rich technology innovator countries, attract high levels of FDI from high-tech multinational companies of the core economies (van Stel et al. 2005). Furthermore, the World Bank's Doing Business report ranked Egypt in the 122nd place out of 190 economies covered. The country achieved high scores in the ease of actually starting a business but scored low on terms of ease of accessing credit, and regulations pertaining taxation, bankruptcy and lending (World Bank 2017). Overall, the business environment in Egypt is challenging but it also shows a large potential for entrepreneurship and the impact it could have on the economic growth.

### 5.2 *The Egyptian EE Determinants*

#### 5.2.1 Government

There is a growing perception among the Egyptian policymakers and public funders about the need to build the Egyptian EE. However it is not yet translated into actual practices at the local level in areas such as licensing, early-stage business, and alleviating tax burden on new firms (Ismail et al. 2016a). Moreover, areas of property rights, business registration, contract enforcement and finance are generally inaccessible for early-stage entrepreneurs, making entry and exit barriers particularly high (Adly and Khatib 2014).

In 2002 General Authority for Free Zones and Investment (GAFI) embarked in on setting-up a one-stop shop to facilitate the approval and establishment process (OECD 2014). Ministry of Finance's SME Development Unit, and Ministry of Trade and Industry (MTI)'s Industrial Modernisation Centre (IMC) aim at guiding and assisting Micro, Small and Medium-sized Enterprises (MSMEs) via identifying the necessary steps and services offered by different governmental bodies for establishing and operating a business, and providing necessary support (UNIDO 2014). In practice however, a lack of co-ordination between GAFI and other ministries is raised as a concern (OECD 2014). In fact many Egyptian ministries have an SME support unit but they act independently and without a coordinated effort.

### 5.2.2 Culture

Overall the Egyptian culture is not very supportive of individual success that is achieved through personal efforts (Ismail et al. 2016b). However the entrepreneurial culture in Egypt has come a long way when compared to year 2010 and 2012, which GEM attributes to the individual empowerment sense that followed January 25th revolution (Ismail et al. 2016b). Several success stories have become social influencers. For example, an incubator manager told us a success story of a social entrepreneur who graduated their program. Youth in this entrepreneur's city of Tanta consider him a model to be followed, being the first one to take the risk and chart the unexplored territory. Another interviewee told us a story about one of their incubated entrepreneurs. He was turned down as a suitor by the bride's father because he "doesn't have a formal job".

*Female Entrepreneurship* In the Egyptian reserved culture, where woman are expected to be mostly housewives, there is a general belief that women cannot be entrepreneurs. Generally registering a business and accessing formal sources of finance are gender-neutral in Egypt, but not necessarily gender-sensitive. More worryingly, more female entrepreneurs operate informal businesses which are often smaller in size, capital and opportunities of growth. This is because female entrepreneurs face more family obligations and there is a general business-environment hostility towards female-owned businesses (Adly and Khatib 2014). However several female success stories are being heard of. For example, Neveen El Tahri, serial entrepreneur, founder of Delta Shield's 138 Pyramids VC firm, was the first woman to sit on the board of the Egyptian Stock Exchange and was named by the Financial Times twice as one of the leading businesswomen in the Arab World (Shalaby 2013). Also noteworthy is Dina Sherif's Ahead of the Curve (ATC). A social business that provides strategic consulting focused on fields of inclusive business, social entrepreneurship, and women's leadership and economic participation.

### 5.2.3 Finance

There are several sources of finance in Egypt including debt financing, business angels, Venture Capitalists (VCs) and others. Those sources can be public/governmental or private sector/commercial. In addition, business support organizations also offer financing for early and mid-stage entrepreneurs including business incubators, social incubators/civil organization, and international aid agencies (for detailed listing of finance and support sources in Egypt, see UNIDO 2014; STDF 2012). Our research indicated that entrepreneurs express disappointment as banks lack a unified definition for a Micro, Small or a Medium enterprise, which leads to confusion when entrepreneurs ask for loans. Only in March 2017 the Central Bank of Egypt (CBE) identified MSMEs so that a unified definition is adopted across the Egyptian banking sector. As per the new definition, banks can finance established and newly-established MSMEs. In addition, special credit facilitations are awarded for renewable energy, manufacturing and agriculture sectors (El Dostor 2017).

Social Fund for Development (SFD) is a key governmental body which promotes MSMEs' expansion and assists in their financing. However, the enterprises SFD supports are mainly traditional and lacking the aspect of innovation (Business Sweden 2015). According to Adly and Khatib (2014)'s study, entrepreneurs who did not apply for bank loans could not afford the high interest rates, could not meet the required collateral and guarantees, or believed the procedures were complex and costly. Entrepreneurs thus tend to depend on personal savings, family and friends to fund their companies (Wamda Research Lab 2015).

GAFI's Bedaya center is another key governmental prominent sponsor of entrepreneurship in the country, creating the first sovereign fund for SMEs. Bedaya Center for Entrepreneurship and SME Development is predominantly a VC fund, it offers private equity or loan guarantees for entrepreneurs as well as bespoke training and consulting services (Seoudi and Mahmoud 2016).

In terms of private financing, the Egyptian VC industry is relatively new and it lacks the expertise to assess ideas submitted to them, moreover investors prefer projects with low risk, quick profits and minimal involvement (Kenawy and Abd-el Ghany 2012; Seoudi and Mahmoud 2016).

Egypt is a one-bed room flat, to access finance personal, formal and informal networks rule the game. If you know someone, you will have access to everyone [..]

From the period of January 2010 to June 2016, however, Egypt accounted for 24% private equity industry in North Africa (African Private Equity and Venture Capital Association (AVCA) in Forbes 2016). In fact investments in Egypt increased significantly in value terms in 2015. However, in 2016 concerns regarding security and foreign exchange instability increased and rendered investment in Egypt more challenging (MENA Private Equity Association 2015). In November 2016, the Egyptian government decided to devalue the Egyptian Pound against the American Dollar which slumped its value by 45% (Wall Street Journal 2016). While that could help to boost inward investment, the risk of greater political instability could also undermine the attractiveness of the economy (Forbes 2016).

## 5.2.4 Business Support

### *Incubation/Acceleration Programs*

Governmental support services and incubator networks for startups in Egypt exist, but have not yet reached all regions and are not structured and diverse enough. The government has launched seven incubators, both via the SFD and jointly managed with other partners. The maximum incubation period is 5 years, during which the SFD offers office space and facilities for rent at a lower price than the market. In 2013, the seven incubators signed 19 contracts, representing a total value of more than EGP 16 million (OECD/The European Commission/ETF 2014).

Two leading acceleration programs are run by Technology Innovation and Entrepreneurship Centre (TIEC), established by Ministry of Communications and IT (MCIT) and Flat6Labs, established by Sawari Ventures. The American University in Cairo (AUC)'s V-Lab is the first university-based incubators/accelerators in Egypt. It was established in 2014 to support start-ups through offering workspace, facilities, business skills training and more (Kamel 2017).

### *Social Entrepreneurship and Role of NGOs*

Incubation/acceleration programs in Egypt are not only promoted through the public, private and academic sector, social sector is an important promoter as well. Nahdet El-Mahrousa, Injaz, Misr El Kheir incubate early-stage social enterprises. They provide technical and financial resources as well as conducting training and mentorship sessions among high school and college students, both in urban areas and in more remote governorates (Chahine and Mowafi 2015).

### *Other Catalysts*

Other catalysts in Egypt also promote entrepreneurship. Examples include Endeavor and Silatech which are regional networks providing mentorship and consulting. Ashoka Arab World, a prominent regional network for social enterprises. EgyptInnovate, an Egyptian online hub where innovators and entrepreneurs network and connect. Enactus, Ahead of the Curve (ATC), and Egyptian Junior Business Association (EJB) provide a wide array of training programs for entrepreneurs at different stages and types. Diaspora networks are also noteworthy. For example NEGMA annual conference was launched in 2012 by a group of Egyptians and Egyptian-Americans in the US, to support young Egyptian business and social entrepreneurs (Abdou and El Ebrashi 2015). Similarly, RISE Egypt (Realizing Innovation through Social Entrepreneurship in Egypt) was incorporated in 2013 to serve as a "Think and Do" Tank focused on mobilizing Egyptians worldwide to build the capacity of growth-stage social enterprises in Egypt (Chahine and Mowafi 2015). In conclusion, those mostly fledgling organizations catalyze the nascent ecosystem and support emergent businesses but it is no guarantee they are efforts well spent. There is a cry for better coordination and networking among them.

### 5.2.5 Talent Development

Global GEM report ranks Egypt at 62 out of 62 countries surveyed in entrepreneurship education at the school stages and post-school stage, making it at the bottom of the GEM countries (Kelley et al. 2015). Moreover, the 2014 Global Innovation Index, Egypt ranks at 99th position out of 143 countries compared (Cornell University et al. 2014). Egypt is characterized by a weak university sector that is highly centralized and governed by the Ministry of Higher Education and the Egyptian Supreme Council for Higher Education, with the result that institutions have little autonomy or independence (El Hadidi and Kirby 2016). In addition, public spending on higher education has declined in recent years (Reda 2012).

A number of organizations which promote entrepreneurship education and training exist. For example, Injaz Egypt, mentioned above, a nonprofit organization, promotes entrepreneurial skills and financial literacy among youth in schools and universities through training and education. In Egypt it has reached out to 500,000 Egyptian students and it has leveraged the support and partnership of 24 private companies to date (UNIDO 2014; IMC and UNDP 2016). Also noteworthy is Education for Employment Egypt (EFE); a public-private partnership model that connects diverse stakeholders to bring youth closer to the job market. EFE creates training programs with strong growth potential but currently lack suitably qualified personnel (IMC and UNDP 2016). Additionally, Cairo University (CU)'s Centre for Entrepreneurship and Small and Medium Enterprises Management (CESME's) promotes entrepreneurship education on the undergraduate and postgraduate. The center organizes symposia to foster the collaboration of Egyptian Universities in entrepreneurship by members of faculty and of the Egyptian supreme council of universities (Abou-Warda 2016).

Actually funding in Egypt is not at all challenging if compared to talent. The ecosystem is abundant with mentorship and training programs, however, to find an entrepreneur with a genuine scalable idea, who is also resilient and willing to be all in is really hard. When and if one turns up, s/he doesn't even have to try to look for investors, investors are the ones who actually fight over him/her! [..]

### 5.2.6 Market Conditions

Access to markets is not unrelated to the regulatory framework. Not only do market conditions include access to domestic and foreign markets and competition (Ahmad and Hoffmann 2008), they also include entry, exist and growth barriers suffered by new and growing firms (Kelley et al. 2015). Regulations pertaining enforcing contracts, paying taxes and resolving insolvency are inefficient as shown by their low ranks on the Doing Business Report (World Bank 2017). Moreover, levels of financial literacy, inclusion and use of financial services remain relatively weak in Egypt (OECD/The European Commission/ETF 2014).

According to Adly and Khatib (2014)'s study, many Egyptian entrepreneurs believe that their businesses are vulnerable to monopoly, non-market control of



supplies and inputs and weak anti-trust laws. This indicates the state's inability to regulate the asymmetries of power and information. Accordingly new markets entrants are alienated from the markets in which they are supposed to operate.

In terms of internationalization and trading across borders, Egypt is working towards an export promotion strategy for 2014–2018 in coordination with a number of private and public stakeholders. However access to information and other services through one-stop shop is inexistent, and the Egyptian Ministry of Industry and Foreign Trade (MIFT)'s initiative "EgyTrader" to do so is not yet operational (OECD/The European Commission/ETF 2014). Additionally, the Egyptian government imposed a cap on foreign exchange deposits and withdrawals for imports which made trading across borders more difficult (World Bank 2017).

### 5.2.7 Innovation, R&D and ICT Infrastructure

Egypt has a wide array of programs and organizations to promote innovation. However, its Science, Technology and Innovation (STI) system is highly centralized and dominated by the public sector, with R&D occurring mostly in state universities and research centers. For example, Academy of Scientific Research and Technology (ASRT) is a non-profit organization affiliated to the Ministry of Scientific Research (MOSR). ASRT designs Egypt's STI strategies and plans the country's research programs. Additionally, the Science and Technology Development Fund (STDF), and The Research, Development and Innovation (RDI) program; both provide funding for certain research schemes in line with areas essential for Egypt's development (Bond et al. 2012).

In terms of scientific performance, Egypt's output of scientific publications rose from 9299 publications in 2010 to 14,800 publications in 2015, giving it the fifth rank behind Saudi Arabia in the number of published documents in the Middle East for that year (Scimago Lab SCOPUS). The highest percentage of Egyptian researchers has been noticed in Medicine fields, followed by Biochemistry, Genetics, Molecular Biology, Engineering, Chemistry and Agriculture (ASRT 2016). Additionally, Egypt has a huge pool of researchers in universities and research centers. There are some 22,922 fulltime researchers in 24 public universities, 19 private universities and 24 public research centers (ASRT 2016). However, the WEF's GCI Report 2015–2016 ranked Egypt 119th out of 144 countries on the quality of its scientific research institutions (Schwab 2015). In 2013 governmental R&D expenditure was estimated at around 0.68% of GDP (World Bank), while 1.6% of the GDP was directed to military expenditure (World Bank).

Even when there are serious attempts to promote and entrepreneurial culture and bringing business and academia together, the private sector's appetite for innovation is low, and most industries in Egypt doubt R&D translated into profits (Bond et al. 2012). Linkages with universities and research centers are limited in terms of scope and funding, and information on innovation support services is not always available to entrepreneurs. Information Technology Industrial Development Agency (ITIDA) has developed new access to finance projects, but the private sector's participation is

considered limited, and objectives and targets of funding schemes have not been specified in policy documents (OECD/The European Commission/ETF 2014). In fact the private sector contribution in R&D funding in Egypt considered negligible when compared to developed countries. Consequently national funding agencies such as joint funding schemes and scientific liaison, can encourage the private sector's participation (ASRT 2016).

When it comes to entities concerned with technology transfer there are a lot of inefficiencies. Technology & Innovation Centers (TICs) established by Ministry of Industry & Foreign Trade (MIFT) consult their industrial partners on their emergent problems. TICs search for solutions implemented abroad and contact Egyptian researchers, through personal networking, to implement similar solutions at the partner's premises. Similarly, there are five Technology Transfer Offices (TTOs) in five universities in Egypt. Their main role is to commercialize the university inventions using an Intellectual Property (IP) licensing business model. They, however, lack resources and expertise, and they need to hire experts and develop their strategy. Unfortunately there is no collaboration or knowledge exchange between those and most of the other entities working on technology transfer in Egypt (STDF 2012).

In terms of Intellectual Property (IP), a World Intellectual Property Organization (WIPO) study suggests that Egypt has made significant progress in enhancing the legal protection of IP and in putting legislations into practice. However, the uptake of IP in Egypt remains minor, in general and in the ICT sector in specific. In terms of patents, Egyptian ICT firms, and in particular SMEs—which compose the majority of the ICT sector in Egypt—do not file a significant number of patents. Additionally, most ICT-related patents of Egyptian assignees are filed in the US or in Europe. Furthermore there is a lack of strategies by which domestic ICT firms can get their inventions and IP to market, as well as lack of experience concerning the role and actual importance of IP in financing innovation (WIPO 2014).

### **5.3 Additional Observations**

#### **5.3.1 Lack of Information and Data Fragmentation**

Compiling and accessing data is a challenge in Egypt. Even when the number of organizations engaged in research is high, we believe most of citable and organized research is conducted by international aid agencies, private and international research centers. Entities engaged in SME development in particular have different websites or portals, information, however, is not made available in an interactive single information portal but is rather scattered across different sources. Statistical information for enterprises is provided through the Official Statistical Agency of Egypt, CAPMAS, while information on legislation, decrees and laws regarding SMEs is provided by relevant ministries and GAFI's one-stop shops (OECD/The European Commission/ETF 2014).

### 5.3.2 Uncoordinated Efforts

It is obvious there are serious efforts from the government and all stakeholders in the Egyptian EE to promote entrepreneurship, but it is still no guarantee they are efforts well-spent. We believe the huge funds and efforts spent on promoting very early ventures can be categorized and better spent if only stakeholders sit together and share information.

Entrepreneurs in Egypt have become experts in attending startup weekends, early-stage incubation competitions, writing business plans and you see the same groups jumping from one event to the other. This does not mean that there are no other innovative entrepreneurs out there who are looking for be discovered. It also does not mean that those groups are working on genuine game-changing ideas [...]

Early-stage support programs have become repetitive and I think it is such a waste. Stakeholders should sit together and decide who should do what. Only then we can move embryonic and ideation projects forward [...]

### 5.3.3 Informality Is Inevitable

Employment and entrepreneurship informality in Egypt is an area which cries for in-depth research. Even when business laws, policies and regulations are in place, informality still seems to prevail. In terms of small business growth, and therefore opportunities for employment growth, Egypt is greatly hampered by heavy presence of regulations that are unfit for purpose, as well as from lack of predictability and transparency in implementation of business related laws and regulations (European Commission 2015). In fact younger enterprises in Egypt seem less appreciative of formal contracts than older ones and many areas in the formal business registration are generally inaccessible for the majority of entrepreneurs. More alarmingly, market exit is managed informally and resorts to bankruptcy rules are rare, reasons include costly and complex regulations and penalization of failure (Adly and Khatib 2014). Similarly, Barsoum (2015) found that young people in Egypt are reluctant to contribute to the social insurance system due to its lack of transparency and its high cost in relation to their limited income.

### 5.3.4 Centralization and Regional Development

There are obvious disparities in funding and resources across Egypt. Upper Egypt lags behind Lower Egypt in the majority of human and scientific development indicators. Upper Egypt universities and research centers attract less funding, publish fewer papers and win fewer patents relative to their size than those in the north. Cairo on the other hand contains the greatest concentration of research institutions, public and private, and they tend to be among the best resourced (Bond et al. 2012). With political uncertainty and economic slowdown unemployment has reached its highest level, particularly among women and youth in Upper Egypt, at 13.4% in

2013 (Central Agency for Public Mobilization and Statistics in Creative Associates International 2014). More particularly, the SME credit facilities do not always reach the whole of Egypt. Rural areas and Upper Egypt are much less privileged than the Cairo, Alexandria and major cities in Egypt. Youth do not have the financial resources to start a business, and micro financing loans are not wide spread, limited to few banks, and they are poorly understood by many youth (Sieverding 2012; Business Sweden 2015). In fact, provincial entrepreneurs cite the entrepreneurial ecosystem discriminates in favor of the capital city, and this is where they believe they have greater chances of growth. It becomes clear that those owning and managing enterprises in Upper Egypt are operating at a disadvantage in most of the aspects of the entrepreneurship ecosystem, led by growth barriers (Adly and Khatib 2014).

## 6 Findings

In Egypt, the January 25th revolution flooded youth and streets with a sense of courage. And following the revolution Egypt witnessed a flood of thousands of startups, who were lucky enough to secure funding, but now they are unfortunately running out of funds before achieving their promised plans. Most of the ideas in Egypt still lack a deep understanding for the market. Additionally, Egypt still lacks strong mentors who are able to shorten the startups' learning curve and even save them from failure (Ismail 2016). Overall the entrepreneurship scene in Egypt is being developed and unlike 6 years ago, when the ecosystem was practically inexistent, a lot more support domestic and international catalysts are available to contribute positively to the Egyptian entrepreneurs. Below we present our SWOT analysis of the entrepreneurship scene in Egypt.

### 6.1 *SWOT Analysis and General Assessment*

Regarding strengths the Egyptian EE enjoys a youthful human capital, tech-savvy and multilingual youth as well as a large population which is also a large consumer base. The EE is composed of different stakeholders and more support organizations are promoting entrepreneurship at different stages. Additionally more success stories are emerging and number of exits is increasing. The ICT infrastructure is also developing and more domestic and international IT companies are entering the market. Finally there is a high research output in math and engineering and citation scores are increasing.

On the strategic level weaknesses include a weak regulatory framework pertaining contract enforcement, taxation, bankruptcy, and absence of SME-friendly legislation, lack of transparency, data hoarding by governmental units, conspiracy-theory type thinking as well as the inability to retain talent and

migration of highly qualified youth. On an operational level there is no online payment infrastructure is a considerable obstacle in doing business domestically and overseas. Low-quality education is also a problem especially that related to business venturing, critical thinking and entrepreneurship. Additionally there is a lack of research on all levels including funding, encouragement, impact, incentives. Furthermore there is a lack of coordination demonstrated in the government-academia-industry dispersed efforts as well as effort duplication and the large sums of money spent on ideation stages.

There are however a number of opportunities starting by the low cost of doing business and the cheap Egyptian Pound which means cheaper assets for foreign investors and enticing more capital inflows into the country. There is also a governmental attention to emergent industries: renewable industries, manufacturing, and agriculture. Paradoxically informal entrepreneurship and employment can represent untapped market opportunities if handled strategically. Moreover there is an untapped human capital and market opportunities in Upper Egypt which include opportunities for inclusive businesses. Additionally there are strategic economic and political collaborations with EU, North Africa, Gulf states, which attracts FDI (provided a stable economy and Egyptian pound rate), as well as a strong role of international aid agencies as promoters of the EE.

Finally there are threats which unfortunately make opportunities and strengths less attractive but they are not impossible to address. This starts by the unpredictable legal framework and political and economic instability which repel foreign investors. There are also the rapidly changing Egypt Pound rates. Furthermore we have an unsustainable EE in terms of unfinished projects, unfinished domestic and international initiatives. Finally offshore licensing and patenting represent a loss of the domestic innovations.

Accordingly, from an evolutionary perspective (Mack and Mayer 2016) we believe the Egyptian EE is still at the birth stage. It still does not have the authority to impact employment on a macroeconomic level or impact economic development directly or indirectly. Different kinds of support organizations are emerging, e.g. public, private and university-based incubators, and non-profit organizations are acting as important catalysts all carving an entrepreneurship-friendly infrastructure. However markets for the entrepreneurs are not yet developed, serial entrepreneurs are only a handful, policies directed at entrepreneurship aren't yet developed, and risk and failure in the culture are not yet tolerated.

## 7 Concluding Remarks

This chapter tried to unveil the dynamics and implications of entrepreneurship in Egypt being a fledgling entrepreneurship ground. Using the relationship between entrepreneurship and economic development as a lens we were able to assess the Egyptian scene and its contextual elements as well as identifying its status quo. As it has been explained before there is a dearth of empirical papers on entrepreneurship

in emerging countries specifically in the Middle East, and even less data is available pertaining linking entrepreneurship to economic development and the un/successful policies of doing so. This paper's main limitation is the general empirical approach which tried to map the entire Egyptian ecosystem in a limited space, forgoing by this the opportunity to investigate many determinants in depth on their own. Furthermore quantitative data from the last 6 years since the 25th of January revolution could be compared to further explain the booming but challenging ecosystem. Next step in this research is then to investigate specific strategies in selected sectors, levels or industries, ones that should be adopted by the governments or nascent and established entrepreneurs to actually lead to the enhancement of growth potential of businesses within an emerging ecosystem. The following level is then conducting comparative studies across multiple case studies/countries in the MENA region and cross-referencing data from GEM, WEF and/or WB reports. Aim is to highlight key growth factors influencing entrepreneurship and insights into the economic development.

Below we present a set of recommendations which are this paper's managerial implications using Egypt as an exemplar emerging country in the Middle East.

We start by the legal framework. First of all stimulating growth-oriented entrepreneurship, investing in labor and capital, and improving the institutional framework should can help upgrade a developing economy to a developed one (Stam and van Stel 2009). Egypt thus needs to reduce the uncertainty in the economic environment and increase the macroeconomic stability through building its institutions (Naudé 2008). For example policies pertaining contract enforcement, bankruptcy and resolving insolvency and taxation for both the entrepreneurs and investors need to be introduced, as well as maintaining a predictable legal framework to attract investment and retain local businesses. Additionally Egyptian policy makers should enable corporate leaders and financial institutions to play a key role in mainstreaming the current momentum of the Egyptian private sector towards longer term structural change and reforms that will yield higher benefit for all stakeholders (IMC and UNDP 2016).

Next regarding funding facilitation and helping VCs Egypt needs to encourage more venture capital and private equity funds to invest in young innovative enterprises (Bond et al. 2012), develop an adequate flow of promising and investible startups which will attract foreign and regional VC funds. This implies extensive regulatory reforms to remove current obstacles facing entrepreneurs and VCs (Seoudi and Mahmoud 2016), including venture capital firms in the commercial law via distinguishing them in a special taxation treatment (Kenawy and Abd-el Ghany 2012), as well as and increasing access to capital while diversifying the sources and types of available funding to help create new and more productive funding opportunities (Wamda Research Lab 2015).

Building an infrastructure of innovation is also absolutely crucial. For example promoting R&D subsidies, encouraging technical and managerial education, activating public-private partnerships as well as encouraging local entrepreneurs to create new technology-based firms, hence setting the ground for new high-tech industries in the country; and to attract innovative firms from other countries to

strengthen the country's extant high-tech sectors (Szirmai et al. 2011; Buzzacchi et al. 2013; Cannone and Ughetto 2014). Egypt thus needs to place scientific research as a national priority to meet the needs of the community and industry. This includes organizing funding schemes, collaboration between public and private research institutions and identifying national research needs, as well as amending the rigid mechanisms of faculty promotion, and prioritizing research production over seniority. This also extends to updating school and post-school educational systems to promote entrepreneurial culture and business training. This can improve local talent pools and ensure that startups can retain talent (Wamda Research Lab 2015; Ismail et al. 2016b), and boosting vocational and technical education to reflect the needs of the marketplace, and culturally de-stigmatizing them as inferior to higher education (Bond et al. 2012; IMC and UNDP 2016).

Last but not least the Egyptian government needs to encourage discussion between policy makers and the private sector, whether domestic and international in order to:

- Introduce policies pertaining value chains and market shares that can help large corporations set up procurement guidelines and to do business with SMEs and start-ups (IMC and UNDP 2016).
- Broaden the profile of the entrepreneurship programs wider than high-tech enterprises run by educated youth in Cairo and large cities, as cities beyond Cairo have strong talent pools and are more eager to receive support and to work (Ismail et al. 2016b).
- Address fragmentation of the institutional framework, defining the role of different institutions and governmental agencies operating in the SME policy area, and developing synergies among programs. This includes introducing a single SME development agency instead of the various and their various eligibility criteria. Thus it would not require enterprises considerable effort to search for information and navigate through different programs (OECD/The European Commission/ETF 2014).

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# Lessons from Abu Dhabi: The Road Towards an Innovative Entrepreneurial Economy



Thomas Andersson and Piero Formica

**Abstract** The point of departure for this article is the notion of a natural resource *curse*. Taking stock of the literature examining what lies behind a negative association with growth, we stress the importance of examining the role of institutions and how they evolve in the specific context. Against this backdrop, the study reviews the case of Abu Dhabi and its reform agenda in support of diversification. We discuss some of its successes as well as the challenges and issues which influence its way forward. In doing so, we add new insight to the way the different mechanisms associated with the resource curse play out. The article reflects on what features of Abu Dhabi's development are specific, and which are of more generic interest. On this basis, the article considers what lessons can be learned from the past experience, for Abu Dhabi itself as well as more broadly for other economies confronted with similar challenges.

## 1 Introduction

The role of natural resources in economic development has attracted major attention since many years. Early contributions to this field stressed the importance of developing countries gaining control over natural resources and local production capacity (Nurkse 1953; Rostow 1960). However, the contrasting favorable

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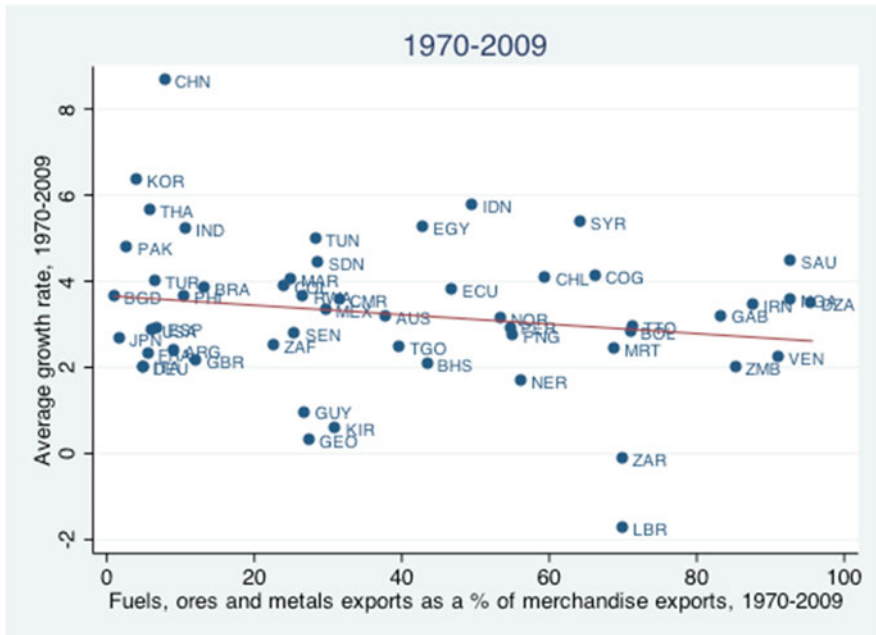
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**Fig. 1** Negative correlation between mineral exports and growth. Source: World Bank (2016)

performance of some resource poor countries, such as the Republic of Korea or Singapore, and that of Ghana or Kongo, led to a notion of a natural resource *curse*, coined by Auty (1990). In fact, as can be seen from Fig. 1, an examination of cross-country variation in economic growth may give the impression that natural resource wealth is detrimental for development.

The notion of a natural resource curse has gradually been called into question, however. One reason is the spurt in income over the past decades for the oil-rich countries in the Middle East. One of the best performing countries, viewed over the past decades, is the United Arab Emirates (UAE). The UAE, however, is made up of semi-independent regional states, or emirates, the two most important of which are Abu Dhabi, which serves as the capital, and Dubai. Of specific interest in this context is the high concentration on hydrocarbon in the former, while the latter has relatively scanty access to the “black gold”.

The growth miracle of the UAE took off in the early 1970s with the spurt in oil prices at the time. From early on, however, much investment activities concentrated on Dubai, which lacks own oil resources but has been bolder in its investment strategy. Beside construction and infrastructure development, services and venture creation play a key role for Dubai’s development. The rise of Dubai Airport and the Emirates as a leader in the international aviation industry, exemplifies the achievements of the emirate.

Abu Dhabi developed less conspicuously but has gradually followed suit to achieve its own growth miracle. Having moved well beyond the middle-income economy layer, today Abu Dhabi attains a status as one of the most prosperous

capitals and regions of the world. Clearly, its extensive oil exploitation stands at the centre of this development, generating high budget and trade surpluses, and the build-up of substantial foreign exchange reserves. Yet, similar to many other natural-resource rich economies, Abu Dhabi encounters challenges in diversifying its economy. While commodity price fluctuations have been known as a liability since decades, the sharply reduced oil price of the last years has made this issue acute.

Abu Dhabi is not a newcomer when it comes to enacting an ambitious reform agenda in support of diversification. In the 5 year-plan that started January 1st 2009, the overriding objectives emphasised the need of building a KBE (Knowledge-Based Economy) and achieving innovation-led development. However, several studies concluded on insufficient progress (Ahmed 2015) and various outstanding challenges have been identified. Hvidt (2011, 2013) discusses problems with consistency and also duplication in the diversification effort. Haouas and Heshmati (2014) refer to vulnerability to external shocks and Frankel (2011, 2017) underlines the lingering problems of the exchange rate regime.

The present article goes beyond previous work by taking stock of Abu Dhabi's position in regard to diversification, comparing with the neighbouring emirate of Dubai and examining both the ability to make use of high oil revenues for development and the inability to establish more broad-based growth. The article casts new light on the mechanisms through which the resource curse operates in the specific context and concludes on the need of consistent reform to strengthen incentives for competence development, entrepreneurship, and innovation, as critical for Abu Dhabi's prospects to stay clear of the natural resource curse. It also reflects on what features of Abu Dhabi's development are specific, and which are of more generic interest, drawing conclusions what lessons can be learned from the past experience for Abu Dhabi itself as well as more broadly for other economies confronted with similar challenges.

The paper is organised as follows. Following this introduction, Sect. 2 examines the wider context of the natural resource curse and presents the methodology applied in the study to examine its relevance to Abu Dhabi. The economic performance and diversification process of Abu Dhabi is reviewed in Sect. 3 which contrasts with Dubai and comments on the various mechanisms for adverse impacts typically associated with the curse. Section 4 examines diversification for Abu Dhabi through other sources of growth, focusing on the advance of a knowledge-based economy. In Sect. 5, particular attention is devoted to entrepreneurship, including the influence of mindset and cultural factors, and the link to private sector development. With Abu Dhabi marked by high levels of immigrant workers as well as prominent trade and investment flows, the roles of cross-border linking are addressed in Sect. 6. Section 7 concludes.

## 2 Natural Resource Curse and Methodology

An extensive literature has sought to unwind what would be the driving forces behind the existence of a natural curse. Over the years, the argument has been advanced with reference to various factors. From early on, exchange rate

appreciation was argued to cause crowding-out of labour-intensive industries, resulting in unemployment (Corden 1984). Some studies pointed to high fixed cost requirements coupled with commodity price volatility as unproductive for long-term investment, including in R&D (Van der Ploeg and Poelhekke 2010). Negative impacts were also found to emanate from an inflated role of government, including reduced accountability to the general public, leading to an increased concentration of national income and less use of public resources in support of societal objectives (Devarajan et al. 2010).

Pressures would be reduced to undertake needed structural reforms, such as those aimed to open up for more competition, sharper frameworks for education, learning and merit-based promotion, and the establishment of new enterprises (Sala-i-Martin and Subramanian 2003; Isham et al. 2005; Arzeki and Bruckner 2009; Amin and Djankov 2009). Both individuals and institutions would have less drive to engage in private-sector development more generally and in risk taking, which is inherent to innovation, entrepreneurship, and start-up activity.

Related to this aspect, natural resource wealth would serve as a lure for rent-seeking, gaining privilege and strive for political clout rather than economic achievement, as well as complacency when it comes to pushing for competition and economic efficiency (Corden 1984; Auty 1990). In this sense, natural resource wealth was seen as associated with poor governance, with less incentive to develop democratic institutions and a tendency for natural resource earnings to boost autocratic regimes and “white elephants,” such as monuments or military might to back up those in power and controlling government coffers.

To some degree, the notion of a curse was underpinned by empirical evidence derived from cross-country studies (Gylfason 2001). In addition, the strongest impact was found to apply in the case of oil, minerals, plantation crops, and coffee and cocoa (Sala-i-Martin and Subramanian 2003; Isham et al. 2005). On the other hand, the robustness of the statistical results was soon called into question. If natural resource earnings, as a share of gross domestic product (GDP), are used as proxy for natural resource assets, the group of natural resource-rich economies will by definition include agriculture-dependent and undiversified economies. These would probably be better defined as “innovation and human capital poor.” A high share of natural resources in the economy is then as much an outcome of slow growth, and a proven inability to diversify, as the opposite (Smith 2007). Lederman and Maloney (2007), meanwhile, found Sachs and Warner’s result not to hold given a different specification of the studied time period, although they did conclude that high export concentration exerts a robust negative effect on growth. Gylfason’s results were found to depend on a few outliers that achieved high growth without natural resources. Alexeev and Conrad (2009) concluded against the presence of a natural resource curse, especially in regard to oil and mineral wealth. As for volatility, a well-developed financial system was found to cushion the presence of negative impacts (Van der Ploeg and Poelhekke 2009).

At the end of the day, the most compelling counter-argument to the prevalence of a curse, is that several countries were able to make use of natural resource wealth as a source of economic strength and move on from there to diversify their economies.

This applies to the Nordic countries, Finland, Norway and Sweden, and also to Canada and Australia. More recently, notably the GCC<sup>1</sup> countries have arisen as a second wave of success stories, proving that high resource wealth can generate high growth in the present era as well. On the other hand, whether these countries will be able to diversify their economies on this basis remains to be seen. This matter is now becoming a subject of great importance and also concern, as it is highly probable that the past decades of recurrent oil price hikes have come to an end, due to the combination of technical progress expanding the supplies of hydrocarbon, as well as lowering the price of competing renewable sources of energy.

While it is important to examine to what extent the mechanisms for realising the curse, which have been identified in the literature, are indeed at work, the way they play out in practice will inevitably depend on the conditions that apply in the special context. In the following sections, we place the focus on what applies in the emirate of Abu Dhabi, which offers an example of an economy that is both oil-dependent and high-performing with regard to economic growth. In our analysis, we compare with other countries as well as with Abu Dhabi's less-oil rich neighbouring emirate of Dubai.

The article further puts together various available sources of data and reflects on the methodological foundations for examining Abu Dhabi's economic record and outstanding issues. When judging the national statistics, one has to bear in mind that UAE data reflects the combined position of all seven emirates that make up the country. The different emirates naturally share several characteristics, e.g., a small indigenous population and high dependency on migrant workers. This situation somewhat insulates the UAE from one of the major challenges of most countries in Northern African and the Middle East (MENA), which is that of generating a sufficient number of quality jobs for their overly young and rapidly growing populations. In other respects, the national data mask differences between the emirates.

An innovation survey that the authors carried out at the enterprise level in Abu Dhabi has provided complementary information on points of relevance to understanding key challenges, and also to commence a learning process how to generate more such detailed information. Following established international methodology, while adding components tailored to fit the local context, the noted data survey allowed for a first set of more in-depth quantitative observations in this area. Part of the underlying work moved into the preparation of a special innovation index to measure the performance of Abu Dhabi, allowing for more effective benchmarking with the most relevant countries, i.e. other natural resource rich economies, while also opening for structured reporting and examination of Abu Dhabi's performance over time. A first tentative calibration using that index, which was undertaken in 2010, allowed for identifying the most relevant innovation-related aspects of Abu Dhabi's economic performance (Andersson et al. 2010a). This has been further built

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<sup>1</sup>The UAE is part of the Gulf Cooperation Council (GCC) for the Arab States of the Gulf. The other member countries are Bahrain, Kuwait, Oman, Qatar, and Saudi Arabia.

on in the present article, which in addition takes account of the issues that appeared since then, including in the face of drastically reduced oil prices.

### 3 Abu Dhabi and Natural Resource Dependency

Abu Dhabi is part of the UAE, a young nation that was established in 1971, around the time of its first major oil discoveries. While the UAE as a whole is more diversified than most other major oil producers in the Middle East, Abu Dhabi is in the possession of an estimated 94% of the country's oil reserves.

As capital of the UAE, Abu Dhabi to some degree benefits from the activities of all the different parts that make up the nation state. On the other hand, the UAE represents a relatively loose "confederation". The Ministry of Interior provides national law & enforcement, but there is high autonomy and diverse economic strategies across the seven emirates. Notably Abu Dhabi and Dubai engage in competition, with a tendency to manoeuvre so as to avoid dependency. An example is the decision of Abu Dhabi to emulate Dubai in the development of a first-rate international airline, *Etihad*, although Dubai by then had already grown the *Emirates*.

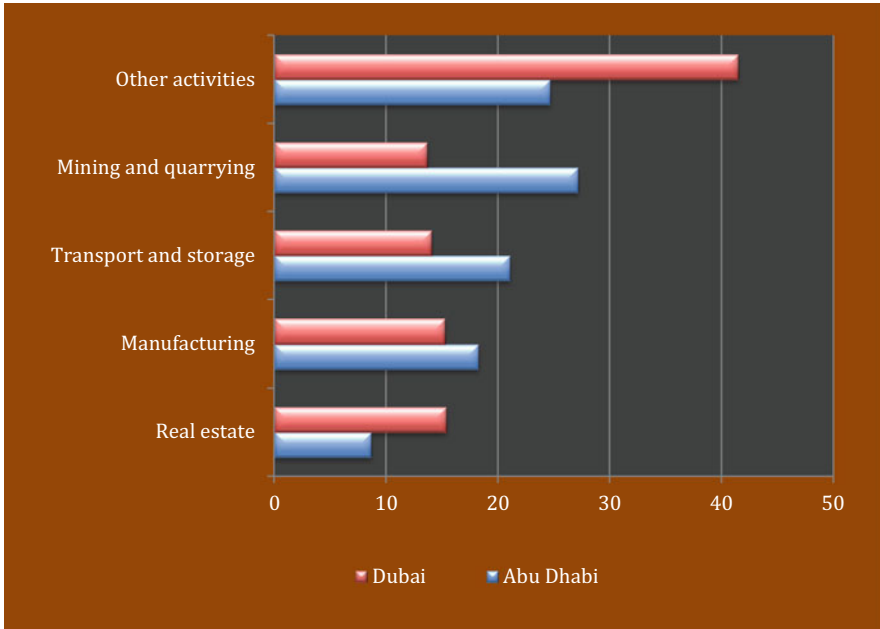
Although data is less accessible for the individual emirates, compared to the national level, analysis of Abu Dhabi demonstrates a record of solid macroeconomic management and strong financial sector development, which has served to reduce vulnerability to price volatility and external shocks. Governance indicators on accountability, transparency, etc., present largely favourable conditions for foreign trade and investment. Notwithstanding all this, however, Abu Dhabi's economy remains dependent on the "black gold", which accounts for almost half of GDP.

The contrast in economic structure compared to Dubai, which provided the original spark for the country's impressive development, is obvious from Fig. 2. While mining and quarrying, and also transport and manufacturing are relatively larger in Abu Dhabi, Dubai is much more diversified through the development of construction and its service economy. For Abu Dhabi, economic growth averaged 4.76% between 2000 and 2015, by when it reached a level that was twice as high as that of Dubai. Today, Abu Dhabi would be one of the wealthiest economies in the world, had it been a nation state of its own.

It is obvious that Abu Dhabi's development appears to stand in contrast to the notion of a natural resource curse, applying in a general sense as well as when compared with Dubai. First, at least some studies found the natural resources most prone to the phenomenon to include oil and minerals. What then about the mechanisms that have been argued to give cause to the curse?

From early on, exchange rate appreciation was argued to stand at the core of the natural resource curse, with crowding-out of labour-intensive industries resulting in unemployment (Corden 1984). Since the 1970s, however, most of the GCC countries have had their currencies pegged to the US dollar. As analysed by Frankel (2017), the result has been a volatile hopping between stages when currencies were





**Fig. 2** Gross fixed capital formation by economic activity, per cent, 2014. Source: Ministry of Economy (2015)

“undervalued”, with high inflation and balance of payments surpluses, versus those when they were “overvalued”, producing low inflation and a weak balance of payments. Meanwhile, immigration of low-cost workers notably from Asia kept wage costs low for the bulk of the work force. The result has become an economy split in two, one populated with expensive indigenous workers and inflated prices for capital and a strong presence of luxury goods, and one with low salaries and access to some basic goods and services at low cost. Productivity has varied markedly between these two sectors.

Of other typical features, internal and external forces have commonly been drawn into costly conflict based on the interest of acquiring control of natural resource rents (Lipson 2005; Herd 2005). In this respect, Abu Dhabi and its neighbors have been viewed as an outright exception, based on ability to stay clear of violent conflict. In this respect, the last few years’ development, which has seen their intensive engagement in war across Syria, Yemen and, most recently, aggression against their fellow GCC neighbor Qatar, raise important questions whether trouble of this sort now lie ahead. As for factors where Abu Dhabi has clearly been afflicted throughout its rapid growth period, high returns to capital coincide with public sector expansion (Devarajan et al. 2010). Abu Dhabi’s unstable external balance, associated with the volatility in export earnings, has been managed capably though, in part due to the noted well-developed financial services (Van der Ploeg and Poelhekke 2009).

The most relevant of the alleged aspects of the curse, however, centre on incentive effects. At stake is the drive for hard work and investment, including in skills and human resources, where access to easy capital favours tangible assets such as real estate (Bizri 2012). There is also importantly the notion of reduced pressure for reforms, including in support of innovation and entrepreneurship (Amin and Djankov 2009; Andersson and Djeflat 2012).

On the other hand, Abu Dhabi's structural characteristics as a natural resource-rich economy present a blend of factors that may also help sharpening its specialization and competitiveness. As seen from Table 1, comparing with other types of economies, typical attributes feature relatively inexpensive capital, abundant labour, scarce knowledge, good infrastructure, and so forth. Shaping opportunities along those lines, Abu Dhabi indeed undertook heavy infrastructure investment and established first-rate logistics facilities. Airports, ports, roads, mobile telephony, and spectacular tourism attractions are some of the hallmarks. Financial services have been boosted as well drawing on its basic strengths. Advantages in the *energy* sector itself have further been capitalised on, complemented by advances in training capacity through the *Petroleum Institute*, or innovation in renewable energy through *Masdar*. Having said this, the actual results by way of generating convincing new sources of growth is limited. Further examination is required of the strategy at hand.

## 4 Towards a Diversified, Knowledge-Based Economy

Successful diversification requires taking advantage of multiple sources of growth. The importance of furthering skills for value-creation within energy has already been noted. Likewise, the benefits of advancing ICT, including mobile and Internet penetration, hinge on regulatory reform, competition and capable management pursuing user-friendly, accessible and affordable services. One element is that of modernising public service through the introduction of e-government services. Another is the introduction of secure storage capacity and servers, along with powerful identification mechanisms, to support reliable electronic commerce (UNCTAD 2015).

In order to achieve diversification at the generally high cost level that is characteristic of Abu Dhabi, and also many other resource-rich economies, the emirate utilises a combination of the noted immigration of low-cost labour on the one hand, while promoting technology and skill-intensive operations on the other. The former helps scale construction and relatively standardised production and services. The latter is pursued through the combination of attracting some high-end international experts, knowledge-based firms and other institutions including affiliates of foreign universities, and the promotion of education, research, innovation and a healthy business environment.

When it comes to the capacity of creating and using knowledge, human capital is clearly essential. The education and skills systems of Abu Dhabi present a mixed bag though. In mathematics and science, often pinpointed as a critical weakness for

**Table 1** Gross generalisation of characteristics for types of economies

	Natural resource-rich economy	Industrial economy	Knowledge-intensive high value economy	Developing economy
Capital	Liquid (cash), cheap, abundant, depleting slowly	Fixed assets, expensive, non-abundant, and depleting slowly	Intangible assets, expensive, relatively abundant, and non-depleting	Cash-strapped, expensive, non-abundant, depleting quickly
Labour	Abundant, unskilled is cheap, skilled is expensive	Increasingly less abundant and more expensive (both skilled and unskilled)	Relatively abundant, increasingly expensive (both skilled and unskilled)	Unskilled labour is cheap and abundant; skilled is expensive and non-abundant
Knowledge	Limited (often to natural resources and wealth management), expensive (often expertise has to be imported)	Specialised and locked-in, process-specific, price-quality oriented. Novel knowledge is often developed elsewhere and is imported	Complex and advanced; novelty-oriented, focused more on creating new niches and new product markets	Limited, expensive, and generic in nature aimed at supporting existing resources
Infrastructure	Good	Good	Very good	Poor
Governance	Ranging from strong state role to state-led economies. Large state-owned firms play a substantial role in the economy	Led by state-unions agreements/consensus. Large industrial agglomerates play important role in the economy	Market driven; stronger role for universities and other knowledge producing players	State-led; with foreign firms and investments playing an important role in the economy
Examples	Arab oil-rich countries, Nigeria, Venezuela; but also Australia, Canada, New Zealand, and Norway, Sweden for a large part of twentieth century	Brazil, Korea, China; but also Canada, US, and Germany	Most EU, Japan, and US	Majority of regions and countries in the world

Source: Andersson et al. (2010a, b)

Middle East students, Abu Dhabi and the UAE performs relatively well, apparently ahead of many developed countries, including the UK and Austria (World Economic Forum 2016). While the share of the mid-to-higher educated work force is relatively

**Table 2** GII ranking of GCC countries' innovation systems, 2014–2016

	Rank 2014	Input 2014	Output 2014	Rank 2016	Input 2016	Output 2016
Bahrain	62	48	80	57	51	67
Oman	75	59	96	73	63	86
Qatar	47	34	69	50	41	58
UAE	36	25	68	41	25	75

Source: INSEAD (2014)

large, however, that with higher/tertiary education is small.<sup>2</sup> When it comes to adult illiteracy, nearly 15% of the population above 15 years of age are unable to read and write, which means Abu Dhabi falls behind much of the developing world. This appears to be a generic problem in the GCC countries, related to poor access of women to schooling in past years, combined with many immigrant workers at the lower skill end.

Putting knowledge into value further hinges on innovation, the success of which depends on a range of conditions, as captured in the notion of *innovation systems* (Freeman 1987; Lundvall 1992). One of the main building blocks, research and development (R&D), remains weakly developed in Abu Dhabi, applying to both academia and the corporate sector (Andersson et al. 2010a, b). This is as predicted by the resource curse literature, given that the returns to R&D are highly variable and relatively long term (Van der Ploeg and Poelhekke 2010). On the other hand, it is noteworthy that so few resources have gone into both public and private R&D, given that the authorities have called such strong attention to its importance. At a modest oil price and less abundant financial resources, turning this around will if anything become more difficult in the years ahead.

Benchmarking country-level innovation performances, Table 2 illustrates the trend in input and output factors as well as the overall innovation index ranking for four of the GCC countries, based on the Global Innovation Index (GII).<sup>3</sup> As can be seen, the GCC countries consistently score higher on input compared to output, suggesting the presence of effort along with difficulties to attain results. Although the gap diminished from 2014 to 2016 for three of the GCC countries, it increased for the UAE which has the strongest overall ranking in this group. This does not necessarily imply an increasing difficulty for the UAE to convert input to innovative output, but it points to the importance of having in place “enabling” conditions, the absence of which may otherwise hamper the successful transformation of effort into real results.

<sup>2</sup>In Algeria and Qatar, for instance, the tail ends on the skills distribution are thicker—the population with at the most primary education is larger than in Abu Dhabi, but they also have a higher proportion of population with tertiary education (Andersson et al. 2010a).

<sup>3</sup>The GII is based on an iterative process measuring innovation on an annual basis. Since the numbers of countries as well as the indicators vary over the years, the observation of trends tends to be better grounded that shifts in ranking from year to year. See further:

<https://www.globalinnovationindex.org/userfiles/file/reportpdf/GII-2014-v5.pdf>

**Table 3** WEF ranking of GCC countries' innovation systems

Index rank	UAE	Qatar	Saudi Arabia	Kuwait	Bahrain	Oman
Availability of latest technologies	11	21	42	55	36	66
Firm-level technology absorption	7	11	44	82	36	57
FDI and technology transfer	3	7	36	116	33	85
Capacity for innovation	15	19	72	93	65	97
Quality of scientific research institutions	27	14	68	104	75	105
University-industry collaboration in R&D	25	10	56	125	44	53
Government procurement of advanced tech. products	1	2	13	75	18	35

Source: World Economic Forum (2016)

The Global Competitiveness Report (World Economic Forum 2016), meanwhile, provides rankings in a number of innovation sub-areas, as seen from Table 3. The UAE is well placed in international comparison, given that 139 countries have been ranked. It further has the highest ranking within the GCC in most of these measures, except for those that have to do with quality of scientific research and university-industry interface, where Qatar is in the lead.

Knowledge-related assets are typically context-specific and have a “tacit” part, serving as a sort of “filter” or “catalyst” for putting the rapidly growing flows of codified information to use (Nonaka and Takeuchi 1995). Especially given a thin knowledge base, there is a strong case for focusing on deepening linkages around particular niches where it is anticipated that “critical mass” can be achieved. Cluster-based strategies may likewise apply across incubation, competence development and innovation strategies, as central for promoting private-sector expansion featuring higher productivity and job-creation (Chatterji et al. 2013).

Against this backdrop, Abu Dhabi has put emphasis on laying the basis for so-called Knowledge Innovation Clusters (KICs). Mubadala, Abu Dhabi's state-owned holding company, a sort-of National Wealth Fund, is mandated to foster growth opportunities in this respect, taking into account the potential benefits of:

- Complementarity with the natural-resource basis and ecosystem
- Diversification of the economy in an international perspective of global integration
- Prospects of international partners as co-founders
- Networking activities of organisations believed crucial for fostering innovative, entrepreneurial projects.

Diversification may occur into entirely different sectors, such as aerospace or automotive, given that fertile ground is in place and can be further leveraged through synergies with complementary assets and activities. Those areas that receive attention include biotechnology, life sciences and health, new materials, and ICT. Each

KIC may be seen as a gravitation-sensitive context that takes the form of a geographic and conceptual space made up of complementary elements:

- Geographical—city and surrounded areas
- Economic—sectors and clusters
- Social—communities of knowledge practice.

KICs have been seen as the epicentre of three forces that empower the innovation process—i.e. creativity, science, and advanced information structures and infrastructures. KICs have been aimed to significantly speed the conversion of research into products and processes, mobilising and optimising all possible ways of co-operation between industry and science, and involving small and medium-sized enterprises in this endeavour.

Summing up, Abu Dhabi has undertaken a wealth of initiatives, at different levels to advance skills and innovation. While this has contributed to the country's success, weaknesses remain in some respects and the results do not seem on par with the efforts. It should be noted in this context that existing organisations meet with distinct limitations, associated with sunk costs and entrenched positions, making start-ups and entrepreneurship essential components of an agenda to put knowledge into new forms of value-generation (Andersson et al. 2010a, b).

## 5 Addressing Entrepreneurship

Fostering the rise of new economic activities meets with a range of issues for most countries. Special challenges arise for resource based economies, however, due to their tendency for rent-seeking and heavy emphasis on tangible assets. This goes along with strong aversion against risk and low preparedness to accept ideas that are new and not proven. Special measures tend to be required to counter these obstacles.

Entrepreneurial initiatives, similar to innovation, cannot be planned or ordered. They will have to grow among *people*, whose behaviors are influenced by capabilities as well as by “mind-set” and local culture. In fostering entrepreneurship, any location requires a strategy that is tailored to its specific conditions and institutions.

The remarkable development displayed by both Dubai and Abu Dhabi during the past decades, bear witness of a range of unique initiatives carrying strong entrepreneurial features. This may hold particularly true of the political and administrative leadership, accounting for a special model of top-down entrepreneurship promotion (Richards and Waterbury 2007; Ennis 2014). As already noted though, international benchmarking ranks human capital comparatively low for Abu Dhabi, with marked weaknesses for labour force motivation and work ethics (World Economic Forum 2016).

The diversification strategy of Abu Dhabi is based on a clear-cut vision that citizens should become confident and secure with government services and operate within a globally competitive economy. The strategy includes an explicit attempt to boost entrepreneurship skills and services support, while alleviating factors that

impede entrepreneurship, such as risk aversion, tilt towards short-term behavior, lack of incentives to adopt innovations, etc. Actions have been taken in the following areas:

- The introduction of exercises in elementary and secondary school to instil basic positive attitudes to entrepreneurship;
- The deployment of general “campaigns” aimed to promote entrepreneurial mindset broadly in society;
- The introduction of incentives for risk-taking and support of private sector activities broadly, countering the influence of wealth distribution through public sector employment;
- Directed program in support of entrepreneurship, such as the Khalifa fund, which provide financial support and professional services support for Emiratis setting up their own business.

Science-led entrepreneurial projects bear complementary relations with Mubadala’s initiatives, which are focused on “globally proven, highly advanced and sophisticated technology that is not yet established in Abu Dhabi. Thus, it tends to select highly established industry partners to develop its projects. Investment with a R&D element is not mandatory, but is preferred in specialised industries like aerospace, oil & gas and technology as it assists in sustaining the competitive edge”. This situation is reflective of Abu Dhabi’s overall weakness with regard to R&D. Despite several attempts to put in place a functioning framework for funding research, as has been implemented by Qatar Foundation, Abu Dhabi is still wavering in this respect.

For knowledge-based entrepreneurship to flourish and catalyse new industries, entrepreneurs’ ability to respond to market needs, which may be partly commercial and partly social, matter greatly. Examples of areas where such needs are at hand include: (1) knowledge-driven business entrepreneurship, responding to the needs of knowledge markets (cf. Box 1); (2) social entrepreneurship, accomplishing social purposes, and; (3) green (“ecopreneurship”, introducing more eco-friendly products and processes.

Without the personal drive of individuals, entrepreneurship cannot flourish. Various social spheres influence outcomes in this regard, including the education system, the labour market, and cultural practices.

### **Box 1 Knowledge markets**

Knowledge markets are now poised to expand their role as a motor for economic development, representing a conceptual space in which content is diffused, leveraged and transformed for various use. Important features of such markets include:

- Knowledge and information systems.
- Customer knowledge and support.

(continued)

**Box 1** (continued)

- Knowledge arbitrage and exchange.
- Expert exchange.
- E-learning exchange.
- Intellectual property.
- Economic and business intelligence.

The Internet, the submarine fibre-optic cable and the communications satellite are the infrastructures that make possible the access to knowledge markets. A great variety of offerings (*richness*) and the amplitude of connectivity (*reach*) give participants unlimited capacity to weave relationships and profit from their advancements.

Higher education serves as a defining entry point for young people in terms of recognition and development opportunities. Not only has the propagation of certain sets of substantive skills mattered, but also the promotion of soft skills and values. The interface between education and labour markets influence what skills are rewarded and used. In the GCC, the impetus of natural resource wealth and public sector expansion brought a “social contract” that up to the last few years linked education to a guarantee for a public-sector job (Assaad and Roudi-Fahimi 2007; Roudi 2011).

On the other side of the coin, those who have taken the step of joining private sector employment, or who attempted a career as entrepreneurs and business owners, experience challenges in earning the same returns as in the public sector. Further, though their exposure to new career opportunities is generally greater in private business, many private sector managers are reluctant to employ nationals who demand high salaries while often being perceived as ill-prepared, inefficient and unproductive (Mellahi and Al-Hinai 2000). These adverse relations between local workers and the private sector are interwoven with a thematic orientation of university studies, favoring law, accountancy, medicine and fields of study leading to public sector employment (e4e 2011). Social sciences, business and law are over-represented as well. This legacy continues to influence mindsets and attitudes.

The labour market has a strong bearing on entrepreneurship, in part because a tight connection between regular employment and social benefits leaves entrepreneurship a viable choice only for the few who are true enthusiasts, have wealth anyway, or have no choice. In Abu Dhabi, Emiratis can step into high status jobs, both public and private, with elevated salaries even without a top degree or much practical experience. The reason in part has to do with a favored position of the relatively few locals compared to the large stock of immigrants, but cultural practices are at work as well.

Of particular importance in this context is the concept of *wasta*, which means “connections” or “networks”, referring to privileged contacts between the individual applicant or worker and someone at a senior level who influences the recruitment



process or, at a later stage, the pace of promotion and granting of benefits. Studies examining *wasta* have found its impact to go way beyond networking and mentoring in a typical sense, distorting career development and promotion practices broadly across the Middle East (Tlaiss and Kauser 2011). The result is a weakening of merit-based promotion, cross-generational collaborative learning, workplace-related competence development and adult and work-place training, and the premises for lifelong learning.

Among proposed countering measures from the education side, Sultana and Watts (2008) advocated a comprehensive set of measures within the educational system and its linkages to the labour market. These include improving the quality of career information, integrating career education within the school curriculum, developing the competencies of career guidance staff and institutionalising work-based training and mentorship. New structures and pedagogy on the part of educational and training institutions must be part of the picture.

Beyond this, however, tangible results will require tackling the overall context. To date, Abu Dhabi along with other Gulf states remains influenced by a mediocrity of business leaders whose success emanated from real estate, trading and a position as middle-men. This community calls for more of the same, while weakly engaged in supporting genuine entrepreneurship. In contrast, the political leadership of both Abu Dhabi and Dubai undertook top-down non-conventional and experimental initiatives to break new ground in urban, social, and economic development.

The prevailing conditions has differential impacts on social groups. This applies across ethnicity as well as to families and tribes. The most striking impact though, applying to the GCC as well as to much of the wider Middle East, has to do with gender. The number of female students enrolled in university studies now exceeds the number of male students across-the-board. The latter further prove generally less motivated for education while the former perform better on average in virtually all subjects, but experience the more severe mismatch between education and the labour market. An evolution that opens for more job flexibility, e.g. with regard to the location and organisation of work, such as remote micro-tasking and outsourcing, thus allowing some to be performed at home and combined with child-bearing, will be helpful. Yet, more is needed to overcome the issues. With *wasta* favouring boys to a higher extent, boys have less need of ambition in education. Titles still matter in Abu Dhabi and the GCC countries more broadly, but the availability of financial resources and useful contacts provides a viable alternative entry route to prominent schools and degrees.

To conclude, a range of conditions influence entrepreneurship, including educational systems, institutional frameworks, and cultural practices. A true revival of entrepreneurship must form part of more deep-rooted change, featuring amended incentive structures as well as stronger enabling conditions, removing barriers and distortions between education, work, entrepreneurship and continuous learning.

## 6 Cross-Border Linkages

The versatility of human capital is central to the capacity to create knowledge, in furthering existing organisations as well as by opening for innovativeness and entrepreneurial activity. Its importance is paramount in political leadership and management as well. A related dimension is that of cross-border linkages, including the capacity to adopt and adapt knowledge inputs from abroad, as well as the willingness to take part in constructive collaborative schemes.

As already noted, by way of numbers the work force in Abu Dhabi is dominated by foreign nationals. Non-citizens have higher participation rates and lower unemployment rates than nationals—a clear consequence of a migration policy centred on labour migration and visas linked to specific job obligations.

Whilst that set-up produces significant benefits, Abu Dhabi needs to take into account the challenges of anchoring the knowledge that is brought from overseas. Immigrants are typically committed only for limited periods of time in the emirate. Their remittance payments back home are large and typically they prioritise short term income over long term training and development.

The inflow and outflow of competence through visiting workers, students, and scholars, represents a partly untapped migrant stock in Abu Dhabi—possibly higher than in any other natural resource rich country. At the same time, the reverse flows, i.e. Emiratis out of the country, are limited. Data on skilled emigration rates suggest that the proportion of Emiratis with tertiary education who work in OECD countries is low by comparison with other countries in the MENA region.

How well does Abu Dhabi achieve when it comes to attracting and/or retaining talented nationals? Mercer's international comparisons of city quality of living takes into account diverse features: stability and crime rates, economic environment, civic liberties, health and sanitation, school and education, recreation, consumer goods, housing, climate and risk of natural disasters (Mercer 2016). These aspects factor in for the talented who are prepared to explore opportunities globally. However, from this perspective, Abu Dhabi is ranked in a moderate position (number 81 out of 250 cities), well below leading cities in other resource-rich economies including Australian, Scandinavian or Canadian cities, but also below Dubai (75). The report finds that one of the great challenges is worsening air quality, in part due to the rapid increase of the population but also the absence of effective public transport. A complementary somewhat older benchmarking exercise (IMD 2007) reported low levels of customer satisfaction (54th place out of 56), health, safety and environmental concerns (44th) and social responsibility (46th) in Abu Dhabi compared to other cities.

It should be underlined though that Abu Dhabi has staged a process of rapid transformation over the past decade. A number of new initiatives have been launched to raise the quality of the urban environment, launch new customer-friendly services, and strengthen social life. It is conceivable that this is about to bring Abu Dhabi into a more favourable position, than what can be observed based on measures of the last years.

Thus far, however, Abu Dhabi has been lagging when it comes to gaining access to international innovation actors, be it individuals, firms, research centres, or advanced markets. It needs to increase the “productivity” of the inflows and outflows of talent, and the number of joint and collaborative projects, as well as build more effective alliances with foreign partners. Abu Dhabi is also lagging other natural resource-rich economies in diffusion. Insufficient genuine interaction and partnering is happening among local innovation actors (among firms and units and between them), and there is lack of cross-sector value chain collaboration (Andersson et al. 2010a, b).

A viable environment for nurturing, attracting and retaining new ideas further requires the presence of a pool of diverse potential investors, endowed with relevant intelligence and surplus funds making them capable of investing in new ideas within particular knowledge and action fields. Such pools cannot be bred locally alone, but there is a need of international linking. The willingness of such actors to invest in a particular country will depend on several factors, including attractive conditions for growth and the presence of exit opportunities for investors.

Entrepreneurship and risk capital activity may be seen as operating on the demand and supply side respectively with regard to resources feeding the formation of new firms. Again, there are different kinds of entrepreneurship and great variations in their prevalence. Broadly speaking, there is a negative correlation between barriers to entrepreneurship and the development of venture capital markets across countries. Barriers to entrepreneurship tend to be accompanied by lower levels of venture capital activity, and vice versa. The establishment of a virtuous circle between entrepreneurship and venture capital is highly desirable but cannot be taken for granted. International experience, as from the US Small Business Innovation Research Program (SBIR), demonstrates that the availability of public funding may be essential. However, outright public contributions carry the risk of diverting entrepreneurial energy towards obtaining subsidies and leading to contract problems. Public support must typically be designed and implemented so as to facilitate or catalyse private funding as well. A pool of prospective business angels may for instance be crucial for granting entrepreneurs with viable alternatives to institutionalised support structures.

Starting in Dubai, but increasingly embracing Abu Dhabi as well, policymakers have aimed for, and in many ways succeeded, in a strengthened financial sector development, drawing on sprawling cross-border linkages with entrepreneurs and business developers in the wider region. These advances have been closely inter-related with the imposition of effective and user-friendly legal frameworks and practices. Especially Dubai has hence evolved into one of the preferred locations for dispute solution anywhere. In regard to the development of a domestic private sector, by contrast, Abu Dhabi keeps performing weakly. Despite the advance of innovative activity, in Abu Dhabi its reach is limited by way of sectors and enterprises, with the overall performance lagging those of peer countries.

Looking forward, cultural diversity represents an Abu Dhabi-specific source of opportunity that can contribute to entrepreneurial outcomes. More specifically, the influx of talented individuals from countries with different traditions may

complement and help underpin the overall productivity of native-born residents. This may occur due to opportunities for the latter to form joint ventures with international companies, by joining talented expatriates in cross-cultural and border-jumping start-up activity. This factor has been critical for engineering the technology and start-up boom of the US since several decades. China, India and other (including smaller) emerging economies likewise benefitted greatly from re-attracting entrepreneurial talent, including from the US (OECD 2015). With the US and the UK presently turning inward, other countries may find new ground to compete in this regard.

A related set of opportunities flows from the fabric of Arab language and culture, as new ICT tools provide a thus far untapped opportunity for new business development featuring cross-border linkages within that space. The rich heritage at hand is weakly represented in Western media, search engines and related information tools. The rise of instant messaging and social media then has a much stronger local connection, but thus far with limited implications for commercial activities. Incubators for digital Arabic content have shown some promise in the past few years, in terms of promoting entrepreneurial endeavors among Arab youth, as have innovation and entrepreneurship competitions. So far, a viable response has been lacking however. Bearing in mind the barriers to innovation in this respect, along with the difficulty in building S&T capacity and learning, new initiatives are called for to capture the regional opportunities. This will be even more so as convergence between mobile communication and the Internet proceeds, with the arrival of smart metering, big data and instant interactive communication, and the rise of personalised e-services and e-commerce, along with new means to work out applications that are attractive for the specific framework of the Arab language and cultural heritage.

Empowering student mobility fosters cultural diversity. Abu Dhabi policymakers promoted the attraction of foreign education institutions, resulting in some inward mobility of students from the rest of the world. It seems however that the academic institutions largely failed to achieve a vibrant role in regard to entrepreneurship and a local innovation system. Meanwhile, Abu Dhabi students display less outward mobility. Counter-action is required for Abu Dhabi's higher education and research institutions to grow more genuinely knowledge-based, and so as for them to encounter less time-consuming bureaucracy and red tape.

By the same token, incentives should support and reward scientist and researcher inward and outward mobility, which has the highest relevance in making viable the organisation of a knowledge value chain from scientific discovery to entrepreneurial exploitation of opportunity-driven innovative projects descending from research processes. Constraints arise, however, as oil prices come down to a lower level. Some of the measures needed to boost new activity and change attitudes require investment, in a situation when financial resources are becoming scarcer. Will this result in a defensive position, or an increased ability to move forward on fronts where progress is essential?

## 7 Concluding Remarks

Abu Dhabi represents a distinct case of a nature resource-rich economy that was able to use that position to nurture a strong performance since several decades. In doing so, Abu Dhabi was stimulated by competition from the less resource-rich neighbouring emirate of Dubai whose leadership enacted an agenda of bold inspiration for urban services development. By developing strong infrastructure along with a range of associated activities, e.g. in energy and finance, in line with its advantages as a nature resource-rich economy but also in the direction of developing a knowledge-based economy, Abu Dhabi has been able to record strong results in a number of social and economic respects.

Despite its efforts and advances, however, Abu Dhabi thus far remains troubled in its efforts to diversify its economy. While its top-down policy approach has taken bold steps, the emirate experiences weak incentives and costly distortions across the nexus of education, competence development, the labour market, and entrepreneurship. Its innovation system displays a stronger position in terms of “inputs” than “outputs”. Despite the availability of ample financial resources, a combination of policies, traditions and red tape account for a situation where merit weights lightly in promotion and risk-taking is low. No proper capacity has been put in place when it comes to R&D, neither in universities nor in the private sector, and university-industry interface is poorly developed. Graduates’ employability is problematic and there is major mismatch between the output of the education system and the needs of the labour market, particularly so when gender issues are taken into account.

Going forward, the most critical challenges have to do with “mind-set” and countering the legacy of the rentier economy. Success in this respect is critical for the degree to which knowledge-based entrepreneurship can take hold, along with the rise of supportive professional business services. In the same vein, the extensive presence of immigrant workers, along with management of talent, is underused when it comes to securing sustainable gains from these flows of human resources.

Many of these lessons apply generally to any nature resource-rich economy. For those that display high dependency on oil, the sluggish price outlook makes it particularly urgent to strike back against the rentier mentality and adopt the tools that allow for gains from new technologies, ventures and industries. For Abu Dhabi specifically, it is necessary to counter a combination of policies and cultural practices that go against merit-based promotion and risk-taking, and instead enact mechanisms for genuinely inspiring its population for entrepreneurship and innovation. This makes it imperative for the emirate to start using its financial means for increased investment and reform in the areas where the need is the greatest. At the end of the day, its ability to do so will decide what economic diversification lies ahead, whether it can eventually break with the looming dangers of the resource curse, and work out a sustainable footing for its future development.

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**Part IV**  
**SMEs in MENA**



# Effectuation, Causation and the Revised Uppsala Model: A Behavioral Analysis of Iranian SMEs' Internationalization



Kamal Sakhdari and Shima Saniei

**Abstract** This study examines the boundary conditions of the emerging international entrepreneurship theories in explaining the internationalization of firms in the novel context of Iran. For this purpose, the alternate template strategy is employed to assess the extent to which the behaviors undertaken by the Iranian Small and Medium Enterprises (SMEs) to enter international markets are consistent with the emerging theories of international entrepreneurship, namely causation, effectuation and the revised Uppsala model. Our multiple case study approach indicates that behaviours suggested by the similar theories of effectuation and revised Uppsala model are dominant among the cases; yet when firms perceive lower level of uncertainty in a market or are not faced with the lack of resource availability, they show causal behaviour. These results provide a better understanding of the process of SMEs' internationalization in developing countries.

**Keywords** Internationalization · Effectuation · Causation · The revised Uppsala model · Developing country · Iran

## 1 Introduction

As a result of globalization and lower trade barriers, many firms in particular small and medium-sized enterprises and new ventures have chosen internationalization as their growth strategy over the last decades (Schweizer 2015). This trend has led to the emergence of international entrepreneurship as a developing research field (Oviatt and McDougall 2005). Scholars in this research stream have sought to recognize factors stimulating firms to recognize and exploit opportunities beyond their national boundaries (Andersson 2011). However, the research stream lacks sufficient process-oriented studies (Hånell et al. 2013). Therefore, the models of

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internationalization with a process approach have most recently developed the research stream of international entrepreneurship (Welch et al. 2016).

The early dominant model of internationalization process recommends a gradual attendance in the international markets (Johanson and Vahlne 1977). The so-called Uppsala model proposes that firms start their international activities with low resource commitment. As their knowledge from the targeted market increases, the level of resource commitment enhances and the firm adopts strategies such as foreign direct investment.

The emergence of international new ventures and born global firms challenged the stage model of internationalization (Oviatt and McDougall 1994). Empirical studies indicate that international new ventures or the so-called born global firms enter international markets at the inception thanks to network connections, injected managers, or managers with previous international knowledge (De Clercq et al. 2012). Recently, Johanson and Vahlne (2009) have revised their original model and integrated the stage and networking models. The so-called revised Uppsala model suggests that both knowledge of markets and network position, named together as the state variables, affect commitment decisions and when firms enter international markets they can learn there and also leverage contingencies which in turn influence the state variables. As such, Johanson and Vahlne (2009) provide a dynamic model of internationalization. Empirical qualitative case studies support the validity of this model (Schweizer et al. 2010). Harms and Schiele (2012) argue that since internationalization deals with decision making under uncertainty, effectuation theory (Sarasvathy 2001) improves internationalization theories. Thus, Sarasvathy et al. (2014) compare the revised model of Uppsala with the effectuation model (Sarasvathy 2008) and argue that the revised model have most factors in common. Effectuation is a behavioural model of entrepreneurship explaining how entrepreneurs develop new firms under the uncertainty conditions. Sarasvathy et al. (2014) posit that international markets are also accompanied by the uncertainty conditions making the effectual principles applicable in such contexts.

The new models of internationalization are at the early stage of theorizing and empirical tests. In particular, there is a need to recognize whether theories developed in mature markets are working in other contexts with different institutions and resource availability (Kiss et al. 2012). Scholars emphasize the importance of networks in developing countries as a reaction to inefficient formal institutions, uncertainty and resource inadequacy (Welter and Smallbone 2011) particularly in early internationalization of SMEs (Musteen et al. 2014). Thus, it appears that the new models of internationalization (Johanson and Vahlne 2009; Sarasvathy et al. 2014) fit well the internationalization process of firms in developing countries. Yet, empirical studies built on these theories in emerging economies are rare (Sarasvathy et al. 2014). Therefore, multiple case study approach is conducted in this research to analyse the internationalization process of Iranian firms based on the emerging theories. The results of five Iranian knowledge-based SMEs indicate that the similar theories of effectuation and revised Uppsala model are dominant among the cases, yet when firms perceive lower level of uncertainty in a market or are not faced with the lack of resource availability, they show causal behaviour.

In the following sections; the main definitions and streams in international entrepreneurship are presented, followed by a description of effectuation, causation and the revised Uppsala model of internationalization. Then the methodology and case description are posited, and finally the implications and opportunities for future research are discussed.

## 2 Literature Review

McDougall (1989) defined international entrepreneurship as the development of international new ventures. The subsequent definitions conceptualize international entrepreneurship independent of a firm's size and age. It refers to an innovative, proactive and risk-seeking behavior beyond national borders to create value in firms (McDougall and Oviatt 2000) or the process of discovering and exploiting opportunities beyond domestic markets to gain competitive advantages (Zahra and George 2002). Research in international entrepreneurship has mainly passed three generations of theories. The first generation of theories was the stage models explaining the process of internationalization as a gradual stage, provided first by Johanson and Vahlne (1977). The second generation is the born global or international new venture model proposing that a firm's internationalization is not necessarily gradual due to strategies adopted by firms such as networking (Oviatt and McDougall 1994). The last generation is the mixed model integrating the previous theories, the so-called revised Uppsala model (Johanson and Vahlne 2009).

There are different theoretical lenses under these general categories. For example, the resource based view, which pays attention to tangible and intangible resources such as assets, capabilities and knowledge (Peng 2001; Zhang et al. 2009; Rialp and Rialp 2007), the knowledge-based approach considering knowledge as the most important resource (Yli-Renko et al. 2002; Autio et al. 2000), the dynamic capabilities approach which regards the exploratory and exploitative capabilities such as network capability (Knudsen and Madsen 2002; Jantunen et al. 2005; Weerawardena et al. 2007), the network theory that studies business and social networks to understand the internationalization process of entrepreneurial firms (Ellis 2011; Coviello 2006; Zhou et al. 2007) and finally the entrepreneurship theory which is recently utilized in the international entrepreneurship research and includes three main streams (Peiris et al. 2012). First, the research on the entrepreneurial mindset and mental models (Zahra et al. 2005; Butler et al. 2010), second, the studies which consider the cyclic process of internationalization and opportunity development (Johanson and Vahlne 2006, 2009; Schweizer et al. 2010) and lastly, studies applying effectuation logic (Sarasvathy et al. 2014; Andersson 2011; Schweizer et al. 2010).

One group of the most prominent models in international business is process-based models such as the Uppsala Model (Johanson and Vahlne 1977). However, international entrepreneurship research is rather static, and dynamic process-based approach is scarce in this field (Coviello and Jones 2004). Time (with a cyclical

dimension) and opportunity-based behavior are the two primary dimensions of entrepreneurial internationalization (Jones and Coviello 2005). Therefore, it is emphasized to integrate international business models with international entrepreneurship research (Peiris et al. 2012). In an effort for this integration, Johanson and Vahlne (2006) underline the opportunity development (discovering or constructing) as an important outcome of commitment in the Uppsala Model (Johanson and Vahlne 2006). Then, Johanson and Vahlne (2009) explicitly add opportunity as the most important subset of knowledge to their business network view of the Uppsala Model and point out the consistency of effectuation with this model. Schweizer et al. (2010) propose an adjustment to the business network view of the Uppsala Model based on the entrepreneurial facet of internationalization process and effectuation logic, and include entrepreneurial capability and exploiting contingencies to the model. By comparing the adjusted model with effectuation model, Sarasvathy et al. (2014) acknowledged the coherence of the two models in spite of some minor differences.

In the following sections we present the development of the internationalization as an entrepreneurial process model (Johanson and Vahlne 2009; Schweizer et al. 2010) which is then used as a base for the explanation of the internationalization process of firms in Iran.

## ***2.1 The Evolution of Effectuation and the Entrepreneurial Process Model of Internationalization***

### **2.1.1 The Uppsala Model**

The Uppsala model as one of the early models in internationalization literature characterizes the internationalization process of the firm. It defines internationalization as a process of growing experimental knowledge. The model has two time-consuming change mechanisms, first, learning from experience of current activities in foreign countries, and second changing through the commitment decisions. These mechanisms develop international knowledge and strengthen the firm's position in the foreign markets. Further, the four stages of internationalization process in this model, called the establishment chain, are exporting, dealing with intermediaries, establishing sales organizations and finally manufacturing in foreign markets prioritized based on psychic distance originating from liability of foreignness (Johanson and Vahlne 1977).

The Uppsala model is criticized for the emergence of companies which leapfrog over the stages in the establishment chain and the weakening correlation between foreign market selection and psychic distance. The network view provides an explanation for deviations from the establishment chain (Johanson and Vahlne 2009). Furthermore, research has shown that integrating the incremental models of internationalization with the network perspective provides a better insight into the internationalization process (Coviello and Munro 1997). This is due to the fact that

the internationalization process is complex, poorly structured and intensively influenced by networks (Ferro et al. 2009).

### 2.1.2 The Business Network Model

In the business network model, internationalization is viewed as a multilateral network development. Similar to the Uppsala model, the business network model has two change mechanisms, first, learning, creating, and trust-building as the outcome of current activities and second relationship commitment decisions. These change mechanisms affect current state and vice versa. Current state includes knowledge and opportunities as a subset of knowledge and network position. Knowledge includes needs, capabilities, strategies, and networks of firms. The increased level of knowledge influences relationship commitment decisions. Network position refers to the position of the focal firm in a network of relations characterized by different levels of knowledge, commitment and trust. In this model, outsidership from the relevant network is more important than psychic distance and foreignness and the firm goes to foreign markets where its partners see opportunities or have a strong position and if the firm does not have any valuable partner, it goes where it is easy to make connection with a new firm with a network position in the foreign market. In addition, according to this model the reason for going abroad and foreign market expansion can emanate a relationship partner to demonstrate commitment or entering networks abroad to pursue opportunities relying on the existing knowledge (Johanson and Vahlne 2009).

The starting point in the process could be establishing the company, entering the first international market, or building a relationship and might be when the firm starts to exploit its network position based on the existing knowledge. The knowledge may also lead to decreasing a commitment or terminating a relationship (Johanson and Vahlne 2009). By applying an abductive research based on the business network model of internationalization, Schweizer et al. (2010) developed the entrepreneurial process model which emphasizes the entrepreneurial nature of internationalization.

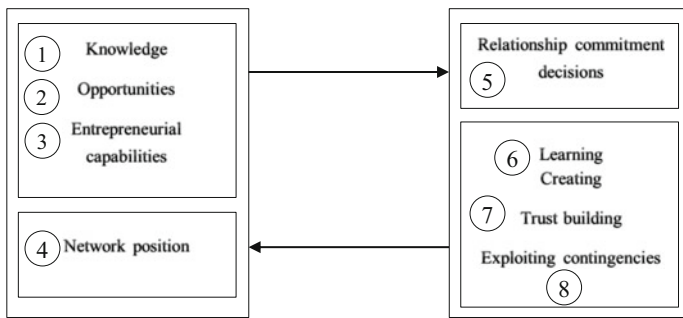
### 2.1.3 Internationalization as an Entrepreneurial Process

The entrepreneurial process model explains that internationalization occurs when a partner is located in a foreign country. For building this model, entrepreneurial capability and exploiting contingencies are incorporated into the business network model (Johanson and Vahlne 2009) as a state and a change variable respectively (Fig. 1). In the upper left box the characteristics of the entrepreneur and the firm are shown such as tangible and intangible resources and attitudes. Knowledge about other actors in the networks or knowledge of opportunities drives the entrepreneurial process. Further, entrepreneurial capabilities facilitate learning, creating knowledge and exploiting contingencies in the lower right box which in turn influence commitment decisions, as depicted in the upper right box. These commitments influence the

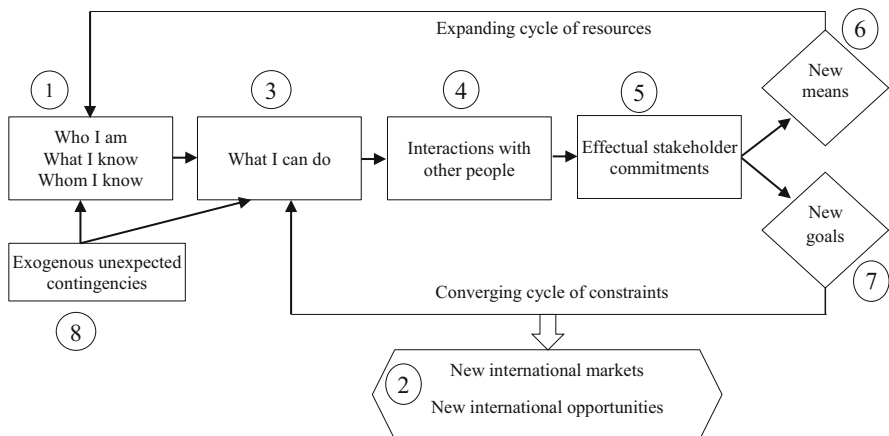
network position of the firm which affects both the foreign market selection and entry mode of operation in that market (Schweizer et al. 2010).

**2.1.4 Effectuation**

Sarasvathy et al. (2014) argue that almost all components of the dynamic model of effectuation (Sarasvathy 2008) are covered by the entrepreneurial process model of internationalization (Schweizer et al. 2010) as can be seen from numbering of the boxes in Figs. 1 and 2 while there are two mismatched issues. First, there are a process-based illustration and various cycles of interactions among stakeholders in the effectuation model and second, opportunities are the outcome of the process and are not given. In this model, the entrepreneur interacts and makes agreements with stakeholders based on his knowledge and capabilities to gain new resources or



**Fig. 1** The entrepreneurial process model of internationalization (Schweizer et al. 2010)



**Fig. 2** Effectuation (Sarasvathy et al. 2014)

develop new courses of actions which result in international opportunity development (Sarasvathy et al. 2014).

## ***2.2 Effectuation and the Entrepreneurial Process Model of Internationalization in Developing Contexts***

There are some implications which motivate studying the process of firms' internationalization in developing countries from the entrepreneurial process approach. First, firms in developing countries can leverage key resources and bridge their resource gaps through their involvement in business networks (Kuada 2006). Second, generally, in contexts where the regulatory and legal framework does not attract a similar level of institutional trust, such as developing countries, entrepreneurs tend to draw on ties based on personal trust and follow it as a path-dependant behavior (Welter and Smallbone 2011) even in foreign markets as establishing relationships is mainly an informal process (Johanson and Vahlne 2009). Third, until recently, firms in developing countries have been at the losing end of the networks due to the power asymmetries within the network resulting from lack of resources. But nowadays, as a result of the flow of resource and knowledge across countries, some developing countries such as Asian countries have gained better network positions in global business networks (Kuada 2006). Therefore, as effectuation and the entrepreneurial process approaches focus on developing opportunities with network partners, they seem to be useful frameworks to explain internationalization behaviors in developing countries.

## ***2.3 Empirical Research***

Some empirical studies have explored the power or relevancy of these theories in explaining internationalization processes of firms in developed and developing countries. Mainela and Puhakka (2009) applied a longitudinal case study from Poland to illustrate how the creation of an international joint venture in transition markets can be explained by casual and effectual behaviors of individual managers. Andersson (2011) used an explorative case study and the critical method approach to assess effectuation as an alternative approach compared with causation logic in explaining behaviors of a Swedish born global company to enter new foreign market. He found effectuation as a useful tool in this process focusing on the entrepreneur's ability in opportunity creation by its network partners. Sarasvathy et al. (2014) used a case study of internationalization from India to provide support for the application of the entrepreneurial process model and effectuation theory and evidenced how these theories fit internationalization process in emerging economies. Schweizer (2015) used an embedded case study from Sweden to explore the

explanatory power of effectuation. The study shows that decisions in the process of internationalization of SMEs follow both effectuation and causation logic and transformation from effectuation to causation that was previously discussed in the literature, is not straightforward. Furthermore, few researchers investigate these connections in more details. For instance, Harms and Schiele (2012), used regression analysis to study antecedents and consequences of effectuation and causation in creating German international new ventures. They conclude that more psychic distance induces causation in more dynamic markets, and that more experienced entrepreneurs are more likely to use effectuation, and entrepreneurs who use effectual processes do not predetermine the entry mode while entrepreneurs employing casual processes are inclined to apply export for entry mode. Yet, our understanding of the internationalization process in the context of developing countries is still scattered and scarce, and, in particular, less is known about whether the new models of internationalization can explain the international behaviors of firms in developing countries (Sarasvathy et al. 2014). Accordingly, this research is designed to investigate the Iranian firms' internationalization process based on the entrepreneurial process models.

### **3 Method**

This study aims to explore internationalization as an entrepreneurial process in the novel context of Iran. Therefore, the alternate templates strategy is used in which data is confronted with different theoretical lenses. This strategy provides a more comprehensive explanation comparing different theories in explaining an event (Langley 2009). There is no need to many cases to run this method because the different theoretical interpretations have the required base for comparison (Langley 1999). The strategy has been already applied in entrepreneurship research (Fisher 2012). The methodology adopted by this research is shown in Fig. 3.

The steps to run this method are expanded as follows:

#### ***3.1 Theoretical Approaches and Internationalization Process***

##### **3.1.1 Selection of Theories**

The three approaches, namely effectuation, causation and the entrepreneurial process model are chosen. Effectuation and the entrepreneurial process model are chosen based on the entrepreneurship theory stream of internationalization research (Peiris et al. 2012). Causation approach is selected as it provides a complementary perspective to effectuation which can occur in different conditions.



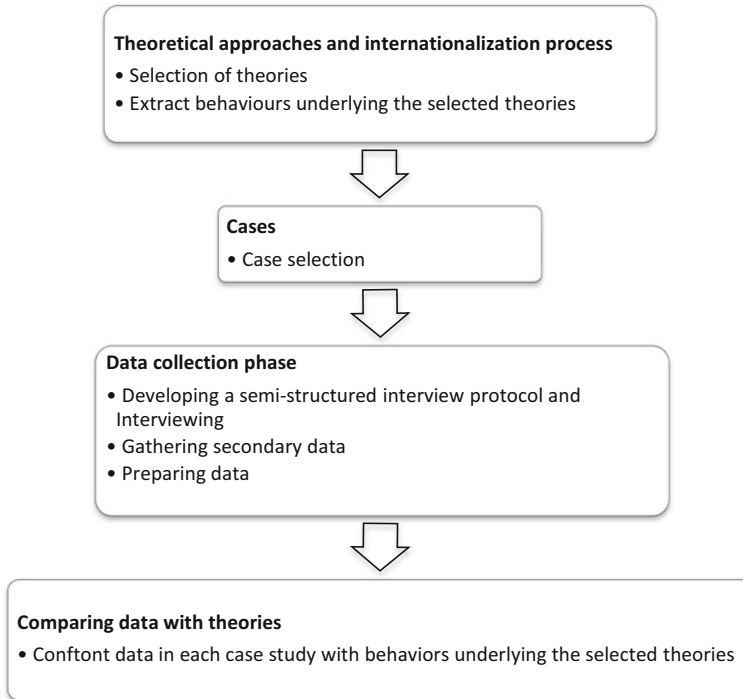


Fig. 3 Research methodology (Langley 1999; Fisher 2012)

### 3.1.2 Extract Behaviours Underlying the Selected Theories

Behaviors which are illustrative of each theory in internationalization are summarized in Table 1.

## 3.2 Cases

In addition to different theoretical approaches, the alternate template strategy needs real events to be explained by those theories. For identifying internationalization behaviors, five cases were selected from a pool of Iranian companies which were authorized as knowledge-based by vice presidency of science and technology of Iran. The cases were selected from companies which are active in different sectors of healthcare industry and have had sales at least in one foreign country. Descriptions of cases are presented in Table 2. To preserve confidentiality, name of the companies are fictitious.

**Table 1** Behaviors underlying selected internationalization models

Theory	Behaviors
Causation	Causation behaviors based on Chandler et al. (2011) and Fisher (2012)
	Identifies long run opportunities by gathering and analyzing data on foreign customer needs, foreign market size and growth and technological trends
	Develops various alternatives in foreign markets and assesses them by financial returns
	Explores competitors and their products and services in foreign markets
	Develops a written business plan, marketing or strategic plan to reach the goals in foreign markets
	Designs and establishes an organizational structure to reach the goals in foreign markets
	Establishes a plan to develop products and services for foreign markets
Effectuation	Effectuation behaviors based on Chandler et al. (2011), Fisher (2012) and Sarasvathy et al. (2014)
	Experimentation Changes a product or service or investigates several ways to deliver the product or service to achieve a commercial offer in foreign markets
	Affordable loss Commits limited amount of resources to enter foreign markets
	Flexibility Responds to unexpected contingencies in international activities
	Flexibility Fits their actions in foreign markets to the existing resources
	Pre-commitments Makes agreements with stakeholders for reducing uncertainty and costs, and more flexibility in foreign markets
Entrepreneurial process model (the revised Uppsala model)	Behaviors established upon the entrepreneurial process model based on Schweizer et al. (2010) and Johanson and Vahlne (2009)
	Attempts to improve its network position in foreign markets by relationship commitment decisions
	Uses relationships for learning about the networks or identifying and developing new foreign business opportunities or improving its capabilities in the new foreign market
	Uses relationships for building trust with firms in the foreign network
	Uses relationships to exploit contingencies
	Selects its market or entry mode by using relationships with firms that already are involved in the new foreign markets or based on the ease of building relationships with firms in a new foreign market
	Enters a foreign market to follow an existing relationship or to pursue a foreign opportunity by entering into new relationships

**Table 2** Description of cases

	Alpha	Beta	Gamma	Delta	Epsilon
Nature of business	Production of herbal supplements, medicine and cosmetics	Consulting services to overcome microwave exposure and development of electromagnetic field shielding products	Development of pharmaceutical products	Development of electro-medical equipment and consulting services	Development of electro-medical equipment and consulting services
Firm size (number of employees)	51	17	15	35	35
Firm age (years)	24	3	6	17	9
Years of offshore experience	5	1	2	1	4
Foreign markets served	Five countries including Russia, Tajikistan and Turkey	Dubai, Turkey, Russia, Kuwait, Azerbaijan	Syria	Almost all countries in the region including Georgia, Armenia, Iraq and Turkey, and Spain	Lebanon, Afghanistan and Iraq
Entry mode	Export 1 (export manager)	Export 1 (CEO)	Export 2 (marketing manager and export expert)	Export 1 (Deputy CEO)	Export 1 (CEO)
Interviews					

### **3.3 *Developing Case Studies***

#### **3.3.1 *Developing the Semi-Structured Interview Protocol and Interviewing***

The main data source for each case was at least one in-depth interview with a person from the top management team such as CEOs, deputies, marketing managers or export managers. The focus in doing the interviews was to achieve decisions and actions adopted by companies as they entered and operated in international markets. For this purpose, a semi-structured interview protocol was developed to capture the internationalization process of the companies. The questions used to conduct the interviews are presented in the appendix.

#### **3.3.2 *Gathering Secondary Data***

This data was complemented by secondary data gathered from internet sources such as firms' websites and media articles about firms' background, historic events and social capital of board of directors.

#### **3.3.3 *Preparing Data***

Information could be triangulated with data from different sources which resulted in the validity of the cases. In the next step, the interviews were transcribed and merged into the secondary information and then structured based on the questions.

### **3.4 *Comparing Data with Theories***

The data in each case study was confronted with behaviors underlying selected internationalization models and to the extent that the data in each case study adapted the behaviors related to each theoretical approach, the theory is applicable to explain the internationalization process of a specific company. Therefore, based on the practice applied by Fisher (2012), in matching the data to the behaviors related to each theoretical approach in Tables 3, 4 and 5, a strong adaption was marked with "✓✓", an interpretative adaption was marked with "✓", an unfitness was marked with "×" and when the inference was not possible it was marked with "?". This strategy provides a base to compare the selected theories in explaining internationalization process of each case. Each of Tables 3, 4 and 5 is assigned to one theory.

**Table 3** Causation behaviors based on Chandler et al. (2011) and Fisher (2012)

	Alpha	Beta	Gamma	Delta	Epsilon
Identifies long run opportunities by gathering and analyzing data on foreign customer needs, foreign market size and growth and technological trends	✓✓	×	✓✓	×	✓✓
Develops various alternatives and assesses them by financial returns	✓✓	×	✓	×	?
Explores competitors and their products and services in foreign markets	×	✓	✓✓	×	✓✓
Develops a written business plan, marketing or strategic plan to reach the goals in foreign markets	×	×	✓✓	×	×
Designs and establishes an organizational structure to reach the goals in foreign markets	✓✓	×	✓✓	✓✓	✓✓
Establishes a plan to develop products and services for foreign markets	×	×	×	×	×

**Table 4** Effectuation behaviors based on Chandler et al. (2011), Fisher (2012) and Sarasvathy et al. (2014)

	Alpha	Beta	Gamma	Delta	Epsilon
Experimentation: changes a product or service in arriving a commercial offer in foreign markets or Investigates several ways to deliver the product or service in arriving a commercial offer in foreign markets	✓✓	✓✓	✓✓	✓✓	✓✓
Affordable loss: commits limited amount of resources to enter foreign markets	×	✓	✓	✓	✓
Flexibility: responds to unexpected contingencies in international activities	✓✓	✓✓	?	?	?
fits their actions in foreign markets to the existing resources	✓✓	✓✓	✓	✓	✓
Pre-commitments: make agreements with stakeholders for reducing uncertainty and costs, and more flexibility in foreign markets	✓✓	✓✓	✓✓	✓✓	✓✓

## 4 Results

By analyzing the fit between each theory and the cases, interesting insights are disclosed which are discussed in this section.

**Table 5** Behaviors established upon the entrepreneurial process model based on Schweizer et al. (2010) and Johanson and Vahlne (2009)

	Alpha	Beta	Gamma	Delta	Epsilon
Attempts to improve its network position in foreign markets by relationship commitment decisions;	✓✓	✓✓	✓✓	✓✓	✓✓
Uses relationships for learning about the networks or identifying and developing new foreign business opportunities or improving its capabilities in the new foreign market;	✓✓	✓✓	✓✓	✓✓	✓✓
Uses relationships for building trust with firms in the foreign network;	✓	✓✓	✓	✓	✓
Uses relationships to exploit contingencies;	✓✓	✓✓	?	?	?
Selects its market or entry mode by using relationships with firms that already are involved in the new foreign markets or based on the ease of building relationships with firms in a new foreign market;	✓✓	✓✓	✓✓	✓✓	✓✓
Enters a foreign market to follow an existing relationship or to pursue a foreign opportunity by entering into new relationships	✓✓	✓✓	✓✓	✓✓	✓✓

### 4.1 Causation

Six main behaviors reflecting causation logic adapted from Chandler et al. (2011) and Fisher (2012) are: gathering and analyzing data to explore long run opportunities, comparing different alternatives based on financial returns, performing competitor analysis, developing a business or marketing plan, developing an organizational structure for international affairs and finally establishing a project plan to develop products or services in foreign markets. Matching the case studies to the causation behaviors suggests that one case fits well with causation logic and two cases match to half of the causation behaviors while the remaining two cases rarely use this approach in their activities in foreign markets.

Alpha, Gamma and Epsilon have analyzed the characteristics of potential markets mainly in terms of population, consumption, culture and acceptance of products while the other two firms have not assessed their potential markets.

Among these three firms, Gamma have aimed and entered one of its high potential markets as it has a low psychic distance as well. While Alpha has tried to enter many foreign markets from countries in the region to Latin American countries, it has implicitly assessed the potential revenue of each market. Beta and Delta have not done any assessment in this regard.

Gamma and Epsilon have done competitor analysis and Beta knows the competitors well as a result of its benchmarking phase while the other two cases did not perform any competitor analysis.

Among all cases only Gamma has a written business and marketing plan while it believes that 60% of the business plan has been met. Furthermore, export manager of Alpha believes that in their industry, it is impossible to set goals precisely and this

belief has led the firm to set some general qualitative goals such as the number of regions the company enters in a year.

Four of the five firms have organizational structure to perform foreign market affairs while Beta has not this structure as it believes that the market decides for itself.

Finally, development of products or services in all of the firms is based on interactions and pre-commitments with stakeholders and not according to the perceived needs and therefore, it cannot be planned in advance.

## 4.2 *Effectuation*

In this study, effectuation logic in internationalization process is reflected in four dimensions of experimentation, affordable loss, flexibility and pre-commitments (Chandler et al. 2011). The results of qualitative fitness analysis suggest that effectuation theory is quite relevant in explaining knowledge-based companies' behaviors in entering and operating in foreign markets.

First, all the five firms have clearly applied experimentation in their commercial activities in foreign markets, i.e., they have changed their products or services or investigated several ways to deliver the product or service in arriving a commercial offer in their foreign markets. Because of the nature of healthcare industry, all five firms need to pass regulatory requirements which might be different from one country to another. Other changes include packaging, language or specifications of products. As all of the firms are knowledge-based, they have the technical knowledge to change the products or services according to their customers' demands. There are some specific comments in the cases which refer to experimentation measure:

We have a well-equipped laboratory and a strong team providing the regulatory requirements for our products in any country. Because of sanctions against Iran, we find new ways to deliver the products and transfer money (export manager of Alpha 2017).

We need to change our local products regarding packaging, catalogues and certificates to enter foreign markets. We can easily compete as we have the knowledge of the product and we can offer prices below other market competitors by changing the product specifications (CEO of Beta 2017).

Sometimes, we have to change the packaging or the labeling of our product or a company might prefer to package it itself based on its packaging requirements, for example, with recyclable material. Therefore we have to deliver our products in bulk (Export expert of Gamma 2017).

Sometimes we need to change the software of our devices according to regulations or add some tools to our original devices or merge two devices in one package (Deputy CEO of Delta).

Sometimes, we are requested to change the language of our medical device software (CEO of Epsilon 2017).

Second, four out of five firms have implicitly employed affordable loss in their decisions in foreign markets, i.e., being committed to limited amount of resources to enter foreign markets. These four firms have started their foreign commercial activities by entering the countries of the region which need the minimum changes to their products due to similarity in technical regulations, demanded quality and good political relationships that facilitate ease of business communications. These items reduce cost of entering foreign markets. For instance, Deputy CEO of Delta stated that:

Although our main target markets are not neighbor countries, we entered there to develop our capabilities until we become qualified to enter European markets (Deputy CEO of Delta 2017).

Conversely, Alpha, the largest and oldest firm, has aimed to enter as many markets as possible in its first steps in international markets.

In addition, Beta, the youngest firm, has mainly offered services rather than products in foreign markets as their services were not required to change to be offered in foreign markets. Furthermore, Beta and Gamma have evidently focused on research and development and outsourced their manufacturing for both local and foreign markets. This decision reveals that they considered their probable loss rather than increasing their financial returns.

Third, all the five firms had flexibility which enabled them to respond to unexpected contingencies or fit their actions in foreign markets to the existing resources and constraints. Alpha has employed inventive methods to deliver products and transfer money in foreign markets during the sanctions period. In addition, although its routine method for entering new markets has been selling to importing distributors, it has contracted a marketing company to achieve the importing distributors in a new market where it could not find a distributor directly. In the other four firms, the selection of countries with less psychic distance in spite of having better opportunities in other countries is an instance of fitting actions to existing resources. Moreover, although Beta did not plan to enter foreign markets, it has responded to unexpected opportunities which were introduced to the firm by its relationships. It has also adapted its offering to its limitations by providing services which need less resources rather than products and although it did not plan to enter foreign markets, it has responded to unexpected opportunities which were introduced to them by relationships.

Fourth, all the five firms have strongly engaged in negotiations and pre-commitments with stakeholders to make agreements for reducing uncertainty and costs of activities in foreign markets. Alpha used to behave passively in interaction with potential distributors and it was the customers who decided to arrange meetings which did not have the desired outcome for Alpha. Therefore, it decided to actively participate in related fairs and in 2016 it managed to rent space in eleven trade fairs around the world which resulted in making some contracts with some importing distributors and a marketing company. Beta has achieved its foreign customers by its previous relationships and previous customers. Furthermore, this firm tries to increase its interaction with stakeholders by using international



e-commerce websites and making relationships with chambers of commerce. Gamma believes that participating in related fairs is the main way to meet customers. It has also taken part in medical conferences as oncologists are the main customers for one of the products. It has used an Iranian e-commerce website to be informed about related international tenders. Delta has a contract with a local export support organization to strengthen its participation in related trade fairs and medical congresses. It has also used internet and direct visits to increase its interactions with potential customers. Epsilon tries to rent a fixed space in related periodic fairs in order to make a strong position in the market and it has contracted with both importing distributors and foreign manufacturers who were willing to develop their set of products to offer to their customers.

### ***4.3 Entrepreneurial Process Model***

Six behaviors identified to reflect the entrepreneurial process model based on Schweizer et al. (2010) and Johanson and Vahlne (2009) are trying to improve its network position in foreign markets by relationship commitment decisions, using relationships for learning about the networks or identifying and developing new foreign business opportunities or improving its capabilities in the new foreign markets, using relationships for building trust with firms in the foreign network, using relationships to exploit contingencies, selecting its market or entry mode by using relationships with firms that already are involved in the new foreign markets or based on the ease of building relationships with firms in a new foreign market and entering a foreign market to follow an existing relationship or to pursue a foreign opportunity by entering into new relationships. The results of fitness analysis suggest that entrepreneurial process model is clearly relevant in explaining knowledge-based companies' behaviors in entering and operating in foreign markets.

First, attempting to improve network position in foreign markets by relationship commitment decisions is fully consistent with pre-commitments dimension in effectuation. Thus, all the five firms have strongly engaged with improving their network positions in foreign markets.

Second, all the five cases have used relationships to learn, develop opportunities or improve their capabilities. Beta has identified new opportunities by its previous relationships. Other cases have learned about actors in foreign networks by their relationships with foreign trade fairs and participating in them. The recognition of actors in foreign markets increased their networking capability and resulted in more interactions and negotiations and new foreign opportunities. Alpha has also gained more capability by contracting with the marketing company which offers multiple services from introducing new customers to facilitating reaching an agreement.

Third, Beta has mostly found its new customers by the previous customers or relationships; thus, it tries to keep in touch with its customers by providing free consultancy services. Other four firms needed to meet the regulatory requirements of each market by interacting with the foreign actors. Meeting these requirements

increase their trustworthiness among networks in those markets. Epsilon also tries to rent a fixed space in related periodic trade fairs in order to build trust in its relationship with permanent visitors.

Fourth, two cases have exploited unexpected contingencies in their relationships. Alpha has contracted a marketing company recognized in a foreign trade fair where interactions with participating importing distributors were not successful. In addition, the foreign demands for Beta services could be seen as unexpected contingencies as they were not planned and the company did not have any decision to enter foreign markets.

Fifth, all cases have selected their markets or entry mode by their relationships. Beta has offered its services in countries in which it has relationships. The other four firms have selected markets in the region as it is easier to build relationships in these markets as a result of good political relationships between these countries and Iran. Furthermore, Alpha has been successful in a region where the person who was representative of the company in trade fairs located in that region has many local contacts.

Finally, Alpha, Gamma and Epsilon entered foreign markets to pursue the long run opportunities that they had identified by making new relationships while Beta entered the foreign market to show its commitment to its previous relationships. Although Delta had not identified long run foreign opportunities, it entered into new relationships to pursue its general objectives in new markets.

## 5 Concluding Discussion and Implications

In international entrepreneurship literature, there is a need to enhance our understanding about internationalization of entrepreneurial firms in developing regions while in regions such as the Middle East there is almost no literature about how firms enter international markets (Peiris et al. 2012). Since there is a strong reliance on networks in these regions due to institutional voids, the emerging network-based international entrepreneurship models seem to fit well with the internationalization behavior of firms in these contexts. Thus, this study provides some insights for both internationalization process of knowledge-based firms and theoretical models of internationalization.

Comparing the three theories in explaining the internationalization behaviors of knowledge-based firms indicates that both effectuation logic and the entrepreneurial process model are strongly relevant and causation logic is less applicable. The interesting point is that in three out of five cases, namely Alpha, Epsilon and specially Gamma, both effectuation and causation logics have been employed in internationalization processes. This means that effectuation logic itself cannot completely explain firms' behaviors in international markets. This is in line with Sarasvathy (2001) that refers to both logics as integral parts of reasoning in entrepreneurial actions. It also supports Sarasvathy et al. (2014) which argues that entrepreneurs aiming at creating large ventures need to have the ability to apply

the right mixture of both casual and effectual tools. Forsgren (2016) argues that while entrepreneurship contains multiple phases including discovery, development and exploitation of opportunities, the effectual process (Sarasvathy et al. 2014) neglects the opportunity discovery phase. For example, in the three mentioned cases the first step in the internationalization process has been identification of opportunities which is the outcome of causation logic and this step has supported the effectual process by suggesting the potential markets for increasing interactions and making commitments. We might conclude that causation logic supports effectuation logic by identifying first markets for developing interactions but this is not the case with Beta, the youngest and maybe the firm with the least resources which entered the foreign markets directly by its relationships without selection of any potential market at first step. This aligns with the third proposition of Sarasvathy (2001) which points out that successful early stage entrepreneurs use partnership rather than strategies such as long term forecasting.

Among firms with causation behaviors, Gamma's actions have the most compatibility with causation logic. This firm has more resources than Epsilon which explicitly point to its financial limitations. Gamma has also less perceived uncertainty than Alpha which clearly refers to its internationalization process as "a road with cloud and fog". As uncertainty and lack of resources hinder firms from applying causation logic in their internationalization process, therefore, according to this discussion, the following proposition is developed:

*Proposition 1 Firms with more resources and less perceived uncertainty tend to use causation logic in their internationalization process.*

In the entrepreneurial process model (Schweizer et al. 2010), opportunities can be considered as either given or indigenous as a result of improving network position in internationalization process. This is an advantage of the entrepreneurial process model over the effectuation process due to considering opportunity discovery as well as opportunity development, because discovering new opportunities is mainly acquired by access to information rather than interactions and commitments to stakeholders (Oehme and Bort 2015).

In Alpha, the internationalization process began by identifying opportunities which was an input for the effectuation process. As the firm did not have any relationship in one identified new potential market, it started interactions and making commitments to fair organizations to rent spaces in related trade fairs. These fairs provided the firm with new knowledge which enabled it to interact with more direct actors in the market. When the firm did not succeed in making commitment to importing distributors, it decided to contract with a marketing company met in one of the fairs. Then, making commitment with this marketing company provided the firm with new knowledge about importing distributors. Finally, interaction with distributors led to making contracts with them to develop new international opportunities. If the firm could find importing distributors on its own, the participation in trade fairs would be omitted from the internationalization process or if the firm could find the distributors in any trade fair, contracting process with the marketing company would be deleted from the entire process which would lead to less cycles and more speed in

achieving the foreign opportunity. It confirms the argument by Sarasvathy et al. (2014) referring to the potential of effectuation theory in understanding of “how to internationalize” including “how fast”. This also supports Forsgren’s (2016) contention considering business relationships as a determinant of internationalization process timing. This is why effectuation process fits well with early internationalization of born global companies (Andersson 2011). It is also in line with the suggestion that open networks provide firms with opportunity discovery while closed networks facilitate development of these opportunities (Forsgren 2016). When we move from a cycle to another in the effectuation process, we usually move from an open network to a closer one directing us from discovering to developing and exploiting opportunities. Therefore, the next proposition is stated below:

*Proposition 2 To the extent that a firm can be considered as an insider in a foreign market (has potentially usable international ties), its internationalization pace increases.*

Four of five cases, namely Gamma, Epsilon, Beta and Alpha explicitly state that political relationships of Iran with other countries is one of the most important barriers to enter some new foreign markets, leading to some problems such as renting spaces in foreign trade fairs, getting visas and business communications with actors in those markets. This refers to the political dimension of psychic distance which makes it difficult to develop relationships and consequently, results in liability of insidership, which is one of the main barriers for internationalization in the entrepreneurial process model (Schweizer et al. 2010), reducing the speed of internationalization. To diminish this threat, three of the firms have registered companies in foreign countries in order to avoid some disadvantages of the political psychic distance. Moreover, one of these firms has also developed relationships with some consuls which have enabled it to enter some foreign markets easily. This is an important mechanism enabling all cases to more effectively enter international markets. Therefore the final proposition can be developed:

*Proposition 3 Institutional distance negatively influences commitment decisions. Strategies such as register offices in other countries or institutional relatedness in the targeted markets may compensate the negative effect of institutional distance.*

In sum, the results illustrate that first, networks are important determinants of success in developing contexts and network based models i.e. effectuation and the entrepreneurial process model fits well with firms’ internationalization behavior specially, in the condition of resource scarcity and high uncertainty perception which are prevailing in these countries. Second, network-based models not only explain internationalization behavior of firms in this region but also play an important role in identifying internationalization pace. Finally, while there is institutional distance between most Middle East countries and other regions, expanding business activities beyond the region requires firms to build institutional relationships in those markets.

## ***5.1 Practical Implications***

For entrepreneurs this study implies some points for more successful internationalization. First, entrepreneurs should know how to apply both causation and effectuation behaviors considering their resources and perception of uncertainty. In the condition of lacking resources making entrepreneurs seek small scale foreign opportunities or in the condition of high uncertainty perception hindering entrepreneurs from predicting the future, causation does not seem practical specially, if the firm is an insider. In this situation the more reasonable and the fastest way to enter foreign markets is to exploit the firm's relationships. Second, in order to accelerate the internationalization process, firms must speed up the process of becoming an insider, for example, they can employ people with previous contacts in foreign markets. Third, in order to overcome political psychic distance, having an identity in another country like registering a company or making institutional relationships can be useful.

## ***5.2 Limitations and Opportunities for Future Research***

This research has some limitations providing paths for future research. First, in this study we used a number of cases to apply alternate template strategy as we did not aim to generalize the findings but to obtain rich details from the cases to provide a comprehensive explanation of internationalization behaviour of firms in a developing country by comparing effectuation, causation and the entrepreneurial process model. Therefore, the developed propositions cannot be generalized before studying a representative sample of firms. Hence, researchers are encouraged to perform quantitative studies to investigate the impact of uncertainty perception, resource scarcity and network position on the logic applied by entrepreneurs in the internationalization process. It is also encouraged to examine the extent to which internationalization speed depends on being an insider. Second, we concluded that insidership affects internationalization pace while we did not explore ways by which different firms with different network positions and resources would become an insider. Therefore, it would be very useful to explore how to accelerate the process of becoming an insider in foreign networks, particularly in developing contexts. For example, Schweizer (2013) presents a process of four interrelated phases, i.e., understanding the existence of the firm's outsidership, recognizing relevant networks, altering resources and capabilities to be able to connect to the identified network and applying identified opportunities in the new network. Third, as institutional relatedness in foreign markets specially, beyond the region is found to be important in a Middle Eastern country, it is worth investigating ways that enable firms to build such relatedness.

Overall, our research provides compelling insights into the behavioral models of firms for entering international markets. Yet, this research stream is still at the early stages and waits for future research for further consideration.

## **Appendix**

### ***Questions Used to Develop Case Studies***

#### **Warm Up Questions**

- What is firm's age?
- Describe firm's history.
- How many employees are working in the firm?
- What products and services do you offer in local markets?
- What is a firm's competitive advantage in local markets?
- General questions about international activities
- In what year did you start internationalization activities?
- What countries have you entered?
- What products or services do you offer in foreign markets?
- What are your competitive advantages in foreign markets?

#### **Main Questions**

- Describe your internationalization process.
- Why did you select this foreign market?
- How did you know this market?
- Did you have a written business plan, marketing plan, competition analysis?
- How are they detailed?
- Do they have financial analysis? Do you decide based on this financial analysis?
- How are these plans developed?
- To what extent did you meet your goals?
- How predictable is the market?
- Did you have any contacts in this market?
- How did you make this contact?
- Did you need to change in order to enter the foreign market? What changes?
- Did you need any other resources to enter the foreign market?
- Who are your customers?
- How did you access and sell to them?

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# Entrepreneurial Competencies of SME Owners: A Comparative Exploratory Analysis Between Iran and Italy



Afsaneh Bagheri and Emidia Vagnoni

**Abstract** This chapter explores competencies of business owners in Iran and Italy. It presents the findings of an exploratory analysis of the entrepreneurial competencies that qualify and motivate business owners to successfully manage their businesses and overcome the challenges and complexities of leading a small and medium sized enterprise (SME) in the business environment of Iran as a developing country and Italy as a developed nation. The participants were 143 SME owners; 83 from Iran and 60 from Italy. The findings demonstrated differences between entrepreneurial competencies of SME owners in the business context of the two countries. More specifically, SME owners in Iran had higher orientation toward learning and were more independent while their Italian counterparts had higher insight into the market and ability to persuade. The findings are discussed in light of their implications for research and practice in both countries.

**Keywords** Entrepreneurial competencies · SME owners · Cross-country analysis

## 1 Introduction

Previous studies have constantly suggested how entrepreneurial competencies are crucially important to successfully meet the demands and challenges of the highly complex and complicated roles and tasks of leading a business in the business environment of both developed (Kyndt and Baert 2015; Baron 2008; Spencer and

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Spencer 1993) and developing Asian countries (Man et al. 2008). A growing body of research has also highlighted the significant impact of entrepreneurial competencies on the whole process of a new venture creation, success, performance and growth (Lans et al. 2011; Morris et al. 2013). Additionally, entrepreneurial competencies are influential regardless of the stage and setting of a new venture being SMEs (Kyndt and Baert 2015; Man et al. 2002; Mitchelmore and Rowley 2013) or high-growth firms (Mitchelmore et al. 2014). Therefore, creation and success of entrepreneurial ventures are more dependent on developing entrepreneurial competencies in those who have a dream of starting or have already launched their own business than offering them the financial incentives and appropriate business environment (Man et al. 2002). Scholars argue that entrepreneurial competencies vary in terms of nature, influence and application in different steps of venture creation and specifically in different contexts (Morris et al. 2011, 2013). However, few studies explored these differences and looked at entrepreneurial competencies through a context-based perspective (Lans et al. 2011; Mitchelmore and Rowley 2013). Previous research mainly examined managers' and staff's entrepreneurial qualities in big companies (Rae 2007; Swiercz and Lydon 2002; Tan 2001). Arguably, our information about competencies of business owners in SMEs is limited (Sánchez 2012; Lans et al. 2011). Furthermore and despite the differences of entrepreneurial competencies in the business environment of different countries (Morris et al. 2013), as far as we know, there is no study that compares entrepreneurial competencies of SME owners between countries. This inspired us to perform an analysis to explore if SME owners possess different entrepreneurial competencies in Iran as a developing country in the MENA (Middle East and North Africa) region and in Italy as a European country and if so, what the differences are. This chapter is organized as follows: the first section presents the current literature on entrepreneurial competencies. Then, we review the literature on entrepreneurial competencies in Iran and Italy. The following section represents the research method. Subsequently, the findings are detailed and discussed in the light of their implications for research and practice in both countries. Finally, this chapter concludes by making recommendations for future studies.

## 2 Entrepreneurial Competencies

Research on the capabilities that enable and drive business creation and management has a long history. First, researchers focused on the personal and innate attributes and characteristics of business owners (Barkham 1994; Kotey and Meredith 1997). Studies have constantly highlighted personality characteristics of business owners having significant effects on their performance as well as their business performance and success (e.g., Man et al. 2008; Zhao et al. 2010; Ling et al. 2007). However, these characteristics have been criticized (e.g., Krueger et al. 2000; Kyndt and Baert 2015) for being static, instinctive (Kyndt and Baert 2015) and not enough to deal with the complex challenges of business management tasks (Jain 2011; Stuetzera et al. 2013). In addition, empirical research findings were inconclusive on the

relationship between these characteristics and business performance. Some studies failed to find a significant direct effect of personality characteristics on the performance of entrepreneurial businesses (Jong et al. 2013; Peterson et al. 2003). Therefore, researchers shifted from examining personality traits to entrepreneurial competencies. This was because competencies are dynamic and malleable capabilities and have long-term impactful effects on successful task performance, business performance and success of business owners (e.g., Baron and Ensley 2006; Kyndt and Baert 2015; Man et al. 2002; Mitchelmore and Rowley 2010, 2013; Sánchez 2012).

## ***2.1 Entrepreneurial Competencies: Definitions and Models***

Competence has been defined as individuals' ability to direct their personality characteristics, knowledge, skills and behavior to successfully perform a specific task in a specific professional setting (Lans et al. 2011; Morris et al. 2013; Spencer and Spencer 1993). Accordingly, entrepreneurial competence is one's capability to employ the required knowledge, personal characteristics, skills and attitudes to effectively meet the demands of the highly complicated and challenging tasks and roles in venture creation and growth (Brinckmann 2008; Lans et al. 2011; Man et al. 2002; Sánchez 2012). In this definition rather than being static and uni-dimensional, entrepreneurial competence contains multiple facets including cognition, attitude and behavior. Unlike personal characteristics, entrepreneurial competencies can be also shaped and developed by contextual factors such as education, training and experience (Kyndt and Baert 2015; Lans et al. 2011; Mitchelmore and Rowley 2010; Morris et al. 2013; Sánchez 2011). This definition inspired a growing body of research on entrepreneurial competencies in different contexts. Some studies identified the capabilities related to opportunity recognition and opportunity exploitation as the key competencies that individuals require to successfully create a business (Lans et al. 2011; Rasmussen et al. 2011). Others highlighted managerial (Boyatzis 1982; Erikson 2002), attitudinal (Hmieleski and Corbett 2008) and social competencies of entrepreneurs as to be impactful on their business performance (Chen 2007; Baron and Markham 2003). A robust body of research has specified cognitive capabilities of those starting a business as the key factor in both in their own and their business successful performance (e.g., Barbosa et al. 2007; Baron 2004, 2006; Grégoire et al. 2011).

Several attempts have also been made to classify these competencies in different models (Jain 2011). Most of the models proposed for entrepreneurial competencies have been developed based on and/or are an expansion of Man et al.'s (2002) conceptualization for the construct (Table 1). The model links entrepreneurs' personal competencies to their business management and performance. This model consists of a set of six key entrepreneurial capabilities (conceptual, opportunity, relationship, organizing, strategic, and commitment). Conceptual competence reflects the cognitive and analytical capabilities that enable individuals to identify and solve complex problems creatively and effectively and look at one issue from

**Table 1** Literature on entrepreneurial competencies, their dimensions and components

Author(s)	Competence	Dimensions	Components
Man et al. (2002) Le Deist and Winterton (2005) Mitchelmore and Rowley (2010) Lans et al. (2011) Mitchelmore and Rowley (2014) Kyndt and Baert (2015)	Personal	Conceptual/ Cognitive	Analytical capabilities to explore entrepreneurial opportunities/identify and solve problems
Kyndt and Baert (2015)			Self-knowledge
Le Deist and Winterton (2005) Kyndt and Baert (2015)			Insight into the market
Lans et al. (2011) Kyndt and Baert (2015)		Attitudinal	Meta-competence Orientation towards learning
Man et al. (2002) Lans et al. (2011) Morris et al. (2013) Kyndt and Baert (2015)			Being proactive Planning for the future
Man et al. (2002) Morris et al. (2013) Kyndt and Baert (2015)			Resilience/Decisiveness/ Perseverance/Independence Self-efficacy Tenacity
Man et al. (2002) Morris et al. (2013) Kyndt and Baert (2015)		Behavioral	Opportunity exploration, evaluation and exploitation
Man et al. (2002) Le Deist and Winterton (2005) Mitchelmore and Rowley (2010) Mitchelmore and Rowley (2013) Mitchelmore and Rowley (2014) Kyndt and Baert (2015)			Relationship/Networking/ Social skills/Communication/ Collaboration
Le Deist and Winterton (2005)	Business management	Operational	Functional
Man et al. (2002) Le Deist and Winterton (2005) Mitchelmore and Rowley (2010) Lans et al. (2011) Mitchelmore and Rowley (2013) Kyndt and Baert (2015)		Organizing	Planning Managing resources Human resources/Human relations
Kyndt and Baert (2015)		Finance	Awareness of potential returns on investment
Man et al. (2002) Kyndt and Baert (2015)		Strategic	Sustainable business performance and growth Social and environmentally conscious conduct
Man et al. (2002) Lans et al. (2011)		Commitment	Putting efforts to progress the business
Kyndt and Baert (2015)		Leadership	Ability to persuade

different perspectives (Man et al. 2002; Mitchelmore and Rowley 2010, 2014; Lans et al. 2011). Recent research has suggested self-knowledge and insight into the market as cognitive capabilities that influence successful business creation (Kyndt and Baert 2015).

Opportunity competence refers to attitudinal capabilities that enables successful performance of individuals in exploring, evaluating and implementing opportunities to address the unanswered market needs creatively, identify a market for an innovation or technology and create novel ideas for products or services in the future (Ardichvili et al. 2003; Kyndt and Baert 2015; Man et al. 2002; Morris et al. 2013). Conceptual competence also encompasses the personal meta-competencies that facilitate “the acquisition of the other substantive competencies” (Le Deist and Winterton 2005, 39) and enables individuals to put extra efforts to learn and get involved in learning and self-development activities such as training courses (Kyndt and Baert 2015; Lans et al. 2011).

In addition to cognitive capacity, business creation highly requires attitudinal capabilities; that is being proactive and planning for the future (Lans et al. 2011; Kyndt and Baert 2015). Research findings have also indicated resilience, decisiveness, perseverance, independence, self-efficacy and tenacity as impactful on new venture creation and success (Man et al. 2002; Lans et al. 2011; Morris et al. 2013; Kyndt and Baert 2015). Importantly, opportunity-related capabilities (exploration, evaluation and exploitation) have a behavioral aspect (Kyndt and Baert 2015; Man et al. 2002; Morris et al. 2013). That means having a business idea is not enough for venture creation and the idea needs action to be implemented. Research has also suggested constructing relationships and networking as behavioral competencies of entrepreneurs (Man et al. 2002; Lans et al. 2011; Le Deist and Winterton 2005; Mitchelmore and Rowley 2010, 2013; Mitchelmore et al. 2014). Specifically, one’s capabilities in building networks helps in effectively communicating and establishing contacts and giving and asking for help from the people involved in various businesses (Kyndt and Baert 2015).

A set of entrepreneurial capabilities has also been identified to enable a new business management. These business management competencies have been organized into five groups including operational, organizational, strategic, commitment and leadership. Operational competencies empower the successful performance of functional tasks and roles in managing a business (Le Deist and Winterton 2005). Organizational competencies reflects effective planning and managing different resources (internal, external, physical, financial and technological) as well as playing the roles related to recruitment and task delegation (Man et al. 2002; Le Deist and Winterton 2005; Mitchelmore and Rowley 2010, 2013; Lans et al. 2011). Strategic capacity refers to ensuring the successful and sustainable performance and growth of the business in the future through developing and implementing short and long term goals and plans (Man et al. 2002; Lerner and Almor 2002). Business management competencies include commitment and ability to persist in facing the difficulties and dedicate efforts to develop the business (Man et al. 2002; Lans et al. 2011). Studies have identified three aspects of commitment competence including: motivational (self-efficacy), moral (responsibility to do right things) and cognitive (learning and self-management) that drive constant and active engagement in business management tasks (Lans et al. 2011). Finally, Kyndt and Baert (2015) have recently suggested the capability to persuade others, constructing strong argumentations, communicating ideas and inspiring employees to achieve the goals (leadership) as influential in a new business management.

Empirical research has supported the influential impact of these competencies both directly and indirectly (through shaping competitive scope and creating organizational capabilities) on business performance (Man et al. 2008). Yet, there is a huge gap in our knowledge and understanding about entrepreneurs' competencies running a small business (Lans et al. 2011; Man et al. 2002). In particular, research into exploring entrepreneurial competencies in different business environments is scarce. To narrow the gap, this study aimed to explore entrepreneurial competencies of SME owners in Iran and Italy.

### 3 Entrepreneurial Competencies of Business Owners in Iran

Launching and managing a business has long been a dominant way for people in Iran to contribute to the family and community as well as economy of the nation. In the last three decades, studies have explored different aspects of SMEs' management in Iran. First, attempts have been made to explore the appropriate and supportive environment for SMEs (Mortazavi and Maharati 2004; Sharifzadeh et al. 2010). The findings of these studies assisted policy makers and practitioners in better understanding of the economic factors that facilitate and/or hinder SME creation (Alvani and Rahmati 2008; Amiri et al. 2009; Maleki et al. 2009; Zivdar 2011; Zivdar and Ghasemi 2011) and development (Ahmadpour Daryani et al. 2009). Science and technology parks have been also highlighted as key factors in SMEs' growth (Talebi et al. 2011).

SME owners in Iran have also been struggling with various factors that affect their business performance. Some need to develop the strategies and plans to effectively use their resources in order to improve the competitiveness of their venture (Alem Tabriz et al. 2010; Rezaeian et al. 2010). Others should enhance their awareness and understanding of their personality traits and skills and plan to regulate and develop their capabilities in order to improve their chance of success in managing their business (Doroudian et al. 2012). SME owners should also develop their intellectual capital and build social networks (Mehdivand and Zali 2011; Zali et al. 2011) to improve their business performance. Furthermore, SMEs' performance can be improved through the employment of effective information technology and e-trading (Sohrabi and Khanlari 2010; Teymori and Ashori 2010), deployment of adequate marketing and distribution systems (Khodadad Hosseini and Kolabi 2012) and expansion of capacity for innovation (Fakour and Ansari 2009; Zaefarian et al. 2012). SME owners should also develop an effective system for their outsourcing because the nature and type of outsourcing affect their business performance (Talebi et al. 2009). Importantly, ethics is also one of the critical factors that influences SMEs' performance (Zare Ahmadabadi et al. 2012). Therefore, SME owners need to create and develop the ethical principles that effectively enhance their business performance. To become more entrepreneurial, SMEs need to be improved in terms of their innovation, entrepreneurial opportunities, entrepreneurial

activities, risk taking, business plan, level of job creation and impact on regional development (Arabiun et al. 2010).

The success of SMEs in Iran has been attributed to personal, environmental and organizational factors. Of the personal factors, SME owners' personal characteristics including creativity, need for achievement, internal locus of control, risk taking and tolerance of ambiguity have been suggested as impactful on their success (Azar et al. 2012; Mohammadi and Asgari 2011). Among the environmental factors, national policies and rules (Azar et al. 2012) and financial support of banks (Khoshnodifar et al. 2010) significantly affect SMEs' success. The success of SMEs also reflects their capacity for knowledge management (Seyed Javadin et al. 2011).

In addition to success, several attempts have been made to explore the reasons behind the growth and development of SMEs. More specifically, the growth of SMEs in Iran highly depends on their organizational structure (Khanifar and Vakili 2008; Vafaei and Shafei 2010) and their strategies to enhance their growth and competitiveness (Kermanshah and Samei 2010; Talebi et al. 2012).

Successful SME owners may decide to develop their business. In doing so, they need to improve their awareness of how their personal characteristics (e.g., personal capabilities and competencies and economic motivation), business-related factors (e.g., production resource management and marketing management), supportive environment (e.g., family and institutions), business learning strategies and business infrastructures affect their business development (Sharifzadeh et al. 2009). Having educational qualifications also considerably improves the development of SMEs in Iran. However, various impediments and constraints in the environment stop SMEs from further development (Alimirzaei et al. 2011). Exploring how to enter and survive in the international markets has been one of the main concerns of SME owners and policy makers in Iran (Faghihi et al. 2010; Rezvani et al. 2009; Talebi et al. 2010). These studies provided empirical evidence on the facilitating and/or obstructing factors that improve or hinder Iranian SMEs to successfully produce the goods and services that meet the needs of customers in different countries. The findings of these studies provide better understanding of SMEs in Iran. However, there is limited knowledge on entrepreneurial competencies of business owners. In response, one of the main purposes of this study is to examine entrepreneurial competencies among SME owners in Iran.

## **4 Entrepreneurial Competencies of Business Owners in Italy**

In Europe, SMEs can be considered as a prevalent model of entrepreneurship across the countries, and in Italy SMEs represent the backbone of the economy. From the dimensional point of view, Italy plays a leading role when considering the percentage of the so called 'micro' business (1 to 9 employees); 94.6% of the total SMEs is represented by micro-enterprises (towards 83.1% in Germany, and 87.5% in UK) employing 46.9% of the total employees in SMEs (Ministry of the Economic

Development 2010). For most of the firms, the dimension does not change across a 15 year-span, and only few enterprises evolve into a medium dimension, usually if belonging to manufacturing districts, and then being acquired by international firms.

Understanding whether the entrepreneur's profile influences a firm performance has particular importance and relevance in Italian SMEs. After a long period of growth (between the '70s and the '90s) over the last few years, Italian SMEs have experienced a decline, which, according to some scholars, is the result of an increase in competitive pressure and global scenarios and, according to others, the inability of the economic system to reallocate resources to the individuals who have the competencies of better managing the firms (Bianchi et al. 2005). Within SMEs, the decision-making process is often centralized and consequently the individual characteristics of the entrepreneur (personality, competencies) do influence SME competitiveness (Marcati et al. 2008).

Business creation and some of the factors enhancing entrepreneurial development have been studied in the Italian context. Some authors have pointed out the relevance of experience to launch a new successful business. Capaldo (1997) highlighted that young people with limited initial experience in Southern Italy are increasingly creating new SMEs. Bonaccorsi and Giannangeli (2010) explained why some firms are zero-learning and how these are different from growing ones. The authors discussed the hypothesis that both start-up size and founders' pre-entry history affect the firm's ability to adjust to market. A sample of 3905 Italian firms born in 1999 and 2000 was used; as a result, the authors argued that individual competencies influence start-up size, but not directly growth. Furthermore, a significant nonlinear relationship between start-up size and growth was found, implying that firms which were born smaller than a specific size would grow at a slow pace.

Considering a sample of 103 SMEs, Lipparini and Sobrero (1994) studied the innovative capability of enterprises, mainly with regard to their relationship with suppliers. Their study found out that when an entrepreneur is leading and managing a business, more suppliers are involved in the development of new products, and the type of contribution given by suppliers differs by management typology. More precisely, the incremental type of contribution is dominant whenever professional management is present, while the relevance of architectural and radical topologies increase when the entrepreneur is present.

Camuffo and Comacchio (2004) made the first attempt to study how individuals would represent a repository of knowledge in SMEs. The authors used competency modelling for assessing the nature and types of individual knowledge developed in Italian SMEs. They show that "best" (most effective) middle managers perceive their organizational role as wider than that of their colleagues and have a repertoire of competencies comparatively more aligned with a firm's expectations and requirements. Camuffo et al. (2012) studied a sample of 53 SMEs in Northeastern region of the country. The authors investigated (1) the portfolio of functional entrepreneurial competencies (i.e. informatics, business English, accounting and finance, procurement, project management, managerial communication); (2) the portfolio of emotional entrepreneurial competencies (i.e., self-awareness, self-control, result orientation, initiative, reliability, empathy, team work, etc.); and (3) the portfolio of behavioral competencies (action and attainment skills, people management skills, analytical reasoning skills).



The authors found a rather modest average level of functional competency possession, with scores placed in the lower part of the evaluation scale. However, with reference to the fields of managerial knowledge, the skill cluster possessed to a greater extent resulted in the procurement, regarding the knowledge of procurement processes and order-to-delivery processes, but less so with regard to markets knowledge aspects. Furthermore, with regard to the emotional competences, the study showed that the competencies considered as being possessed largely by the sample belong to the social awareness and self-awareness clusters. In addition, the self-management competencies have values that are on the whole high, while the relationship management and cognitive competencies have slightly lower values. Finally, with regard to the cross-functional competencies analyzed, Camuffo et al. (2012) found a broad overall competency portfolio. The most frequent competencies are those from the goal and action management cluster (efficiency orientation, initiative, etc.), followed by people management competencies (persuasiveness, empathy, directing others, etc.) and analytical reasoning skills (use of concepts, use of technologies, pattern recognition, etc.). Finally, some literature has underlined the need for learning competencies by entrepreneurs. Capaldo et al. (2004) discussed a methodology to help SMEs to detect their training needs, focusing on knowledge and on competencies' mapping. And De Chiara and Minguzzi (2002) concluded that an entrepreneurial culture open to learning, resulted in the facilitation of internationalization processes.

## 5 Method

We employed the survey method to explore the competencies of SME owners in Iran and Italy. This is because there is a dearth of empirical knowledge and insight on entrepreneurial competencies of SME managers (Lans et al. 2014; Mitchelmore and Rowley 2013) specifically between two countries. Prior studies have also adopted quantitative methods to examine entrepreneurial competencies of SME owners (e.g., Lans et al. 2011).

## 6 Sample

This study involved SME owners who managed their SMEs (some of them have also created their SME); scholars argued that the range and quality of competencies required for creating and running a business differ in small businesses from large firms (Winterton 2002). The sample was chosen from SME managers (those who launched and/or managed their business) to ensure that they had practiced and developed some specific competencies to be able to effectively perform the tasks and roles of a business leader.

## 6.1 Iran Sample

The participants from Iran were 83 SME owners who were randomly selected among the SMEs located in Tehran, the capital city of Iran, using the convenient sampling method. The majority of the business owners aged less than 35 (27, 32.5%) years followed by those having between 45 and 55 years old (26, 31.3%), 36 and 44 (25, 30.1%) and more than 55 (5, 6%) as is shown in Table 2. Most of them were male (60, 72%) and had bachelor and post bachelor degrees (30, 36.1%). Regarding experience in the sector, majority of the business owners had from 11 to 20 years of experience (34, 41%) followed by 6 to 10 years (28, 33.7%), 21 to 30 (11, 13.3%), less than 5 (6, 7.2%), and more than 30 years (4, 4.8%). Furthermore, most of the SMEs were launched less than 21 years (45, 54.2%) and had between 6 and 25 employees (59, 71.1%).

**Table 2** Demographic information of SME owners in Iran and Italy

Variables	Iran ( <i>n</i> = 83)		Italy ( <i>n</i> = 60)		
	Frequency	Percentage	Frequency	Percentage	
Age	<35	27	32.5%	8	13.3%
	36–44	25	30.1%	14	23.3%
	45–55	26	31.3%	25	41.7%
	>55	5	6%	13	21.7%
Gender	Male	60	72.3%	47	78.3%
	Female	23	27.7%	13	21.7%
Education	Secondary	12	14.5%	3	5%
	Diploma	24	28.9%	25	41.7%
	Bachelor and post bachelor	30	36.1%	10	16.7%
	Master and post master	17	20.5%	22	36.7%
Experience in the sector	<5	6	7.2%	4	6.7%
	6–10	28	33.7%	5	8.3%
	11–20	34	41%	15	25%
	21–30	11	13.3%	18	30%
	>30	4	4.8%	18	30%
SMEs' Birth	1916–1935	0	0	3	5.0%
	1936–1955	0	0	5	8.3%
	1956–1975	6	7.2%	11	18.3%
	1976–1995	32	38.6%	21	35%
	>1996	45	54.2%	20	33.3%
Number of employees	<5	18	21.7%	17	28.3%
	6–25	59	71.1%	25	41.7%
	26–45	6	7.2%	16	26.7%
	46–65	0	0	2	3.3%

## 6.2 Italy Sample

The SME owners from Italy were 60 who were randomly selected from among the SMEs located in Emilia Romagna region, in northern Italy, using the convenient sampling method out of the population of manufacturing SMEs provided by the Chamber of Commerce. Majority of them had between 45 and 55 years old (27, 32.5%) followed by those having between 36 and 44 years old (26, 31.3%), higher than 55 years old (13, 21.7%) and less than 35 (8, 13.3%) as presented in Table 2. Most of the Italian participants were also male (47, 78.3%) and had diploma degrees (25, 41.7%). Regarding the experience in the sector, the majority of the participants had between 21 and 30 and more than 30 years of experience (36, 60%) followed by 11 to 20 years (15, 25%), 6 to 10 (5, 8.3%) and less than 5 years (4, 6.7%). Furthermore, the majority of the Italian SMEs had started more than 40 years ago (41, 68.3%) and had between 6 and 25 employees (25, 41.7%).

## 7 Measurement

We employed the Entrepreneurs' Competencies Questionnaire developed by Kyndt and Baert (2015) to examine entrepreneurial competencies of SME owners in Iran and Italy. We used the questionnaire because it measures the degree to which business owners enact entrepreneurial competencies to successfully perform their tasks and roles (Man et al. 2002). Furthermore, the questionnaire explores the emerging competencies of business owners (such as orientation toward learning, social and environmentally conscious conduct and self-knowledge) in the current business environment. The questionnaire measures competencies of entrepreneurs in 12 dimensions including orientation toward learning (6 items, e.g., I like to learn), social and environmentally conscious conduct (7 items, e.g., I think about social, economic and environmental issues), insight into the market (7 items, e.g., I visit exhibitions in my field), seeing opportunities (7 items, e.g., I can respond creatively to opportunities), building network (8 items e.g., I like meeting new people), ability to persuade (10 items, e.g., I convince others with arguments), planning for the future (4 items, e.g., I explain to others why I took a certain decision), independence (5 items, e.g., When I feel free, I perform the best), decisiveness (7 items, e.g., I take decisions quickly), awareness of potential returns on investment (6 items, e.g., I can get an advantage out of what I do), self-knowledge (5 items, I learn from the critique of others), perseverance (7 items, e.g., I work with clear goals). In general, the questionnaire had an adequate reliability to measure entrepreneurial competencies of SME owners in both Iran and Italy. Table 3 presents means, standard deviations and Cronbach's alpha for the dimensions of entrepreneurial competencies. As the table indicates, all of the constructs scored a Cronbach's alpha higher than 0.70. This finding confirmed the reliability of Kyndt and Baert's (2015) questionnaire in assessing entrepreneurial competencies in different business environments of the

**Table 3** Means, standard deviations, and Cronbach's alpha of entrepreneurial competencies dimensions

Entrepreneurial competencies	Iran ( <i>n</i> = 83)			Italy ( <i>n</i> = 60)		
	Mean	S.D	$\alpha$	Mean	S.D	$\alpha$
Orientation toward learning	4.96	0.125	0.86	5.42	0.124	0.72
Social and environmentally conscious conduct	5.42	0.124	0.85	5.55	0.114	0.86
Insight into the market	5.36	0.096	0.80	5.68	0.087	0.70
Seeing opportunities	5.54	0.083	0.76	5.31	0.086	0.80
Building network	5.41	0.089	0.79	5.50	0.105	0.88
Ability to persuade	5.43	0.073	0.74	5.70	0.073	0.77
Planning for the future	5.92	0.090	0.85	5.94	0.088	0.89
Independence	5.61	0.102	0.72	5.40	0.077	0.70
Decisiveness	5.43	0.102	0.79	5.49	0.06	0.70
Awareness of potential returns on investment	5.74	0.100	0.83	5.87	0.08	0.80
Self-knowledge	5.30	0.129	0.87	5.42	0.124	0.81
Perseverance	5.79	0.086	0.78	5.55	0.114	0.84

two countries. The participants were asked to indicate the degree of their agreement with each item in a seven-point Likert scale ranging from 1 = never to 7 = always.

## 8 Data Collection and Analysis

Participation in this study was voluntary and all questionnaires were completed anonymously. The SME owners were ensured about the confidentiality of the data and their personal identities. Data collection was conducted during 2015–2016. Of the 150 questionnaires administered in Iran, 83 were used in the final analysis (a response rate of 63.8%). While, 200 questionnaires were administered in Italy, and 61 of them returned; a questionnaire was not used due to incomplete filling, so 60 of them were used for the final analysis (a response rate of 30%).

## 9 Findings

To examine entrepreneurial competencies of SME owners in Iran and Italy, we first tested if the data were normal. The test of normality indicated that the data obtained from the SME owners in Iran were not normal because Shapiro-Wilk's statistics in all dimensions of entrepreneurial competencies were significant ( $\rho = 0.000$ ); while the data from Italian SME owners emerged to be normal ( $\rho > 0.001$ ). Therefore, we decided to use non-parametric tests. To test if the differences in means of entrepreneurial competencies between SME owners in the two countries were significant, a Man Whitney U test was performed. Table 4 presents the mean rank of each

**Table 4** Test of significant mean differences in SME owners’ entrepreneurial competencies

Entrepreneurial competencies	Iran	Italy	Mann-Whitney U	
	Mean Rank	Mean Rank	Z value	Sig. (2-tailed)
Orientation toward learning	79.95	61.00	-2.704	***
Social and environmentally conscious conduct	70.95	73.45	-0.357	0.721
Insight into the market	65.39	81.15	-2.248	**
Seeing opportunities	77.59	64.27	-1.901	0.057
Building network	71.21	73.09	-0.269	0.788
Ability to persuade	65.22	81.38	-2.309	**
Planning for the future	72.70	71.03	-0.241	0.810
Independence	81.57	58.77	-3.262	***
Decisiveness	73.72	69.62	-0.586	0.558
Awareness of potential returns on investment	72.11	71.85	-0.037	0.970
Self-knowledge	70.61	73.93	-0.473	0.636
Perseverance	69.82	75.02	-0.744	0.457

Note: \*\* < 0.05; \*\*\* < 0.001.

entrepreneurial competencies and their significance. As the table shows, there is no significant difference between entrepreneurial competencies of SME owners in Iran and Italy except for orientation towards learning, insight into market, ability to persuade, and independence. More specifically, the SME owners in Iran scored stronger orientation toward learning and independence than their Italian counterparts who were more competent in insight into the market and ability to persuade. These findings are discussed in the following sections.

## 10 Discussion

As mentioned in the findings section, the study identified four main significant differences between Italian and Iranian SME owners’ entrepreneurial competences. This finding confirmed that SME owners in the two countries developed different competencies to deal with the challenges and complexities of their business environment and successfully led their business (e.g., Kyndt and Baert 2015; Man et al. 2002). Different competences and attitudes of business owners have an effect on the SMEs’ success and growth (Lans et al. 2011). As from Morris et al. (2013) internal competencies represent a relevant variable of the firm business model, and performance differences are attributable to the development of internal competencies that enable the model execution. Thus, different competencies could contribute to explain country differences both in terms of business model and in terms of SMEs’ success. These differences may also be a result of different business environments in the two countries. Our study shows evidence of differences in terms of (a) independence and orientation toward learning that emerged to be higher among

Iranian SMEs owners than Italian ones; (b) insight into market and ability to persuade that emerged to be higher among Italian SMEs owners than Iranian ones. Behavioral competences such as the independence have been proved to impact on the success of the company (Kyndt and Baert 2015; Lans et al. 2011; Man et al. 2002). The institutional context may affect the independence competency of Iranian SME owners, as in Italy very strict regulations—such as the one on labor law—tie the SME owners to consider some social and environmental issues when making decisions. Thus, the SME owners do not feel too much freedom to act and decide. This explanation could be supported by the study results by Camuffo et al. (2012) showing a high degree of social-awareness of the SMEs' entrepreneurs. In contrast, SME owners in Iran perceived themselves firmly determined and relying on themselves to solve problems partially because they may want to be less affected by the obstacles and restrictions in their business environment (Mohammadi Elyasi and Notash 2011).

Considering the variable 'orientation towards learning', Italian SME owners show a lower level of orientation towards learning, when compared to their Iranian counterparts. As a matter of fact, most of the literature related to entrepreneurial competences in the Italian context, faces the learning's orientation as an "embedded capability" (Lipparini and Sobrero 1994), or faces the learning issues as related to the startup of a new venture (Bonaccorsi and Giannangeli 2010). Learning orientation is a key competence since it allows updating the entrepreneurial competences based on the external and internal challenges. However, from the literature, in Italy it seems that the focus on learning is mainly at the stage of the new venture creation, rather than on ongoing SMEs.

Higher orientation towards learning among Iranian SME owners can also be a reflection of having less experience in managing a business than their counterparts in Italy. Having less experience inspires the SME owners in Iran to have higher tendency towards leaning and drives them to identify the gaps in their knowledge and competencies, update their knowledge on the developments happening in their specific business environment and seek opportunities to learn. In addition, SME owners in Iran as a developing country struggling with numerous difficulties emerged in the MENA region need to overcome various increasing challenges and ever-changing business environment (Mohammadi Elyasi and Notash 2011) and their success in facing the challenges highly depends on their capabilities to learn from different opportunities and resources.

Italian SME owners have showed a significantly higher level of competencies in terms of persuasiveness and insight into market. As highlighted by Camuffo et al. (2012), the ability to persuade emerged as one of the most important managerial competencies of SME owners in Italy. This high competence in persuasion can be attributed to having more business experience and consequently longer interactions with the people involved in various businesses and higher expansion of social capital by business owners in Italy (Leitch et al. 2013).

The insight into the market is relevant to SMEs' performance and success of internationalization process. Majocchi and Zucchella (2003) argue that ability of the firms to access specific markets determines the performance of SMEs. The lower

competence of Iranian SME owners in persuading others and insights into the market can be a reflection of having less networking and communication skills (Mehdivand and Zali 2011; Zali et al. 2011) and the lack of establishing effective marketing systems in the highly challenging business environment of Iran (Khodadad Hosseini and Kolabi 2012).

## 11 Conclusion

In line with previous research findings (Morris et al. 2011, 2013), a context-specific approach should be employed to examine entrepreneurial competencies and further entrepreneurs require a combination of particular competencies to enable them to cope with the specific difficulties and challenges in their businesses. The findings of this study highly contribute to the few studies that examined entrepreneurial competencies in a specific context and that of SMEs (e.g., Lans et al. 2011; Man et al. 2002; Renko et al. 2015). More specifically, it contributes to a set of distinctive entrepreneurial competencies of SME owners between Iran and Italy. Therefore, the findings provide better insights into the capabilities that SME owners bring to and develop into entrepreneurial processes and specific business environment in each country. The findings also assist current, nascent and would-be entrepreneurs to identify the key competencies they require to learn and empower them to successfully create and manage their own entrepreneurial business through active involvement in entrepreneurship education and training programs (Morris et al. 2013; Heath and Reed 2013).

Additionally, educators in each country can employ the set of entrepreneurial competencies emerged from this study to assess entrepreneurial competencies among SME owners, identify their weaknesses in their competencies and develop programs to address the weaknesses (Hwang and Brandon 2015; Namatovu and Dawa 2012). Finally, this study contributes to the reliability of the Entrepreneurs' Competencies Questionnaire (Kyndt and Baert 2015) in two countries that can be used in future investigations.

### 11.1 *Limitations and Future Research Directions*

This study has limitations that open new doors for future studies. This exploratory study involved a small group of SME owners in Iran and Italy. Future research could investigate if the distinguished differences in competencies of SME owners are consistent with larger sample sizes and other business owners such as the owners of family businesses or large firms. It will shed light on future studies to explore the factors affecting the formation and development of these competencies in SME owners in each country. Further studies might also identify which entrepreneurship education and training programs can effectively develop such competencies.

Finally, this research also included few female entrepreneurs due to the small number of women entrepreneurs. Therefore, we highly encourage future researchers to explore entrepreneurial competencies of female SME owners.

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# Management of Innovation in Micro, Small and Medium Enterprises in the Middle East and North Africa (MENA)



Nomita Sharma

**Abstract** The objective of chapter is to understand management of innovation in micro, small and medium enterprises in MENA region. The aim of the countries of the MENA region has been to achieve better economic growth and development. This is only possible through focusing on innovative practices. Through active innovation culture, organizations adopt best practices. But they face many barriers in this transition. They suffer from operational, financial problems in competing with large enterprises. Addressing these challenges to MSME growth and competitiveness is central to overcoming employment and economic development. This chapter is an attempt to understand strategies adopted by MSMEs in managing innovation in MENA region.

**Keywords** MSMEs · Product innovation · Process innovation · SMEs · MENA

## 1 Introduction

Micro, small and medium enterprises are regarded as the main source of entrepreneurship and innovation. These enterprises provide employment to large number of people and contribute significantly to growth and GDP of an economy. They often lose out to big enterprises in terms of financial sustainability, range of products, marketing clout, brand and bargaining power.

But at the same time, it is observed that there are number of MSMEs which are growing and becoming competitive by adopting innovative products and practices. They operate in niche area and focus on continuous improvement in different activities of enterprises. This chapter explores how MSMEs manage innovation in MENA region.

Innovation has become one of the dominant paradigm in management and research. Worldwide, there is a strong interest of researchers in the study of

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entrepreneurs and entrepreneurship (Kirby 2003). This is because entrepreneurship is related with innovation and dynamism of economy (Orhan 2001). Due to less freedom in MENA region, there is less economic freedom comparatively. It is difficult for entrepreneurs to flourish because of political instability. Apart from this, there are other factors like underground economy, weak legal systems, weak intellectual property law, unclear tax systems, and absence of venture capital funding that have resulted in poor rate of entrepreneurial culture in MENA region (Mehtar 2005). There is a need to focus on innovation oriented policies to compete with the other knowledge driven economies. Growth is driven by factors like increase in factors of production, improvements in the efficiency of allocation, across economic activities, knowledge and the rate of innovation (Braunerhjelm 2010). Both, innovation and entrepreneurship are essential for transforming factors of production into profitable product (Anderson and Tollison 1980). Consequently, despite making small investments in R&D and other formal knowledge generating activities, entrepreneurs and small firms may still substantially contribute to aggregate innovation due to their entrepreneurial abilities. Traditionally, MENA region includes following countries: Algeria, Bahrain, Egypt, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, and United Arab Emirates. In MENA region, there are around 85 percent of micro, small and medium sized enterprises in the private sector. Globally, MSMEs are the main actors implementing special innovation strategies and determining a high share of new products (Forsman and Annala 2011; Schilirò 2011). Schumpeter (1911/1934) stressed on the importance of innovative entrepreneurs. They act as a catalyst to move economy forward. Schumpeter also viewed entrepreneurship as not about creating new technology but about identifying and exploiting opportunities. Baumol (1990) suggested that entrepreneurial activity is crucial for (radical) innovation and growth. Entrepreneurs identify innovative opportunities and work on them (Drucker 1985). Schumpeter (1911/1934) explained process of economic development in three stages. They are invention, innovation and imitation. Invention is about developing new thing or new way. Innovation focuses on commercial aspect of a new product or service while imitation is mere diffusion or adoption of new products. Innovation is mainly incremental or about improving products, changing management styles and adopting quality systems and developing new marketing strategies in case of developing countries. In case of MENA countries, most of the innovations are incremental in nature. But there is variation in this regard.

Innovation happens in an uncertain environment and is characterized with uncertain outcomes. It has to be nurtured with right mix of R&D, organizational structure, right kind of leadership, and optimum allocation of resources. One study reveals that innovation culture is active and organizations have made innovation strategies for long-term period in MENA region. Various scholars including Teece (1986), Chesbrough (2006) have stressed on the optimum utilization of business strategy, technology and innovation. This is crucial for success of enterprises. There is a need to study factors that contribute towards management of innovation in MENA Region. Thus following issues are highlighted and addressed in this chapter:

- *What is the status of MSMEs in MENA region?*
- *To what extent MSMEs in MENA are innovative?*
- *What different type of innovations they are involved into and how do they manage innovation?*
- *What different barriers of innovation are faced by MSMEs in MENA?*
- *How do they manage these barriers or what strategies they adopt to manage barriers?*

This chapter is divided into six sections. The first section introduces the chapter. This is followed by brief on status of MSMEs in MENA region. The third section focuses on different types of innovation adopted by MSMEs and explores different management techniques adopted by MSMEs in managing innovation. Fourth section presents barriers faced by MSMEs in MENA countries. Fifth, section highlights strategies to manage barriers to innovation among MSMEs. Finally last section concludes the chapter.

## **2 Status of MSMEs in MENA**

The Micro, small and medium enterprises (MSMEs) play an important role in terms of their contribution to GDP and employment generation, especially in case of emerging economies. But they have not been able to match developed economies. The majority of enterprises in MENA are MSMEs, estimated at 19–23 million (formal and informal) in number and comprising 80–90 percent of total businesses in most countries. Egypt, Lebanon and UAE have done well in terms of SMEs contribution to GDP, accounting for 80%, 99% and 60% respectively, but this is lower in case of Kuwait, Qatar and Oman. But their contribution remains lower with exceptions like the UAE, Egypt and Lebanon (AIMasah Capital Mgt. Ltd. 2016). The standard definition of SMEs in MENA is based on number of employees. But in some countries like Qatar, Alegria definition of SMEs is also based on turnover, capital, investment and industry. In Iraq, the definition is based on size of loan (IFC 2014). In Qatar, there are more than (12) different definitions of SMEs, adopted by various entities in the country. For them, MSMEs shall be those companies that are registered as per laws of the State of Qatar, which number of employees does not exceed two hundred and fifty (250) employees (with exception of companies operating in the creative industries sector and which number of labor force shall not exceed one hundred (100) employees), and which annual turnover does not exceed one hundred (100) million Qatari Riyals. Apart from this, there are sectoral definitions for SMEs in Qatar (Qatar Development Bank 2015). In Dubai, there are around 95% of SMEs while micro firms account for 72% of the overall business count in Dubai, followed by small and medium firms accounting for 18% and 5% of the business count, respectively. Trading sector accounts for 57% in terms of a sector-wise split of the number of establishments in Dubai, followed by the Services sector (35%), and subsequently followed by the Manufacturing sector (8%). SMEs

**Table 1** Economic indicators in MENA

	Algeria	Egypt	Israel	Jordan	Lebanon	Morocco	PA	Tunisia
GDP (Current USD, billion)	215.7	262	272.7	34.1	43.5	104.8	9.8	48.4
GDP Constant Prices % change	3.1	1.8	3.8	3.3	1.5	5.1	9.9	3.0
GDP per Capita (Current USD)	5668	3113	34651	5207	10708	3190	2489	4431
Total Population (in million)	31.5	80.7	7.9	6.3	4.4	32.5	4.0	10.8
Unemployment rate (Youth unemployment rate)	10.0 (22.4)	12.7 (22.8)	6.8 (12.1)	12.9 (29.9)	6.2 (16.8)	8.9 (17.9)	23.0 (38.8)	13.0 (30.7)

Sources: IMF (2014), World Economic Outlook Database, Washington DC; World Bank (2014), World Development Indicators, Washington DC; and Palestinian Central Bureau of Statistics (2014), National Accounts, Ramallah

contribute around 40% to the total value addition. Of this, the contribution of Micro, Small and Medium firms is estimated at around 8%, 14% and 17%, respectively. With respect to sector-wise contributions, Trading SMEs account for 47% of the total value addition by SMEs; the share of Service SMEs is around 41% and that of Manufacturing SMEs is estimated at around 13% (Dubai SME 2013). MSMEs are a vital component of the economy and account for a large proportion of job creation, given that they generally operate in labour intensive sectors. Table 1 presents some statistical facts about MENA region.

The contribution of MSMEs in MENA differs from country to country. They have a minor role in Bahrain's economy, a better role in case Jordan and Egypt while significant role in case of Syrian Arab Republic and Lebanon. Table 2 presents statistical facts about MSMEs in MENA region.

In Bahrain, there is high concentration of enterprises due to large petrochemical complex and aluminum industry. The four non-oil countries, Egypt, Jordan, Lebanon, and the Syrian Arab Republic differ in their contribution to employment and output. MSMEs are engaged in different sectors in MENA region. Table 3 shows their sector wise division (Mansour 2002).

MSMEs are concentrated into labour intensive and traditional activities in comparison to the developed economies. There is less inclination towards technology. In countries like Egypt, Lebanon, Jordan, Syrian Arab Republic, SMEs are mainly concentrated in labour intensive sectors like food processing, textiles, wood products and furniture. In Bahrain, they are involved in aluminum product manufacturing. There are few MSMEs that are involved in electronics and machinery items. Most of the SMEs have been started by entrepreneurs having family business. They mostly rely on personal savings for starting business (Mansour 2002).

**Table 2** Contribution of MSMEs in MENA (percent)

Country	Size	Establishments	Employment	Output
Bahrain	Micro	47.4	9.4	2.5
	SME	48.6	21.6	12.9
	Large	4.0	60.9	84.6
Jordan	SME	92.5	40.8	–
	Large	7.5	59.2	
Lebanon	Micro	72.6	39.8	23.5
	SME	26.5	38.7	43.1
	Large	0.9	21.7	33.4
Syria	Micro	98.3	90.6	84.2
	SME	1.7	9.4	15.8
Egypt	SME	76	11.0	9.0

<sup>a</sup>In percentage of manufacturing value added

<sup>b</sup>Source: State of Bahrain 1993; Hashemite Kingdom of Jordan 1997; Lebanese Republic 1995; Syrian Arab Republic 1996; Egyptian Small and Micro Enterprise Association 1997

**Table 3** Sector-wise distribution of MSMEs in MENA

S. No.	Sector	Percentage
1	Food and Beverage	20.3
2	Metal Products	16.1
3	Non-Metallic Product	11.5
4	Furniture and Assimilated Products	10.7
5	Clothing and Fur	10.3
6	Woods Products Excluding Furniture	10.2
7	Leather and Tanning	5.9
8	Textile	3.7

Source: <https://www.oecd.org/mena/competitiveness/42869189.pdf>

### 3 Management of Innovation by MSMEs in MENA

Secondary data analysis approach is used to explore management of innovation in MSMEs in MENA, was done. Different websites having web content on innovation in different countries in MENA has been analyzed. Innovation data analysis shows that worldwide, there is uneven distribution of growth and development. Some countries and regions are more innovative, technologically developed, and entrepreneurial and, thus, more developed than others (De-Groot et al. 2004; Verspagen 2007). This is generally explained by differences in strategies, economic structure, infrastructures, environments, and culture (Morrison 2006; Tan 2008; Zgheib 2004). SMEs learn from their rivals regarding new approaches of conducting business and then decide on introducing innovations into their plans (OECD 2004). Some researchers have identified four key perspectives on management of innovation. They are an institutional, fashion, cultural and rational perspective. Institutional



perspective explores the macro-level approaches to understand process of innovation. Kossek (1987) has examined industry and firm-level influences on the emergence of human resource management innovations. Fashion perspective focuses on how management of innovations emerge through the dynamic interactions between the managers who use new management ideas and the fashion setters who put forward those ideas (Abrahamson 1991, 1996). Cultural perspective attempts to understand how management of innovation shapes and how it gets affected by culture of the organization in which it is being implemented. The rational perspective builds on the premise that management of innovation is introduced by individuals with the goal of making their organizations work more effectively. For effective management of innovation, three building blocks of innovative environment are human capital, financial capital, and technological capital. The literature has mainly focused on two concepts of innovation: radical innovation meaning a breakthrough at the frontier of knowledge and incremental innovation meaning gradual, progressive and cumulative technical change (Dosi, Nelson and Winter, Freeman). MENA countries have shown different levels of innovation activities. There is greater focus on systematic way of managing innovation by establishing policy framework. There is spurt of R&D activities in the fields of agriculture, health, manufacturing and engineering in MENA countries (Djeflat 2002). There is a push in innovation culture by active participation of countries through active engagement of citizens and local participation in governance.

In MENA countries, the nature of innovation has been incremental (Djeflat 2002). There are numerous examples of enterprises that shown their innovative side. For example, In Beirut, there is a waste management company called Sukleen that has launched an App that allows users to report overflowing bins and other waste materials. In the hospitality sector, Vida Downtown hotel provides a new experience to its users through technology. This technology gives the power to plan their hotel room experience in advance. Further, countries like Algeria, Egypt have integrated S&T into economic development. This is being seen as base for future policies in the area of innovation. Further data shows that innovative firms do influence the lives of people socially, economically, technically and environmentally. On one hand, there is a belt that is connected with a Bluetooth-connected headset and it guides blind people to move freely. There is also a *Cardiopad*. It is a touch screen medical tablet through which heart examinations such as the electrocardiogram (ECG) can be done at remote areas. And the results of the test are transferred wirelessly to specialists. All these innovation highlight the innovation potential of firms in Africa. In Egypt, there is a startup company called, Yaoota. This company operates a shopping search engine helping users compare products and prices in a variety of online stores. This was launched in July 2014 and initially it was self-funded. It helps customers select from variety of online products, help in comparing prices and shop directly. It has also raised US \$2.7 million in funding from the Abu Dhabi-based KBBO Group. This funding is the largest investment in an Egyptian tech startup. This is required for expansion across Africa and Middle East. There is one more start-up, DabaDoc in Morocco. This company helps users to get online medical advice. Users can find doctors and take appointments online. This enterprise initially started in 2014. They

expanded their operations in Algeria and Tunisia. They have around 2000 doctors on the list in three countries. It was also selected as one of the best start-ups in the MENA region (JWT MENA 2014).

In order to manage innovations, MENA countries have undertaken many initiatives. This is supported by growing innovation culture in some countries of MENA. For example, in UAE, fostering a culture of entrepreneurship is on priority list of authorities (Schilirò 2015). But it has to be complemented by generation of high-value entrepreneurs to enhance economic growth (El-Sokari et al. 2013). Apart from UAE, Algeria and Egypt have made ensured integration of science and technology in economic development (Djeflat 2002).

Another study, SERST (Secrétariat d'Etat à la Recherche Scientifique et Technologique) explored 31 SMEs in chemical sector in Tunisia. This study reported 61% enterprises having R&D unit and involved in incremental modifications. This has also resulted in increase in overall turnover. They considered R&D as a tool for product improvements. But they lack aggressive steps. Another study in Tunisia reports modification of the acquired technological process or products for improvements in characteristics, developing new products. These enterprises also focused on training programmes for their employees on new technologies and hiring research oriented employees for doing R&D activities. They use networking skills to better information sharing and increasing scope for mutual R&D activities. Top management takes the responsibility of R&D decisions regarding innovation seriously. They tend to rely more on scientific and technical information for improving R&D activities. They aim at using acquired know-how and internal expertise, training seminars, feedback from customer and supplier and a, fairs and exhibitions scientific gatherings. Similarly, SMEs in Algeria are engaged in product improvements, capacity building and new product development (Djeflat 2002).

In Yemen, they have started provision of business development services (BDS). They provide variety of non-financial services for small and micro enterprises (SMEs). They help in increasing efficiency and profitability. They provide technical and managerial training, marketing services. They also help in improving quality of products and services. There is also separate unit called, Small and Micro Enterprises Development unit (SMED) responsible for development of the small and micro finance (SME) sector in Yemen. They also help in financing micro, small enterprises, in building institutional capacity, introducing new entrants in SMEs sector, provide expertise for financing. Due to growing demand and size, SMED has associated with Yemen Microfinance Finance (YMF). SMED has also partnered with Small Enterprises Development Fund (SEDF). There is also recently established Al-Kuraimi Islamic Microfinance bank (Mansour 2011).

Another MENA country, UAE, has been transforming itself into knowledge economy. Knowledge-based enterprises are major part of UAE's economy. It has grown from 32.1% in 2001 to 37.5% in 2012. It is a key player in real estate renewable energy and aviation sector.

It has become major stop for travellers going from East to West. Due to this, there has been considerable change in tourism and logistics industry. It also houses world's tallest tower, which is a major tourist destination. They have been

developing their innovative eco-system through these initiatives. They also promote young entrepreneurs by rewarding them Young Emirati Innovators Prize (YEIP), the Patent Filing Award, and the Manchester Innovation Award. There are media organisations like Wamda, TechView.me and TechStars that provide initial seed funding. They also help in mentoring new start-ups in the area of technology. There is interesting case of innovative entrepreneurship. Sougha, a social enterprise initiative has been launched by the Khalifa Fund. It helps in managing innovation by providing Emirati artisans to become entrepreneurs. It guides them with essential business know-how and consumer insights. The artisans can use traditional skills for creating non-traditional products, such as iPad cases. These cases are made of traditional weaves (Byat and Sultan 2014).

In Egypt, there is a rise of innovative start-ups in the last few years. There is Al Ismaelia, a real-estate investment firm that has restored Downtown Cairo's grandeur. They have acquired and renovated 23 historical buildings, including the iconic Radio Cinema, Shorbagui building, and the Old French Consulate. They conduct weekly walking tours. It is giving a major thrust to tourism industry. In solar sector, there is Karm Solar that has developed award winning high capacity solar pumping station. It helps desert farmers to use underground water without the help of diesel powered pumps. Egypt is also focusing on waste management. Company called, Recyclobekia is generating revenue from recyclable material inside electronic waste. It was started by Mostafa Hemdan as a 20-year-old student. Nabda, a cloud-based medico-social enterprise provides a platform for creating electronic medical records. Further, the e-payment company, Fawry provides alternative way of making payments electronically. This company was acquired for \$100 million. Another company, Educate.me has partnered with quality schools in Africa. It has identified under-privileged children in their communities that cannot afford the cost of school. They connect with these schools and children to donors who sponsor the child's school fees. There are companies like Otlob that are identifying opportunities in the form of societal customs and creating a massive change in the consumer behavior. Now Consumers are open to innovative ideas of buying through online platform (Valentina 2016).

#### **4 Barriers to Innovation Faced by MSMEs in MENA**

The innovative behavior exhibited by MSMEs in MENA has to deal with many challenges and barriers in creating and developing new products and processes (Djefflat 2002). These challenges often result in failure of business due to lack of business and managerial skills, improper access to markets, absence of proactive entrepreneurial culture, and even competition from large enterprises. It is further stressed that as per prominent SME expert in MENA, failure rate of SMEs is high as 90%, Al-Yahya and Airey (2013)

The most prominent constraints are lack of support structure to entrepreneurs in case they fail, less benefits to become entrepreneurs, lack of quality in regulatory

mechanism, high entry-level barriers for MSMEs, difficult access to markets, problems in accessing external sources of finance, shortage of managerial skills required for making MSME competitive. Financial barrier is the most important barrier affecting growth of SME in MENA. There is poor financial infrastructure. There is limited coverage and depth of credit information, and collateral and insolvency regimes are weak. Further, there is a weak competition among banks as they prefer large enterprises for lending. There are undeveloped banking financing institutions and financial instruments. The investment climate is also very weak. All these act as entry barriers for SMEs in MENA (InfoDev [n.d.](#)).

Specifically in Algeria, SMEs face unfair competition from the informal sector, complex bureaucratic procedures and laws, policies, and regulations, an inefficient tax system, a lack of access to industrial real estate and external financing, and low human resources (Bouazza et al. [2015](#)). Africa has seen lost decades between 1970 and 2000. But due to promotion of favorable business environment, there has been improvement in its economic performance (Collier and Gunning [1999](#)). As far as innovation is concerned, Africa had been late entrant. But still, it has caught up with the changing times. The mobile revolution is visible to world. But there is not only a mobile revolution, there is equal prospects shown in the sectors like health, education and agriculture. In the presence of challenges, Africa will have to sustain its current growth by focusing on more on technology-driven development.

As noted by Dinh et al. ([2010](#)), firms in more countries in Africa say electricity is the biggest constraint they face relative to any of the other potential constraints. Another study done in Indian context (Sharma [2014](#), [2015](#)) reveals similar barriers faced by MSMEs. This study was done in the four sectors, namely auto-component, pharmaceutical, information technology and textile. The study revealed that challenges like shortage technical know-how, shortage of technical training facilities, high cost of innovation, high entry barriers, complex, loan procedures, shortage of technical and skilled man-power, competition from large enterprises, high price of raw materials. But these barriers tend to affect different sectors in a different manner. For example, it was seen that in informational technology sector, the main barrier is shortage of technical manpower and in case of pharmaceutical sector, the main barrier was high cost for inventing new medicines. For textile sector, it was changing pattern and trend in the fashion and apparel industry. Apart from this, data on MSMEs in terms of skills is not collected frequently and analyzed. This further affects development of better support for MSME growth. It is difficult to evaluate and assess effect of any policy and to adopt actions for sustainable improvement without this data. Moreover, there is lack of coordination between actions and policy framework for promoting innovation MSME policy.

Some other barriers are insufficient use of public procurement to foster innovation in SMEs, shortage of skills in innovation management, shortage of own financial resources for innovation, shortage of skills to manage intellectual property and knowledge, Insufficient knowledge about innovation support services, lack of innovation culture in the Libyan educational institutions (Elmansori and Arthur [2014](#)). Their basic survival faces lot of challenges in form of different barriers. Access to finance is one of the greatest challenges facing MSMEs across the globe, and

particularly for MENA where nearly 63 percent of the MSMEs do not have access to finance. The total financing gap for MSMEs in MENA is estimated at \$210 to \$240 billion (of which formal MSME finance gap is estimated at \$160–180 billion (Saleem *n.d.*)

A recent World Bank/Union of Arab Banks survey of over 130 MENA banks shows that only 8 percent of lending goes to SMEs across MENA, and even less in GCC countries at 2 percent. This is substantially lower when compared to the middle income countries lending average of 18 percent and high-income countries average of 22 percent. SME finance in MENA is restricted by the lack of an enabling environment. Regulations are insufficient, financial infrastructure is inadequate, lending capacity and tools are lacking, SME management skills need to be improved, financial transparency needs to be encouraged, and the availability of collateral is scarce. Banks and financial institutions in MENA are also not equipped to offer sustainable and profitable SME banking products (Saleem *n.d.*).

## **5 Strategies to Manage Barriers to Innovation in MSMEs in MENA**

This section presents how MENA countries have responded to challenges in management of innovations. The main focus in MENA has been on improving business environments for enterprise creation and development. This is a relatively recent development and a significant shift from past policies which focused on supporting strategic enterprises and sectors. An important factor behind this shift has been the unrelenting pressure to generate more and better jobs: the region's labour supply is rapidly expanding while the new entrants in the labour market have higher education levels than those of previous generations. This certainly represents a major opportunity for development, but also a potential liability for social and political stability if that opportunity does not materializes (MENA-OECD, 2005). MENA countries have adopted different strategies to promote innovation among MSMEs business environment. For example, there is National Committee for the Business Climate (CNEA) in Morocco that helps in providing coordination and follow-up platform for better business environment. It has also developed SME policy a key component of its overall competitiveness and economic policy (Moroccan Investment Development Agency *n.d.*). Equal efforts are made to improve infrastructure in Morocco. Tangier Free Zone (TFZ), near the Ibn Battouta International Airport in Morocco is established for promoting investment and export. It includes products in agri-food, textiles and leather, metallurgy, mechanical, electronics, chemical and high technology sector. It aims at creating 47,000 jobs in next decade. National Legislations do not apply on goods in TFZ. It is a one point destination for investors, Böhmer (2011).

In Lebanon, initiative like Improving Business Environment Initiative (IBEL) has provided growth reforms for MSMEs. They aim at promoting cluster initiatives between firms within the same sector and result in collective efficiency. The

approach is to promote research and development by giving tax relaxations for SMEs to invest in product development. This is supported by a plan to introduce a certification program for recognizing and certifying innovative SMEs. This will provide preferential treatments and incentives to innovative SMEs.

They are envisaging financial incentives for SMEs to upgrade technology and providing innovation vouchers to entrepreneur initiate a concept and free access to international IP databases (patents) and guidance for SMEs to acquire intellectual property assets (Khoury 2013). There is also a major rehabilitation program to modernize custom procedures, has improved the import procedures (Al Khouri 2000).

Algeria has started a new ministry—Ministry of Industrial Development and Investment Promotion that aims at helping MSMEs in their growth journey. Further, there is also associations of private sector enterprises, young enterprises and women entrepreneurs that works towards improving coordination among different stakeholders i.e. government agencies, NGOs etc. (Stevenson 2010). There is equal focus on creation of integrated industrial development zones (ZIDI) or clusters. According to the national planning strategy, these will be created in areas where there are concentration of businesses, infrastructure availability, proximity to university, research institutions and quality of services. The clusters were proposed by the MPPI (Ministry of Participation and Promotion of Investment) in 2007. The aim was implement the new industrial strategy on the basis of competitiveness and excellence (Ratiba and Djamila 2016).

There is national strategy for micro small and medium-sized enterprises in Jordan. There is a new legislation allowing the establishment of private credit bureaus. There is active participation from both public and private sector institutions. They collectively decide about Innovation Policy. This has been made due to support of King Abdullah, strong cooperation between stakeholders and collective support programs. The country has moved up in the global competitiveness ranking tables over the past years. It stands out in the MENA region for contributing development of an infrastructure to enhance innovation. This is possible due to holistic vision formulated by the authorities that helped it to make its mark in the knowledge economy. Further, it is supported by timely development of commissions as well as commissions such as regulatory, monitoring and promoting authorities. Globally, Jordan ranks 7th in ICT competitiveness as compared to the other MENA countries. They also have REACH programme—for example—which is an ICT orientated sectoral innovation programme having public private partnership involving the Jordanian Ministry of Information and Communication Technologies and the private sector represented by INTAJ6. There is a project titled “Educational Reform for a Knowledge Economy” (ERfKE). It involves the introduction of ICT in schools on a large scale as well as the training of up to 60,000 teachers (Eschborn 2006). There is inflow of around 7000 graduates annually in Jordan, the higher than any other country in the region. Jordanian IT companies such as Maktoob, ShooFee TV and Jeeran have attracted huge investment global IT majors such as ‘Intel’ and ‘Yahoo’. Further, Microsoft, Hewlett-Packard’ and ‘Yahoo’ have opened regional (Middle East & North Africa) offices in Jordan under investment programme. There is presence of other companies like Cisco System, Oracle, Sun Micro Systems, HP,

and Motorola. Such a business environment gives major thrust to the Jordanian ICT sector (Kawar and Jazi 2012). Registration, documentation, and custom procedures have been simplified. This has streamlined the process of import in Jordan. Import licensing requirements have been abolished with exceptions to products affecting national security, health, safety, environment and religion.

In Tunisia, government promotes technological innovation and focuses on the development of an information-based society. This is largely due to the Tunisian President Ben Ali who is an electrical engineer by education. He is main the driving force behind this vision. From time to time, the government launches different programs on scientific research and technology. They have also started a National Program for Research and Innovation (PNRI). This is for funding projects between companies and research organisations. This fund is for areas like mechanics/electrics, construction materials, leather and shoes, textiles, food, packaging and wood processing. Another strategy used in Tunisia is formation of Industry Promotion Agency (API), a public establishment. This is responsible for the implementation of the policies of Government with respect to industrial sector. Tunisia is the most diversified country and has textile as the largest manufacturing sector. It can utilize its talent promotion of innovative culture in the country. One study on chemical sector in Tunisia development of R&D units has helped in encouraging innovation. In order to continue this, a well-crafted and organised innovation system is required. But without skilled human resources, it will not be able to tap real potential, Eschborn (2006). Tunisia facilitates internationalisation through a virtual one-stop-shop to deal with the formalities of foreign trade and promotes the development of innovative and technology oriented enterprises through science parks and technological centres. It should be a continuous exercise to improve business environment for creating more enterprises and job opportunities. There should also be continuous evaluation of policies. This can be done by measuring effectiveness of such policies, Eschborn (2006).

The majority of FDI in technology sector in MEDA was going to Morocco, Algeria, Turkey and Tunisia. Mostly R&D centres, technology-oriented firms, call centres, joint ventures were initiated (AFII-ANIMA 2005).

According to OECD (2016), Israel has a developed innovation support system. Government makes investment in human capital, infrastructure, research and development to attract foreign investment. The aim is to focus on high-technology start-ups and support technological innovation. There is liberal immigration policy to capitalize on technical and scientific expertise of immigrants. This has resulted in many private enterprises in the areas like computers, communication, software etc. (Frenkel et al. 2011). This strong business environment in Israel contributes to its innovation capacity. There is growing number of start-ups in Israel. Around 200 were started in 2016. They all focused on technological innovations. SMEs are offered green grants under Green Innovation Programme. This programme motivates SMEs to connect with the natural gas grid for energy diversification. There is Technion Knowledge Centre of Innovation that provides consultancy in promoting innovation among large SMEs (OECD 2016).

As per OECD (2014), there is well established innovation policy in only Israel for growth of enterprise sector in MED economies. There are 25 technological centres and science/technological parks in Egypt and Tunisia among MED economies. But since 2013, there is instrumental progress in MED economies in creating an innovation policy framework. Except PA and Algeria, most of the economies have today an innovation strategy for SMEs. Steps have been taken to strengthen innovation framework focusing on increasing, both non-financial and financial services for SMEs. But only Israel has been able to build a solid framework for supporting innovation for SMEs. There is developed strategic documents and legal framework to promote sustainable and greener development among all MED economies. But there remains a variation among economies with respect to its application among SMEs.

## 6 Conclusion

Most of the MENA countries have managed to make mark with respect to the innovation policy. The main propellers of innovation policy are globalization and liberalisation of markets. Most of the enterprises in MENA are MSMEs. They are around 19–23 million (formal and informal) in number. They contribute around 60 percent of GDP in the economy. They also help in generating employment upto 70 percent. There is improvement in innovation culture. This is because of active participation of MENA countries through collective engagement of stakeholders. There are some countries that are focusing on improving quality of school education while others trying to generate revenue from waste management. There are enterprises that help in creating electronic medical records. In education sector, enterprises are networking with schools to improve level of education. There is also trend of online transactions. Some enterprises are using historical buildings as a tool for promoting tourism industry. This is an innovative technique for promoting culture of the country. There is focus on shifting traditional energy sources to greener sources of energy. Revenue is being generated through recycling techniques. MENA countries are also promoting new start-ups in the area of technology and thus promoting entrepreneurial culture. The nature of innovation in MENA has been largely incremental in nature. In MENA countries, the nature of innovation has been incremental (Djefflat 2002). There are examples of introduction of technology in hospitality sector and medical sector. Such initiatives provide medical aid to people in the rural area in an affordable price. Consumers can now compare prices online before they make a purchase.

But there are many barriers that act as a roadblock in journey of innovation among MSMEs in MENA region. There are challenges like absence of required business and managerial skills, less proactive entrepreneurial culture and competition from large enterprises. There is also improper access to markets. There are high-entry barriers for MSMEs and they often face problems in accessing external finances. MSMEs also lag behind in innovation due to limited coverage and depth



of credit information, and weak collateral and insolvency regimes. Complex bureaucratic procedures and laws, policies, and regulations, an inefficient tax system, a lack of access to industrial real estate and external financing, and low human resources often result in early slowdown of MSMEs. MENA countries need to develop a comprehensive policy for growth of innovation and entrepreneurial culture. There is a need for inter-firm cooperation to form networks to manage competitiveness. The main challenges that they face are lack of technological support services and infrastructure. MSMEs need to rely on cost cutting methods, lean manufacturing practices and find innovative solutions for day-to-day problems faced by MSMEs. Some of the countries in MENA have seen increase in the R&D activities. It has increased from 26 to 32210 from 1960 to 1996 in the Arab States. Currently, there are more than 600 organisations that are active in R&D activity (80% of Arab R&D output is performed in universities). Overall, Lebanon, Egypt and Tunisia have focused on policies for growth of MSMEs for longer time than other countries in MENA (Stevenson 2010). Among all MENA economies, there is active innovation policy in Israel, Egypt and Tunisia. There is need for well-coordinated body to look into management of innovation among MSMEs. Careful evaluation and monitoring is required for having systematic progress in innovation. Different countries like Egypt, Jordan, Morocco and Tunisia have started public policy measures to support innovation in SMEs.

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# Part V

## A Comparative Study on the State of Women Entrepreneurship in the ECO Region: Women Entrepreneurial Intentions and Motivations in Iran, Pakistan, and Turkey

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### Executive Summary

The neighboring countries of Iran, Pakistan, and Turkey are the founding members of the Economic Cooperation Organization, established in 1985. These countries, that are also participants of Global Entrepreneurship Monitor (GEM), have marked similarities in numerous cultural, religious, and traditional values. Since its establishment in 1999, GEM has annually surveyed and measured the entrepreneurial attitudes, intentions, and activities of working-age adult women and men (ages 18–64) in participant countries. The findings of GEM Survey can help policymakers and academics to understand the level and process of entrepreneurship across the world.

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Our project has been presented in four professional conferences in Europe (BCERC, EMLYON, Ecully, France, June 5–8, 2013), Canada (MIE, McGill University, Montreal, August 2–5, 2013), United States of America (ICSB-GWU, Washington, DC, October 17–19, 2013), and Asia (MIE, Al-Ain, UAE, February 28 to March 3, 2015).

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This would provide the opportunity to compare different aspects of entrepreneurship in countries and take required steps to develop entrepreneurship.

Women as about half of the world population contribute substantially to the global economy. According to the GEM Women's Report, 329 million women across 83 economies were involved in starting a business or running a new or established one in 2014. The levels of female entrepreneurship in Iran, Pakistan, and Turkey are very low compared to their female counterparts across the globe as well as in comparison with their male counterparts in their own economies. A comparative approach to female entrepreneurship in the aforementioned economies may provide insight into roots of problems and challenges in the three countries.

This project is a comparative study of female entrepreneurship in Iran, Pakistan, and Turkey using qualitative as well as quantitative approaches. To do this, the project explores the ecosystem of entrepreneurship and female entrepreneurship, in particular, in the three countries using GEM data and other related official domestic data, as well as international data from sources such as the World Bank (Doing Business), World Economic Forum (Global Competitiveness Index), United Nations (UNDP Gender-related Indices).

We also study the relationship between women entrepreneurial intentions and necessity- driven motives as well as opportunity- driven motives for the three countries as a whole, as well as separately in each country. Then, we pose and answer the following questions, "Do women entrepreneurial intentions lead to more necessity-driven entrepreneurship or opportunity-driven entrepreneurship in the three countries as a whole? How does it work in each of the three countries?"

*Results from the pooled data show that:*

- While higher income level increases the likelihood of being the opportunity entrepreneurs for women, lower income level increases the likelihood of being the necessity entrepreneur.
- We find that women with higher education levels are more likely to recognize opportunities than women with lower educational level.
- We couldn't find income and education effect on necessity based female entrepreneurs.
- We found no significant impact of age in entrepreneurs but it is significant for necessity entrepreneurs, where younger women are more likely to be involved.
- Necessity and opportunity female entrepreneurs differ in terms of perceptual variables too.
- Unlike necessity based entrepreneurship, opportunity based entrepreneurship and the perception of fear of failure are significantly related.
- Fear of failure for women is a deterrent factor for opportunity-driven entrepreneurial activity but it is not a deterrent factor for necessity-driven ones; women who start business out of necessity in order to survive may not fear the possibility of failure.
- Women's self-efficacy perceived through networking, being knowledgeable, skilled, and experienced is positively related to being opportunity as well as necessity entrepreneurs.

*Results from the national data show that:*

- The demographic variables (income, education, age) as well as perceptual variables (fear of failure, self-efficacy except networking) are important factors for females to pursue opportunity driven- entrepreneurial activity in Turkey.
- For Iran, just perceptual variables are related to women starting a business to pursue an opportunity, but demographic variables are not significantly related to women in Iran.
- For Pakistan, women with higher education levels, having networking and being self-confident are more likely to recognize opportunities.

Moreover, we adopted the concept of entrepreneurial capital according to the resource-based (RB) perspective of entrepreneurship, to test how the entrepreneurial process is affected by financial capital as well as non-financial capital.

Overall, we found that entrepreneurial capital (economic, social, and personal capital) is positively related to the likelihood of becoming entrepreneur for their countries regardless of gender differences.

- When we look at the factors determining the entrepreneurial activity of men and women;

The results for Turkey are consistent with the pooled data.

For Pakistan, education and income are not significant predictors on engagement in entrepreneurship for females. However; they are important factors for male individuals to become entrepreneurs.

In contrast, for Iran, we found that income and education have a negative effect for male entrepreneurial activity, that is, man with lower income level and lower education level in Iran are more likely to involve in early stage entrepreneurial activity. However, the education and income has no effect on women's decision to involve entrepreneurial activity in Iran.

- Economic, social, and personal capitals are determinants of men's propensity to be entrepreneurial for three countries, but education and income are not determinants of women's propensity in Pakistan and Iran. Therefore, there could be other factors explaining why men are more involved in entrepreneurial activity than women.
- Finally, with regard to difference between men and women in the amount of the entrepreneurial capital they have in Turkey, Pakistan and Iran, the entrepreneurial capital is higher in men than in women in these three countries. So men can discover more entrepreneurial opportunities than women.

In the last part of the project, we studied women internationalization in the three countries and our findings show that, among the three economies under study:

- Turkey, overall, shows better performance in terms of free trade, women entrepreneurship, and women internationalization; though, undesirable status in terms of gender parity.
- Pakistani women have lower levels of economic participation and education attainment.

- Iran is ranked as the most restricted economy.
- Only in Iran, women entrepreneurs appear to have a higher opportunity/necessity ratio than their male counterparts.
- As the countries move to a higher level of development, on average:
  - the level of free trade increases,
  - the level of female internationalization increases,
  - the entrepreneurial gender gap decreases.

## Introduction

Iran, Pakistan, and Turkey are the founding members of the Economic Cooperation Organization (ECO), established in 1985, to promote economic, technical, and cultural cooperation among the member states. The three countries share borders and have marked similarities in numerous cultural, religious, and traditional values. With a combined population of over 320 million and economies ranging from factor-driven to efficiency-driven, countries of Iran, Pakistan and Turkey, comprise more than half of the MENA region population. This project envisages a comparative study of women entrepreneurship in Iran, Pakistan, and Turkey using qualitative as well as quantitative approaches. Women entrepreneurship in these countries are studied from both domestic and international perspectives.

Like in the rest of the world, women are an integral part of the socio-economic landscape of Iran, Pakistan, and Turkey. They are playing numerous and constructive roles in the development of these nations through traditional as well as modern business and economic roles. Following the adoption of the United Nation's Millennium Development Goal to promote gender equality and empower women the entire World Development Report 2012 (WDR; World Bank 2011) is devoted to the study of gender issues. Women entrepreneurship is now increasingly considered an important tool in enabling female empowerment and emancipation in these countries.

This ECO region is interesting in a cross-country perspective because the anecdotal evidence and numerous international comparisons of various indicators suggest that most MENA countries and their adjoining regions are characterized by relatively more marked gender biases in female labor participation and related entrepreneurial activity than most other regions of the world. There is a growing realization in the region that benefits of female entrepreneurship are many and varied. Moreover, an economy thrives when whole population gets the same opportunities, however, women entrepreneurs in these countries have yet to overcome many barriers. The three economies face numerous challenges is starting and running businesses.

Iran with its 74 million people and an oil-dependent economy is considered an upper-level low income nation. According to the latest available data, the country has only 16% women (15 years and older) in the labor force as compared to 72%

men. Iran ranks 127th (out of 135 countries compared) in terms of the gender-gap and the economic participation and related opportunity and educational attainment of females. As a result, the latest GEM study (2012) shows that only 6% of the adult female population (age 18–64) is involved in Early Stage Entrepreneurial activity (TEA) in comparison to their male counterparts with 16%. It is however encouraging to note that more of these women (62%) are involved in opportunity-based entrepreneurial activity as compared to the need-based entrepreneurship (38%), which is prevalent in most developing economies.

Pakistan with its 173.6 million people is the most populous upper-level low income nation in the group. The country has 22% women (15 years and older) in the labor force compared to 83% men according to the WEF figures. Pakistan ranks one of the lowest (134th out of 135 countries compared) in terms of gender gap with the economic participation and related opportunity and educational attainment of females, continuing to be at the bottom. The latest GEM study (2012) shows that the country has only 1% of the adult female population (age 18–64) involved in Early Stage Entrepreneurial activity (TEA) in comparison to their 21% male counterparts. Only 22% of these women are involved in opportunity-based entrepreneurship and the other 73% are in need-based entrepreneurial activity.

Turkey has a population of 72.8 million and is considered an efficiency-driven economy with one of the more developed infrastructure within the group. Turkey has 28% women and 71% men in the (15 year and older) labor force. The country ranks 129th (out of 135 countries compared) in terms of gender gap with the economic participation and related opportunity and educational attainment of females. The GEM report (2012) shows that there are 7% females (age 18–64) compared to 17% males involved in Early Stage Entrepreneurial Activity. Like Iran, participation of females in opportunity-based entrepreneurship is significantly high at 64% and is closer to the male population (68%).

Despite the apparent attempts to prioritize women's issues in the respective national plans, particularly in Iran and Pakistan, the women's access to resources and their active participation in business activity is considerably lower than men. In their subsequent national and local plans, emphases have been placed on the subject of women, with even more attention to the women entrepreneurship than the previous ones. However, obstacles to women entrepreneurship continue unabated and are seemingly more social and cultural rather than legal (Mostapha Razavi et al. 2008). Promoting women's participation in various aspects of life can result in a more appropriate entrepreneurial environment for the women of this region. The last couple of years of the GEM annual surveys in the three countries show that these nations have not been successful in providing an appropriate climate for women's entrepreneurial activities. It seems that when paying special attention to women, socioeconomic issues in the national plans may not be enough; therefore, due consideration should be given to the enforcement of laws and regulations so as to provide women's accessibility to resources (ibid). It may be noted here that the efforts of female entrepreneurs in recent years to prove their competency in education, skills and leadership are noticeable in the region. Due to the changing social attitudes towards individual freedoms, particularly among the younger educated



generation, who are less constrained by tradition, there is hope for a more conducive social environment and for a more inclusive entrepreneurial activity in the near future.

A comparative study of women entrepreneurship in Iran, Pakistan, and Turkey may expand our knowledge of entrepreneurship in developing countries in general, and female entrepreneurship in particular. From an in-depth comparative survey of female entrepreneurship in the three developing countries, our goal is to provide a new perspective on this complex yet important entrepreneurial development issue.

The project is organized in four parts. The first part provides a general perspective on business environment in Iran, Pakistan, and Turkey by using the World Bank's Doing Business data. It also investigates gender issues as an integral part of women entrepreneurship by adopting World Economic Forums' Global Gender Gap Report. Part two includes women Entrepreneurship and policy challenges in Iran, Pakistan, and Turkey, based on GEM Data. We discuss different types of capital, including financial, human, and social capital in the three comparable countries in part three. Part four sheds some light on the international dimension of entrepreneurship, and Trade Liberalization and investigates internationalization and the role of women entrepreneurship in this context.

## Literature Review

In 2012, an estimated 126 million women were running businesses in 67 economies around the world, out of which an estimated 98 million were established businesses (Kelley et al. 2012). "Women's entrepreneurship can be a valuable tool for promoting gender equality and empowering women, helping to achieve the third Millennium Development Goal target" (Chamlou et al. 2007, World Bank). Even in countries where men and women have officially the same rights in doing business, there are often biased gender perceptions that impede women from entrepreneurial activity as some gendered attitudes to entrepreneurs make women invisible. This is even more true in less developed countries where the lack of research on women entrepreneurs is more pronounced. In spite of women's important role in entrepreneurial activities there is a lack of research in the area of women entrepreneurship in developing countries. "While the economic impact of female entrepreneurial activities on economies is substantial, the world still lacks a reliable definition of female entrepreneurship in developing countries and a detailed assessment of its impact on their economies" (ILO 2000 quoted in Dzisi 2008). Entrepreneurship may be considered as a choice and opportunity for unemployed women to earn income, especially in less developed countries with a high female unemployment rate. Women's entrepreneurship has been known as an important unexploited source of economic growth in the last decade (Georgeta 2012). "Female entrepreneurship is a key contributor to economic growth, not only by its creation of wealth and employment, but by the diversification of entrepreneurial activity" (Nissan et al. 2012). According to the GEM 2010 Women's Report, the rate of women entrepreneurial

activity ranges from 1.5% to 45.4% among women aged 18 to 64 across the globe. Women entrepreneurial participation rates decline as the economies move to a higher level of development. For instance, on average, the rate of women who are starting, or running a business decreases from 19.9% in factor-driven economies to 9.7% in efficiency driven economies and to 3.9% in innovation-driven economies. This equalization follows decades of legislative policy, and socio-cultural changes that have gradually empowered, supported, and trained women to perceive opportunities and believe they have the capabilities to start businesses (Brush 2013). While gender inequality exists around the world, the gap becomes smaller as the economies move to a higher stage of development. The entrepreneurial gender gap declines from 5.2 percentage points in factor-driven economies, to 4 points in efficiency-driven economies, and to 3.4 points in the innovation driven economies.

It is well recognized that women can play an essential role in the socio-economic welfare, prosperity, happiness, and development of each country. The extent to which this can happen depends on women's access to resources, the roles that are defined for women by formal and informal institutions, and the women's self-perception in each country. Women face time, human, physical, and social constraints that limit their ability to grow their businesses. The resources are a vigorous part of the entrepreneurial process and a key role of the entrepreneur is to determine access, and employ the necessary and appropriate financial and non-financial resources (Morris 1998; Firkin 2003). According to the resource-based (RB) perspective of entrepreneurship, the entrepreneurial process is affected by financial capital as well as non-financial capital. This includes human, social, physical, organizational, and technological capital possessed by entrepreneurs and available to them through their contacts, relationships, and networks (Firkin 2003). Economic capital has a prominent role in entrepreneurial decisions. The entrepreneurial decision is positively related to individual's incomes, because the availability of income weakens financial constraints (Evans and Boyan 1989; Smallbone and Welter 2001). The importance of education on entrepreneurship has been excessively mentioned in the literature; however, the impact of education on entrepreneurship and entrepreneurial success is tentative (Storey 1994). Delmar and Davidson (2000), Davidson and Hong (2003), and Arenius and Minniti (2005) show a clear education effect for nascent entrepreneurs. However, Uhlaner and Thurik (2004) show that a higher level of education in a country is accompanied by a lower self-employment rate. Blanchflower (2004) reports that education is positively correlated with self-employment in US and negatively in Europe. Grilo and Irigoyen (2006) report a U-shape relationship between education and entrepreneurship.

While resource accessibility is a crucial factor to entrepreneurs' success, market accessibility and market size are also key components in expanding entrepreneurial activity. The extent to which countries are able to benefit from entrepreneurship depends on the quality and quantity of entrepreneurship and the extent to which entrepreneurs can generate employment, innovation and internationalization. Nissan et al. (2012) posit that there is a positive relationship between internationalization and entrepreneurship. This implies that entrepreneurs in more free economies are in a

better position in terms of having access to international markets than business owners in a relatively restricted economy. According to Harrison (1996), “there is generally a positive association between growth and different measures of openness”. There is also “a strong correlation between trade freedom and a variety of positive indicators, including economic prosperity, low poverty rates, and clean environments” (Riley and Miller 2013).

Even business owners who run businesses domestically are affected by globalization. Enterprises who live in trade restricted countries are marginalized in international business. According to the Merriam-Webster Dictionary, globalization is “the development of an increasingly integrated global economy marked especially by free trade, free flow of capital, and the tapping of cheaper foreign markets.”

Although globalization has brought in new opportunities to numerous business owners across the world, the barriers to trade in more closed economies like Iran have prevented many domestic entrepreneurs from extending their business activities freely across borders. Porter (1990) mentions the enormous influences of nation-states on the competitive strengths of the firms located in their countries and proposes that “government trade policy should pursue open market access in every foreign nation (Porter 1990). “Nation-states having their distinctive politico-economic systems and national culture are organizing themselves in trade blocs for trade and economic purposes” (Chell 2001). Entrepreneurs in a relatively open economy are more encouraged and motivated to pursue international business due to the privileges of free trade arrangements and trade freedom. In particular, entrepreneurs in open economies have more access to international markets and benefit from different trade arrangements regarding, for instance, tariff reduction and removals (economic freedom index, 2003). International entrepreneurship provides opportunities for business-owners to create future goods and services (Oviatt and McDougall 2005). Women entrepreneurs create value for their societies through internationalization (Kelley et al. 2013). The overseas expansion of enterprises may provide an edge for opening new avenue of development. The degree of internationalization increases with the level of economic development for both women and men (Kelley et al. 2011). Internationalization in entrepreneurship has been identified as a form of entrepreneurial aspiration that is positively correlated with economic development (Wong et al. 2005; Bosma 2011). Based on the network approach, internationalization is a process that takes place through networks of relationships. The network approach to internationalization was introduced by Johanson et al. (1988), they found that the degree of the firm’s internationalization depends on both the networks established by the firm and the position of the firm in that network. As a consequence, the network in which the firm operates affects its international position. A small-medium firm can develop a real effective internationalization process using its networks (Battaglia et al. 2006). The network perspective seems to be the most applicable theory from the point of view of entrepreneurial internationalization (Rutashobya and Jaensson 2003). Battaglia et al. (2006) showed the crucial role of networks in internationalization of SMEs. They argue that “networking allow a free flow of information between partners, provide access to complementary assets, reinforce the internal learning processes and provide access to new customers and

suppliers”. Expanding a business across national borders requires a clear understanding of new business environment including consumer needs and market characteristics. Networking in foreign markets can stimulate internationalization and provide entrepreneurs with the basic knowledge and information in the new environment. Local, regional, and international networks are crucial elements in providing regular business relations and developing internationalization process. Dynamic networks can provide entrepreneurs useful and valuable information which is essential to their business success. International networking may change the Black Box to Crystal Ball through exchanging information.

One of the goals of the networks is to introduce the proactive role models for women. Shapero and Sokol (1982) found a strong correlation between the presence of role models and the emergence of entrepreneurs. “It is commonly agreed that both male and female entrepreneurs rely on role models and social networks for information and access to resources” (Vossenber 2013).

The presentation envisages a comparative review of the challenges faced by women entrepreneurs in Iran, Pakistan, and Turkey. Since this will be the first comparative study in the field of entrepreneurship between the three countries, the first part of the research identifies qualitative aspects of entrepreneurial characteristics and essential framework conditions in the three countries.

The contributions of this study would be of value to the entrepreneurship literature; as mentioned by Shane et al., “There is a need for research that considers how entrepreneurial motivations impact entrepreneurial decisions. It is important to understand the role of entrepreneurial motivations when trying to understand entrepreneurial outcomes”.

With respect to the international entrepreneurship, we found that as the countries move to a higher level of development, the average level of free trade increases. Also, the average level of female internationalization increases with the average level of free trade.

Women entrepreneurship is different and does not follow sequential steps in venture creation as they have to interrupt their careers due many reasons, i.e. family and children. Women believe in more participative decision making (Chaganti 1986), develop policies based on relational and nurturing aspects (Holmquist and Sundin), and have horizontal networks.

Barbara and Brush have highlighted the major characteristics of women entrepreneurs. One of them is more focus on caring rather than control. With this mindset the process of organizational creation is more open, with lots of information sharing with the team members and stake holders.

The Diana project (Brush and Gatewood 2008) has identified several major hurdles that women face in financing and growing their business. These are enumerated as motives, aspirations, commitment, financial knowledge savvy, social networks, and funding connections. In most of the societies world over it is assumed that the primary responsibility of the women are child care and taking care of the family. These expectations impact the motives, aspirations and the commitment of the women. Informed entrepreneurs have a higher possibility of access to finance and resources. Women face a hard time developing their social, human and financial

capital that limits their ability. However, on a positive note, the women start their business with less cash than men (Carter and Rosa 1988), as they use cash wisely and adopt bootstrapping techniques.

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# Business Environment in the Three Countries



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**Abstract** Iran, Pakistan, and Turkey are the founding members of the Economic Cooperation Organization (ECO), established in 1985, to promote economic, technical, and cultural cooperation among the member states. The three countries share borders and have marked similarities in numerous cultural, religious, and traditional values. With a combined population of over 320 million and economies ranging from factor-driven to efficiency-driven, countries of Iran, Pakistan and Turkey, comprise more than half of the MENA region population. This project envisages a comparative study of women entrepreneurship in Iran, Pakistan, and Turkey using qualitative as well as quantitative approaches. Women entrepreneurship in these countries are studied from both domestic and international perspectives.

**Keywords** ECO · Entrepreneurship · Women entrepreneurship · Factor-driven · Efficiency-driven · MENA

Women entrepreneurship is closely related to the general framework conditions of entrepreneurship in a specific economy (Delmar 2003). Regardless of the gender, each nation's business environment plays an important role in the prevalence of

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**Table 1** How Iran, Pakistan, and Turkey rank (out of 183 economies) on doing business 2012

Country rank	Doing business 2012	Doing business 2011	Change
Turkey	55	73	+2
Pakistan	138	96	-9
Iran	118	140	-4
MENA	96		

Source: World Bank, Doing Business Database (2012)

entrepreneurial activity. Business owners in different countries are required to comply with relevant regulations to formally start up and run their business. They have no control over their external environment. How easy or difficult it would be to start a small/medium size enterprise depends mainly on the regulatory environment over which the entrepreneur has no control. In order to characterize the general business environment in Iran, Pakistan, and Turkey, we use the World Bank Doing Business database from 2012 to uncover the degree of complexity/simplicity of running a business in the three countries. “Doing Business provides an aggregate ranking on the ease of doing business based on indicator sets that measure and benchmark regulations applying to domestic small to medium-size businesses through their life cycle” (World Bank and IFC). Table 1 gives a general perspective on the comparative overall ranking on the ease of doing business in the three economies.

According to Table 1, the regulatory environment for opening and running a business is more conducive in Turkey, than in Pakistan and Iran. Moreover, Turkey shows positive change and more promising environment in 2012 compared to 2011, while the annual change in the rank of Pakistan and Iran indicate a negative movement in the regulatory environment for entrepreneurs.

To identify and compare the source of business obstacles in the three countries, we use 5 (out of the 10) selected topics introduced by the World Bank’s Ease of Doing Business Indexes 2012, including Starting a Business, Dealing with Construction Permits, Registering Property, Getting Credit, and Paying Taxes, to compare the regulatory environment in Iran, Pakistan and Turkey among 185 countries in 2012. While Turkey holds an overall higher rank than its comparators in the ease of doing business (Table 1), according to Table 2, Pakistan has a better score in term of getting credit than Turkey and Iran, whereas it is less difficult for Iranian entrepreneurs to start a business compared to the other two countries.

In order to provide a better understanding of the position of Iran, Turkey, and Pakistan, we also consider regional average indicators in the Middle East and North Africa (MENA), South Asia (SA), Eastern Europe & Central Asia (EE&CA) respectively. Moreover, the Organization for Economic Co-operation and Development (OECD) average indicators are used to provide useful benchmarks.

With respect to the ease of starting a business, as Table 3 indicates, the number of procedures an entrepreneur is officially required to take to start a business in Iran and Turkey is less than in Pakistan.

The number of days required to start up a business is lower in Turkey and higher in Pakistan compared to Iran. The cost required to complete the procedures is the



**Table 2** How Iran, Pakistan, and Turkey rank on doing business topics

Indicators	Turkey	Pakistan	Iran
Starting a business	61	90	53
Dealing with construction permits	155	104	164
Registering property	44	125	163
Getting credit	78	67	98
Paying taxes	79	158	126

Source: World Bank, Doing Business Database (2012)

**Table 3** The ease of starting a business in Iran, Pakistan, Turkey and the corresponding regions

Indicator	Iran	Pakistan	Turkey	MENA	SA	EECA	OECD
Procedures (number)	6	10	6	8	7	6	5
Time (days)	8	21	6	20	23	16	12
Cost (% of income per capita)	3.8	11.2	11.2	35.0	21.6	8.3	4.7
Paid-in Min. capital (% of income per capita)	0.7	0.0	8.7	86.7	19.1	10	14.1

MENA: Middle East and North Africa, SA: South Asia, EE&CA: Eastern Europe & Central Asia, OECD: Organization for Economic Co-operation and Development

Source: World Bank, Doing Business Database (2012)

lowest in Iran compared to Pakistan, Turkey, and the regional averages of MENA, SA, EECA and OECD. Entrepreneurs who start their business in Pakistan do not need to deposit the paid in minimum capital before registration, whereas Turkish entrepreneurs are required to deposit more than Iranian entrepreneurs and, on average, less than entrepreneurs in the MENA, SA, EECA and OECD regions. In the aspect of starting a business, the overall 2012 rankings of Iran, Turkey, and Pakistan are 53, 61, and 90 respectively.

## 1 Dealing with Construction Permits

Dealing with construction permits “records the procedures, time and cost for a business to obtain all the necessary approvals to build a simple commercial warehouse in the economy’s largest business city, connect it to basic utilities and register the property so that it can be used as collateral or transferred to another entity”(World Bank and IFC). As Table 4 shows, Pakistan has the lowest number of procedures among comparators, while Turkey has the lowest cost, and Iran has the longest delay in construction permits.

So, it is less costly for a Turkish entrepreneur to legally build a warehouse than the two comparator economies, and it takes long delays with high costs for an Iranian entrepreneur to deal with construction permits compared to the two countries.

Among the three countries, Pakistan (104) is ranked higher, in terms of ease in dealing with construction permits, than Turkey (155) and Iran (164) out of 183 economies.

**Table 4** Dealing with construction permits

Indicator	Iran	Pakistan	Turkey	MENA	SA	EE&CA	OECD
Procedures (number)	16	11	24	16	16	20	14
Time (days)	320	222	189	141	222	238	152
Cost (% of income per capita)	355.6	262.5	197.7	351.3	262.5	440.8	45.7

MENA: Middle East and North Africa, SA: South Asia, EE&CA: Eastern Europe & Central Asia, OECD: Organization for Economic Co-operation and Development

Source: World Bank, Doing Business Database (2012)

## 2 Registering Property

Registering property records the number of procedures, as well as the required time and cost to complete a formal property transfer. As Table 5 shows, registering property takes much less time in Turkey than the two comparator economies. The data also indicates a lower required time for registering property in Turkey than the regional averages in South Asia, Eastern Europe and Central Asia. Registering property is also less costly for a Turkish entrepreneur than it is for business owners in Iran and Pakistan. In the aspect of ease of registering property, Turkey is ranked the highest (at 44) followed by Pakistan (125) and Iran (163) out of 183 countries.

## 3 Getting Credit

While getting credit is one of the main barriers to entrepreneurial activity, women often have more difficulties in getting the same credit as men. The extent to which credit is accessible to entrepreneurs depends on the credit information system and the strength of the collateral and bankruptcy laws that support lenders and borrowers (Table 6).

The number of individuals and firms listed in the public credit registry as the percentage of adult population in Iran (26.5) is higher than the comparator countries and the regional average indicators in MENA, SA, EE&CA, and OECD. On the other hand, the number of individuals and firms listed in private credit bureau as

**Table 5** The ease of registering property in Iran, Pakistan, and Turkey, as well as the corresponding regional averages

Indicator	Iran	Pakistan	Turkey	MENA	SA	EE&CA	OECD
Procedures (number)	9	6	6	6	6	6	5
Time (days)	36	50	6	34	103	33	31
Cost (% of property value)	10.5	7.7	3.3	5.8	7.3	2.8	4.4

MENA: Middle East and North Africa, SA: South Asia, EE&CA: Eastern Europe & Central Asia, OECD: Organization for Economic Co-operation and Development

Source: World Bank, Doing Business Database (2012)

**Table 6** The ease of getting credit indicators in Iran, Pakistan and Turkey, and the corresponding regional averages in MENA, SA, EECA, and OECD

Indicator	Iran	Pakistan	Turkey	MENA	S.A	EE&C A	OECD
Strength of legal rights index (0–10)	4	6	4	3	6	7	7
Depth of credit information index (0–6)	4	4	5	4	3	5	5
Public registry coverage (% of adults)	26.5	6.9	23.8	8.1	1.7	16.2	9.5
Private bureau coverage (% of adults)	24.4	2	60.5	9.3	5.8	29.4	63.9

MENA: Middle East and North Africa, SA: South Asia, EE&CA: Eastern Europe & Central Asia, OECD: Organization for Economic Co-operation and Development

Source: World Bank, Doing Business Database (2012)

**Table 7** The ease of paying taxes in Iran, Pakistan, and Turkey, and the corresponding regions

Indicator	Iran	Pakistan	Turkey	MENA	SA	EE&CA	OECD
Payments (number per year)	20	47	15	21	28	37	13
Time (hours per year)	344	560	223	188	281	302	186
Total tax rate (% profit)	44.1	35.3	41	32.2	44.4	40.4	42.7

MENA: Middle East and North Africa, SA: South Asia, EE&CA: Eastern Europe & Central Asia, OECD: Organization for Economic Co-operation and Development

Source: World Bank, Doing Business Database (2012)

percentage of adult population in Turkey (60.5) is high compared to Iran (24.2), Pakistan (2) and the average MENA, SA, EECA regions. The numbers indicate more privatization in Turkey than Iran and the low availability of credit in Pakistan (Table 7).

With respect to paying taxes, Turkey is ranked the highest (at 79) followed by Iran (126) and Pakistan (158) out of 183 countries. The tax rate is lower in Pakistan than comparator countries, while it takes relatively fewer payments and less time for entrepreneurs to pay taxes per year in Turkey than in the other two countries.

## 4 Socio-Economic Environments

Entrepreneurship needs to be studied in a socioeconomic context. While the rate of entrepreneurship in a country does not imply the degree of its economic development, the low rate of entrepreneurship accompanied by high rate of unemployment may indicate an unfriendly business environment or a lack of entrepreneurial culture. We use the National Expert Survey (NES) created by GEM to have a measurement of Entrepreneurial Framework Conditions (EFC) in Iran, Pakistan and Turkey.

“The NES Survey provides insights into the ways in which these EFCs either foster or constrain an entrepreneurial climate, activity and development” (Xavier

et al. 2013). In this survey, 36 experts in each country assessed their opinions (based on a five points scale) with respect to their entrepreneurial environment. There are five questions in the survey that are directly related to the business environment for women. Table 8 shows these questions and the opinion of the experts in the countries of Iran, Pakistan and Turkey on the environment for female entrepreneurial activity in their economies. While Iranian experts have more negative perception on the conductibility of business environment for women in Iran, the experts in Pakistan have a stronger belief than Turkish and Iranian experts that in their country “starting a business is a socially acceptable career option for women” and “women are encouraged to become self-employed or start a new business”.

Compared to the Iranian and Pakistani experts, Turkish experts find their environment friendlier for women entrepreneurs and believe that in their economy “there are sufficient social services available so that women can continue to work even after they start a family and “men and women have the same level of knowledge and skills to start a new business”.

However, compared to the average answers given by experts in Factor-driven, Efficiency-driven, and Innovation-driven economies, in all five measures of study, experts in the countries of Iran, Pakistan, and Turkey appear to be less optimistic with respect to business environment for women than many countries around the world.

**Table 8** National expert survey in Iran, Pakistan, Turkey and the mean in different levels of economic development

	Iran	Pakistan	Turkey	Mean factor driven	Mean efficiency driven	Mean innovation driven
In my country, men and women have the same level of knowledge and skills to start a new business	2.11	2.7	3.17	3.2	3.85	4.03
In my country, men and women get equally exposed to good opportunities to start a new business	2.06	2.29	2.63	2.87	3.30	3.24
In my country, women are encouraged to become self-employed or start a new business	1.81	2.50	2.34	2.98	3.05	2.93
In my country, starting a new business is a socially acceptable career option for women	2.42	2.73	2.46	3.20	3.46	3.54
In my country, there are sufficient social services available so that women can continue to work even after they start a family	1.86	2.45	2.49	2.67	2.90	2.99
Vision of women entrepreneurship and its support (summary)	2.05	2.53	2.61	2.97	3.29	3.33

## 5 Gender Equality

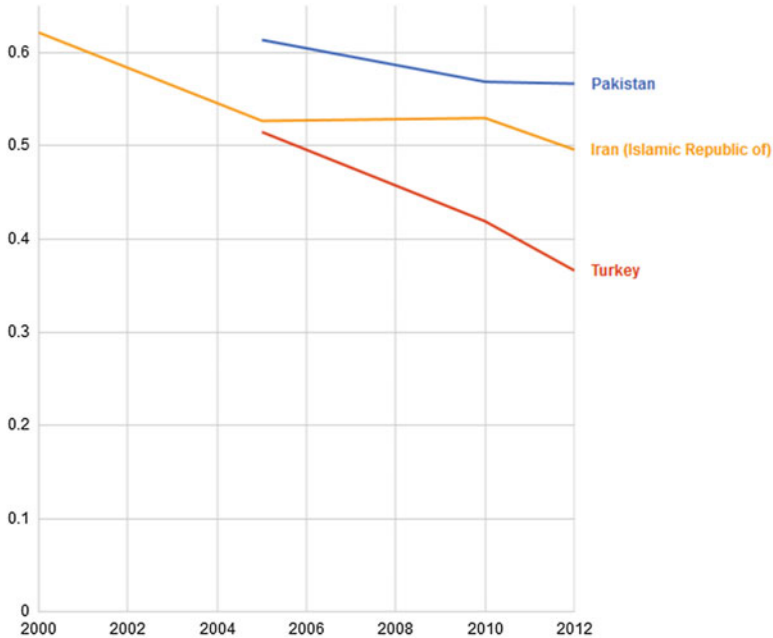
Gender equality is a prerequisite for well-being and sustainable economic development in developing countries. It is important to note that gender equality on paper does not necessarily remove gender stereotypes in these economies. Women and men play different roles in accordance with their social institutions. Jonathan Turner defines social institutions as “a complex of positions, roles, norms and values lodged in particular types of social structures and organizing relatively stable patterns of human activity with respect to fundamental problems in producing life-sustaining resources, in reproducing individuals, and in sustaining viable societal structures within a given environment.” So, individuals learn how to behave, make dreams, and build their future in their environment and from those who are important in shaping their character, e.g., their families and friends, teachers and mentors in schools and communities, media, government and religious.

Different studies show that the inability of countries to provide equal opportunity for women and men deprives their economies from huge human capital resources. Klasen found a significant negative impact of gender inequality in education and employment on economic growth. Gender parity is considered as a catalyst for development, the investment on which yield the highest return on all development investments. “Gender equality is a core development objective in its own right. But gender equality is also smart economics, enhancing productivity and improving other development outcomes, both for the next generation and for the quality of societal policies and institutions” (World Bank 2011).

Women across the world are still affected by gender inequality, though disproportionately. According to the United Nation Development Program (UNDP) Gender Inequality Report 2013, this inequality varies from 4.5 to 74.7% in access to economic and social resources. “Gender Inequality Index (GII) reflects women’s disadvantage in three dimensions—reproductive health, empowerment and the labor market. The Index shows the loss in human development due to inequality between female and male achievements in these dimensions

It ranges from 0, which indicates that women and men fare equally, to 1, which indicates that women fare as poorly as possible in all measured dimensions”. Figure 1 shows that gender inequality is more significant in Pakistan than the other compared countries. While the decreasing trend of GII in Turkey has continued since 2005, in Pakistan it appears that the decreasing rate of GII has stopped changing in 2010.

Iran seems to have a sharp decrease in gender inequality during 2000–2005, a constant GII during 2005–2010, and a decreasing trend since 2010. While Iran displayed a small gap compared to Turkey in terms of GII in 2005, the gap has increased noticeably in 2012. “The Gender Inequality Index is designed to reveal the extent to which national achievements in these aspects of human development are eroded by gender inequality, and to provide empirical foundations for policy analysis and advocacy efforts”.



**Fig. 1** Gender inequality index in Iran, Pakistan and Turkey

## 6 Gender Gap in Comparator Countries

It is well recognized that “gender inequality has more costs in an integrated world. It can diminish countries’ ability to compete internationally” (WDR 2012). Our research shows that a gender gap exists and is significant in women entrepreneurial activities in Iran, Pakistan, and Turkey alike. This is however more significant in Pakistan, where women are generally faced with numerous visible and invisible structural constraints and gender discrimination with respect to social as well as economic aspects is pronounced in some remote regions.

Even though business environment is an external factor that affects both men and women, due to gender biases, it would be more difficult for women entrepreneurs to start and run business than their male counterparts. The Survey of GEM shows that over time, the gender gap between entrepreneurs increased in some countries and decreased in others (Kelley et al. 2011). The gender gap in TEA rates varies across the globe. In the MENA/Mid-Asia region, men TEA rates are four times higher than their female counterparts while the greatest gender parity in TEA rates is observed in Sub-Saharan Africa and developing Asia. It is hard to generalize about the level of development and the TEA level gender gap. For instance, the economies with different levels of development that are located in various regions such as Brazil, Indonesia, Philippines, Thailand, Russia and Switzerland show similar rates of entrepreneurship for men and women (GEM 2013 executive Report).

**Table 9** The overall and detailed rankings of gender gap in Iran, Pakistan, and Turkey

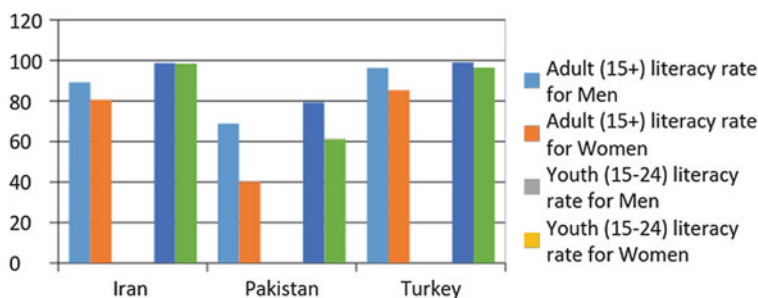
	Overall		Economic participation and opportunities		Educational attainment	
	Rank	Score	Rank	Score	Rank	Score
Turkey	124	0.601	129	0.414	108	0.930
Iran	127	0.593	130	0.412	101	0.953
Pakistan	134	0.548	134	0.310	129	0.762

Source: World Economic Forum, the Global Gender Gap Report 2012

What is the scope of gender-based discrimination in Iran, Pakistan, and Turkey? In order to get an overall view of the gender stereotypes in the three economies, we use the Global Gender Gap Report 2012 (Scores are based on a 0-to-1 scale). Table 9 shows that in the overall gender gap rankings, and also with respect to economic participation and opportunities, Turkey stands at a higher rank than Iran and Pakistan. It is interesting to note that in 2011, Iran had a higher rank (125) in terms of economic participation and opportunities than Turkey (132). Although substantial investment in Iran has reduced the gender gap in education, making the country’s rank higher than the other two economies, it has not improved women’s economic participation and opportunities. Pakistan ranks one of the lowest 134th (out of 135 countries compared) in terms of gender gap, with the economic participation and related opportunity and educational attainment of females continuing to be at the bottom.

MENA countries have the widest gap in economic participation in the world. Moreover, “In the factor-driven group, Middle Eastern and North African economies have the fewest women entrepreneurs relative to men entrepreneurs, with none reporting that more than 1/3 of their entrepreneurs are female”.

Table 9 shows that while the gender gap in educational attainment tends toward disappearance in Iran and Turkey (particularly in terms of youth literacy rate), the gender gap in literacy rate is still notably high in Pakistan. Figure 2 provides more information on the high gender gap and low rate of youth female literacy in Pakistan compared to the literacy rates in Iran and Turkey.



**Fig. 2** Literacy rate by gender in Iran, Pakistan and Turkey. Source: UNESCO Institute for Statistics, National literacy rates for youths (15–24) and adults (15+), the data for Iran and Pakistan are from 2008, and Turkey from 2009

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# Women Entrepreneurship in Iran, Pakistan, and Turkey, Based on GEM Data



Leyla Sarfaraz, Sarfraz A. Mian, Emine Esra Karadeniz,  
Mohammad Reza Zali, and Muhammad Shahid Qureshi

**Abstract** Iran, Pakistan, and Turkey are the founding members of the Economic Cooperation Organization (ECO), established in 1985, to promote economic, technical, and cultural cooperation among the member states. The three countries share borders and have marked similarities in numerous cultural, religious, and traditional values. With a combined population of over 320 million and economies ranging from factor-driven to efficiency-driven, countries of Iran, Pakistan and Turkey, comprise more than half of the MENA region population. This project envisages a comparative study of women entrepreneurship in Iran, Pakistan, and Turkey using qualitative as well as quantitative approaches. Women entrepreneurship in these countries are studied from both domestic and international perspectives.

**Keywords** ECO · Entrepreneurship · Women entrepreneurship · Factor-driven · Efficiency-driven · MENA

Since the establishment of Global Entrepreneurship Monitor (GEM) in 1999, a cross-country harmonized survey has been conducted by this international organization to measure, uncover, and describe entrepreneurial activity in different

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countries and regions with diverse levels of economic development. GEM survey studies different phases of entrepreneurial activity starting from the intention to start a business, to starting and establishing a venture, and to business discontinuance. Total early-stage Entrepreneurial Activity Rate (TEA) is a key indicator for comparing entrepreneurship among GEM member countries. TEA is the percentage of new entrepreneurs (including nascent and new entrepreneurs) who have started or engaged in a business for less than 42 months. Men and women's participation in entrepreneurial activity varies across the countries and regions. In general, women follow the same track of men in TEA, but at a lower rate. Established Business Ownership measures the percentage of the sustainable entrepreneur (aged 18–64) who have successfully run business for more than 42 months.

According to the GEM Women Report (2012), the highest regional female TEA levels can be seen in Sub-Saharan Africa, where 27% of the female population on average are involved in entrepreneurship. The lowest observed average TEA level for women (4%) is in the MENA/Mid-Asia region. Women in seven countries of Ecuador, Ghana, Mexico, Nigeria, Panama, Thailand, and Uganda exhibit equal or slightly higher levels of entrepreneurship than men. The gender gap in TEA rates also varies across the globe. In the MENA/Mid-Asia region, men TEA rates are four times higher than their female counterparts, while the greatest gender parity in TEA rates is observed in Sub-Saharan Africa and developing Asia. It is hard to generalize about the level of development and the TEA level gender gap, because the economies with different levels of development that are located in various regions such as Brazil, Indonesia, Philippines, Thailand, Russia and Switzerland show similar rate of entrepreneurship for men and women (GEM 2013 executive Report). The GEM Survey shows that over time, the gender gap between entrepreneurs increased in some countries and decreased in others (Kelley et al. 2011).

We use the GEM data 2012 to study and compare female entrepreneurship in the three economies of Iran, Pakistan and Turkey. In 2012, more than 198,000 adults (18–64 years) from 69 countries participated in the GEM survey. These member countries represented an estimated 74% of the world's population and 87% of the world's GDP (Xavier et al. 2013). The sample size of Iran, Turkey, and Pakistan in 2012 was 3178, 2401, and 2000 respectively. The interview procedure was fixed line in Turkey, and it was face to face in Iran and Pakistan. We study the GEM entrepreneurial perception indicators to demonstrate the attitude of both women and men towards starting a new business in Iran, Pakistan and Turkey. This data shows the potential Entrepreneurs who may become entrepreneurs in future. We also investigate the cycle of entrepreneurial activity including the TEA rates, Established Business Ownership, and business discontinuance. The rate of business discontinuance measures the percentage of Adult Population who have closed their business in the last 12 months.

## 1 Entrepreneurial Attitudes and Perceptions

Entrepreneurial attitudes and perceptions demonstrate how entrepreneurship is popular and appreciated in general, and in terms of individual's self-perception. Not all people have the courage and ability to start a business. The intention to start a venture originates from the person's self-image on her/his ability to start a venture, and to recognize a business opportunity. It is very important to recognize and measure the attitude of individuals toward entrepreneurship and find ways to encourage and inspire women to be entrepreneurs. Table 1 displays the entrepreneurial perceptions for women and men in Iran, Pakistan, and Turkey. The Table shows that in the three economies men are more likely than women to see good opportunities, have stronger self-esteem about their capability to start a business, and have higher intention for starting a venture in the next three years. While on average in all regions fear of failure is higher among women compared to men, this is not the case in Pakistan where 25% of Pakistani women who see opportunities have fear of failure, whereas this rate is 35% for Pakistani men.

GEM measures the perceptions, intentions and social attitudes of adults in the Adult Population Survey across the member countries. Table 1 shows that Pakistani men display higher perceptions about entrepreneurial opportunities in Pakistan than entrepreneurs in Iran and Turkey, regardless of gender.

Turkish men have a stronger belief that they have the ability to start a business compared to the individuals in Pakistan and Iran. It is interesting that the women in Pakistan display the lowest rate in Fear of Failure among the compared economies, regardless of gender. Men in all three economies display higher perceptions about entrepreneurial opportunities and perceived capabilities than their female counterparts in their economies.

Some studies discuss the possibility of unrealistic self-image and over confidence in the skills and abilities among the individuals who have low rate of fear of failure. On average, fear of failure increases as the economies move to a higher level of economic development, e.g., from Factor-driven to Efficiency-driven to Innovation-driven economies (2014 Amorós, Bosma). According to GEM Women's Report, the lowest perceived fear of failure (between 15% and 18%) is observed in Malawi, Zambia, Uganda and Ghana in Sub-Saharan Africa and Trinidad and Tobago, Panama, and Barbados in Latin America/Caribbean (Kelley et al. 2013). Table 1 also shows that women in the three comparator economies have the same rate of identifying good opportunities, whereas Iranian women are more likely to believe that they have the ability to start a business, show more intention to start an enterprise in the next 3 years, and demonstrate a higher rate in fear of failure. According to Table 1, men are more likely to know an entrepreneur than women in all comparator economies. This may show stronger networking among men compared to women. Among women entrepreneurs in comparator economies, Iranian women are more likely to know an entrepreneur than Turkish women entrepreneurs and Pakistani women entrepreneurs.

## 2 Key Entrepreneurial Activity and Profile Indicators

Entrepreneurship is a process beginning with entrepreneurial perception followed by starting and establishing a business which sometimes may lead to a business discontinuance. Men are more likely to be engaged in TEA activity than women in the three countries of Iran, Pakistan and Turkey. While TEA level among Pakistani women is lower than the comparator economies, the gender gap in the TEA rate is also more significant in Pakistan. Table 1 shows that the differences between women and men early-stage entrepreneurship is 20 percentage points in Pakistan versus that of the 10 percentage points in Iran and Turkey.

An established business is where the owner/manager has operated the business, and has been paying wages and salaries or any other payment for more than 42 months. The survival rate of start-ups and growth of new businesses into established businesses show increasing stability and/or sustainability of business activities. The high rate of established business ownership shows positive circumstances for firm survival and also can be interpreted as an index for the general stability and sustainability of businesses. Table 2 shows that the prevalence rate of established businesses is higher for men than women in comparator economies. Men are about five times as likely to be established business owners compared to women in Iran and Turkey. In Pakistan, the prevalence of established businesses for men is only three times higher than that of women. It is notable that there is a positive relationship between the TEA rate and established business ownership.

**Table 1** Entrepreneurial perceptions for women and men in Iran, Pakistan, and Turkey

	See good opportunities		Has capabilities to start		Fear of failure for those seeing opportunities		Intend to start in the next three years		Personally knows an entrepreneur	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Iran	35	43	49	59	44	39	19	28	35	45
Pakistan	35	57	34	61	25	35	12	40	20	55
Turkey	35	44	37	62	36	26	12	18	24	44

Source: GEM Women 2012 Report

**Table 2** Key activity and profile indicators for women and men in Iran, Pakistan, and Turkey

	Early-stage entrepreneurship (% adult population)		Established business ownership		Business discontinuance past year (% adult population)		At least a post-secondary degree (% TEA)	
	Female	Male	Female	Male	Female	Male	Female	Male
Iran	6	16	3	16	1	7	39	35
Pakistan	1	21	2	6	0	3	6	7
Turkey	7	17	3	15	8	5	51	43

Source: GEM Women 2012 Report

Hence, in general, women are less likely to be established business owners because they are less engaged in early stage entrepreneurship compared to men. The relatively high rate of women established business ownership compared to women early stage entrepreneurship in Pakistan indicates that in spite of very low rate of women early stage entrepreneurial activity, the rate of business survival for Pakistani women (compared to TEA rate) is higher than the comparator economies.

Individuals may exit their businesses for positive and negative reasons. Some re-enter the entrepreneurial cycle with new entrepreneurial ideas or some may not be able to continue because their business is not profitable or have personal issues. GEM measures the ratio of discontinuance to total business ownership (nascent, new and established).

As the economies move to a higher level of development, the women discontinuance ratio decreases. A high ratio of business discontinuance indicates more closure of the business (the numerator) relative to the number of individuals starting and running businesses (the denominator). Because the factor-driven group has more entrepreneurs and business owners on average, one would expect more businesses overall to be closed. The rate of business continuance for women is very low in Iran compared to the other two countries. While only 1% of women entrepreneurs in Iran discontinued their business in 2012, this rate was 8% for Turkish women. The 0% closing rate for Pakistani women indicates the very low level of early-staged and established business ownership female entrepreneurship rates in Pakistan. Table 2 shows that 6% of early-stage Pakistani women entrepreneurs and 7% of Pakistani men entrepreneurs have at least a post-secondary degree while in Turkey 51% of women and 43% of men have at least a post-secondary degree. It is interesting to note that women early stage entrepreneurs are more likely than their male counterparts to have at least a post-secondary degree in Turkey and Iran.

Despite the high rate of female educational attainments in Iran and Turkey compared to Pakistan, the gender gap in economic participation is still very high in both economies. As Fig. 1 shows the rate of female to male participation rate is relatively higher in Turkey and Pakistan than Iran.

In other word the relatively high investment in education in Iran will continue to have low return unless the women can gain the opportunity to have equal socio-economic participation as men do. This shows that high investment in female education does not automatically lead to higher economic participation of women. However, it is important to note that the low rate of education in Pakistan has enormously impeded Pakistani women from using their potentials in economic growth and well- being.

There is an increasing understanding in these economies that the prevalence of entrepreneurial activity can help the unemployed women, especially young educated ones to start their businesses. Gender gap in employment is notable in the three economies. However as Fig. 1 shows, the female to male ratio in labor force participation has been the lowest in Iran compared to Turkey and Pakistan.

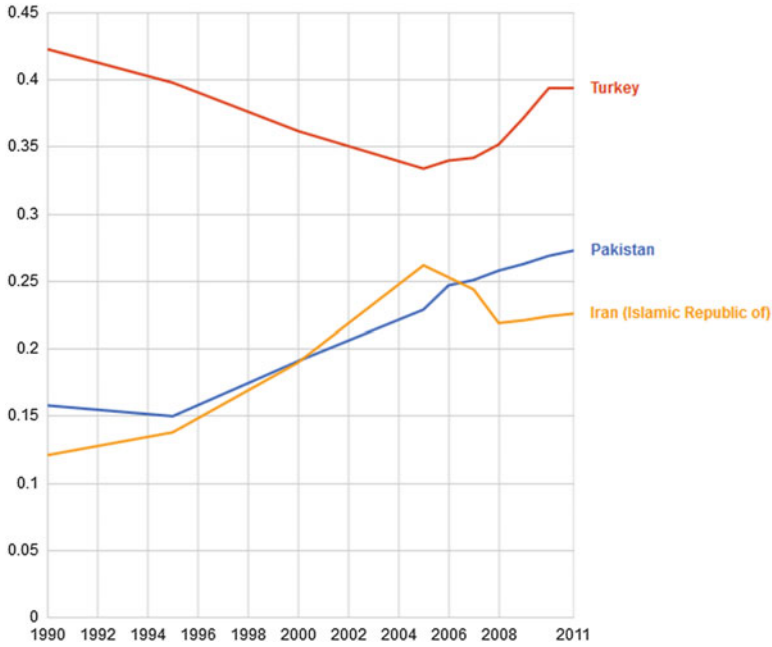


Fig. 1 Labor force participation rate, female/male ratio

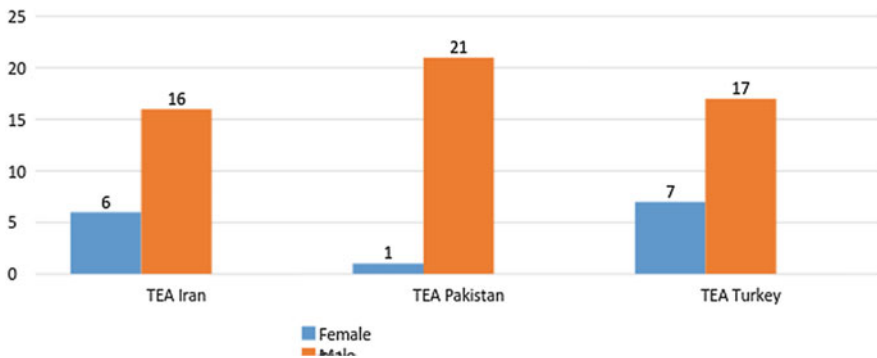
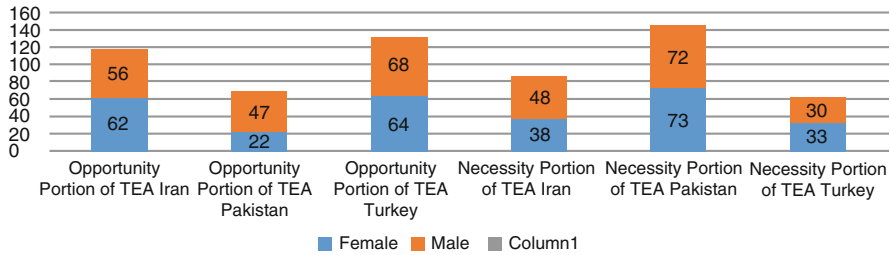


Fig. 2 Prevalence rates of early stage entrepreneurial activity (TEA) in Iran, Pakistan and Iran. Source: GEM (2012)

### 3 Necessity Versus Opportunity

The quantity and quality of entrepreneurship play crucial roles in the development of a country. Figure 2 shows the quantity rates of early stage entrepreneurial activity (TEA) in Iran, Pakistan and Turkey. While the rate of women entrepreneurs is very



**Fig. 3** Necessity and opportunity motives for women and men. Source: GEM (2012)

low in Pakistan compared to this rate in Turkey and Iran, the gender gap in Pakistan in TEA rate is significantly higher than the compared economies. Besides considering the number of entrepreneurs, it is also very important to recognize the reasons for starting a business. Individuals may recognize an opportunity and tend to start a business, or they may be pushed into entrepreneurship as a necessity because they cannot find a better option.

Figure 3 shows that in Turkey, more men are involved in entrepreneurial activity to pursue an opportunity than the entrepreneurs in Iran and Pakistan.

More Pakistani men and women are pushed into entrepreneurship compared to their counterparts in Iran and Turkey. In Iran, the rate of women who are engaged in entrepreneurial activity to pursue an opportunity is higher than the Iranian men entrepreneurs. Among the three economies, the rate of opportunity to necessity entrepreneurs is higher only for Iranian women (1.63) than Iranian men (1.17) entrepreneurs.

#### 4 Women Entrepreneurial Intentions and Motivations

The very beginning of an entrepreneurial venture starts with entrepreneurial perceptions and intentions. Individuals may start a business out of necessity or opportunity. Numerous studies discuss the role and impact of opportunity-based entrepreneurs in innovation, economic growth, and development. In this part of our project we study the relationship between women entrepreneurial intentions and necessity—driven motives, as well as opportunity—driven motives for the three countries as a whole. Then, we study the relationship between women entrepreneurial intentions and opportunity-driven motives in each country (separately). Moreover, we pose and answer the following questions, “Do women entrepreneurial intentions lead to more necessity-driven entrepreneurship or opportunity-driven entrepreneurship in the three countries as a whole? How does it work in each of the three countries?”

## 5 Data and Methods

We used GEM data 2010–2012 to study the effect of the demographic variables (income, education, age) as well as perceptual variables (fear of failure, self-efficacy, networking) on females' motivation to pursue opportunity/necessity driven- entrepreneurial activity in Iran, Pakistan and Turkey as a whole, and separately in each country. We employed Binary Logistic Regression Analyses and used SPSS to analyze the data.

## 6 Results and Discussions

Framework conditions for female entrepreneurship in the ECO region show numerous constraints and challenges. While comparing opportunity and necessity female entrepreneurship in the ECO region, overall our findings show interesting and sometimes differing results in terms of demographic (income, education, age) and perceptual (fear of failure, self-efficacy) variables.

Results for Pooled data, country level analysis, and country analysis at gender level are as follows:

Results from the pooled data show that:

- While higher income level increases the likelihood of being the opportunity entrepreneurs for women, lower income level increases the likelihood of being the necessity entrepreneur.
- We find that women with higher education levels are more likely to recognize opportunities than women with lower educational level.
- We could not find an income and education effect on necessity based female entrepreneurs.
- We found no significant impact of age in entrepreneurs but it is significant for necessity entrepreneurs, where younger women are more likely to be involved.
- Necessity and opportunity female entrepreneurs differ in terms of perceptual variables too.
- Unlike necessity based entrepreneurship, opportunity based entrepreneurship and the perception of fear of failure are significantly related. This shows that entrepreneurs who are alert to opportunities take action upon them, which is also true for women.
- Fear of failure for women is a deterrent factor for opportunity-driven entrepreneurial activity, but it is not a deterrent factor for necessity-driven ones; women who start a business out of necessity in order to survive may not fear the possibility of failure.
- Women's self-efficacy perceived through networking, being knowledgeable, skilled, and experienced is positively related to being opportunity as well as necessity entrepreneurs.



Results from the national data show that:

The demographic variables (income, education, age) as well as perceptual variables (fear of failure, self-efficacy except networking) are important factors for females to pursue opportunity driven-entrepreneurial activity in Turkey. For Iran, just perceptual variables are related to women starting a business to pursue an opportunity, but demographic variables are not significantly related to women in Iran. For Pakistan, women with higher education levels, having networking abilities, and being self-confident are more likely to recognize opportunities.

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# Do Financial, Human, Social and Cultural Capital Matter?



Leyla Sarfaraz, Sarfraz A. Mian, Emine Esra Karadeniz,  
Mohammad Reza Zali, and Muhammad Shahid Qureshi

**Abstract** Iran, Pakistan, and Turkey are the founding members of the Economic Cooperation Organization (ECO), established in 1985, to promote economic, technical, and cultural cooperation among the member states. The three countries share borders and have marked similarities in numerous cultural, religious, and traditional values. With a combined population of over 320 million and economies ranging from factor-driven to efficiency-driven, countries of Iran, Pakistan and Turkey, comprise more than half of the MENA region population. This project envisages a comparative study of women entrepreneurship in Iran, Pakistan, and Turkey using qualitative as well as quantitative approaches. Women entrepreneurship in these countries are studied from both domestic and international perspectives.

**Keywords** ECO · Entrepreneurship · Women entrepreneurship · Factor-driven · Efficiency-driven · MENA

According to Firkin (2003), the entrepreneurial capital is a summation of three forms of capital; economic, social and personal capital (Fig. 1). The amount and type of entrepreneurial capital available to an individual can have a significant impact in

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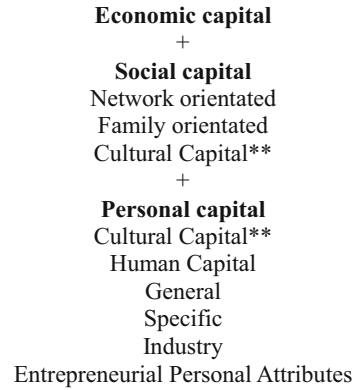
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**Fig. 1** Components of an individual’s capital. Double asterisks in artworks refers to aspects of cultural capital lie in both the personal and social categories



determining propensity to start new business and the growth of business. Economic capital is the amount of cash and assets that are directly convertible into money. Social capital, which is what entrepreneurs use in social and business networks to obtain information, advise and support decisions Personal capital consists of the attributes, background, and characteristics of entrepreneurs. Cultural capital is shared knowledge, values and traditions which are obtained through socialization in the family, formal education, and practice. Therefore, cultural capital can be seen in the area of social and personal capital.

This section will provide a summary of each form of capital and an entrepreneur’s possession, acquisition and how exercise of the entrepreneurial capital could be examined in the relation to gender. As will be seen, the literature has used the capitals as explanatory factors for the various outcomes of the entrepreneurial process.

## 1 Economic Capital

Economic capital refers to “financial assets of any form that are directly convertible into money” (Firkin 2003, p. 61). The main sources of economic capital for an entrepreneur generally are household wealth, household income, loans from banks, and investors.

Access to and usage of finance is a major barrier for women to start and grow a successful enterprise (Brush et al. 2001; Marlow and Patto 2005), and women have less access to finance than men (Shaw et al. 2005; Roomi and Parrott 2008). The gender pay gap in the labor market restricts the financial resources available for the creation of women-owned business. As a result of that, women entrepreneurs start with lower levels of overall capitalization than men (Marlow and Patto 2005; Shaw et al. 2005). Occupational segregation in the labor market ensures that women have both less work experience, and less variety of work experience than their male counterparts (Arenius and Kovalainen 2006). Women’s experiences in the labor market generate an unequal playing field in enterprise. Consequently, women that

operate the sectors do not require much finance (Marlow and Patto 2005; Shaw et al. 2005), and have smaller business compared to their male counterparts (Carter and Shaw 2006) and women entrepreneurs' tend to concentrate in the business sector (Loscocco and Robinson 1991). In addition, women face more challenges than men in obtaining credits from the bank (Shaw et al. 2005), venture capital, or participating in angel investment, which is crucial to starting and running capital intensive businesses (Brush et al. 2004). Another reason is that women are less risk takers than males, therefore they are less willing to borrow money from the bank, and prefer to use their personal savings or borrow from family and friends. Marlow and Patto (2005) found that women have a "harder time accruing social, cultural, human and financial capital".

## 2 Social Capital

Social capital refers to the actual or potential resources which arise from being part of a network of relationships of mutual acquaintance and recognition (Bourdieu 1986). Social capital consists of strong and weak ties that provide resources which enable individuals to access financial and technological resources, access to information about contacts with new customers, access to distribution channels, new contacts, general advice and market information, and providing a bridging lubricant. The strong ties are partners, parents, friends, and relatives, while the weak ties are business partners, former employers, and generally people not very well known to the entrepreneur.

Entrepreneurs use network connections to build their new ventures—the "bridging approach" to social capital. Thus, we define social capital in the context of entrepreneurship as the good will and resources that emanate from an individual's network of social relationships. This goodwill and resources are manifested in the information, influence, and solidarity that become available to the individual. Indeed, it is often argued that entrepreneurs must have a network in order to survive, as the information and resources embedded in these networks are valuable to the formation and progression of new ventures.

Potential entrepreneurs look for relations on the basis of common interest or experience in establishing and running a business (Nohria 1992). Discussing their new enterprise with a number of persons gives those leads on where to obtain resources, such as information, physical materials, capital, and credit. Here, we explore variations in the number of network participants that discusses the start-up. By limiting our focus to entrepreneurs' advisory networks, we describe only one important aspect (bridging approach), of social capital. Our concept differs from the total number of people to whom entrepreneurs turn for a wide range of business related matters. Thus, the advisory network may not include the whole entrepreneurial action set (Greve and Salaff 2003; Hansen 1995). Some members of the discussion network may have only that single relation to the entrepreneur. Others

with whom the entrepreneurs discuss their firms may become providers of further resources as well.

Deakins et al. (1998) found that mentoring entrepreneurs in new firms had a positive effect, with implications for enhancing firm survival rates. Indeed, the provision of advice can lead to firms surviving because: “entrepreneurs . . . gained knowledge and ability during the founding process” (Gartner et al. 1999). Another perspective is that formal “pre-start” business planning can improve business survival rates (Castrogiovanni 1996). Dyer and Ross (2007) suggested that “advisors and owners have disparate world-views” but emphasized the importance of a long-established relationship. Therefore, relationships between entrepreneurs and accountants are more likely to be long-established (with higher levels of trust), as opposed to newer relationships such as with Business Link advisers where trust has not yet been earned (Bennett and Robson 1999).

Nascent entrepreneurs not only discuss their ideas about starting new ventures with their family members, close friends, and colleagues, but also receive emotional support in return (Reynolds and White 1997). Such emotional support enhances the motivation and determination of entrepreneurs to build successful firms. This commitment is often reflected in the increasing sense of social obligation felt by entrepreneurs, and is realized in the prioritization of entrepreneurial activities. The warmth and praise entrepreneurs receive from network members make them more confident. In return, entrepreneurs’ increased confidence leads to more “entrepreneurial” actions such as aggressive sales and marketing activities, risk-taking, and more rapid decisions (Chen et al. 1998). These activities contribute to rapid growth of the new venture. Finally, larger emotional support networks are likely to generate greater psychic resources, i.e., ability to withstand stress created by sharp fluctuations in new venture performance, and increased personal perseverance.

Women entrepreneurs face drawbacks with regards to their social networks, and information and advice they can acquire through them (Robinson and Stubberud 2009). Boden and Nucci (2000) argue that women have less social capital because they have had fewer years of work experience and they have lack of managerial experience because of less exposure in the labor market. Atkinson mentioned that social capital is very valuable to women as it provides them to enlarge their business contacts, accessing mentors and other forms of informal support.

Women tend to use different networks. Women most often use family and friends, while men use professional contacts such as banks, business consultants, accounts, lawyers, chambers of commerce, small development centers etc., including people who are not well accustomed with each other. The strong ties usually offer a wider variety of resources and information than the weak ties, which include friends and family. The established male-dominated networks decrease the chances that a woman will have easy access to these networks (Robinson and Stubberud 2009). According to Ibarra (1997), men tend to have more homogenous networks, and women have less points of entry.

### 3 Networking in Iran, Pakistan and Turkey

As part of promoting Female Entrepreneurship policy in Iran, several networks such as the Women Entrepreneurs' Network ([www.iranzanan.com](http://www.iranzanan.com)), the Women and Youth Entrepreneurship Development, Foundation ([www.foundationed.net](http://www.foundationed.net)), and the Women Entrepreneurs Association ([www.ea.wenet.ir](http://www.ea.wenet.ir)) have been established. One of the goals of these networks is to introduce the proactive role models for women. They also organizes entrepreneurship seminars, forums, and workshops for women.

In the case of Pakistan, various initiatives have been undertaken to promote women entrepreneurship in the country in the past few years. One of the leading initiatives is the World Bank sponsored program called Women X (<http://www.womenxpakistan.com>). It is being undertaken at the oldest business school in the country. Under this program, 350 selected women entrepreneurs are being trained for capacity building to help them grow their businesses by emphasizing on innovation and professionalization. A very interesting pedagogy based on effectual entrepreneurship and family centered women entrepreneurship has shown very interesting results. In addition, there are women chambers of commerce operating in major cities of the country, and many NGOs that promote women entrepreneurship. The main goal of these organizations is to help women develop an entrepreneurial mindset and connect them to networks of suppliers, customers, advisors, and mentors.

In the last 20 years, there has also been an increase in women's entrepreneurship networking by public institutions and civil society organizations, as well as international organizations in Turkey. Among these networks are Association of Women Entrepreneurs ([www.kagider.org/tr](http://www.kagider.org/tr)), The Union of Chambers, and Commodity Exchanges of Turkey Women Entrepreneurs Council ([www.tobb.org.tr](http://www.tobb.org.tr)), Foundation for the Support of Women's Work and the Foundation for Women's Solidarity. Generally, the goal of these organizations are to support women's entrepreneurship, provide training, consultancy, and credit guarantee.

### 4 Personal Capital

Personal capital is made up of an expanded view of human capital that comprises the general and two specific types (industry and entrepreneurial), as well as a person's attributes.

Individuals who have a high degree of human capital have a better ability to identify entrepreneurial opportunities (Ucbasaran and Westhead 2008; Davidsson and Honig 2003) and are capable of successfully exploiting those opportunities.

General human capital refers to general knowledge and skills acquired through education and work experience. Specific human capital refers to knowledge and skills specific to tasks which are useful for establishing and running a business. The experience of working in a specific industry, a previous knowledge (Shane 2000),

work experience in general, and entrepreneurial experience (Davidsson and Honig 2003) increases the degree of human capital.

We expect that the more educated within the population tend to be involved in early-stage entrepreneurial activity to a greater extent than are those who left the education system early.

On the other hand, the literature shows the qualities of human capital are different between men and women when they start entrepreneurial activity (Boden and Nucci 2000; Gonzalez-Alvarez and Solis-Rodriguez 2011; Çetindamar et al. 2012). Gonzales-Alvarez and Solis- Rodriguez (2011) found that men were able to see more entrepreneurial opportunities than women when they had higher levels of education, and concluded that there were gender differences in the accumulation of human capital. Men also have more industrial experience and entrepreneurial experience than women (Fischer et al. 1993). Shaw et al. (2005) found that when men have a greater amount of personal capital (industry experience, age, qualification), they are likely to have more social capital. On the other hand, different studies suggest that women have lower entrepreneurial self-efficacy than men (Chowdhury and Endres 2005). These differences allow men and women to develop a unique human capital that has its effect on propensity to start new business.

## 5 Description of Model and Variables

Based on the entrepreneurial capital model from the previous section, the empirical model used for analyzing the factors determining the entrepreneurial activity which has the following structure:

$$\text{Entrepreneurial Activity} = \beta_0 + \beta_1 \text{ Personal Capital} + \beta_2 \text{ Social Capital} \\ + \beta_3 \text{ Financial Capital} + \beta_4 \text{ GENDER} + \beta_5 \text{ AGE} + \varepsilon$$

On the one hand, entrepreneurial activity (TEA) has been measured as the share of adults in the population of 18–64 years old who are either involved in the process of starting-up a business or are active as owners/managers of enterprises less than 42 months old. Hence, this definition incorporates both nascent entrepreneurs, and owner-managers of new firms. An individual is considered a ‘nascent entrepreneur; under three conditions. First, an individual has taken action to create a new business in the past year. Second, the individual expects to share ownership of the new firm and third, the firm has not yet paid salaries or wages for more than three months. A firm is considered a new firm in cases where the salaries and wages are paid for more than 3 months but less than 42 months. Respondents are asked whether they cover above mentioned criteria. It is a YES/NO Answer question.

The independent variables through which we approximate the determinant factors in the entrepreneurial activity are described below:

Economic capital: Household income (GEMHHINC) has been used as a measurement of economic capital: Respondents were asked to provide information about

their household income and divided into three categories. Three categories: Lower 33%; Middle 33%; Upper 33%.

**Social capital:** Knowing entrepreneurs (KNOWENT) has been used as a measurement of social capital: Respondents were asked whether they knew someone personally who had started a business in the 24 months preceding the survey.

**Personal capital:** In order to estimate the personal capital possessed by individuals, two variables have been used, each of which reflects a component of personal capital: formal education and self-efficacy. On the one hand, with the aim of estimating individuals' education level (EDUCATION), respondents were asked to provide the highest degree they had earned. Responses were harmonized into five-category variables. The categories are: some secondary schooling; Secondary degree; Post-secondary degree; Graduate experience; No education. Additionally, self-efficacy (SELF-EFFICACY) has been measured from individual replies to the question on whether they considered themselves to have the necessary skills to start up an entrepreneurial activity.

**Gender:** In this case, a dummy variable has been used taking the value 1 in the case of men and 2 in the case of women (GENDER). Finally, we controlled for the age effect of the working population using the AGE variable. Respondent were asked to provide their year of birth.

## 6 Data Analysis

We used binary logistic regression models to test the hypotheses in the current study, because the dependent variables in the models have binary (0 and 1) values. In assessing the overall adequacy of the models, we reported a Nagelkerke-statistic that indicates the variance explained with the rate of correct classification of the models. We used the Wald test to test the significance of each coefficient and report the odds ratios that approximates how much more likely it is for the independent variable to be present among those respondents with a dependent variable value equal to one compared to respondents with a dependent variable value equal to zero.

We run the sets of binominal logistic regression analyses; one for the pooled data (i.e., Pakistan, Iran, and Turkey), one for each of the countries separately.

## 7 Results for Pooled Sample

Table 1 reports the results of the correlation analysis for the pooled sample. It can be seen that being younger, male, having a higher income, having social capital, having education, and believing that one has knowledge/skills are the factors that are positively correlated with being an early stage entrepreneur. The correlation table also shows us that there is no significant presence of collinearity among the independent variables.



**Table 1** Correlations table

Variables	TEA	Economic capital	Education	Self-efficacy	Social capital	Age
Involved in entrepreneurial activity (TEA)	Pearson correlation					
	Sig. (2-tailed)					
	N	23,100				
Economic capital	Pearson correlation	0.074**	1			
	Sig. (2-tailed)	0				
	N	18,847	18,847			
Education	Pearson correlation	0.079 <sup>a</sup>	0.269 <sup>a</sup>	1		
	Sig. (2-tailed)	0	0			
	N	22,958	18,732	22,958		
Self-efficacy	Pearson correlation	0.150 <sup>a</sup>	0.118 <sup>a</sup>	0.150 <sup>a</sup>	1	
	Sig. (2-tailed)	0	0	0		
	N	21,817	17,885	21,686	21,817	
Social capital	Pearson correlation	0.152 <sup>a</sup>	0.111 <sup>a</sup>	0.103 <sup>a</sup>	0.260 <sup>a</sup>	1
	Sig.(2-tailed)	0	0	0	0	
	N	22,472	18,409	22,339	21,390	22,472
Age	Pearson correlation	-0.038 <sup>a</sup>	-0.066 <sup>a</sup>	-0.282 <sup>a</sup>	-0.065 <sup>a</sup>	1
	Sig.(2-tailed)	0	0	0	0	
	N	22,726	18,571	22,596	21,487	22,726

<sup>a</sup>Correlation is significant at the 0.01 level (2-tailed)

**Table 2** Factors determining the entrepreneurial activity in ECO region

Variables	B	S.E.	Wald	Sig.	Exp(B)
Education	0.045	0.022	4.361	0.037	1.046
Self-efficacy	0.698	0.055	158.107	0.000	2.009
Social capital	0.625	0.051	149.559	0.000	1.868
Economic capital	0.127	0.036	12.654	0.000	1.136
Gender	-0.905	0.058	242.179	0.000	0.405
Age	-0.01	0.002	19.017	0.000	0.99
Constant	-1.669	0.155	115.828	0.000	0.188

The results of the logistic regression analyses with dependent variable being TEA pooled data is presented in Table 2. It predicts 88.6% of the responses correctly and explains 10.5% (Nagelkerke  $R^2 = 0.105$ ) of the variance in TEA.

Income levels (the higher income level, the higher the likelihood to be involved in early stage entrepreneurial activity) has statistically significant effect on being involved in starting a new business. This result shows that people have sufficient available financial resources are able to get involved in creating a new business.

The “knowing entrepreneurs” approximate the individual’s possession of personal capital which has a positive and significant effect on the “being entrepreneurs”. We find that the formal and informal of networks and importance of role models are important to incline people towards entrepreneurship.

Education and self-efficacy are positively related to the likelihood of starting a new business. Since these variables approximate the individual’s possession of personal capital, the greater the individuals’ educational level and the better their perception of having the necessary knowledge and skills to develop entrepreneurial activities, the greater will be the likelihood that these individuals will start up some form of entrepreneurial initiative.

In terms of the control variables, we found gender and age effects. Gender has a significant effect on the being of entrepreneurs. Men are approximately 2.45 times more likely to be entrepreneur relative to women. The coefficient of age has a negative and significant effect on being involved in entrepreneurial activity. This is consistent with the existing literature, Delmar and Davidson (2000), suggest that people increasingly start a business at a younger age.

## 8 Country Level Analysis

Table 3 reports the results of the logistic regression analysis on each country’s data (Turkey, Pakistan and Iran). The model  $\chi^2$  shows that the model for each country is significant at the 0.001 level (model for Turkey  $\chi^2 = 441.953$ , model for Pakistan  $\chi^2 = 429.912$ , model for Iran  $\chi^2 = 330.694$ ), and predicts 89.3% (Turkey), 88.7% (Pakistan), 88.1% (Iran) of the responses correctly.

**Table 3** Factors determining the entrepreneurial activity in Turkey Pakistan and Iran

Country variables	Variables	B	S.E.	Wald	Sig.	Exp(B)
Turkey	Education	0.117	0.042	7.69	0.006	1.125
	Self-efficacy	1.228	0.113	119.093	0.000	3.414
	Social capital	0.683	0.096	50.628	0.000	1.98
	Income	0.428	0.072	35.273	0.000	1.534
	Gender	-0.386	0.094	16.904	0.000	0.68
	Age	-0.009	0.004	4.628	0.031	0.991
	Constant	-3.66	0.303	146.36	0.000	0.026
Pakistan	Education	0.162	0.047	11.623	0.001	1.176
	Self-efficacy	0.521	0.105	24.576	0.000	1.684
	Social capital	0.494	0.103	22.934	0.000	1.639
	Income	0.17	0.068	6.161	0.013	1.185
	Gender	-1.893	0.156	146.732	0.000	0.151
	Age	-0.002	0.004	0.303	0.582	0.998
	Constant	-0.867	0.318	7.447	0.006	0.42
Iran	Education	-0.09	0.035	6.401	0.011	0.914
	Self-efficacy	0.452	0.082	30.406	0.000	1.572
	Social capital	0.513	0.076	45.063	0.000	1.67
	Income	-0.147	0.053	7.589	0.006	0.863
	Gender	-1.065	0.095	126.312	0.000	0.345
	Age	-0.019	0.003	28.261	0.000	0.982
	Constant	0.053	0.25	0.045	0.832	1.055

In general, the following results are similar to the pooled and three countries data. We observe that those individuals in three countries who believe to have the knowledge, skill, and experience required to start a business and knowing other entrepreneurs has a positive effect on the being involved in TEA for each countries.

In terms of the role of education and income, the results in Iran are somewhat different than Turkey and Pakistan. In Turkey and Pakistan, we found that people with higher education were more likely to engage in entrepreneurial activity as compared with less educated people. In contrast, for Iran we find a negative effect for education: individuals with less education are more likely to involve entrepreneurial activity compared to those with having more education.

In terms of the impact of income, the results for Turkey and Pakistan are also the same with the pooled data which household income has a statistically significant positive impact on being involved in TEA. However, for Iran we find a negative effect for income. Like education, individuals with less income are more likely to be involved in entrepreneurial activity compared to those who have more income.

Finally, in terms of the control variables, we find that gender is a significant predictor for involving entrepreneurial activity. That is, women are less likely than men to engage in entrepreneurial variables in three countries. In terms of age, the results for the Turkish and Iranian sample showed that younger people are more

likely to engage in entrepreneurship compared with older people. We found no age effect in Pakistan.

We adopted the concept of entrepreneurial capital according to the resource-based (RB) perspective of entrepreneurship to test whether or not the entrepreneurial activity is affected by financial capital as well as non-financial capital. Overall, we found that entrepreneurial capital (economic, financial and human capital) is positively related to the likelihood of becoming entrepreneur in ECO region regardless of gender differences.

However, the cultural differences between countries or regions has a determining effect and influences a variety of individual behaviors, including the decision to be self-employed rather than an employee (Thurik and Dejardin 2012). In this section, we expand our model and find out the determinants of the female entrepreneurs including the cultural variable as a control variable.

## 9 Cultural Capital

In recent years, research has increasingly devoted itself to the subject of cultures and its role in the process of new venture creation. Inglehart uses the concept of post-materialism to explain observed changes in values in modern societies. It describes the transformation from a culture of materialistic-oriented individuals to a non-materialistic, life-goals over materialistic culture. It is argued that a society that is more post-materialist is likely to be less entrepreneurial. The results of Uhlaner and Thurik's study confirm the importance of post-materialism when explaining total entrepreneurial activity, and new business formation in particular. The negative relationship between post-materialism and entrepreneurship is also evident when controls are used. However, a certain lack of stability within the findings suggests rather complex interrelationships between the controls and post-materialism. One possibility is that post-materialism mediates the relationship between per capita income and total entrepreneurial activity, consistent with Inglehart's conclusions that economic climate drives social change, rather than the reverse (Thurik and Dejardin 2012).

In fact, entrepreneurship is a social phenomenon and therefore needs to achieve social legitimization. This legitimization focuses on the impact of social norms and institutions on economic activities in society. According to Etzioni (1987) greater rates of entrepreneurship are found in societies where the entrepreneur is endowed with higher social status, attention paid to entrepreneurship within the educational system, and more tax incentives to encourage business startups. This results in a higher demand for, and supply of entrepreneurship (Thurik and Dejardin 2012).

Zhao et al. (2012) have investigated the direct relationship between national cultural and entrepreneurial activities, and the interaction effect between national cultural practice and GDP on entrepreneurial activities by using datasets from the Global Leadership and Organizational Behavior Effectiveness (GLOBE) project, and the Global Entrepreneurship Monitor (GEM). They found that national culture is

significantly related to early-stage entrepreneurial activities, but not to established entrepreneurial activities. In addition, there exists interaction effects between GDP, cultural dimensions, and entrepreneurial activities. More traditional cultures enhance entrepreneurship in low-and-medium GDP countries, but hinder entrepreneurship in high GDP countries.

## 10 Country Analysis at Gender Level

The same model has been run for female Entrepreneurial activity including cultural variables.

$$\begin{aligned} \text{Female Entrepreneurial Activity} = & \beta_0 + \beta_1 \text{ Personal Capital} + \beta_2 \text{ Social Capital} \\ & + \beta_3 \text{ Financial Capital} + \beta_4 \text{ Cultural Capital} \\ & + \beta_5 \text{ AGE} + \varepsilon \end{aligned}$$

Culture is an old but complex concept. Hofstede (2011) defines culture as “collective programming of the mind which distinguishes the members of one group or category of people from another”. For this reason, people's attitudes and behaviors is affected by national culture. Culture is learned consciously and unconsciously through observation of people. Edgar Schein clearly defines culture as “A pattern of basic assumptions that the group learned as it solved its problems of external adaptation and internal integration that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.” Hofstede investigates different dimensions of culture. His model of national culture consists of six dimensions (2011) including: Power Distance Index (PDI), Individualism versus Collectivism (IDV), Masculinity versus Femininity (MAS), Uncertainty Avoidance Index (UAI), Long Term Orientation versus Short Term Normative Orientation (LTO) and Indulgence versus Restraint (IND). The cultural dimensions represent independent preferences for one state of affairs over another that distinguish countries (rather than individuals) from each other. The country scores on the dimensions are relative, as we are all human, and simultaneously we are all unique. In other words, culture can be only used meaningfully by comparison. Inglehart and Welzel have developed the concept of culture on a “culture map.” Their system stems from the World Values Survey (WVS), the largest “non-commercial, cross-national, time series investigation of human beliefs and values ever executed”. Although less frequently used in macro-economic research as a predictor of economic activity than the cultural indices developed by Hofstede, Ronald Inglehart and Christian Welzel's, their work on post-materialism as a cultural attribute is well established (Thurik and Dejardin 2012). According to Inglehart and Welzel (2015) culture has been formed by two kinds of national values as a continuum. In fact, Fig. 2 shows traditional values versus secular-rational values on the y-axis. Traditional values demonstrates the importance of religion, parent-child relationships, and authority.

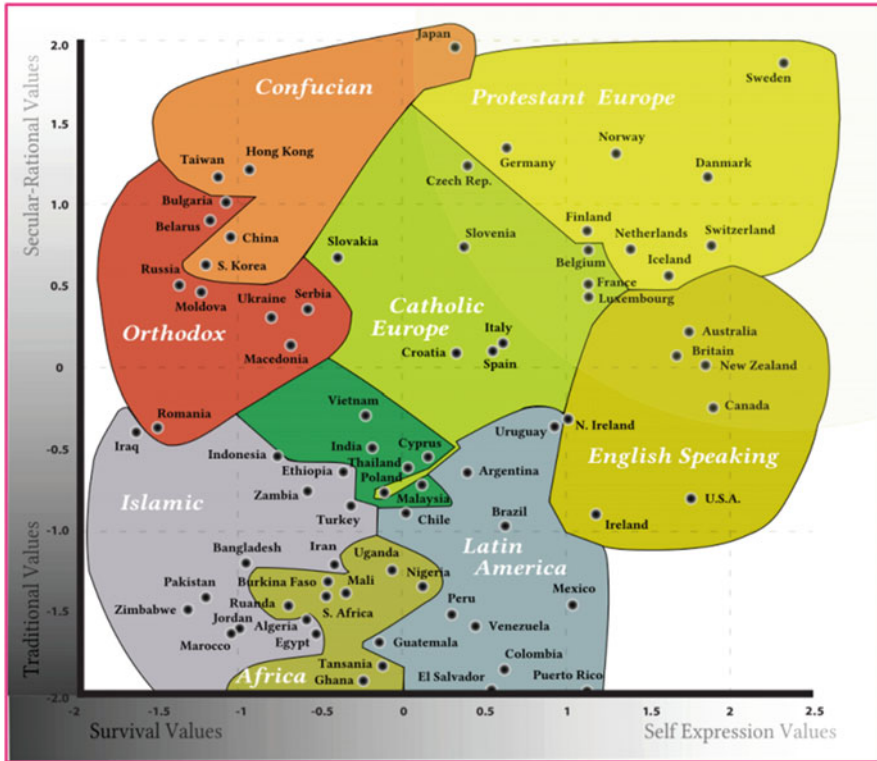


Fig. 2 World cultural map (1995–2009). Source: World Value Survey, World cultural map, (1995–2009). Available at: <http://www.worldvaluessurvey.org/wvs.jsp>

People who embrace these tend to reject divorce, abortion, euthanasia, and suicide. These societies also usually exhibit high levels of nationalism and national. In the U. S., these values would likely align more with conservative ideologies. Oppositely, secular-rational values represent the other extreme and tend to relate to liberal ways of thinking.

On the x-axis, survival values revere economic and physical security and safety, and are linked to low levels of trust and tolerance. On the other side, self-expression values give high priority to protecting the environment, promoting gender equality, and tolerating foreigners, gays and lesbians.

According Fig. 2, for example, Morocco, Jordan, and Bangladesh (Islamic countries area) score high in traditional and survival values, while the U.S., Canada, and Ireland (English-speaking countries area) score high in traditional and self-expression values. Figure 2 shows that Pakistan seems to have more traditional and survival values than Iran and Turkey. Moreover, Iran scores high in traditional and survival values than Turkey. In fact countries in ECO region, in spite of being Islamic countries, have cultural differences. Therefore we consider national culture as a control variable in the related analysis.

### The GEM framework

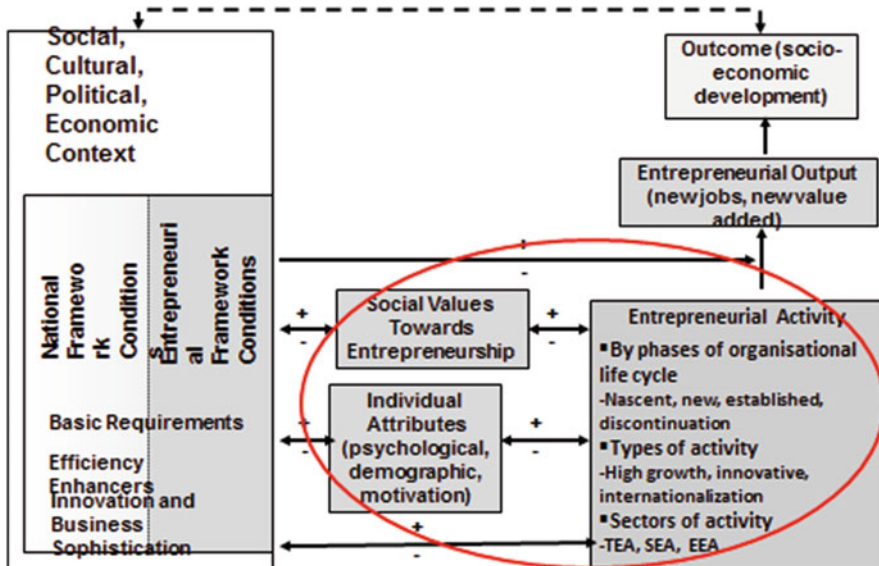


Fig. 3 GEM framework, 2014

According to GEM framework, Social Values towards Entrepreneurship includes how society values entrepreneurship as a good career choice (e.g. if entrepreneurs have a high social status) and the degree to which the media pays attention to entrepreneurship to develop a national entrepreneurial culture. Therefore, we enter social values towards Entrepreneurship as entrepreneurial national norms into the logistic regression model.

Based on the newest GEM framework figure, (Fig. 3), the “black box” of entrepreneurship has been opened in order to test the characteristics of the assumed relationships between social values, personal attributes, and various forms of entrepreneurial activity. In fact, entrepreneurial activity is not a heroic act of an individual regardless of the environment in which the activity is performed. Entrepreneurial activities are an output of the interaction of an individual’s perception of an opportunity and capacity (motivation and skills) to act upon this and the distinct conditions of the respective environment in which the individual is located.

## 11 Results

The results of the logistic regression analysis shown in Table 4 demonstrates that in general, the three countries of Iran, Pakistan and Turkey, education, self-efficacy (the knowledge, skill, and experience required to start a business), social capital

**Table 4** Factors determining the female total early stage entrepreneurial activity in economic cooperation organization (ECO) region

	B	Wald	Sig.	Exp (B)
Education	0.132	3.204	0.073	1.141
Self-efficacy	0.979	57.709	0.000	2.661
Social capital/role model	0.802	50.72	0.000	2.229
Income	0.11	2.044	0.153	1.116
Age	-0.017	9.489	0.002	0.983
Secular-rational values	1.162	5.343	0.021	3.197
Self-expressionism values	0.874	4.375	0.036	2.396
Entrepreneurial national norms	-0.044	0.752	0.386	0.957
Constant	-1.848	10.038	0.002	0.158

Variable(s) entered on: Education, Self-efficacy, Social capital, Income, Age as independent variables

Secular-Rational Values, Self-expressionism Values and Entrepreneurial National Norms are control variables

(knowing other entrepreneurs) and income have positive effect on Female Total early stage entrepreneurial activity. Those variables are significant. Further, the column of Exp (B) shows success chance ratio. The values greater than 1 show that they have more success chance than failure chance. It means, increase of education level and age have no effect on the chance of becoming entrepreneur for the women in the countries under study.

Meanwhile, with a control effect of national values such as Secular-Rational Values, Self-Expressionism Values (Inglehart and Welzel 2015) and Entrepreneurial National Norms (sum of having not similar standard of living, starting a new business as a desirable career choice, high level of status and respect of entrepreneurs, media attention to successful new businesses), we found that only self-efficacy, social capital, and age have positive effects on Female Total Early stage Entrepreneurial Activities in the countries under study.

Although national culture is important in entrepreneurship filed, we cannot enter points (scores) of national values such as Inglehart’s World Values data for each three counties in the logistic regression separated model due to the lack of variations in those points. Therefore, instead, we have entered the entrepreneurial national norms based on GEM data as control variable in each three countries logistic regression models.

According to Table 5, in all three ECO countries, self-efficacy and social capital have positive effect on Female Total early stage entrepreneurial activities. While female income in Turkey, and age of female in Iran have positive effects on women’s entrepreneurship, those variables do not appear to have effects on women in Pakistan in entrepreneurial process. It seems that the difference in the three ECO countries is caused by entrepreneurial national norms.



**Table 5** Factors determining the female total early stage entrepreneurial activity in Turkey, Pakistan and Iran separately

Country	Variables	B	Wald	Sig.	Exp(B)
Turkey	Education	0.153	2.055	0.152	1.165
	Self-efficacy	1.124	28.209	0.000	3.076
	Social capital/role model	0.845	23.391	0.000	2.329
	Income	0.519	14.248	0.000	1.680
	Age	-0.009	1.310	0.252	0.991
	Entrepreneurial national norms	-0.146	3.087	0.079	0.864
	Constant	-4.401	54.761	0.000	0.012
Pakistan	Education	0.006	0.001	0.973	1.006
	Self-efficacy	1.797	19.659	0.000	6.032
	Social capital/role model	1.149	14.424	0.000	3.155
	Income	-0.269	1.948	0.163	0.764
	Age	-0.031	4.207	0.040	0.969
	Entrepreneurial national norms	0.373	5.376	0.020	1.451
	Constant	-4.597	30.223	0.000	0.010
Iran	Education	0.076	0.353	0.553	1.079
	Self-efficacy	0.542	8.635	0.003	1.719
	Social capital/role model	0.613	12.762	0.000	1.845
	Income	-0.101	0.795	0.372	0.904
	Age	-0.022	5.817	0.016	0.978
	Entrepreneurial national norms	-0.045	0.357	0.550	0.956
	Constant	-2.528	18.725	0.000	0.080

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# Female Entrepreneurship, Internationalization, and Trade Liberalization in Iran, Pakistan, and Turkey



Leyla Sarfaraz, Sarfraz A. Mian, Emine Esra Karadeniz, Mohammad Reza Zali, and Muhammad Shahid Qureshi

**Abstract** Iran, Pakistan, and Turkey are the founding members of the Economic Cooperation Organization (ECO), established in 1985, to promote economic, technical, and cultural cooperation among the member states. The three countries share borders and have marked similarities in numerous cultural, religious, and traditional values. With a combined population of over 320 million and economies ranging from factor-driven to efficiency-driven, countries of Iran, Pakistan and Turkey, comprise more than half of the MENA region population. This project envisages a comparative study of women entrepreneurship in Iran, Pakistan, and Turkey using qualitative as well as quantitative approaches. Women entrepreneurship in these countries are studied from both domestic and international perspectives.

**Keywords** ECO · Entrepreneurship · Women entrepreneurship · Factor-driven · Efficiency-driven · MENA

Women, constituting about half of the world population, can play a crucial role in the economic growth and development as entrepreneurs. On the other hand, trade liberalization policies and openness to trade can facilitate internationalization and

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create new opportunities for both female and male business owners across their borders. So, the implementation of free trade policies, together with a friendly environment for female entrepreneurship, would encourage more women to seek international markets, and hence would increase the female contribution to the economic growth and development of their respective countries.

The importance of free trade dates back to 1776, when Adam Smith, in his famous book “The Wealth of Nations”, proposed free trade as a win-win situation and a wealth generator for all economies. It seems that the philosophy of the World Trade Organization (WTO) is also based on understanding the fact that free trade would increase economic growth and development. Moreover, the experience of export-oriented economies such as South Korea and Singapore shows the significant role that free trade can play in wealth accumulation and economic development. On the other hand, the more closed economies, such as Iran, India and Pakistan that chose import substitution and protectionism as the strategy toward economic development could not benefit as much from the numerous advantages of trade. So, while trade openness and internationalization can bring numerous opportunities to the residents and business owners of a country, a restricted trade policy would deprive the business owners from having access to international markets. The World Development Report 2012 gives an account of the progressive trade openness in all regions, leading to an increase in the merchandise trade from 16% of GDP in 1993 in South Asia to 41% in 2008, and in East Asia, where it increased from 35 to 52%.

It seems that a vast majority of studies point to the internal factors that motivate entrepreneurs to attend international markets, and little is known about the macro level of trade barriers as a reason for the lack of internationalization. However, entrepreneurs are under the influence of both internal and external factors when running their businesses internationally. Even the business owners who run businesses domestically are affected by globalization and their government’s trade policy. According to the Merriam-Webster Dictionary, globalization is “the development of an increasingly integrated global economy marked especially by free trade, free flow of capital, and the tapping of cheaper foreign markets.”

Although globalization has brought in new opportunities to numerous business owners across the world, the barriers to trade in more closed economies have prevented many domestic entrepreneurs from extending their business activities freely across borders. Porter (1990) mentions the enormous influence of nation-states on the competitive strengths of the firms located in their countries, and proposes that “government trade policy should pursue open market access in every foreign nation (Porter 1990). “Nation-states having their distinctive politico-economic systems and national culture are organizing themselves in trade blocs for trade and economic purposes” (Chell 2001). Entrepreneurs in a relatively open economy are more encouraged and motivated to pursue international business due to the privileges of free trade arrangements and trade freedom. In particular, entrepreneurs in open economies have more access to international markets and benefit from different trade arrangements regarding, for instance, tariff reduction and removals (economic freedom index, 2003).

Considering the importance of women entrepreneurs as a valuable human capital, potential contributors to internationalization, and also the effect of trade liberalization on the economic growth, our attempt in this section would be to shed some light on female entrepreneurship and the openness to trade in Iran, Pakistan, and Turkey.

A comparative study of women entrepreneurship, internationalization, and trade freedom in Iran, Pakistan, and Turkey may provide a better understanding of the strengths and weaknesses of the compared economies in terms of entrepreneurial environment for women, the extent of trade freedom, and internationality. This can also be a valuable resource for policy makers in each country to know the position of their economy in the related topics compared to the other two neighbor economies, their regional averages, and the world average.

## 1 Data and Methods

We apply “Economic Freedom Scores and Rankings” (Heritage Foundation and The Wall Street Journal 2013) to study and compare the degree of Economic Freedom in the compared economies of Iran, Pakistan and Turkey. Then, we use the measurement introduced by GEM to compare the internationalization levels of both female and male entrepreneurs in the three levels of economic development (factor driven, efficiency driven, and innovative driven economies) with the Free Trade Index of the same countries calculated by The Heritage Foundation and The Wall Street Journal. The Heritage Foundation (HF) Index was used to clarify the extent of economic freedom in Iran, Pakistan, and Turkey. This institution assigns scores to 183 countries’ economic freedom, ranging from 0 to 100, based on all 10 components of overall economic freedom, which are grouped into four broad categories of Rule of Law, Limited Government, Regulatory Efficiency, and Open Markets. The score for each of these broad categories is calculated based on its components; for instance, Open Market consists of Trade Freedom, Investment Freedom, and Financial Freedom. Here, we study and compare the performance of economies of Iran, Pakistan, and Turkey based on their Trade Freedom scores. Then, we compare the internationalization levels of female entrepreneurs indexed by the Global Entrepreneurship Monitor with the Free Trade Index of the same countries calculated by The Heritage Foundation and The Wall Street Journal. GEM measures internationalization based on the percentage to which entrepreneurs sell (including online) products and services to the foreign customers. The sample contains 54 GEM member countries grouped in the three economic development levels of factor driven, efficiency driven, and innovative driven. Free Trade Index is measured based on “an economy’s openness to the flow of goods and services from around the world and the citizen’s ability to interact freely as buyer or seller in the international marketplace.

## 2 Economic Freedom Rankings in Iran, Pakistan and Turkey

A systematic analysis of economic freedom demonstrates that countries with the highest levels of economic freedom also have the highest living standards (Riley and Miller 2013). *Ceteris Paribus*, the ability of the citizens of a country to expand their businesses internationally depends on the degree of economic freedom in their economies. Grubel (1998) shows the association of economic freedom with “superior performance” in all well-being criteria, including income growth, unemployment rates, and human development.

We use the Heritage Foundation (HF) Index to clarify the extent of economic freedom in Iran, Pakistan, and Turkey. This institution assigns scores to 183 countries’ economic freedom, ranging from 0 to 100, based on all 10 components of overall economic freedom, which are grouped into four broad categories of Rule of Law, Limited Government, Regulatory Efficiency, and Open Markets. The score for each of these broad categories is calculated based on its components; for instance, Open Market consists of Trade Freedom, Investment Freedom, and Financial Freedom. In this section, we study and compare the performance of the three economies of Iran, Pakistan, and Turkey based on their Trade Freedom scores.

As Table 5 shows, Iran has a lower economic freedom score (43.2) than both Pakistan (55.1) and Turkey (62.9), making its economy the 168th freest, well below the economies of Turkey (69) and Pakistan (121). While Turkey’s overall average is higher than the world average (59.6), the Economic Freedom scores of Pakistan and Iran are below the world average. The scores of all the three economies are lower than their regional averages (Table 1).

To develop a better understanding of the degree of *laissez faire* in the three economies, we compare their Economic Freedom scores over the time period of 1995–2010. Figure 2 in chapter “Do Financial, Human, Social and Cultural Capital Matter?” shows that except for the years from 2002 to 2007, Turkey’s overall Economic Freedom score has been around or above the world average, while Pakistan’s score has relatively been around or below the world average in the entire period (Fig. 1).

**Table 1** Economic freedom scores of Iran, Pakistan and Turkey compared to their regional scores as well as regional and world rankings

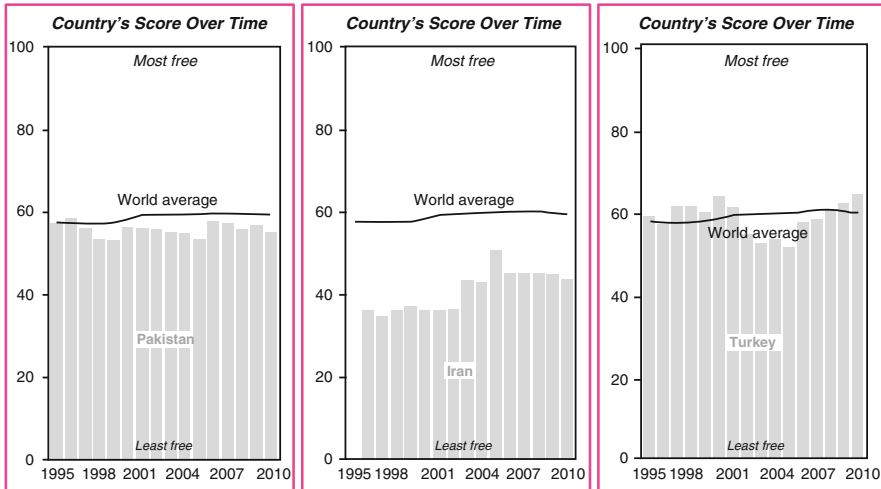
Country	Economic freedom score	Regional score/region	Regional rank	World/177 countries
Iran	43.2	61.8/MENA <sup>a</sup>	15/15	168
Pakistan	55.1	57.4/APR <sup>b</sup>	24/41	121
Turkey	62.9	66.6/ER <sup>c</sup>	32/43	69

Source: Heritage Foundation 2013

<sup>a</sup>MENA = Middle East & North Africa

<sup>b</sup>APR = Asia-Pacific region

<sup>c</sup>ER = Europe Region



**Fig. 1** Iran, Pakistan, and Turkey compared in economic freedom (1995–2010). Source: Heritage Foundation 2012

A restrictive business and investment environment in Iran has depressed the development of a viable private sector in the country. The low rate of Iran’s Economic Freedom score from 1996 to 2010 indicates Iran’s relatively closed economy. Oil dependency in Iran’s economy (providing about 85% of government revenues), and the government domination in different aspects of economic activity have reduced private sector dynamism in the country. Inefficient state owned enterprises and trade protectionism have resulted in uncompetitive markets with a weak private sector. The agenda of the Iranian government for liberalization and privatization policy, initiated by then President Rafsanjani in 1989 (Azad 2010) has not been successfully implemented; for instance, there are still 500 state-owned companies in Iran. The increase of Iran’s score in Economic Freedom during the period of 2002–2005 can be attributed to the authorization of private banks and foreign banks for the first time in 2001 under then President Khatami’s liberalization administration policy.

### 3 Open Markets

We use the Open Market category adopted by the Heritage Foundation to compare the degree of market openness in the three countries. Thus, we compare the three components of Open Market, including Trade Freedom, Investment Freedom, and Financial Freedom. Table 21 shows that, while the scores of Turkey in all these three sub-categories are higher than the world average scores, Pakistan and Iran show

**Table 2** A comparison of open market components' scores among Iran, Pakistan, and Turkey

Country/world average	Trade freedom	Investment freedom	Financial freedom
Iran	45.7	0.0	10.0
Pakistan	66.0	35.0	40.0
Turkey	85.2	65.0	60.0
World average	74.4	52.2	48.8

Source: Heritage Foundation and the Wall Street Journal (2013)

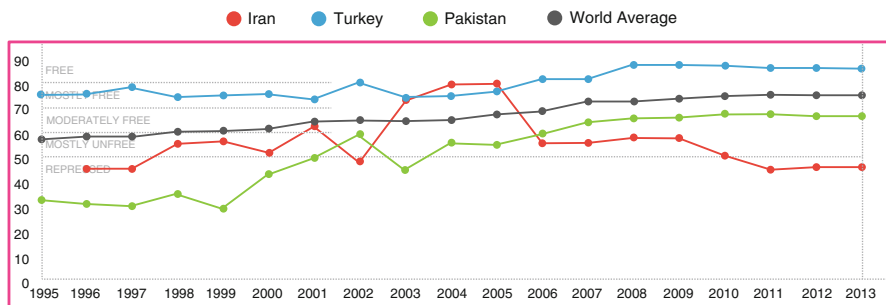
lower scores than the world average in all three measurements. However, Pakistan earns a higher score than Iran in all components of Open Markets (Table 2).

### 4 Trade Freedom

According to the 2013 Index of Economic Freedom, citizens in countries with more trade liberalization are better off than individuals who live in economies with more restricted trade policies. “Trade openness and the diffusion of new information and communication technologies (ICTs) have translated into more jobs and stronger connections to markets for many women, increasing their access to economic opportunities” (World Development Report 2012).

We compare the extent of trade freedom in Iran, Pakistan, and Turkey by using the Trade Freedom score calculated by Heritage Foundation and The Wall Street Journal (2013). “Trade freedom score is a composite measure of the absence of tariff and non-tariff barriers that affect imports and exports of goods and services” (Heritage Foundation). This score is based on the trade-weighted average tariff rate and non-tariff barriers.

Figure 2 shows tighter import restriction policies by Iran compared to Turkey and Pakistan. According to the World Bank (2013), while the weighted average tariff



**Fig. 2** Trade freedom comparison among Iran, Pakistan, Turkey and the world average. Source: Heritage Foundation and the Wall Street Journal (2013)



rate was 2.7% in Turkey in 2011, this rate was 21.8% in Iran in the same year indicating a significant gap in trade liberalization between the two countries.

Pakistan with a weighted average tariff rate of 9.5% in 2009 demonstrates a tighter trading restriction compared to Turkey, while much more liberalized compared to Iran. It is interesting to note that in the three countries the tariff rates have increased from 2008 to 2011.

Studying the trend of Trade Freedom scores of the three economies compared to the world average from 1995 to 2013 shows that Turkey's score has been higher than the world average during all years of study. Figure 2 shows that Pakistan's score has increased from 1995 to 2008 (except for the year 1999 and 2003) and has kept its score almost unchanged from then on. Pakistan's score has been below the world average score in all the years of 1995–2013 but has reduced its gap with the world average since 2006. Iran's score has fluctuated significantly during the period of 1996–2013, and has been below the world average in all years except for the years of 2003, 2004, and 2005. The country's score has been below the world average since 2006 and has increased its gap with the world average in Trade Freedom after 2009. It seems that the moderate level of protectionism under President Khatami's administration (1997–2005) has been the main reason for the improvement in the country's Free Trade score during this period.

As a part of Khatami's government liberalization policy, private banks and foreign banks were authorized to operate in Iran's free trade zones for the first time since 1979, and the Iranian Privatization Organization (IPO) was established in June 2001 (Azad 2010). After Khatami's administration the weighted average tariff rate increased from 13.8% in 2004 to 20.1% in 2008.

It is important to mention here that besides the restrictive trade policy in Iran, different economic and trade sanctions against Iran, imposed by the USA, European Union, and the international community, particularly the sanctions on Iran's Central Bank, have created a hostile environment for Iranian business owners in terms of having access to foreign markets.

## 5 Female Internationalization

Welch and Luostarinen (1988) define internationalization as "the process of increasing involvement in international markets". GEM measures internationalization based on the extent entrepreneurs sell to customers outside their economies. This includes both the percentage of entrepreneurs with at least some (1–25%) of their customers outside their country and of those with more than 25% foreign customers. According to the GEM reports, the degree of internationalization increases with the level of economic development for both women and men (Kelley et al. 2011).

Figures 3 and 4 are based on the rankings of all the 54 GEM member countries in 2008–2010 and the same countries ranked in the Economic Freedom Index 2010.

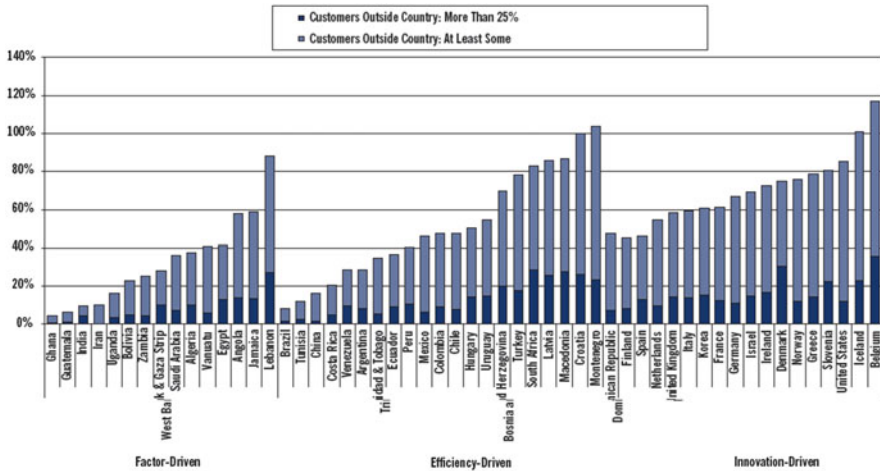


Fig. 3 International levels for female entrepreneurs in 54 economies, 2008–2010. Source: GEM Women’s Report (2010)

Figure 3 shows that a higher percentage of women entrepreneurs in Turkey are involved in international markets than their Iranian counterparts. Among the 54 GEM member countries in GEM 2010 Women’s Report, Turkish international women entrepreneurs with international orientation ranked 24, while this rank for Iranian women entrepreneurs was 51. Due to unavailability of female internationalization data for Pakistan in 2010 GEM Women’s Report, the country is not included in the above figures.

Figure 4 shows that Iran’s Trade Freedom score is lower than all GEM member countries including the factor-driven economies. In Pakistan the Trade Freedom score was 67 in 2010.

## 6 Female Internationalization and Free Trade Index

In this section, we compare internationalization indices of GEM member countries in 2010 with the Free Trade Index of the same countries calculated by the Heritage Foundation and The Wall Street Journal in the same year. Studying the average level of free trade and female internationalization in different phases of economic development, i.e. factor-driven, efficiency-driven, and innovative-driven, shows that as the countries move to a higher level of development, the average level of free trade increases. Also, the average level of female internationalization increases with the average level of free trade (Table 3).



**Table 3** Average level of free trade and female internationalization in different phases of economic development

Levels of economic developments	Average level of free trade	Average level of female internationalization
Factor-driven	71.55	32.63
Efficiency-driven	78.11	51.35
Innovative-driven economies	85.7	69.86

## 7 Female Internationalization in Iran, Pakistan and Turkey

There are different reasons why entrepreneurs seek international markets. Some entrepreneurs tend to go international to pursue larger markets. Their products may be more suitable for international markets, the domestic market may be too small or highly competitive, or the location of entrepreneurs may motivate them to extend their activity across their country borders. On the other hand, lack of information on how to trade across the national borders can be the reason, among other barriers, for the low rate of internationalization across the nations. According to GEM Women Survey 2010, while men are more likely than women to sell internationally at all development levels, in some countries like Lebanon women entrepreneurs are proportionately more likely to sell outside their country than men. On the other hand, in the United States women's internationalization is half the level of men and is reported as the lowest rate of internationalization among the developed economies. In Pakistan, Tunisia, Ecuador and Brazil, no women entrepreneurs indicated having over 25% foreign customers.

In the above mentioned economies, women show higher internationalization level than men. The gender gap in internationalization is greater in developed economies compared to developing economies. For instance, the rate of internationalization is much higher for men than women in the U.S. and developed Asia and Europe.

GEM findings show that overall, women's degree of internationalization increases with economic development level.

Table 4 shows that overall, 62.1% of Turkish Entrepreneurs, 65.7% of Pakistani entrepreneurs and 89.25% of Iranian entrepreneurs have no exports. Iran is more nationally oriented than Turkey and Pakistan. Besides the Iranian protectionism trade policy, international sanctions against Iran has considerably undermined Iran's involvement in international business.

Male entrepreneurs (89.6%) in Iran are slightly more likely to have no export than their female counterparts (89.2%). While 6.5% of Turkish women declare that foreign customers constitute more than 75% of their market, no female entrepreneur in Iran and Pakistan have more than 75% customer in foreign markets. Whereas no more than 10% of the customers of Pakistani women entrepreneurs are in export market, in Iran, for 10.8% of women entrepreneurs there are up to 75% customers in export markets. While only 9.7% of Iranian women entrepreneurs assert that 1–25% of their customers are across their country borders, 18.2% of Turkish women

**Table 4** Export intensity of early-stage entrepreneurial activity

		76–100%	26–75%	11–25%	1–10%	None (%)
Iran	Male	0.8	1.2	2.8	5.6	89.6
	Female		1.1	3.2	6.5	89.2
	Overall	0.6	1.2	2.9	5.8	89.5
Pakistan	Male	2	10.1	6.1	17.7	64.1
	Female				8.3	91.7
	Overall	1.9	9.5	5.7	17.1	65.7
Turkey	Male	6.3	8.2	8.2	15.9	61.5
	Female	6.5	1.7	2.6	15.6	63.6
	Overall	6.3	9.1	6.7	15.8	62.1

**Table 5** Export intensity of established business owners

		76–100%	26–75%	11–25%	1–10%	None (%)
Iran	Male	0.4	0.8	0.4	2.4	96.1
	Female				4.2	95.8
	Overall	0.3	0.7	0.3	2.6	96.0
Pakistan	Male				23.6	76.4
	Female			13.3	13.3	73.3
	Overall			2.9	21.4	75.7
Turkey	Male	3.4	1.7	4.6	20.7	69.5
	Female		3.1	9.4	46.9	40.6
	Overall	2.9	1.9	5.3	24.8	65.0

entrepreneurs declare that 1–25% of their customers are foreigners. Regarding the gender, men entrepreneurs in Pakistan have more percentages of customers in foreign markets than Pakistani women entrepreneurs in all categories of export markets. However, this is not the case in Turkey and Iran. In Turkey, 6.5% of women declare that more than 75% of their customers are in export markets, whereas 6.3% of Turkish men assert having the same percentage of customers abroad. In Iran, the percentage of women with having 1–25% of their customers in foreign markets is higher than the Iranian men entrepreneurs in the same category of foreign markets. In Pakistan, the majority of women entrepreneurs (91.7%) have no exports, and only 8.37% of women entrepreneurs have (1–10%) of their customers in export markets.

Table 5 shows that overall, the rate of established business owners who have no customers in export markets are 65% in Turkey, 75.7% in Pakistan and 96% in Iran. No established business woman owner in the three countries sell more than 75% of their products or services in foreign markets. Only 4.2% of the Iranian women established business owners have less than 11% customers in export markets. In Pakistan, 26.6% of the women business owners have more than 24% customers abroad. Comparing the internationalization activity with respect to gender, Iranian women business owners are more likely to have 10% of their customers abroad than the Iranian business men. However, no Iranian established business owners have

more than 10% customers in foreign markets, whereas 1.6% of the Iranian businessmen have between 11% and 100% customers in export markets. Overall, women business owners in Pakistan stand in a better position than their male counterparts in terms of capturing export markets. While in Turkey, no women business owners have more than 75% customers in foreign markets, more Turkish business women are likely to have up to 75% customers in export markets than Turkish men.

## 8 The Role of Government

Government policies regarding economic freedom, gender parity, and entrepreneurship can change the quality of life of residents in their countries. “The degree to which government hinders the free flow of foreign commerce has a direct bearing on the ability of individuals to pursue their economic goals and maximize their productivity and well-being” (Riley and Miller 2013). In the absence of public policy, globalization alone cannot and will not reduce gender inequality (World Development Report 2012).

The ability of female entrepreneurs to extend their markets across borders depends highly on government policies. The relatively high rate of female internationalization in Turkey may be attributed to the policy of the Turkish government regarding economic liberalization and stimulating female entrepreneurship in the country. Turkey has changed its economic development strategy from “import substitution” to “export promotion” since 1980. It has also established different NGOs and public institutions to promote female entrepreneurship since early 1990s.

Despite the apparent attempts to prioritize women issues in the respective national plans, particularly in Iran and Pakistan, women’s access to resources and their active participation in business activity is considerably lower than men. In their subsequent national and local plans, emphases have been placed on the subject of women, with even more attention to women entrepreneurship than the previous ones. However, obstacles to women entrepreneurship continue unabated and are seemingly more social and cultural rather than legal (Razavi et al. 2008). Promoting women’s participation in various aspects of life can result in a more desirable entrepreneurial environment for the women of this region. The GEM annual surveys in the last couple of years show that these three nations have not been successful in providing an appropriate climate for women entrepreneurial activities. It seems that paying special attention to women socioeconomic issues in the national plans may not be enough; therefore, due consideration should be given to the enforcement of laws and regulations so as to provide women access to resources (ibid). It may be noted here that the efforts of women entrepreneurs in recent years to prove their competency in education, skills, and leadership are noticeable in the region.

Governments play a major role in stimulating international entrepreneurship through bilateral, multilateral, regional, and international trade agreements. In addition to being the co-founders of ECO, Iran, Pakistan, and Turkey are members of the Organization of Islamic Countries (OIC). While Iran has held observer status in the

World Trade Organization (WTO) since 2005, Pakistan and Turkey joined this organization in 1995. Turkey has a large number of bilateral free trade treaties with different countries; it has numerous multilateral, regional, and international trade agreements as well. The Black Sea Economic Cooperation (BSEC), Developing 8 (D-8) and Preferential Trade Agreement (PTA), Shanghai Cooperation Organization (SCO), European Free Trade Association (EFTA), European Union Free Trade Agreements (Custom Union), and the United Nations Economic & Social Commission for Asia & Pacific (UNESCAP) are among Turkey's numerous economic treaties.

Pakistan is also involved in different trade treaties including bilateral, regional, and international agreements, such as The Association of South East Asian Nations (ASEAN), Pakistan-European Union Free Trade Agreement, Pakistan-Gulf Cooperation Council Free Trade Agreement, United Nations Economic & Social Commission for Asia & Pacific (UNESCAP), and South Asian Free Trade Area (SAFTA).

Iran's limited contribution to bilateral, regional, and international trading blocs has prevented its economy from obtaining free trade agreements. Iran is a member of the United Nations Economic & Social Commission for Asia & Pacific (UNESCAP), and a member of Iran-Indian Ocean Rim-Association for Regional Cooperation (IOR-ARC).

## 9 Discussion

Women entrepreneurship and freedom of trade are potentially two important sources of wealth generation in developing countries. Women entrepreneurship is now increasingly recognized as an important policy tool in enabling female empowerment and emancipation in Iran, Pakistan and Turkey. The last couple of years of the GEM annual surveys in the three countries show that despite this recognition, these nations have not been successful in providing an appropriate climate for women entrepreneurial activities. Our study explores the strengths and weaknesses of business climate in the three countries, and shows that while Turkey holds an overall higher rank than the other two countries in the Ease of Doing Business, Pakistan has a better score in term of obtaining credit than Turkey and Iran; whereas it is less difficult to start a business in Iran compared to the other two countries. Our research also show that a gender gap exists in women's participation in business and is significant in women entrepreneurial activities in Iran, Pakistan, and Turkey alike. However, gender discrimination is more significant in Pakistan where women are generally faced with numerous visible and invisible structural constraints.

Turkey, having a largely free-market economy, shows higher scores in terms of Trade Freedom, Investment Freedom and Financial Freedom than the compared economies. Pakistan earns higher score than Iran in all components of open markets.

Studying the average level of free trade and female internationalization in factor-driven, efficiency-driven, and innovative-driven economies shows that, as the

countries move to a higher level of development, the average level of free trade increases, and also, the average level of female internationalization increases with the average level of free trade.

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# Conclusion and Recommendations



**Leyla Sarfaraz, Sarfraz A. Mian, Emine Esra Karadeniz, Mohammad Reza Zali, and Muhammad Shahid Qureshi**

**Abstract** Iran, Pakistan, and Turkey are the founding members of the Economic Cooperation Organization (ECO), established in 1985, to promote economic, technical, and cultural cooperation among the member states. The three countries share borders and have marked similarities in numerous cultural, religious, and traditional values. With a combined population of over 320 million and economies ranging from factor-driven to efficiency-driven, countries of Iran, Pakistan and Turkey, comprise more than half of the MENA region population. This project envisages a comparative study of women entrepreneurship in Iran, Pakistan, and Turkey using qualitative as well as quantitative approaches. Women entrepreneurship in these countries are studied from both domestic and international perspectives.

**Keywords** ECO · Entrepreneurship · Women entrepreneurship · Factor-driven · Efficiency-driven · MENA

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cultural cooperation among the member states. The three countries share borders and have marked similarities in numerous cultural, religious, and traditional values.

The report provides a general perspective on business environment, Gender Gap, different types of capital, including financial, human, social capital and cultural capital, international dimension of entrepreneurship, and the role of women entrepreneurship in this context in Iran, Pakistan, and Turkey.

This report shows several important results:

Regardless of the gender, each nation's business environment plays an important role in the prevalence of entrepreneurial activity. According to World Bank Doing Business, the business environment for opening and running a business is more conducive in Turkey, than in Iran and Pakistan. In the aspect of the ease of doing business in the three economies, the overall 2012 rankings of Iran, Pakistan and Turkey are 144, 105, and 90 respectively. However, Pakistan has a better score in term of obtaining credit than Turkey and Iran; whereas it is less difficult to start a business in Iran compared to the other two countries.

Our research also show that a gender gap exists in women's participation in business and is significant in women entrepreneurial activities in Iran, Pakistan, and Turkey alike. However, gender discrimination is more significant in Pakistan where women are generally faced with numerous visible and invisible structural constraints.

According to the experts in each country with respect to their entrepreneurial environment for women. Turkish Experts have more positive perception on the conductibility of business environment for women in Turkey than the experts in Pakistan and Iran.

However, compared to the average answers gives by experts in Factor-driven, Efficiency-driven, and Innovation-driven economies, in all five measures of study, experts in the countries of Iran, Pakistan, and Turkey appear to be less optimistic with respect to business environment for women than many countries around the world.

According to GEM, men are more likely to be engaged in TEA activity than women in the three countries of Iran, Pakistan and Turkey. While TEA level among Pakistani women is lower than the comparator economies, the gender gap in TEA rate is also more significant in Pakistan. The differences between women and men early-stage entrepreneurship is 20 percentage points in Pakistan versus that of the 10 percentage points in Iran and Turkey.

In the three economies men are more likely than women to see good opportunities, have stronger self-esteem about their capability to start a business and have higher intention for starting a venture in the next 3 years. While, on average in all regions fear of failure is higher among women compared to men, this is not the case in Pakistan where Pakistani women who see opportunities have less fear of failure than Pakistani men.

The demographic variables (income, education, age) as well as perceptual variables (fear of failure, self-efficacy except networking) are important factors for females to pursue opportunity driven- entrepreneurial activity in Turkey. For Iran, just perceptual variables are related to women starting a business to pursue an opportunity, but demographic variables are not significantly related to women in Iran. For Pakistan, women with higher education levels, having networking and being self-confident are more likely to recognize opportunities.

Economic, social and personal capital are positively related to the likelihood of becoming entrepreneur in ECO region regardless of gender differences. At the gender base, when we included cultural capital in our model, we found that only personal capital, social capital, and age have positive effects on Female Total Early stage Entrepreneurial Activities in the countries under study. At the country base, personal capital and social capital have positive effect on Female Total early stage entrepreneurial activities. While female income in Turkey, and age of female in Iran have positive effects on women's entrepreneurship, those variables do not appear to have effects on women in Pakistan in entrepreneurial process. It seems that the difference in the three ECO countries is caused by culture.

With respect to the international entrepreneurship we found that as the countries move to a higher level of development, the average level of free trade increases, and also, the average level of female internationalization increases with the average level of free trade.

Turkey, having a largely free-market economy, shows higher scores in terms of Trade Freedom, Investment Freedom and Financial Freedom than the compared economies. Pakistan earns higher score than Iran in all components of open markets. Also, the average level of female internationalization is higher than Iran and Pakistan.

The following recommendations are made to policy makers in these countries

- The governments need to promote associations promoting women entrepreneurship. Women chambers of commerce need to be mobilized.
- Women Entrepreneurship training programs need to be introduced to develop the entrepreneurial mind-set
  - The trainings have to be designed to enhance the entrepreneurial capital (economic, social and personal capital)
  - Faculty having the right entrepreneurial mind-set need to be engaged. Pedagogy based on effectual entrepreneurship needs to be introduced as it is very relevant to budding entrepreneurs.
  - Experiential learning along with relevant case studies need to be incorporated in the trainings.
  - Engage more practitioners in the trainings and invite the successful women entrepreneurs as guest speakers.
- Promote and develop women entrepreneurship programs which are culturally sensitive to the three countries. All of three countries have strong family ties. Family centered women entrepreneurship can offer a more sustainable solution.
- As age has a negative effect on entrepreneurship, the entrepreneurial mind-set needs to be taught at the school and college level.
- Networking opportunities need to be provided through universities, women chambers and women associations.
- Identify role models and use them as mentors
- Being part of ECO, the three countries need to cooperate and go for trade liberalization policies.

# Correction to: The Impact of Age and Entrepreneurial Age-Based Self-Image on Entrepreneurial Competencies of Male and Female: Evidence of GEM-Iran 2016 Data



Mohammad Reza Zali, Nezameddin Faghih, Parveneh Glard,  
and Roya Molaei

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The chapter has been updated.

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# Correction to: Social Entrepreneurship Strategies by the Middle Eastern Governments: A Review



Amir Forouharfar

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The original version of Chap. 7 was inadvertently published with incorrect reference citations.

Page 190: para 1, line 15: 'ECOSOC 2013' has been replaced by 'TIMUN 2013'

Page 203: para 1, line 17: 'ECOSOC 2016' has been replaced by 'GIMUN 2016'

Reference list: The references 'ECOSOC 2013' and 'ECOSOC 2016' have been replaced by 'TIMUN 2013' and 'GIMUN 2016' respectively.

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# Correction to: Entrepreneurial Competencies of SME Owners: A Comparative Exploratory Analysis Between Iran and Italy



Afsaneh Bagheri and Emidia Vagnoni

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The original version of this chapter was published with incorrect authorship. The second author name was inadvertently omitted. The authorship has been updated with this erratum. Afsaneh Bagheri and Emidia Vagnoni are the authors of this chapter.

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