

Contributions to Management Science

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Paul Jones

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Carla Susana Marques *Editors*

Sustainable Entrepreneurship

The Role of Collaboration in the Global
Economy

 Springer

Contributions to Management Science

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Contents

Sustainable Entrepreneurship: The Role of Collaboration in the Global Economy	1
Vanessa Ratten, Paul Jones, Vitor Braga, and Carla Susana Marques	
Entrepreneurial Activity and Its Determinants: Findings from African Developing Countries	9
Ondřej Dvouletý and Marko Orel	
Culture as Opportunity: Skilled Migration and Entrepreneurship in Australia	25
Nelia Hyndman-Rizk and Saskia de Klerk	
Technology Entrepreneurship and Gender in Emerging Countries	47
Guillermo Andrés Zapata-Huamaní, Sara Fernández-López, María Jesús Rodríguez-Gulías, and David Rodeiro-Pazos	
Opening the “Black Box” of the Marketing/Entrepreneurship Interface Through an Under-investigated Community	63
Ramzi Belkacemi, William Menvielle, and Hédia El Ourabi	
Shedding Light on the Driving Forces of the Romanian Shadow Economy: An Empirical Investigation Based on the MIMIC Approach	87
Adriana AnaMaria Davidescu and Friedrich Schneider	
More than Medicine: Pharmaceutical Industry Collaborations with the UK NHS	111
Mark Scorringe	
Entrepreneurship Motivation: Opportunity and Necessity	139
Angela Mota, Vitor Braga, and Vanessa Ratten	

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Sustainable Entrepreneurship: The Role of Collaboration in the Global Economy



Vanessa Ratten, Paul Jones, Vitor Braga, and Carla Susana Marques

Abstract There has been more interest in sustainability in an entrepreneurship setting. This has been the result of the perceived positive social benefits stemming from sustainable entrepreneurship. One of the fascinating areas of research about sustainable entrepreneurship is to understand how it has changed the nature of business. This will help provide policy insights to encourage more research into sustainable entrepreneurship. Traditionally entrepreneurship was considered purely a commercial activity, but this has changed with the advent of interest in social issues. This chapter furthers our understanding about the nature of sustainable entrepreneurship by providing an overview of emerging research trends. Important topics are discussed in a way that preempts the following chapters in the book.

1 Introduction

A growing body of literature has focused on sustainable entrepreneurship in the global economy. The chapters in this book explore sustainable entrepreneurship in a novel way. This exposes the undeniable important role that sustainable development plays in the global economy. Sustainable entrepreneurship has certain features, which are necessary to understand before analysing its relevance to society. This includes its diverse nature with a range of types and sizes that span different

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industries. They have a large impact on the economy and are increasing their market share. These enterprises have strong economic and social ties to communities (Ateljevic and Li 2009). Sustainable enterprises often act as a way of fostering the development of social capital in a community. This is due to sustainable enterprises adding a sense of belonging and social mission to their business practices (Farinha et al. 2017). Yet some sustainable enterprises have resource constraints that limit their potential (Leal et al. 2016). This is viewed as a consequence of management styles and aspirations. A sense of informality is practiced amongst sustainable enterprises as they can act without regard to formal business planning but rather on matters of the heart. This means that whilst lacking knowledge expertise, there can be an entrepreneurial passion that surpasses other types of business ventures. Having the ability to reconcile divergent issues regarding economic and environmental concerns is a feature of sustainable entrepreneurship (Tilley and Young 2009).

To critically evaluate the role of sustainable forms of entrepreneurship have in the global economy, different points of views are considered in the chapters of this book. This book will argue that sustainable enterprises are best understood by viewing them as communities of practice that involve enterprises. This is due to the concept of sustainability meaning different things depending on the context (Smith et al. 2013). The generally agreed meaning of sustainability is the notion of protection and renewability. Sustainability has gained acceptance as a concept that focuses on maintaining value for future generations. Its widespread usage means it is evident in most sectors of society. Originally the term sustainable development was presented by Brundtland and World Commission on Environment and Development (1987) to refer to meeting the needs of the present but being respectful of future generations. The word “enterprise” is defined as “activity that produces or aims to produce value that can be expressed in monetary terms” (Somerville and McElwee 2011: 317).

The chapters in this book address various issues regarding sustainability and entrepreneurship including (1) the difference between entrepreneurship and sustainable entrepreneurship, (2) whether rates of sustainable entrepreneurship are increasing globally, and (3) what entrepreneurial competences are utilized for sustainability.

This book addresses an important knowledge gap in the sustainable development field by highlighting the role of entrepreneurship. The perspectives stated in the chapters of this book highlight some important points. First, there are under-researched topics on sustainable entrepreneurship that merit more attention. The ways academics, policymakers and citizens view sustainable forms of entrepreneurship is changing, so this needs to be taken into account in new research. Second, whether sustainability is already part of most entrepreneurial business practices is subject to debate. Therefore, availability of sustainable forms of resources in terms of capital may be very important. Access to resources may be more difficult for some due to variable supplies of finance and labour. Instilling a sense of availability is important in addressing sustainable entrepreneurship. Comprehensive overviews of different forms of sustainable development are presented in the chapters of this book as more deliberate innovative actions using a sustainability mindset are required. The findings and conclusions of the chapters in this book cover various sustainability

issues and provide a solid base to further expand research on sustainability. In addition, they can help more businesses transition to sustainable enterprises.

2 Sustainable Entrepreneurship

There is no universally accepted definition of entrepreneurship, but most definitions include the concepts of innovation, risk-taking and proactiveness (Swanson and DeVereaux 2017). Entrepreneurship transcends cultural barriers as it focuses on how to exploit opportunities. This is due to entrepreneurship primarily being concerned with creating wealth through business, but there are both economic and psychological reasons people become entrepreneurs or organizations are involved with entrepreneurship (Swanson and DeVereaux 2017). The relative importance placed on entrepreneurship varies by country depending on societal pressures. To understand the process of entrepreneurship, it is useful to consider the amount of time and effort taken to derive benefits for society. Some business opportunities require more resources than others, and this is also impacted by the competitive intensity of a region (Miragaia et al. 2017a). To develop sustainable forms of entrepreneurship requires good teamwork but also knowledge about market trends. Thus, entrepreneurial success is dependent on environmental factors but also an individual's willingness to change. The complexity of sustainable entrepreneurship requires good planning skills and an ability to think strategically.

Sustainable entrepreneurship is subject to interpretation and is a dynamic concept. In the past it was linked mostly with the environment, but this has been adapted to a more holistic view of what it means to care for future generations in different ways. Sustainable entrepreneurship is a concept that has an interdisciplinary meaning. This makes it a good topic to study because of its linkages to disciplines including anthropology, economics, business management, sociology and tourism. The importance of this topic has been validated by prior research, but there is still some way to go in terms of fully understanding its meaning. There are more ways to research sustainable entrepreneurship that can identify and expand our knowledge of this topic. To facilitate sustainable entrepreneurship, there needs to be policies recognizing its value. In line with the global trend towards sustainability is the intention of more businesses to consider social effects (Miragaia et al. 2017b). Business needs to be responsive to foster more sustainable practices. To do this, partnerships with other stakeholders can take place that encourage strategic business endeavours (Ratten 2016). This is a way to scale up the way business involves sustainability in everyday activities.

Sustainable entrepreneurship includes parts of corporate social responsibility but goes beyond it to include entrepreneurial action (Hockerts et al. 2018). Thus, the difference is that corporate social responsibility focuses on societal engagement of companies, whilst sustainable entrepreneurship considers individual as well as company action regarding the environment (Ratten 2018a). To be considered as sustainable entrepreneurship, there needs to be a form of discovery that leads to the

creation of a business (Shepherd and Patzelt 2011). This means research on climate change does not fit into sustainable entrepreneurship research unless it links it to the human and economic activity (Hockerts et al. 2018). For this reason, there needs to be a degree of exploitation in the environment whilst being considerate of future trends to be classified as sustainable entrepreneurship (Ratten 2018b).

There are different types of sustainable entrepreneurship from at one end those totally focused on it to at the other end of the spectrum those with only a slight inclination. Thus, when seeking to understand the direction of sustainable entrepreneurship, both perspectives need to be taken into account. It is necessary to understand whether sustainable entrepreneurship is a choice or necessity (Ratten and Dana 2017). By choice those interested in sustainable entrepreneurship will be focusing on their interest and how it can be applied to business endeavours. Necessity entrepreneurs are rather interested in how they can make money in order to survive. These different types of entrepreneurs both make an important contribution to sustainable entrepreneurship. Research needs to take into account both types when responding and recognizing new gaps in the literature. It may be difficult though to decide the research directions to take in terms of the wide range of opportunities available to researchers.

The pursuit of sustainable entrepreneurship needs to be combined with social innovation in order to have an impact (Ratten and Ferreira 2017). This is due to more empathetic and ethical forms of entrepreneurship likely being linked to sustainability. When scaling up sustainable enterprises, there sometimes needs to be a compromise between ethical values and commercial endeavours (Ratten et al. 2017). This can create some pressures, but successful sustainable enterprises deal with this confliction. In order to make a difference to society, it is important that more sustainable forms of entrepreneurship be carried out (Throsby 1997). The chapters in this book will address these issues in more depth.

3 Sustainable Development

Sustainable development has emerged as a topic of conversation due to increased awareness about the role of growth on the economy (Rahdari et al. 2016). The increased global population and degradation of the environment has influenced the way people think about sustainable growth (Torres-Delgado and Palomeque 2014). The concept of sustainable development is linked to the triple bottom line in which social, economic and environmental issues are taken into account. This has led to positive business practices that are rooted in commercial reasons but consider the environment.

The most commonly used definition of corporate social responsibility is Carroll (1979: 500) who states it is “the social responsibility of business encompasses the economic, legal, ethical and discretionary expectations that society has of organizations at a given point in time”. A sense of social responsibility occurs when businesses place value on environmental improvement and stakeholder

accountability (Visser 2010). This means value is placed on how business can be responsive to stakeholder needs. The shift towards sustainability is the result of more interest in the environment. This book transcends the tendency to focus just on the environment by taking into account other areas related to sustainability. This includes the role of commercial and social entrepreneurship in the global economy as well as the issue of creativity.

Creative thinking is needed to derive appropriate solutions that cater to sustainable development. De Bono (1998) suggested that by challenging existing assumptions, new paradigms emerge. This is important for sustainable development that needs innovation in order to make a change to society. The adherence to the idea of sustainable development requires innovation and change. New possibilities can emerge when sustainable forms of innovation take place. The topic of sustainable entrepreneurship has received numerous attention in the academic literature and business media. The enactment of sustainability requires the evaluation of opportunities. There needs to be new methods, ways of analysing and consideration of sustainable entrepreneurship. The key premise of sustainability is a sense of responsiveness to environmental change. This can occur through societal relationships that incorporate social action. By voluntarily contributing to a better environment, companies can target better interests of their stakeholders. This can help improve the quality of life for members of local communities and the global community. Culture is part of sustainable development as it refers to the cultural conditions that are part of society (Duxbury and Gillette 2007). For this reason, sociocultural elements such as equity and diversity are also sustainable development goals.

4 Conclusion

The research purpose of this book is to develop a better understanding of sustainable entrepreneurship. The research contributes to the limited literature that combines an ethics, community, sustainable and entrepreneurship perspective. There is practical usefulness of studying the academic juncture of these topics, and this book's importance is to raise awareness about research trends. The nature of sustainable entrepreneurship means there are many research opportunities yet to be discovered. We can learn from the existing literature by engaging in a more self-reflective practice.

This book will discuss how sustainability and entrepreneurship are not always related but more depends on the context. Indeed there are numerous ways sustainability can be incorporated into the entrepreneurial mindset. This book seeks to answer the questions relating to how a sustainable culture is embedded within entrepreneurship. The proportion of entrepreneurs with social goals is growing, and this book provides a review of this change. This has important implications for public policy as it can lead to greater social cohesiveness.

References

- Ateljevic, J., & Li, L. (2009). Tourism entrepreneurship-concepts and issues. In J. Ateljevic & S. Page (Eds.), *Tourism and entrepreneurship: International perspectives* (pp. 9–31). Oxford: Elsevier.
- Brundtland, G., & World Commission on Environment and Development. (1987). *Our common future*. Oxford: Oxford University.
- Carroll, A. (1979). A three dimensional conceptual model of corporate performance. *Academy of Management Review*, 4(4), 497–505.
- De Bono, E. (1998). *Lateral thinking and the use of lateral thinking*. Ringwood: Penguin.
- Duxbury, N., & Gillette, E. (2007). *Culture as a key dimension of sustainability: Exploring concepts, themes and models*. Vancouver: Centre of Expertise on Culture and Communities.
- Farinha, L., Ferreira, J., Nunes, S., & Ratten, V. (2017). Conditions supporting entrepreneurship and sustainable growth. *International Journal of Social Ecology and Sustainable Development*, 8(3), 67–86.
- Hockerts, K., Munoz, P., Janssen, F., & Nicolopoulou, K. (2018). Advancing sustainable entrepreneurship through substantive research. *International Journal of Entrepreneurial Behavior and Research*, 24(2), 322–332.
- Leal, C., Marques, C., Ratten, V., & Marques, C. (2016). The role of intellectual capital and corporate strategy on sustainable value creation. *International Journal of Foresight and Innovation Policy*, 11(4), 215–224.
- Miragaia, D., Ferreira, J., & Ratten, V. (2017a). Sport event sponsorship and policy: A social entrepreneurship and corporate social responsibility perspective. *International Journal of Sport Policy and Politics*, 29(4), 613–623.
- Miragaia, D., Ferreira, J., & Ratten, V. (2017b). The strategic involvement of stakeholders in the efficiency of non-profit sport organisations: From a perspective of survival to sustainability. *Brazilian Business Review*, 14(1). http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1808-23862017000100042
- Rahdari, A., Sepasi, S., & Moradi, M. (2016). Achieving sustainability through Schumpeterian social entrepreneurship: The role of social enterprises. *Journal of Cleaner Production*, 137, 347–360.
- Ratten, V. (2016). Multiple helix approaches to sustainable entrepreneurship and innovation: A case study of the Great Barrier Reef (Australia). In M. Ortiz-Peris et al. (Eds.), *Multiple helix ecosystems for sustainable competitiveness* (pp. 15–25). Cham: Springer.
- Ratten, V. (2018a). Sustainable farming entrepreneurship in the Sunraysia region. *International Journal of Sociology and Social Policy*, 38(1/2), 103–115.
- Ratten, V. (2018b). Social entrepreneurship through digital communication in farming. *World Journal of Entrepreneurship, Management and Sustainable Development*, 14(1), 99–110.
- Ratten, V., & Dana, L.-P. (2017). Sustainable entrepreneurship, family farms and the dairy industry. *International Journal of Social Ecology and Sustainable Development*, 8(3), 114–129.
- Ratten, V., & Ferreira, J. (2017). Future research directions for cultural entrepreneurship and regional innovation. *The International Journal of Entrepreneurship and Innovation*, 21(3), 163–169.
- Ratten, V., Ramadani, V., & Fayolle, A. (2017). Exploring family farms and sustainability entrepreneurship in Australian farmers' markets. In W. Frost & J. Laing (Eds.), *Exhibitions, trade fairs and industrial events* (pp. 173–182). Routledge: CRC Press.
- Shepherd, D., & Patzelt, H. (2011). The new field of sustainable entrepreneurship: Studying entrepreneurial action linking 'what is to be sustained' with 'what is to be developed'. *Entrepreneurship Theory and Practice*, 35(1), 137–163.
- Smith, S., Xiao, H., Nunkoo, R., & Tukamushaba, E. (2013). Theory in hospitality, tourism and leisure studies. *Journal of Hospitality Marketing and Management*, 22, 875–894.
- Somerville, P., & McElwee, G. (2011). Situating community enterprise: A theoretical exploration. *Entrepreneurship and Regional Development*, 23(5–6), 317–330.

- Swanson, K., & DeVereaux, C. (2017). A theoretical framework for sustaining culture: Culturally sustainable entrepreneurship. *Annals of Tourism Research*, 62, 78–88.
- Throsby, D. (1997). Sustainability and culture: Some theoretical issues. *International Journal of Cultural Policy*, 4(1), 7–20.
- Tilley, F., & Young, W. (2009). Sustainability entrepreneurs: Could they be the true wealth generators of the future? *Greener Management International*, 55, 79–92.
- Torres-Delgado, A., & Palomeque, F. (2014). Measuring sustainable tourism at the municipal level. *Annals of Tourism Research*, 49, 122–137.
- Visser, W. (2010). The age of responsibility: CSR 2.0 and the new DNA of business. *Journal of Business Government Ethics*, 5(3), 7–22.

Entrepreneurial Activity and Its Determinants: Findings from African Developing Countries



Ondřej Dvouletý and Marko Orel

Abstract Entrepreneurship research in Africa has not received much attention from scholars in the past. Therefore, we contribute to this body of knowledge from the perspective of African developing countries. We demonstrate that most of the African developing countries have not yet conducted Global Entrepreneurship Monitor to study entrepreneurship in their country, and we show that the existing datasets are very limited. Utilising the available data, we study entrepreneurial activity and its determinants on a sample of 12 African countries over the years 2001–2016. Using the data from Global Entrepreneurship Monitor, we show that the overall rate of entrepreneurship is higher compared to Europe (on average 31%). Utilising other data from the World Bank, Transparency International and Heritage Foundation, we estimate multivariate regression models to study determinants of early-stage entrepreneurial activity. Although the number of available observations limits our results, we find some empirical evidence showing the importance of GDP per capita, unemployment rate, economic freedom index, corruption perceptions and perceived opportunities as factors influencing the early-stage level of entrepreneurial activity. Our study also offers several directions for future research, regarding both research methods and other potential variables of interest.

1 Introduction

Business Report, South Africa's leading business media, published a widely viewed story on the continent's continuous entrepreneurial transformation in December 2018. The media report argued that with embracing and adopting pan-Africanism mindset across the continent, most of 54 African countries are experiencing digital renaissance that is increasing their connectedness and opening markets (Rey 2018). With entrepreneurship being lower in Africa compared to other parts of the world and past emphasis on government-controlled businesses that discouraged private investments

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in new businesses, Africa is finally seeing a change with Africans displaying one of the highest entrepreneurial intents globally (Ratten and Jones 2018).

By overtaking structural challenges, it appears that entrepreneurship is seeing a (re) birth all over the continent with bursting entrepreneurial activities being the potential for solving Africa's economic and social challenges by crafting jobs and having a hand in GDP growth for Africa's countries. Undeniably, African nations are moving from traditional sources of income and are experiencing an increasing entrepreneurial activity that is more often seen not only as sustainable job generation tool but as the lead route to economic development (Chigunta 2017; Dvouletý et al. 2018).

Several attempts have been made over the last two decades to conglomerate the knowledge on entrepreneurial activities in Africa (e.g. Engelmann 1994; Frese and de Kruijff 2000; Kiggundu 2002; Sriram and Mersha 2010; Kshetri 2011; Munemo 2012; Kuada 2015; Röschenthaler and Schulz 2015; George et al. 2016b; Lashitew and van Tulder 2017; Atiase et al. 2018; Ratten and Jones 2018) although comprehensive research on its determinants is still limited to some extent. One of the goals of this chapter is, therefore, to signify that majority of developing countries in Africa have not yet conducted GEM to study their entrepreneurial activities. Using existing GEM surveys and other data resources, we conduct research on entrepreneurial undertakings in 12 African countries and demonstrated the importance of several determinants that influence the early-stage level of entrepreneurial activity.

The chapter is structured as follows. Starting with literature review, we investigate existing literature on entrepreneurial activities in Africa that probes into the examined topic. Following a literature review of the past researches of the field, we build a panel of 52 African countries and search for data and variables of interest in noted global databases. As out of panelled countries only 17 have conducted GEM study at least once, following only a dozen of them done the study at least three times, we narrow our sample accordingly.

Subsequently, we reflect average values across countries and available years, focusing on entrepreneurial activity, and variables linked to business ecosystems and organisational policies that are a bracket with start-up businesses. With the empirical approach, we tend to enquire into the patterns influencing the start-up rates within developing African countries by exploring cross-country variation in economic and institutional determinants of new entrepreneurial activity. After reviewing results and engaging into the discussion, we wrap the conclusion and propose a handful of suggestions for future research. We are keen to believe that our contribution is vital for the discussion on entrepreneurial activity in African developing countries and its determinants and will be identified as ambitious attempt to provide a novel resource for scholars, interested in the subject.

2 Literature Review

As most of the available literature focuses on entrepreneurial activities in Western societies and Asian countries, research on African entrepreneurship is still fairly limited by this date. Nevertheless, existing publications on entrepreneurial activities

in Africa are stamped with positive and optimistic expectations towards growth and expansion of entrepreneurship across the continent and can be viewed as the “Africa rising” narrative (Mahajan 2011). Not only that more businesses are transforming and are being easier to regulate, but newly emerging middle class across African nations is also being recognised as keen on engaging into entrepreneurial activities within their regions (Tvedten et al. 2014). This transitional process has sparked the growing attention in Africa’s entrepreneurial potential and emerged different research directions into the topic (Ratten and Jones 2018).

Indeed, it appears that an entrepreneurial mindset is becoming more acknowledged throughout the African continent. George et al. (2016a) present their findings that point towards individuals relying on their social relationship to enable entrepreneurial activities and thus seek to allocate the potential to generate a reasonable income gain. While they sample Kenyan households to test, if disintegration of social structure reduced entrepreneurial behaviour, Meagher (2005) analysed the role of class, religion, ethnicity and gender in generating positive as well as negative trends in the restructuring of African informal economies by drawing on empirical studies across Africa. Social networks are commonly viewed as an essential factor for entrepreneurial success in developing countries (Egbert 2009) and can contribute to entrepreneurial success or failure of individuals from different age groups.

It comes to our understanding that throughout the continent, but especially in countries of sub-Saharan Africa, youth unemployment remains high. While many young individuals venture into one of the forms of self-employment in the informal sector, Chigunta (2017) argues that entrepreneurship provides both pathways out of poverty for some young people, although the majority of them face complex challenges when starting and later on running a viable business. Spreading knowledge throughout training and tutoring indeed plays a significant role in this case. As young African entrepreneurs often face high costs of finding a favourable moment to enter the business opportunity, entrepreneurial trainings prove to be more effective than direct or indirect subsidies. The similar observation share also Efobi and Orkoh (2018) who evaluated effects of entrepreneurship training programmes in Nigeria. Brixiová et al. (2015) therefore test the role of tutoring young entrepreneurs by surveying them in Swaziland and develop a model of business creation with skill differences between adult and young entrepreneurs.

In this context, Kojo Oseifuah (2010) implies that the training of youth with an emphasis on financial literacy and entrepreneurial skills may have significant effects on the growth of youth entrepreneurship in South Africa. As these practical implications are limited to only one of the sampled African countries, knowledge sharing through education has been positively linked with entrepreneurial activities of African youth throughout the research work of various authors (Aladekomo 2004; Awogbenle and Iwuamadi 2010; Nafukho and Helen Muyia 2010; Ajufo 2013; DeJaeghere and Baxter 2014; Dzisi et al. 2018).

By associating the entrepreneurial productivity to start-up capital and skill set, Brixiová and Kangoye (2016) contribute to the empirical literature on entrepreneurship, entrepreneurial development and gender role in Africa. They show that while

business training may be positively linked with sales performance on men entrepreneurs, it has no markable effect on female entrepreneurs.

With the study of young female employment and entrepreneurship in sub-Saharan Africa, Langevang and Gough (2012) found out that diverging trajectories of different entrepreneurial fields can be attributed to globalisation that affects trades differently and generates different opportunities. Accompanied by globalisation accelerating the movement towards market liberalisation (Zahra et al. 2008), it appears that Africa is in transition that is driven by the popularisation of entrepreneurship and change in behavioural patterns of its population (Edoho 2015). In a similar light, Jones et al. (2018c) highlight that there is a need for further research in contracting entrepreneurial behaviour between African nations and regions.

Khayesi et al. (2017) explore cultural determinates as possible facilitators and barriers to entrepreneurship development in parts of Africa. They particularly note that different strands of research on culture and entrepreneurship in African countries rest disperse and have not been synthesised into an obtainable resource. Kuada (2010) establishes a link between African culture and leadership operations and their inferences in economic growth on the African continent.

One of the cornerstones that can be seen as blocking further liberalisation of entrepreneurial activities in Africa is inefficient and slow bureaucracies that do not tend to minimise compliance costs for entrepreneurs (Edoho 2015). Sriram and Mersha (2010) note that promoting entrepreneurship and to increase the probability of success of business require a systematic approach towards stimulating entrepreneurial ventures. However, in order to increase efficiency of relevant policies and promote entrepreneurship and innovation, the governmental bureaucracies “must be responsive to the needs of the entrepreneurial class” (Mbaku 1996: 105) and respondent to pitfalls of corruption (Harsch 1993; Robson et al. 2009; Ngunjiri 2010; Hope 2016).

After exploring previously published studies in the body of relevant literature, we continue our analysis by constructing a dashboard dataset of African countries and progress our exploration to root the data and variables of interest in acknowledged databases.

3 Data and Sample

To study entrepreneurial activity in African developing countries, we have built a panel dataset of 52 countries, based on the classification of the trade and development conference of the United Nations (2018)¹. Then we used the list of countries

¹These include Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Congo, the Democratic Republic of the Congo, the Republic of the Congo, Côte d’Ivoire, Djibouti, Egypt, Arab Rep., Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tomé and

mentioned above to search for data and variables of interest in established international databases such as the Global Entrepreneurship Monitor (2018), World Bank Database (2018), Heritage Foundation (2018) and Transparency International (2018). We aimed to collect data for the longest possible period; however, the first available datasets of Global Entrepreneurship Monitor (GEM) were available from 2000 and onwards, and thus, our analysis includes the period 2001–2016. The list of collected variables can be found in the following Table 1.

Unfortunately, there are many missing values in the collected indicators. Most of the African developing countries have unfortunately not taken part in the Global Entrepreneurship Monitor (GEM) yet to explore their national entrepreneurial activity. Out of the 52 developing countries, only 17 countries have conducted GEM study at least once, and only 12 countries have done the study at least three times. We get a similar picture when we inspect the number of available years in the remaining indicators, including World Bank indicators (2018). Also, data representing the new business density indicator [which is often used as a measure of new entrepreneurial activity, see, e.g. Dvouletý (2018a) and Fritsch (2015) for a discussion] have many missing values. More available years increase the reliability of any statistical analysis. Looking at the missing values, we have decided to include in our study only those 12 countries (24% of the initial cross-country sample) that have at least 3 years of GEM data available. These are, namely, Algeria, Angola, Botswana, Burkina Faso, Cameroon, Ghana, Morocco, Nigeria, South Africa, Tunisia, Uganda and Zambia. We summarise the collected variables in the following Table 2 for the whole sample, and then, we further comment briefly on other variables and their cross-country values in the following text.

4 Descriptive Evidence

In this section, we comment on the average values across countries and available years. We focus on the entrepreneurial activity and variables related to the business environment and administrative procedures associated with business start-up. We report all average values across countries in Table 3.

4.1 *Entrepreneurial Activity*

What is the overall entrepreneurship rate among the 12 African developing countries during the analysed years 2001–2016? Global Entrepreneurship Monitor data (2018) show that on average 20.4% of the 18–64 population are either nascent entrepreneurs

Príncipe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zambia and Zimbabwe (United Nations 2018).

Table 1 Definition of variables

Variable	Description
Total early-stage entrepreneurial activity	“Percentage of 18–64 population who are either a nascent entrepreneur or owner-manager of a new business” (Global Entrepreneurship Monitor 2018)
Established business ownership rate	“Percentage of 18–64 population 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” (Global Entrepreneurship Monitor 2018)
New business density	“The number of new limited liability corporations registered in the calendar year per 1000 people ages 15–64” (World Bank 2018)
GDP per capita	GDP per capita is gross domestic product divided by midyear population. Data are in constant 2010 US dollars (World Bank 2018)
Unemployment rate (%)	Unemployment, total (% of total labour force, national estimate) (World Bank 2018)
Economic freedom index	“A measure of country’s economic freedom (the higher rank, the higher freedom) based on two quantitative and qualitative factors, grouped into four broad categories, or pillars, of economic freedom” (Heritage Foundation (2018)
Corruption perceptions index	“A measure of country’s level of corruption (the higher rank, the less corrupted)” (Transparency International 2018)
Start-up procedures	“Start-up procedures to register a business (number)” (World Bank 2018)
Costs of start-up	“Cost of business start-up procedures (% of GNI per capita)” (World Bank 2018)
Start-up days	“Time required to start a business is the number of calendar days needed to complete the procedures to legally operate a business” (World Bank 2018)
Fear of failure	“Percentage of 18–64 population perceiving good opportunities to start a business who indicate that fear of failure would prevent them from setting up a business” (Global Entrepreneurship Monitor 2018)
Perceived opportunities	“Percentage of 18–64 population who see good opportunities to start a firm in the area where they live” (Global Entrepreneurship Monitor 2018)

Source: Global Entrepreneurship Monitor (2018), World Bank Database (2018), Heritage Foundation (2018) and Transparency International (2018)

or owner-managers of new business, and on average 11% of the 18–64 population were engaged in owning-managing established business and at the same time receiving salaries, wages or any other payments for more than 42 months. Combining both types of entrepreneurial activity according to GEM, we may conclude that the overall entrepreneurship activity was roughly 31.4%, which is much higher compared to Europe, where the overall entrepreneurship rates are around 15% depending on the time period and survey used (cf. Dvouletý 2018b).

Table 2 Summary statistics (years 2001–2016)

Variable	Mean	SE	Min	Max	Observations (N)
Total early-stage entrepreneurial activity (TEA)	20.4	12.6	4.2	41.5	57
Established business ownership rate (EBOR)	10.9	10.5	0.8	37.7	57
New business density	3.0	4.1	0.1	18.4	90
GDP per capita	2819.2	2085.3	412.2	7582.6	204
Unemployment rate (%)	10.8	7.3	1.9	29.8	204
Economic freedom index	57.9	6.1	24.3	72.0	199
Corruption perceptions index	34.3	12.2	10.0	65.0	195
Start-up procedures	9.2	3.1	3.0	17	158
Costs of start-up	64.3	145.9	0.2	1316.4	158
Start-up days	32.2	24.3	8.5	125	158
Fear of failure	27.3	9.9	10.4	63.7	57
Perceived opportunities	55.4	19.7	13.6	85.5	57

Source: STATA 14, own calculations

Nevertheless, there are large differences across the African developing countries. The new entrepreneurial activity measured by TEA was on average the highest in Zambia (38%), followed by Nigeria (36.6%) and Ghana (32%). On the contrary, the lowest was in South Africa (7%), Tunisia (7.6%) and Morocco (8.6%). Established business ownership rate (EBOR) shows a similar picture. The highest EBOR was in Ghana (33.1%), Uganda (26%) and Burkina Faso (24.5%). The lowest rates of EBOR were reported for South Africa (2%), Algeria (4%) and Botswana (4.8%).

4.2 *Economic Indicators and Business Environment*

The presented book chapter includes only the developing countries in Africa, so it is not surprising that the economic indicators are still lagging the developed countries. On the top are, regarding GDP, South Africa, followed by Botswana and Algeria, which contrast the poorest Uganda, Burkina Faso and Ghana. Economic freedom index shows the highest numbers for Botswana which scores 69 points, contrary to Cameroon that scored during the analysed period on average only 52.8 points. In overall, the countries score 57.9 points, and these values have been increasing over time (Heritage Foundation 2018).

Corruption still seems to be a significant problem of the countries. The least corrupted countries score according to Transparency International (2018) close to 100 points. The average value of this indicator was however only 34.3, and the lowest values were observed in Angola (19.4), Nigeria (21.4) and Uganda (24.8). On the contrary, Botswana has a score of 59.9 and leads the group, followed by South Africa having an average score of 45.7.

Table 3 Average values of variables across countries (years 2001–2016)

Variable/ country	Total early-stage entrepreneurial activity (TEA)	Established business ownership rate (EBOR)	New business density	GDP per capita	Unemployment rate (%)	Economic freedom index	Corruption perceptions index	Start-up procedures	Costs of start- up	Start- up days	Fear of failure	Perceived opportunities
Algeria	9.9	4.1	0.5	4296.8	15.3	54.6	31.1	12.9	12.5	23.4	35.6	52.6
Angola	26.2	7.4	N/A	2956.5	15.1	45.0	19.4	9.4	349.2	68.1	44.1	66.9
Botswana	28.6	4.8	11.0	6192.6	18.4	69.0	59.9	9.8	4.2	74.4	19.0	61.9
Burkina Faso	28.3	24.5	0.1	551.7	4.3	58.1	34.7	5.8	75.1	21.0	19.8	61.2
Cameroon	30.1	13.2	N/A	1309.1	4.7	52.8	23.1	9.1	98.7	29.4	23.2	64.6
Ghana	32.1	33.1	0.9	1287.6	5.0	59.2	39.3	8.7	36.0	14.3	17.8	74.8
Morocco	8.6	9.3	1.4	2646.4	10.2	58.4	35.7	6.9	12.0	13.3	34.2	42.6
Nigeria	36.6	14.3	0.7	2037.6	4.3	53.4	21.4	8.3	39.1	29.0	22.8	84.1
South Africa	7.0	2.0	8.1	6931.8	24.6	63.5	45.7	7.2	4.3	48.4	30.7	32.6
Tunisia	7.6	7.1	1.4	3771.7	14.6	58.6	44.5	9.0	6.8	11.0	28.0	33.5
Uganda	31.7	26.0	0.6	548.3	2.9	61.6	24.8	15.6	84.4	29.4	20.7	75.2
Zambia	38.0	10.0	1.1	1230	10.0	58.0	30.8	7.1	30.7	21.9	14.9	78.7
Whole sample	20.4	10.9	3.0	2819.2	10.8	57.9	34.3	9.2	64.3	32.2	27.3	55.4

Source: STATA 14, own calculations

Once we look at the data from Doing Business Statistics administered by the World Bank (2018), we might get an insight into the administrative burden of business start-up. We comment on the number of start-up procedures, costs of start-up and number of days to legally establish an enterprise. Nevertheless, we must admit that these indicators reflect the specific kind of enterprise (generally a limited liability company of a specified size, see World Bank, 2018, for details), and thus they cannot reflect administrative requirements for all types and forms of entrepreneurship in a country, so we should be a bit cautious when interpreting these data (although they might provide an informative insight on the general situation of the country). Having looked at the data, on average 9 procedures (ranging from 6 in Burkina Faso to 16 in Uganda) need to be completed by people aiming to start up business legally. Individuals aiming to pursue self-employment career also need to count with a timely process, which takes on average 32 days (ranging from 11 in Tunisia to 74 in Botswana). It also seems that the process is quite financially demanding as applicants need to pay on average 64% (ranging from 4% in South Africa to 349% in Angola) of the gross national income (GNI) to the public administration for the legal establishment of a company.

It is also worth noting that besides other issues, fear of failure is a strong factor that might prevent individuals from pursuing entrepreneurship career (Vaillant and Lafuente 2007). On average 27% of the 18–64 population, who see good opportunities for business start-up (on average 55% of the 18–64 population), say that fear of failure would prevent them from starting a business (Global Entrepreneurship Monitor 2018)

5 Empirical Approach

Building on the presented descriptive evidence, we would like to explore more the patterns influencing the start-up rates in the African developing countries. In line with the previously published studies (e.g. Nikolaev et al. 2018; Roman et al. 2018; Dvouletý 2017, 2018a), we use for this purpose multivariate analysis of panel data.

We aim to explore cross-country variation in economic and institutional determinants of the new entrepreneurial activity. We focus only on the new business activity because we have two independent measures of it—one from the Global Entrepreneurship Monitor (2018), *total early-stage entrepreneurial activity (TEA)*, and the World Bank (2018)'s *new business density rate*. We employ two measures of new business activity, there are significant differences across countries, and the variation within indicators is also substantial. Employing two independent measures helps us to increase the reliability of the obtained results.

In light with the previous research on entrepreneurial activity (Bosma et al. 2018; Urbano et al. 2018; Chowdhury et al. 2018; Stenholm et al. 2013; North 1990), we assume that legislative, institutional and economic settings influence early-stage entrepreneurial activity in African developing countries significantly.

According to our limited dataset and the fact that this is the first type of such an empirical study focusing purely on African developing countries, we study the role of fundamental economic and institutional determinants of early-stage entrepreneurial activity. As for the economic indicators, we work with the unemployment rate and gross domestic product (GDP) per capita. Institutional factors include index of economic freedom and corruption perceptions, and entrepreneurship-specific determinants include the level of perceived opportunities and fear of failure rate. The following section presents the obtained empirical results.

6 Results and Discussion

We run our analysis in the STATA 14 software, and we estimate all models with the robust standard errors that are dealing with the consequences of heteroskedasticity and autocorrelation (Wooldridge 2010). Although the number of observations is limited, we also include year dummies as there were quite significant differences in the values of indicators over time. The obtained estimates are presented in Table 4. Table 4 presents two pairs of econometric models for both types of early-stage entrepreneurial activity. We conclude that presented models are statistically significant, and they meet the standard econometric assumptions. We interpret the obtained estimates as follows.

First of all, we would like to honestly declare that the number of observations in both specifications is very low (57 observations in Models 1 and 2 and 33 observations in Models 3 and 4), and thus, we need to be very cautious in the interpretation of obtained estimates. The significance of obtained variables also differs across specifications, and thus, we base our interpretation on the significant variables, but we also comment on the sign of the insignificant variables if they indicate the same direction of impact. Overall, most of the variables included in our analysis show a similar impact of independent variables on both types of early-stage entrepreneurial activity, which is a good sign.

The unemployment rate (Models 1 and 3) seems to negatively influence the level of early-stage entrepreneurial activity although it is significant only for the indicator TEA. The GDP per capita seems to be quite stable, significant and positive for the new business density indicator (Models 3 and 4); nevertheless, in TEA Models (1 and 2), there are contradictory and insignificant coefficients. We know from the review of the literature by Roman et al. (2018) and Dvouletý (2017) that both indicators can be either positive or negative depending on the stage of the business cycle. However, GDP is more likely to be positively influencing early-stage activity (more wealth, more business opportunities), whereas unemployment rate can indicate economic decline (or recession stage of the economy) and thus higher levels of necessity entrepreneurship (positive impact) or more business bankrupts (negative impact).

Quite conclusive are indicators reflecting the development of institutions in African developing countries. Both economic freedom index and corruption perceptions index were found to be positively significant for new business density variable

Table 4 Determinants of early-stage entrepreneurial activity in African developing countries (years 2001–2016)

Model number	Model (1)	Model (2)	Model (3)	Model (4)
Independent/ dependent variable	Total early- stage entrepreneurial activity (TEA)	Total early- stage entrepreneurial activity (TEA)	New business density (new registrations per 1000 people ages 15–64)	New business density (new registrations per 1000 people ages 15–64)
Unemployment, total (% of total labour force)	–1.048** (0.358)		–0.000890 (0.0910)	
Log(GDP per capita)	0.293 (3.289)	–1.474 (1.718)	3.206** (1.001)	3.793** (1.271)
Economic freedom index	0.132 (0.401)		0.561*** (0.102)	
Corruption per- ceptions index		0.158 (0.104)		0.266*** (0.0391)
Perceived opportunities		0.636*** (0.0847)		0.105*** (0.0251)
Fear of failure rate	–0.398 (0.259)		–0.0685 (0.0870)	
Constant	36.57 (35.10)	–0.821 (15.24)	–51.81*** (9.089)	–38.78** (10.33)
Year dummies	Yes	Yes	Yes	Yes
Observations	57	57	33	33
R^2	0.674	0.840	0.910	0.908
Adjusted R^2	0.520	0.770	0.849	0.853
AIC	415.9	373.4	140.6	139.4
BIC	446.6	402.0	158.5	155.9

Models were estimated with robust standard errors. Estimated models include fixed effects for years. Standard errors are reported in parentheses. Statistical significance: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Source: STATA 14, own calculations

and positive (but insignificant) for TEA indicator. Such an observation is quite in line with what we know from the previous research in Europe and OECD countries. Freytag and Thurik (2007) have explained that more economic freedom allows individuals to engage in entrepreneurship easier and to more smoothly operate in the economy in relation to all aspects of the country's institutional settings (and its openness towards doing business). Positive coefficient for corruption perceptions variable also fits into the existing body of knowledge (Mohamadi et al. 2017; Dvouletý and Blažková 2018), indicating that the less corrupted environment (higher value of the index) is positively associated with the higher early-stage entrepreneurial activity.

Finally, we comment on the impact of the two indicators obtained from the Global Entrepreneurship Monitor (2018)—the level of perceived opportunities and

fear of failure rate. The obtained results have empirically supported an assumption that the more opportunities people perceive in the country, the higher is the level of early-stage entrepreneurial activity because people are more willing to exploit these business opportunities (Roman et al. 2018; Bosma and Schutjens 2011). Finally, the variable representing fear of failure rate was not found to be statistically significant, although the coefficient was found to be negative across both specifications. The negative coefficient was expected in line with the previous literature because the fear of failure is a strong factor that might prevent individuals from pursuing entrepreneurship career (Bosma and Schutjens 2011; Vaillant and Lafuente 2007).

7 Conclusions and Suggestions for Future Research

Development of entrepreneurial activity and its determinants in a cross-country setting has been widely studied in developed countries in the past. We already know from Freytag and Thurik (2007), Dvouletý (2017) and Roman et al. (2018) that the trends and determinants of entrepreneurship change over time and across countries. We also know that those findings from developed countries lead the entrepreneurship research. However, are these findings applicable and transferable for other continents and countries that have not been studied yet? Honestly, we do not know, and we need to find this out empirically. Unfortunately, calls for replication (see, e.g. Davidsson 2015, 2016, 2017) and expansion for research to the countries that have not received particular attention yet do not receive many responses from the empirical researchers in the field and especially from the editors and reviewers of the leading entrepreneurship journals who still focus mainly on theoretical contributions.

We believe that we need to support all efforts resulting in discussion findings from the countries that have not received that much attention yet as they might enrich our field. One of the under-researched regions is Africa. Jones et al. (2018a, b, c) have tried to encourage more scholars to enter the debate, and they have published three interesting special issues of the *Journal of Small Business and Enterprise Development* to move the discussion further and to enrich academia. However, there is still a lack of studies studying the overall level of entrepreneurial activity and its determinants in Africa. Therefore, we contributed to this body of knowledge from the perspective of African developing countries. We demonstrate that most of the African developing countries have not yet conducted Global Entrepreneurship Monitor to study entrepreneurial activity in their country. Only 17 of 52 countries have conducted GEM study at least once. Also, data from the World Bank, Transparency International and Heritage Foundation offer a quite limited number of available years for the classical determinants of entrepreneurship. Thus we would like to encourage policymakers, representatives of agencies (such as the World Bank) and scholars to collect more datasets reflecting the situation in developing African countries.

In this book chapter, we provide readers with an overview of the existing data, and we show the overall entrepreneurial activity in a sample of 12 African developing countries during the years 2001–2016. Collected data from Global Entrepreneurship Monitor (2018) report the activity as on average 31% of the 18–64 population, consisting of 20.4% of the 18–64 population who are either nascent entrepreneurs or owner-managers of new business and of 11% of the 18–64 population who were engaged in owning-managing established business and at the same time receiving salaries, wages or any other payments for more than 42 months. Given the high proportions of early-stage entrepreneurial activity and existing data on new business density from the World Bank (2018), we studied determinants of early-stage entrepreneurial activity deeper.

Estimating multivariate econometric models, we found that most of the variables included in our analysis show a similar impact of independent variables on both types of early-stage entrepreneurial activity. Although the number of available observations limits our results, we find some empirical evidence showing the importance of GDP per capita, unemployment rate, economic freedom index, corruption perceptions and perceived opportunities as factors influencing the early-stage level of entrepreneurial activity. We would like to highlight from the obtained findings the positive impact of perceived opportunities and negative influence of the corruption perceptions on early-stage entrepreneurial activity.

We believe that our conducted analysis serves as an inspiration for future research. When having more available datasets, the researchers could employ other measures of entrepreneurial activity, such as established business ownership rate (EBOR) from Global Entrepreneurship Monitor, self-employment rates from national labour force surveys or rates of the registered business activity. Other specific measures of entrepreneurship, such as high-growth, necessity/opportunity driven, should be considered in the forthcoming research (c. f. Dvouletý 2018a). An empirical review of the literature by Roman et al. (2018) and Dvouletý (2017) also suggests several other interesting determinants of entrepreneurial activity to be studied in the future. They include the role of foreign direct investments, access to credit, education structure of the population or the role of research and development (R&D) expenditures, employees and institutions. More sophisticated econometric methods suitable for a dynamic empirical analysis (such as general methods of moments, GMM, and vector autoregressive models, VAR, with impulse response functions) should also be employed by the scholars. Finally, we believe that scholars should also continue analysing entrepreneurial activity in Africa at the lower levels of administrative units, such as regions or cities.

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References

- Ajufo, B. I. (2013). Challenges of youth unemployment in Nigeria: Effective career guidance as a panacea. *African Research Review*, 7(1), 307–321.
- Aladekomo, F. O. (2004). Nigeria educational policy and entrepreneurship. *Journal of Social Sciences*, 9(2), 75–83.
- Atiase, V. Y., Mahmood, S., Wang, Y., & Botchie, D. (2018). Developing entrepreneurship in Africa: Investigating critical resource challenges. *Journal of Small Business and Enterprise Development*, 25(4), 644–666.
- Awogbenle, A. C., & Iwuamadi, K. C. (2010). Youth unemployment: Entrepreneurship development programme as an intervention mechanism. *African Journal of Business Management*, 4(6), 831–835.
- Bosma, N., & Schutjens, V. (2011). Understanding regional variation in entrepreneurial activity and entrepreneurial attitude in Europe. *The Annals of Regional Science*, 47(3), 711–742.
- Bosma, N., Sanders, M., & Stam, E. (2018). Institutions, entrepreneurship, and economic growth in Europe. *Small Business Economics*, 51, 1–17.
- Brixiová, Z., & Kangoye, T. (2016). Gender and constraints to entrepreneurship in Africa: New evidence from Swaziland. *Journal of Business Venturing Insights*, 5, 1–8.
- Brixiová, Z., Ncube, M., & Bicaba, Z. (2015). Skills and youth entrepreneurship in Africa: Analysis with evidence from Swaziland. *World Development*, 67, 11–26.
- Chigunta, F. (2017). Entrepreneurship as a possible solution to youth unemployment in Africa. *Laboring and Learning*, 10, 433–451.
- Chowdhury, F., Desai, S., & Audretsch, D. B. (2018). Introduction and overview. In *Corruption, entrepreneurship, and social welfare* (pp. 1–8). Cham: Springer.
- Davidsson, P. (2015). Data replication and extension: A commentary. *Journal of Business Venturing Insights*, 3, 12–15.
- Davidsson, P. (2016). The power of replication. In *Researching entrepreneurship* (pp. 247–284). Cham: Springer.
- Davidsson, P. (2017). A future of entrepreneurship research: Domain, data, theory, and impact. In G. Ahmetoglu, T. Chamorro-Premuzic, B. Klinger, & T. Karcisky (Eds.), *The Wiley handbook of entrepreneurship* (pp. 1–23). Hoboken: Wiley.
- DeJaeghere, J., & Baxter, A. (2014). Entrepreneurship education for youth in sub-Saharan Africa: A capabilities approach as an alternative framework to neoliberalism's individualizing risks. *Progress in Development Studies*, 14(1), 61–76.
- Dvouletý, O. (2017). Determinants of nordic entrepreneurship. *Journal of Small Business and Enterprise Development*, 24(1), 12–33.
- Dvouletý, O. (2018a). How to analyse determinants of entrepreneurship and self-employment at the country level? A methodological contribution. *Journal of Business Venturing Insights*, 9(2), 92–99.
- Dvouletý, O. (2018b). Determinants of self-employment with and without employees: Empirical findings from Europe. *International Review of Entrepreneurship*, 16(3), 405–426.
- Dvouletý, O., & Blažková, I. (2018). *Entrepreneurship and corruption: Do corruption perceptions influence regional entrepreneurial activity?* The 12th International Days of Statistics and Economics, pp. 433–440.
- Dvouletý, O., Gordievskaya, A., & Procházka, D. A. (2018). Investigating the relationship between entrepreneurship and regional development: Case of developing countries. *Journal of Global Entrepreneurship Research*, 8(1), 16.
- Dzisi, S., Odoom, F. D., & Gligah, B. (2018). Entrepreneurship training and skills development in Africa: Evidence from Koforidua Technical University, Ghana. *International Journal of Economics and Business Research*, 15(4), 509–523.
- Edoho, F. M. (2015). Entrepreneurialism: Africa in transition. *African Journal of Economic and Management Studies*, 6(2), 127–147.

- Efobi, U., & Orkoh, E. (2018). Analysis of the impacts of entrepreneurship training on growth performance of firms: Quasi-experimental evidence from Nigeria. *Journal of Entrepreneurship in Emerging Economies*, 10(3), 524–542.
- Egbert, H. (2009). Business success through social networks? A comment on social networks and business success. *American Journal of Economics and Sociology*, 68(3), 665–677.
- Engelmann, R. (1994). Entrepreneurship and Africa. In *African development and public policy* (pp. 67–85). London: Palgrave Macmillan.
- Frese, M., & de Kruif, M. (2000). Psychological success factors of entrepreneurship in Africa: A selective literature review. In *Success and failure of microbusiness owners in Africa* (pp. 31–53). Westport, CT: Quorum Books.
- Freytag, A., & Thurik, R. (2007). Entrepreneurship and its determinants in a cross-country setting. *Journal of Evolutionary Economics*, 17(2), 117–131.
- Fritsch, M. (2015). Methods of analyzing the relationship between new business formation and regional development. In C. Karlsson, M. Andersson, & T. Norman (Eds.), *Handbook of research methods and applications in economic geography* (pp. 303–320). Cheltenham: Elgar.
- George, G., Corbishley, C., Khayesi, J. N., Haas, M. R., & Tihanyi, L. (2016a). Bringing Africa in: Promising directions for management research. *The Academy of Management Journal*, 59(2), 377–393.
- George, G., Kotha, R., Parikh, P., Alnuaimi, T., & Bahaj, A. S. (2016b). Social structure, reasonable gain, and entrepreneurship in Africa. *Strategic Management Journal*, 37(6), 1118–1131.
- Global Entrepreneurship Monitor. (2018). *Entrepreneurial attitudes and behavior data*. Retrieved October 26, 2018, from <https://www.gemconsortium.org/data>
- Harsch, E. (1993). Accumulators and democrats: Challenging state corruption in Africa. *The Journal of Modern African Studies*, 31(1), 31–48.
- Heritage Foundation. (2018). *Economic freedom index*. Retrieved October 26, 2018, from <https://www.heritage.org/>
- Hope Sr., K. R. (2016). *African political economy: Contemporary issues in development*. London: Routledge.
- Jones, P., Maas, G., Dobson, S., Newbery, R., Agyapong, D., & Matlay, H. (2018a). Entrepreneurship in Africa, part 1: Entrepreneurial dynamics in Africa. *Journal of Small Business and Enterprise Development*, 25(3), 346–348.
- Jones, P., Maas, G., Dobson, S., Newbery, R., Agyapong, D., & Matlay, H. (2018b). Entrepreneurship in Africa, part 2: Entrepreneurial education and eco-systems. *Journal of Small Business and Enterprise Development*, 25(4), 550–553.
- Jones, P., Maas, G., Dobson, S., Newbery, R., Agyapong, D., & Matlay, H. (2018c). Entrepreneurship in Africa, part 3: Conclusions on African entrepreneurship. *Journal of Small Business and Enterprise Development*, 25(5), 706–709.
- Khayesi, J. N., Sserwanga, A., & Kiconco, R. (2017). Culture as a facilitator and a barrier to entrepreneurship development in Uganda. *Entrepreneurship in Africa*, 15, 307.
- Kiggundu, M. N. (2002). Entrepreneurs and entrepreneurship in Africa: What is known and what needs to be done. *Journal of Developmental Entrepreneurship*, 7(3), 239.
- Kojo Oseifuah, E. (2010). Financial literacy and youth entrepreneurship in South Africa. *African Journal of Economic and Management Studies*, 1(2), 164–182.
- Kshetri, N. (2011). Institutional and economic foundations of entrepreneurship in Africa: An overview. *Journal of Developmental Entrepreneurship*, 16(01), 9–35.
- Kuada, J. (2010). Culture and leadership in Africa: A conceptual model and research agenda. *African Journal of Economic and Management Studies*, 1(1), 9–24.
- Kuada, J. (2015). Entrepreneurship in Africa—A classificatory framework and a research agenda. *African Journal of Economic and Management Studies*, 6(2), 148–163.
- Langevang, T., & Gough, K. V. (2012). Diverging pathways: Young female employment and entrepreneurship in sub-Saharan Africa. *The Geographical Journal*, 178(3), 242–252.
- Lashitew, A. A., & van Tulder, R. (2017). Inclusive business in Africa: Priorities, strategies and challenges. *Entrepreneurship in Africa*, 15, 71.

- Mahajan, V. (2011). *Africa rising: How 900 million African consumers offer more than you think*. Upper Saddle River: Pearson Prentice Hall.
- Mbaku, J. M. (1996). Bureaucratic corruption in Africa: The futility of cleanups. *Cato Journal*, 16, 99.
- Meagher, K. (2005). Social capital or analytical liability? Social networks and African informal economies. *Global Networks*, 5(3), 217–238.
- Mohamadi, A., Peltonen, J., & Wincent, J. (2017). Government efficiency and corruption: A country-level study with implications for entrepreneurship. *Journal of Business Venturing Insights*, 8, 50–55.
- Munemo, J. (2012). Entrepreneurship in developing countries: Is Africa different? *Journal of Developmental Entrepreneurship*, 17(01), 1250004.
- Nafukho, F. M., & Helen Muyia, M. A. (2010). Entrepreneurship and socioeconomic development in Africa: A reality or myth? *Journal of European Industrial Training*, 34(2), 96–109.
- Ngunjiri, I. (2010). Corruption and entrepreneurship in Kenya. *Journal of Language, Technology & Entrepreneurship in Africa*, 2(1), 93–106.
- Nikolaev, B. N., Boudreaux, C. J., & Palich, L. (2018). Cross-country determinants of early-stage necessity and opportunity-motivated entrepreneurship: Accounting for model uncertainty. *Journal of Small Business Management*, 56, 243–280.
- North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge: Cambridge University Press.
- Ratten, V., & Jones, P. (2018). Bringing Africa into entrepreneurship research. In *African Entrepreneurship* (pp. 9–27). Cham: Palgrave Macmillan.
- Rey, S. (2018). *How Africa wins through design-centered and learned entrepreneurship*. Retrieved December 5, 2018, from <https://www.iol.co.za/business-report/opinion/how-africa-wins-through-design-centered-and-learned-entrepreneurship-18364475>
- Robson, P. J., Haugh, H. M., & Obeng, B. A. (2009). Entrepreneurship and innovation in Ghana: Enterprising Africa. *Small Business Economics*, 32(3), 331–350.
- Roman, A., Bilan, I., & Ciumaş, C. (2018). What drives the creation of new businesses? A panel-data analysis for EU countries. *Emerging Markets Finance and Trade*, 54(3), 508–536.
- Rösenthaler, U., & Schulz, D. (Eds.). (2015). *Cultural entrepreneurship in Africa*. London: Routledge
- Sriram, V., & Mersha, T. (2010). Stimulating entrepreneurship in Africa. *World Journal of Entrepreneurship, Management and Sustainable Development*, 6(4), 257–272.
- Stenholm, P., Acs, Z. J., & Wuebker, R. (2013). Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity. *Journal of Business Venturing*, 28(1), 176–193.
- Transparency International. (2018). *Corruption perception index*. Retrieved October 26, 2018, from <https://www.transparency.org/research/cpi/overview>
- Tvedten, K., Hansen, M. W., & Jeppesen, S. (2014). Understanding the rise of African business: In search of business perspective on African enterprise development. *African Journal of Economic and Management Studies*, 5(3), 249–268.
- United Nations. (2018). *United Nations conference on trade and development: Classification of countries*. Retrieved October 26, 2018, from <http://unctadstat.unctad.org/EN/Classifications.html>
- Urbano, D., Aparicio, S., & Audretsch, D. (2018). Twenty-five years of research on institutions, entrepreneurship, and economic growth: What has been learned? *Small Business Economics*, 1–29. <https://doi.org/10.1007/s11187-018-0038-0>
- Vaillant, Y., & Lafuente, E. (2007). Do different institutional frameworks condition the influence of local fear of failure and entrepreneurial examples over entrepreneurial activity? *Entrepreneurship and Regional Development*, 19(4), 313–337.
- Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data*. Cambridge: MIT Press.
- World Bank Database. (2018). *Statistical database*. Retrieved October 26, 2018, from <https://data.worldbank.org>
- Zahra, S. A., Rawhouser, H. N., Bhawe, N., Neubaum, D. O., & Hayton, J. C. (2008). Globalization of social entrepreneurship opportunities. *Strategic Entrepreneurship Journal*, 2(2), 117–131.

Culture as Opportunity: Skilled Migration and Entrepreneurship in Australia



Nelia Hyndman-Rizk and Saskia de Klerk

Abstract The diversity of migration to Australia today and the shift to skilled migration render necessity-driven entrepreneurship an incomplete explanation of the motivations behind new patterns in immigrant entrepreneurship. This chapter presents the findings of a mixed-method comparative case study of entrepreneurial motivation amongst immigrant entrepreneurs in Australia. Qualitative and quantitative methodologies were utilised, including face-to-face interviews, thematic coding and descriptive statistics. The study found a preference for opportunity-driven entrepreneurship amongst participants in the study. Other factors included prior entrepreneurial experience, the desire for autonomy and opportunity recognition in the market and level of education. The four small business cases presented found a combination of skilled migration background, cultural and social capital and cultural values contributed to the entrepreneurs' ability to identify opportunities. While one business catered to their co-ethnics as clientele, others hired their co-ethnics, another business utilised their cultural capital to market cuisine to a broader audience and, lastly, a cultural orientation to business risk and self-employment was identified. The findings of the comparative case study shed light on the black box of entrepreneurial motivation and map a shift in the pattern of immigrant entrepreneurship in Australia from necessity- to opportunity-driven entrepreneurship. New policy initiatives should identify how to serve and support immigrant entrepreneurs more effectively to start up their own businesses. This chapter observes a mindset change amongst skilled immigrant entrepreneurs and recommends strategies to facilitate immigrant entrepreneurship, build innovation and capitalise on diversity.

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1 Introduction

The study of immigrant entrepreneurship has grown steadily in recent times as immigrant entrepreneurs make a recognisable contribution to employment, economic growth, investment and prosperity in the host countries. Various studies show that immigrants exhibit a higher propensity to become entrepreneurs than residents do (Yang et al. 2011), leading to the question, why? While most research on immigrant entrepreneurship focuses on *outcomes* (such as employment opportunities and revenues created) of their entrepreneurial activities, a consensus in the available research focuses on a binary view in which immigrant entrepreneurs are either driven by opportunity or necessity. For example, previous studies on immigrant entrepreneurship in Australia identified various ‘push’ and ‘pull’ factors, which influenced first- and second-generation immigrant entrepreneurs in Australia. Some studies focused on the role of cultural differences, e.g. Croatian immigrants (Ljubicic et al. 2011) and Chinese immigrants (Wang et al. 2013), or the role of ethnic networks in supporting immigrant business autonomy (Hyndman-Rizk 2014; Collins and Low 2010), as well as the role of immigrant women entrepreneurs (Kermond et al. 1991). Lastly, some studies have taken a policy perspective, by looking at policy enablers and policy development (Collins 2003). The increasing diversity of immigrants to Australia, and the increasing rise in migrants establishing small to medium businesses, makes previous research insufficient to understand the motivations of immigrant entrepreneurs and the driving force behind their decision to establish an enterprise. Research also supports this view, because there is a lack of knowledge about how entrepreneurs decide to take up an opportunity (Collins and Low 2010; Ram et al. 2017). This also led to calls for future research and ‘a more comprehensive insight into the immigrant entrepreneur’s internationalisation process’ (Smans et al. 2014, p. 154). Therefore, the central question this research will answer is *Why do new immigrants seek opportunity-driven entrepreneurship?* A focus on the diversity of reasons for entering entrepreneurship in research is motivated by scholars such as Welter et al. (2017). Therefore, we look at diverse immigrant entrepreneurs to answer the research question; this comparative case study of 15 entrepreneurs’ sheds light on the black box of immigrant entrepreneurial values and adds a new dimension to the literature on immigrant entrepreneurship. The chapter starts by describing immigrant entrepreneurship and then examines the literature to explore how the phenomenon has been approached in the past, before identifying gaps in the literature and using the push-pull theory of entrepreneurship to make sense of it. A framework to consider the key motivations of immigrant entrepreneurs is then described. The methodological approach is outlined, before presenting an overview of the comparative case study, the background of the entrepreneurs and their business industries. The chapter then presents the story of four entrepreneurs and their businesses and their pathway into entrepreneurship. The chapter draws lessons from the case studies and considers the implications for the broader debate on immigrant entrepreneurship.

2 Defining Entrepreneurship

Entrepreneurship is described as an activity to exploit opportunities through the direct or combined efforts of entrepreneur(s) (Manson 2001). The literature focuses on entrepreneurship from three perspectives. One approach is to focus mostly on the outcomes of entrepreneurship. In this research entrepreneurship is seen more as a means to an end (Cassim 1982; Anderson 2015). Other research focuses on the individual personality characteristics (Katz and Gartner 1988; Chell 2008) and key values of entrepreneurs (Gibb 2005) and how these factors determine their success or failure in business ventures. How entrepreneurs conduct themselves and the processes they follow are also evident in literature. In this approach, the emphasis falls on the underlying behaviour of the entrepreneur, in terms of motivation (Gibb 2005) and how they identify opportunities (Bygrave and Hofer 1991; Davidsson 2015). Entrepreneurship across borders, in the form of transnational entrepreneurs and international and ethnic (immigrant) entrepreneurs, is now receiving increased attention, due to the potential for economic return, (Min and Bozorgmehr 2000) social development and greater integration (Ilhan-Nas et al. 2011).

3 Why Immigrant Entrepreneurship?

International studies find that small business is an important factor in the economic advancement of immigrants (Sanders and Nee 1996) and that immigrants tend to be more highly represented amongst the self-employed than those born in the host society (OECD 2010; Wayland 2011). The Australian Bureau of Statistics similarly found that of the 1.1 million business operators¹ in Australia, 28% were born overseas and that both the construction and retail sectors have a larger proportion of migrant-owned businesses than amongst Australian born (13 and 14%, respectively) (ABS 2008, 2010). Throughout the history of immigration to Australia, immigrants have encountered a range of structural, cultural and legal barriers to entering the employment market (Monsour 2010). We will suggest, that the move of immigrants into self-employment has always been due to both challenges and opportunities. Above all, because they identified a gap and met a demand in the market. For instance, Manchester goods in rural and regional Australia at the turn of the century (Monsour 2010), or Middle Eastern cuisine in the food industry today, as well as construction and IT industries, as shown in our business case studies. The desire to be self-employed and create one's own opportunities has become more important in the contemporary economic context, we will argue.

The literature distinguishes between the uses of the terms 'immigrant' and 'ethnic' entrepreneurs. 'Immigrant entrepreneurs' are described as minority groups

¹Other business operators are defined as people who operate their own business, with or without employees, but who are not operating as independent contractors.

who immigrated in the past few decades (Volery 2007), as opposed to the ‘ethnic entrepreneur’ who is seen as ‘more familiar and integrated within the host country environment’ (Azmat and Samaratunge 2009). This study will use the term ‘immigrant entrepreneur’. Ethnic entrepreneurship research tends to either focus on the causes, such as the reasons for starting a venture or the consequences, such as why it is important and the contribution of entrepreneurship to society and the economy overall, in a region or nation. Immigrant entrepreneurship has grown from an observation to the realisation that it plays an important role in economic and regional development. The literature on immigrant entrepreneurs in Australia, however, post-2010 is sparse. Despite around 90% of immigrant entrepreneurs in Australia being involved in Small to medium sized enterprises (‘SMEs’) (Collins 2008), very little research in Australia has been conducted on immigrant entrepreneurs, relative to the quantity of research conducted in other developed countries (van Hulten 2012). Most research has focused on the USA and many European nations (Aliaga-Isla et al. 2012), but published research on Australian immigrant entrepreneurs is limited. One of the issues facing the study of immigrant entrepreneurship in Australia is the ability to generalise the findings. Collins and Low (2010, p. 108) identified ‘diversity in the group characteristics, financial and educational resources, and their English language abilities’ as limitations. Subjective definitions (Aliaga-Isla and Rialp 2013, p. 821) and the risk of non-response error (Van Hulten 2012), as well as a high failure rate (34%) within the first 5 years of establishment of small to medium sized enterprises (‘SMEs’) in Australia (Ahmad et al. 2011), are other issues that contribute to the complexity of this research.

Despite some cultural differences in the perceptions of SMEs, the Australian experience is in line with the findings regarding SMEs in Malaysia (Ahmad et al. 2011). Further to this, it is well-established that SMEs are a common pathway for immigrants, with around 90% of immigrant entrepreneurs in Australia being involved in small businesses (Azmat and Zutshi 2008), and a majority of these businesses being involved in the retail sector (Azmat and Zutshi 2008). These observations provide a starting-point for analysis of the topic area and a context for this study. As noted by Collins and Low, ‘[t]he literature on entrepreneurship often ignores the study of immigrant or ethnic entrepreneurship, while the immigrant or ethnic entrepreneurship literature often focuses predominantly on males as entrepreneurs’ (Collins and Low 2010, p. 97), as is the case with this study. This leaves a gap in our understanding not only of the relationships between entrepreneurship, immigration and ethnicity but also the theoretical implications of such interrelated and overlapping factors. This research focuses on the multiple modes of motivation and the impact of this on their choices to start-up new ventures. This research approach allows for more informed policy and support to immigrants. Even though cultural and structural factors are important in explaining their motivations (Brettell and Alstatt 2007), the importance of individual level analysis and to understand the heterogeneity of immigrants has been found to warrant further investigation (Aliaga-Isla and Rialp 2013).

Australia benefits from having a skilled migration programme, yet immigrants continue to find difficulties securing employment, which matches their skills,

qualifications and training. Moreover, there is little policy to support, develop and enhance immigrant entrepreneurial activities. The sociocultural context, the country risk and the ease of doing business in a country, as mentioned in research conducted by Baycan-Levent and Nijkamp (2009), are some of the elements that count in Australia's favour to attract potential immigrant entrepreneurs. How these features are structured in policies and supporting strategies are a key gap in the literature, as well as practice. Some Australian policy responses have had mixed responses in terms of achieving what they set out to. Some of these policies focused on education and training of new immigrants, for example, especially vocational training was supported by the Employment and Skills Formation Council (1994), others on supporting start-ups through the federal policy initiative called: 'New Enterprise Incentive Scheme (NEIS)'; by the Department of Employment, Education and Training (1995). Other initiatives to overcome cultural and language barriers were developed, for instance, the Australian Tax office that established a 'ethnic tax line strategy' to respond to 'ethnic questions on ethnic radio' and the 'NSW Department of State and Regional Development' that started to offer information booklets in a variety of languages (Collins 2003, p. 147). The institutional attractiveness for new business results in more immigrant entrepreneurs taking up opportunities in these areas. This is evident when looking at the regulations and policies to offer 'promising and modern urban economic sectors' to potential migrants (Baycan et al. 2012, p. 972). Australian policy in this regard has also had mixed success (Mahuteau et al. 2014), with a modest increase in the rate of entrepreneurship with the introduction of other policies, such as the Regional Established Business in Australia programme which was introduced in 2003 (Collins 2008).

4 Conceptualising Immigrant Entrepreneurship: Push and Pull Motivations

Research often focuses on entrepreneurial motivation as being either necessity or opportunity driven, and entrepreneurs are described as being 'pushed' or 'pulled' towards entrepreneurship (Williams 2009). Amit and Muller also describe 'push' entrepreneurs as 'those whose dissatisfaction with their current position for various reasons unrelated to entrepreneurial characteristics, pushed them to start a venture' (Amit and Muller 1995, p. 64). Amit and Muller also describe 'pull' entrepreneurs as individuals who are 'lured by their new venture idea and initiate venture activity because of the attractiveness of the business idea and its personal implications' (Amit and Muller 1995, p. 64). Davidsson (2015) also proclaims the problematic nature of 'opportunity' and how it is described in literature, but we make sense of the choice of these immigrants to become self-employed (Dawson et al. 2009) and start their ventures, because of push or pull factors to interpret this for the design of entrepreneurship policy and support initiatives (Dawson and Henley 2012). There are a variety of issues that motivate immigrants to become entrepreneurs, such as

discrimination in labour markets, cultural heritage and family influences, and ethnic enclaves, trading opportunities in specific ethnic products and services. In some cases, having access to ethnic resources, such as labour, finance, information and advice from the local community and access to external ethnic networks internationally, also drives the immigrant towards taking the risk and opportunity (Basu 2006). With government policy changes and increased focus on the intake of highly skilled immigrants, the nature and scope of immigrant ventures have changed as well, to include more diverse and complex undertakings (Walsh 2011), therefore, this is a point this study will build on. To acknowledge the importance of previous experience and qualifications and to simplify the process of this will help these immigrants to settle faster and take up opportunities (Mahuteau et al. 2014). In general, opportunity-driven entrepreneurs are seen as entrepreneurs who identify opportunities and actively pursue those (Hindle and Rushworth 2000; Stokes et al. 2010; Reynolds et al. 2004). These entrepreneurs are driven by self-actualisation, financial rewards, the opportunity to be creative and innovative as well as the potential flexibility of operating their own business (Carter et al. 2003; Ensign and Robinson 2011). These entrepreneurs are pulled towards entrepreneurship, due to the potential growth of a market, the uniqueness and competitive advantage that they can offer and by understanding the expectations of the market (Kloosterman 2010). Some research shows that immigrants actively pursue opportunities in the destination country, before they even get there, or upon arrival. They conduct active market research beforehand or arrive with the intention to identify opportunities. They invest in these 'gaps' in the market and utilise their networks and market research support institutions, such as Lighthouse Business Innovation Centre, Canberra Multicultural Community Forum² and some high commissions (for instance, the High Commission of India based in Canberra), to help them identify these opportunities (Crockett 2013).

Necessity entrepreneurs, on the other hand, are described as entrepreneurs that are forced or 'pushed' into entrepreneurship, because they could not find 'alternative employment' (Frederick and Kuratko 2010, p. 38). Therefore, it is due to a 'lack of having any alternative that they start a business' (Mazzarol 2011, p. 5). Ethnic enclave-focused enterprises often become a 'means to an end' solution for immigrants who struggle to find mainstream work opportunities. Some entrepreneurs are pushed towards self-employment, because of a lack of skills, inadequate English language proficiency (ELP), lack of experience and underdeveloped networks, or social capital (Collins and Low 2010). This was certainly the case during previous generations of migration to Australia, when the migration programme was more oriented towards family reunion, than skilled migration, before the 1990s. Yet migrants found that their 'cultural products', as a form of cultural capital (Bourdieu 1986), could be successfully harnessed for business purposes, if the gap was identified, and the entrepreneur realised the potential to expand their business beyond ethnic niche markets through 'break out strategies' (Hyndman-Rizk 2014;

²Canberra Multicultural Community Forum. (2017). <https://cmcf.org.au/>

Masurel et al. 2004). Nonetheless, the risks of failure are lowered by having other 'safer' options available, such as contract or temporary employment (Ahmad et al. 2011), for those cultures that tend to be especially risk averse (Baycan et al. 2012). Alternately, a cultural thesis has been advanced, whereby some cultural groups, such as Chinese and Jewish and Lebanese traders, are argued to be more inclined towards entrepreneurship:

The 'cultural thesis' suggests that some ethnic groups are conditioned with certain characteristics that make their people more inclined toward business. These cultural characteristics can be the habit of savings, an appreciation of deferred gratification, the propensity to take risk, values often acquired through the process of socialization. (Lo 2009, p. 611)

Furthermore, an advantage that immigrants have, as newcomers to a country, is that they are able to see the business environment with a *fresh pair of eyes*. Self-employment tendencies and networking abilities are some of the factors, which contribute to the choice to become entrepreneurs in the first place (Yang et al. 2011). Discrimination and survival in the new country are also mentioned in literature as motivators (Khosha and Kalitanyi 2015). Other research mentions family expectations as a motivator to 'push' immigrants towards entrepreneurship. The expectation to earn the same income as they used to, as highly skilled workers in their country of origin, drives them towards creating their own employment, which has the potential to earn more income than a salary. Accessing finance, however, is a major obstacle that entrepreneurs face, since they are not completely familiar with the market place and the financial sector (Deakins et al. 1997). The lack of market knowledge, business acumen (Rueda-Armengot and Peris-Ortiz 2012), adequate provision and regulation of labour as well as a well-functioning business ecosystem often deters entrepreneurs from starting a new business or hampers their success (Kloosterman 2010).

5 Methodology

The study applied the push-pull theory (Amit and Muller 1995; Acs 2006). The push-pull theory focuses on individual motivation to pursue an opportunity (Segal et al. 2005). The entrepreneurship nexus, as 'micro-level' as the individual, or the 'individual-venture dyad' recognises the role of 'external enablers' for new venture ideas and the development of opportunity confidence (Davidsson 2015). Research also argues that opportunity recognition and uptake rely on the attitude of the individual and their entrepreneurial values or the level of entrepreneurial alertness to identify suitable opportunities (Tang et al. 2012). An opportunity is described as impartial or a neutral chance and 'something objectively existing and favourable' (Davidsson 2015, p. 680). Being new to the environment, as an immigrant, could facilitate more freedom to explore and identify opportunities and more willingness to act. Figure 1 illustrates the entrepreneurial process, in relation to our case studies, which we have further divided into five stages. Stage 1 is the opportunity to become

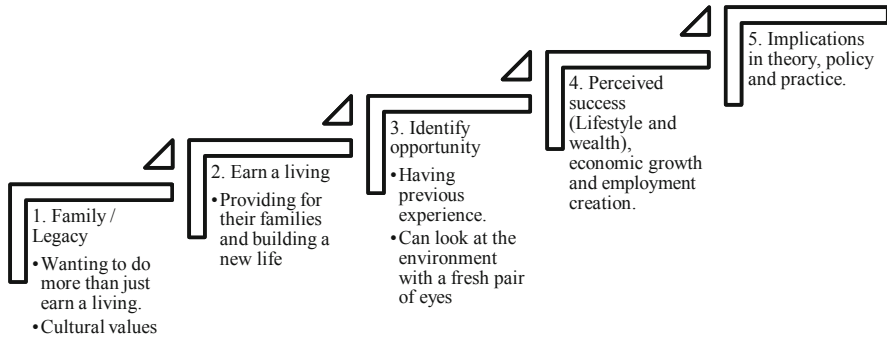


Fig. 1 Framework for immigrant motivation. Sources: Author's own figure

an entrepreneur (pulled towards the opportunity because of the combination of the following five stages) and the role of cultural and family values in the entrepreneurial process; stage 2 is the potential to earn an income, provide for their families and build a new life; stage 3 is the role of prior business experience in identifying opportunity; stage 4 is the subjective perception of success; and stage 5 is the implication of the comparative case study analysis for entrepreneurial theory and practice.

To operationalise the theoretical approach, a comparative case study research design was applied. We addressed the central research question: *Why do new immigrants seek opportunity-driven entrepreneurship?* We reflected on four sub-questions to examine a number of related factors including (1) how and why the entrepreneur chose to become entrepreneurs? (2) Did they have start-up capital? (3) Did they have business experience? (4) Did they see themselves as successful? In the first phase of the design, we carried out in-depth semi-structured interviews with a purposeful sample of 15 immigrant entrepreneurs in both NSW and the ACT, Australia³. The interviews took between 60 and 80 min and continued until data saturation was reached. We considered both the context, which impact on the environment for start-ups, as well as intrinsic drive (Aldrich 2000), cultural values, as described by Morrison (2001), and the role of ethnic community networks and social capital (Zhou 2004; Hyndman-Rizk 2014). In the second phase of the research, we undertook mixed-method data analysis. Firstly, open questions from the face-to-face interviews were transcribed and thematically coded in relation to eight thematic codes: what is success, labour market barriers, entrepreneurial motivation, earning more money than wages, opportunity and gaps in the market, start-up capital, business experience and business industry. Through our qualitative data analysis, we identified four key drivers of the entrepreneurial process: choice, necessity, opportunity and cultural values. Secondly, the closed questions from the face-to-face interview schedule were analysed quantitatively, through numeric

³The interviewees had to comply with specific selection criteria, including they had to be an owner manager of a business and they had to be first-, second- or third-generation entrepreneur's immigrant entrepreneurs.

coding in excel to identify patterns across the 15 interviews in relation to the research questions. The numerical coding and classification chart enabled us to develop descriptive statistics to compare the cases, identify overarching patterns, generalise the findings and provide demographic information regarding the case entrepreneurs investigated in this study. The results of the mixed-method data analysis that were triangulated (Bryman and Bell 2011) will now be presented.

6 Comparing Immigrant Entrepreneurs in Australia

The 15 case study entrepreneurs interviewed in this study come from diverse backgrounds in terms of their countries of origin, the variety of businesses they run and their different pathways into entrepreneurship. Most of our interviewees were male, 87%, and 80% were first-generation immigrants, while the remainder were second-generation immigrants. They came from seven different countries or regions (see Fig. 2): Bangladesh, Lebanon, India, Greece, South Africa, China and the South Pacific 6%. They were highly educated, with 20% having completed a bachelor’s degree and 27% completed a postgraduate degree, while 27% held a trade certificate. Almost all had a high level of English language proficiency (ELP).

The businesses examined in this comparative case study were chosen because of their higher levels of entrepreneurial activity, with 60% of the entrepreneurs having

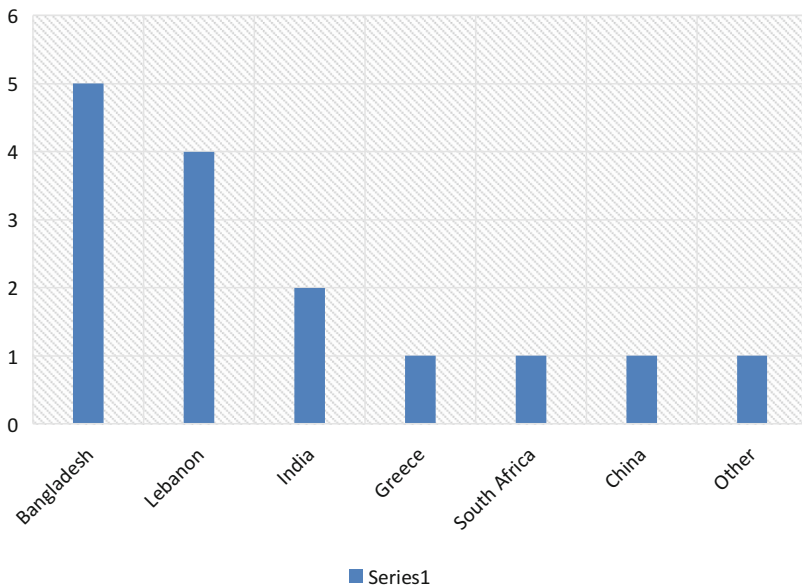


Fig. 2 Cultural background of entrepreneurs. Source: Author’s own figure

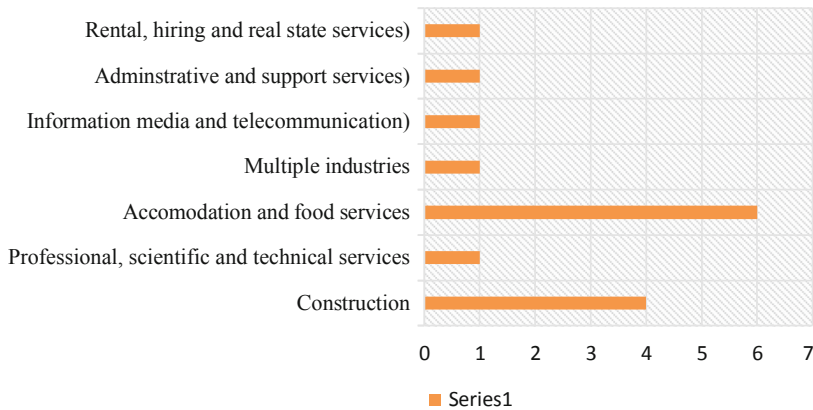


Fig. 3 Business industry of entrepreneurs. Source: Author's own figure

prior business experience. The majority of the businesses were small to medium⁴ enterprises (SMEs), 66%, while 20% were big businesses, and 13% were microbusinesses. In terms of employees, 40% of our sample businesses had fewer than 10 employees, while 20% had more than 10 employees, and 7% had more than 100 employees. The majority were established businesses, utilising GEM's definition of business maturity.⁵ The majority, 73%, of the businesses identified as family businesses and were all located in Australia, with the majority being in Canberra, 60%, while the others were located in Sydney, Victoria or operated Australia wide. The majority of our sample, 80%, utilised their own savings to start their business, while 20% used an Australian bank, while only 10% accessed a family loan, indicating a high level of self-efficacy in sourcing start-up capital. In terms of the business industry⁶ (see Fig. 3), 40% of the businesses were in the accommodation and food services industry, while 27% were in the construction industry, and the remaining businesses were in the IT, rental, hiring, professional and scientific industries. Lastly, 67% of the businesses surveyed were operated from rented premises, while only 20% were home-based businesses (HBB).

Of our 15 interviewees, 4 immigrant entrepreneurs were selected for discussion in this chapter from Bangladesh, Lebanon, India and South Africa. Each business case follows a different ethnic business model (Lo 2009), with the first business hiring co-ethnics; the second business marketing to co-ethnics within the enclave economy;

⁴For a definition of SME, we used the Australian Department of Finance definition of SME's and small businesses as being those fewer than 200 employees and operates independently of any parent organisation <https://www.finance.gov.au/blog/2016/12/07/SMEs-and-Small-Businesses-%E2%80%93-winning-government-business/>.

⁵We used GEM's definition of business maturity, which defines early stage as being 0–3 months, developing as 4–42 months, established as more than 42 months and exit as being out of business (Burns 2016).

⁶We used the Australian and New Zealand Industry Classification (A-S).

the third business drawing on cultural values and entrepreneurialism to run a business, which caters to local and international audiences; and the fourth business utilising their cultural capital to market their ethnic cuisine to a wider, diverse audience in the mainstream economy. The first entrepreneur is a building and construction magnate, and he arrived in Australia in the 1960s from Lebanon; the second case study entrepreneur runs a Bangladeshi grocery store and arrived in the last decade; our third case study is of a South African immigrant who started a design business; and our final case study is of an Indian entrepreneur who has a catering business. Each found their own niche in the market, and their businesses vary in size and scale. Of the four, the Lebanese entrepreneur has been in Australia the longest, having arrived in the 1960s, under a more relaxed immigration regime than operates in Australia today. They are all first-generation immigrant entrepreneurs.

6.1 Case One: A Building and Construction Magnate

The Lebanese, it's in our blood to go overseas and achieve something

Participant 1 (P1) was born in 1945 in Bcharre, North Lebanon, and migrated to Australia in 1966. He was about 20 years old. He was an apprentice concreter, and his cousin said, *come to Australia*. In Lebanon, he attended a private school and TAFE. When he came to Australia, he undertook further training at night school for a short period to learn English, *I did very well at study and I had some letters to go to Uni but I didn't go, I said no, I came to Australia to make money not to study*. He had to work because he left behind a big family, with six sisters. He then went to work in the factory for a short period from 66 until 69, and then he started to work with someone as a plumber. After that he went to work in concrete form work and started his own business in 1969–1970.

P1 went on to become one of the biggest Lebanese contractors; he had nearly 30 men working for him. He used to have plumbers and concreters.

I think I am one of the first Lebanese form workers in Australia. 1970s. We had about seven or eight people. Then we bought concrete pumps—one of the biggest in Australia. They used to hire my pump, because we used to do the high-rise in the city. We used to have one of only two high-rise pumps in Sydney.

Today he is of an average size; *there are no more big jobs today*, he points out. He used to build factories, but he doesn't sell commercial these days, just residential: *Today in Sydney really you can say 80% of buyers are Chinese really, especially in our suburb*.

Consequently, most of his work these days isn't with Lebanese, but his workers are nearly 90% from a Lebanese background. *We used to have a couple of Italians, one Greek. All subcontractors, I used to have my own employees. One person, he was 23 years working for me, another two 16 years*. He was member of the MBA (Master Builders Association) and then became a member of the HIA (Housing

Industry Association). *I've been with them nearly 30 years, they sent me a golden membership.*

He joined because he used to do a lot of work for the housing department and they wouldn't give you the work unless you were a member of the MBA. *So if you're not a member they don't give you the contract.* His membership was crucial for networking with other builders and other clients. *Yeah, I used to go for their function in the city, I used to run nearly every year. Once I came second.*

He describes his business as being successful but points out that in the building game, you've got ups and downs, but he prefers to go steady and be very careful. *Some people—it's human nature, they want more and more. We work slowly and carefully because the building game can be very dangerous, I know in my day a lot of builders went bankrupt. I don't want to be a multimillionaire, I'm working and I'm happy, I've got a family.*

He points out his big success through some important contacts he has made: *I'll show you how many photos with the Prime Minister I have, I have dinners with them, I mix with a lot of people, I've been around.* But at the end of the day, the main thing is if you have a good family, he says. When asked: *if you were a multimillionaire, but your family wasn't a success, would you be a success?* He responded: *That's it, of course not.*

6.2 Case Two: A Bangladeshi Community Grocery Store Owner

Participant 2 (P2) is a 43-year-old immigrant from Bangladesh and the first in his family to settle in Australia. He has resided in Australia for 10 years, first as a permanent resident and student, now as a citizen and small business owner. He has two master's qualifications, one from Bangladesh and one from Australia. After completing his studies in Canberra, he worked as a contractor (on a temporary basis) in accounting for the Australian government. Due to difficulties in finding permanent work in government (partly due to English being P2's second language), having a child and therefore needing a stable income and his wife's studies being located in Canberra, P2 decided to open his own business and stay in Canberra. He started a grocery business with a business partner, and they both initially invested \$50,000. He funded his share by saving money in Australia and borrowing from family in Bangladesh. Eventually, P2 bought the business partner out of his share by refinancing his home loan, making him the sole business owner. P2 purchases his merchandise from Sydney, from about five vendors that import grocery products from Asian countries. The vendors are also immigrants and long-term residents in Australia. Most of P2's customers are from the Bangladeshi, Indian and Sri Lankan communities, although he has some customers from the broader Australian community. He advertises his business mostly through SMS, Facebook and community events.

P2 feels that Canberra's business environment is conducive to his business, because he is the sole Bangladeshi grocer and, therefore, without competition. He likes the clarity in price systems and technologies, such as point of sale (POS), which removes the hassle of bargaining, that is common in community grocery store businesses.

P2's key challenges in setting up his business have been learning about and navigating the Australian regulatory system: licencing, food regulations, tax regulations, financing with banks, market research and so forth.

You know when I came Australia it's a new country and totally not aware about my situation and everything and how can I do a business. But now I'm very confident, because my business is about more than three years now, so more confident at the moment.

Currently, his challenges are very high rental costs in Canberra compared to other Australian cities (due to the limited supply of lease properties), and the very small Bangladeshi community in Canberra who comprise the majority of his primary customers.

Lastly, he mentions that business loans and start-up support are an area where government could help more:

About the business loan yes, and also if government would support, then the bank needs to change the policy about the business loan, if a small business owner gets the loan easily. So, then people can invest in the business. So that's the main thing I think of starting a business.

P2 has run his business for 3 years and intends to start diversifying his products in the future.

6.3 Case Three: A South African Design Venture

Participant 3 (P3) moved to Australia with a visa based on his previous experience. He was part of an entrepreneurial team for 10 years and then started his own private venture in South Africa. He realised that the firm had global potential, and when he moved to Australia, he wanted to expand into this market. He comes from an entrepreneurial family, and his father used to be an entrepreneur too: *My father was first generation Portuguese ... He started his first business, which was in the supermarket chains at the age of 19, and he stayed in that business, I would say, for a good 40 years until he retired.* He applied for a few positions but was said to be overqualified for the Canberra market in this industry. He realised that there were no businesses in the market that could offer these specialised services and decided to start his own venture. He mentioned that rebuilding networks and a reputation in an unfamiliar context took time and a lot of investment: *Coming to Australia the most difficult part is you have no history; no one knows who you are, where you're going and there's probably also the factor that they don't trust you. ... I do a bit of cold calling, ... How I built those networks is just meet someone, find out who they are, what they do and who they know. From there, I find it sometimes take eight to ten*

meetings to get to the person you want to actually meet and that's how I built my networks. LinkedIn is a fantastic tool.

He mentioned that closed networks and distrust of immigrants were some of the issues faced: *I found Canberra to be very clicky. Only once people saw more and more of me around other people that they knew as well, did they trust me. . . . But I'd say at first, being a foreigner is very difficult. People are sceptical, and they don't trust you.* He mentioned that there are some individual initiatives to grow entrepreneurship but that government is not pro-business: *But I think, as a whole, I wouldn't really say government is pro-business. Start-ups pay a lot of money on taxes. . . . I think small business is the future of Australia. It's a lot easier to run a business in South Africa, just in terms of opportunities and regulation.*

On a personal level, the barriers to entry are also steep with impersonal processes and lack of support to settle in: *So, the community stand on their own in terms of immigration, there's no one to help them out.* The best community support was mentioned to be fellow small business owners: 'most people I meet that are entrepreneurs in Canberra, aren't from Australia and they're creating bigger strides and impact in terms of the city'. He mentioned plans to expand into Melbourne and Sydney and later Asia.

6.4 Case Four: A First-Generation Entrepreneur from India

Participant 4 (P4) is a first-generation entrepreneur and immigrant from India. He completed his education in India and received a certificate and advanced diploma in cookery. He worked in Singapore in a catering company but also comes from an entrepreneurial family background, even though he did not operate a business in India. He applied for a visa and received this based on previous experience and with his qualification listed on the scarce skills list. When he immigrated and saw the success of others that started their own businesses and saw the potential for his idea in the market, he decided to start his own business in Australia too. He first had to secure full-time employment in the hospitality industry, to support his family and to operate his own catering business on the side. His business is now 12 years old, and he mainly caters for Small to medium sized functions over weekends. He specialises in ethnic Indian cuisine and mostly caters for birthday parties, cocktail parties, sit-down lunches, dinners and weddings for the Indian community. He measures his success by the amount of bookings he receives, but because of the scale of his business, he sometimes cannot keep up with demand: *Success wise I've got a booking to almost end of the year, which looks like I'm not doing bad. Secondly, sometimes I get over booked and I have to refuse to take on work.*

He mainly relies on word-of-mouth marketing but also pursues opportunity when it presents itself: *It's mainly through word of mouth; that is my biggest success as far as advertising is concerned. It all started working in the present firm where I worked and doing catering for the directors of the firm at their homes for their birthday parties or their kid's birthday parties and other things. That's how the word spread.*

His initial investment and risk were not too adverse, since he had little overheads and could access equipment through his network: *One good thing was I didn't have much investment, because I just needed to buy the ingredients, the food the previous day and cook and then pretty much deliver it and within a week I would get paid for it. Gradually I built up a kitchen in the garage of my home and I was using my friend's restaurant kitchen after hours before that.*

The market is described to be very competitive, and staffing is a big concern: *There's a lot of competition; that is one thing. There seem to be always a lot of people cutting prices down, but it's compromising the quality and things like that. So that's another problem which it faces, and staffing is another problem. I don't get good reliable staff who could help with service and cooking.* Local government support was mentioned to be limited with only a few local festivals and business groups. The business community was mentioned to be closed and not as supportive of immigrant entrepreneurs: *There is a few forums and network—there's a business group here, but they don't let any new comers come back easily. They always tend to keep them at an arm's distance if there's a new entry in the market, especially with migrants and new migrants.* Smaller businesses seem to also get little to no support for development: *It's mainly for the big industries which have their own associations and things. But for small businesses I don't think anything is there.*

7 Towards Opportunity Entrepreneurship

The four case study entrepreneurs highlight the role of different ethnic business models, culture and opportunity in their choice to start up their own businesses. While the first entrepreneur came to Australia in the 1960s and started a business in the construction sector, the second entrepreneur came to Australia as a skilled migrant and went into the grocery business. The third case had prior business experience and went into the design industry and the final entrepreneur came from India and set up a catering company. The findings of the cross-case study analysis assist us to answer the research question: *why do new immigrants seek opportunity-driven entrepreneurship?*

Overall, this study found that the majority of the entrepreneurs interviewed were motivated by opportunity-driven entrepreneurship; see Fig. 4. The study found they started their own businesses, because they wanted to create their own opportunity, they had the entrepreneurial drive to take the risk and, as the four in-depth case studies highlighted, the majority of the entrepreneurs had prior business experience, which enabled them to act on their drive. The minority of entrepreneurs in this study, 13%, identified labour market barriers as the key driver for them to start their business. These findings diverge from previous studies of immigrant entrepreneurship, which found necessity-driven entrepreneurship predominates (Hyndman-Rizk and Monsour 2014). By contrast, this study found a complex interplay between barriers, motivation and the search for opportunity, which was the driving force for the immigrant entrepreneurs in this study to start up their own businesses. The top

Entrepreneurial Motivation

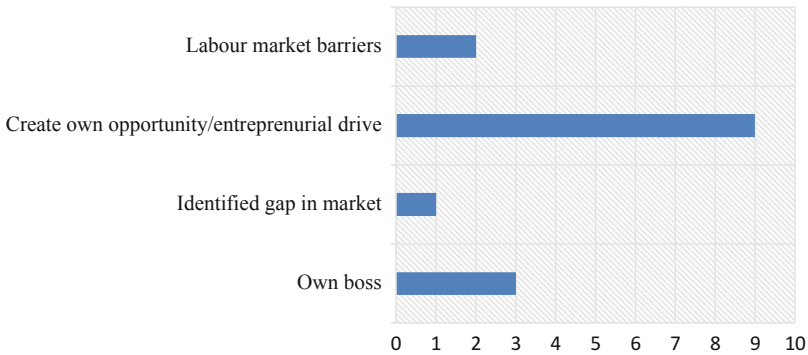


Fig. 4 Business motivation. Source: Author's own figure

four reasons for going into business were (1) opportunity, (2) preference for running a family business, (3) the possibility of making more money than wages when you run your own business as a boss and (4) identifying a gap in the market. For example, we saw in the fourth case study business that selling Indian cuisine, in Canberra, was a gap in the Australian food market. However, when it came to success, most of our case study entrepreneurs considered their businesses to be very successful. Yet, the subjective definition of being successful was not necessarily defined as a monetary reward. Rather, our case study entrepreneurs rated a successful family above financial success alone. In their assessment of their businesses, it was not just making money that was important, a successful family was the true measure of success. This reveals important underlying cultural values, which favour family solidarity and a relational self-schema, as this interviewee explains, a successful family is more important than making a lot of money: *I got a good family mate, it's worth a billion dollars my family. The money never makes you happy, only the future is family, not the money. Today you are a millionaire, tomorrow you're broke.*

Lastly, when it comes to explaining how to create business success, one view is that the entrepreneur can put in the hard work, but there is always an element of good luck involved and this is the key driver, which ultimately determines business success. The four key drivers of entrepreneurial motivation identified in this study, (1) opportunity, (2) the preference for family business, (3) the possibility of making more money than wages and (4) identifying a gap in the market, have strong cultural values underpinning them, associated with collectivist cultures, which favour family solidarity, long-time orientation, investment in the future and a preference for the external management of risk, and, simply, 'luck' (Minkov and Hofstede 2014). While most of our sample considered their businesses to be successful, they did not always measure their success in material terms alone, as the case study stories showed, rather they argued that an entrepreneur should take the good times with the bad, as one comes with the other. This orientation to business suggests an underlying cultural orientation of pragmatism and perseverance in the management of the risks

associated with being the owner/manager of a business venture (Hofstede et al. 2010).

In terms of how the entrepreneurs are pulled towards the opportunities and the cultural orientation of our four case studies, each showed how they identified a gap in the market and created their own opportunity through starting their own business. A combination of cultural values, entrepreneurial background and skilled migration enabled them to create an opportunity for themselves (Fig. 1).

In each of our four cases, their cultural background interacted in a different way with their business model and the role of the ethnic economy (Lo 2009). A combination of their skilled migration background, their cultural and social capital (Bourdieu 1986) as well as their cultural values led to their ability to identify and realise opportunities. While case study one hired co-ethnics in his business, ultimately the market for his construction company transcended the enclave economy and serviced the whole city, but construction remains a partly ethnic-controlled economy in Sydney; hence hiring co-ethnics was one strategy. In the second case study, Bangladeshi ingredients were mostly marketed to his co-ethnics, so the grocery business serviced an ethnic niche market (ethnic economy) (Lo 2009). In the third case, while his cultural background as a Portuguese, South African entrepreneur predisposed him to opportunity-driven entrepreneurship, his business was not focused towards his co-ethnics, but rather the mainstream economy, he displayed a culture of entrepreneurship. In the last case study, the entrepreneur recognised the cultural capital of Indian cuisine as a cultural product in a multicultural market place, but rather than cater to only his co-ethnics, the business is a crossover business in a mixed economy, with a diverse clientele.

8 Conclusion and Policy Recommendations

The cross-case analysis on immigrant businesses presented in this chapter demonstrated a strong preference for opportunity-driven entrepreneurship, highlighting the shifting characteristics of immigrant entrepreneurship in Australia today. The current policy settings of Australia's migration programme favour skilled migration, which is a contributing factor for the increase in skilled migrants entering Australia. Due to their underlying cultural values, the presence of prior skills and higher levels of education, we found that opportunities were more readily identified gaps in the market. Overall, the cross-case analysis found their businesses to be very or moderately successfully. We found that changes in Australia's migration programme towards high skills and high English language proficiency provide the contextual explanation for the shift from necessity- to opportunity-driven entrepreneurship. But the underlying cultural values of self-efficacy and family autonomy and preference for owning and operating a business, in which earnings can be higher than salaries, provide an insight into the motivation of the immigrant entrepreneurs in this comparative case study analysis.

This chapter recommends that policymakers better support immigrant entrepreneurs to seek opportunity in their own business. A ‘one-stop shop’ where immigrant entrepreneurs can access a variety of services or links to information, being new to the country, would provide the relevant information and support that they need. Better governance and guidance on how to establish and grow a newfound business could encourage more immigrants to become entrepreneurs, and it will mitigate the risks involved by having more transparency around the policies, regulations, procedures and requirements of establishing a business in a specific region and state or territory. Skilled migrants tap into both the social capital of local communities and their cultural capital to make a valuable contribution to new employment creation, local investment and economic growth. As shown in this study, new immigrant entrepreneurs have previous business experience and provide new and innovative offerings and ethnic business models and bring cultural diversity to products, services and trade; they also bring their own start-up capital. This study provides a better understanding of how immigrant entrepreneurs view their businesses and decide on their pathways and their subjective view of success. We recommend further research on how government policy can better support immigrant entrepreneurs to start, develop and advance their opportunity-driven businesses in the future. The mobility of highly skilled and experienced immigrants needs forward-looking initiatives, which embrace the value and innovation immigrants bring to the entrepreneurial process.

References

- ABS (Australian Bureau of Statistics). (2008). *Forms of employment* (Australia, cat. no. 6359.0). Canberra: ABS.
- ABS (Australian Bureau of Statistics). (2010). *Perspectives on migrants* (Australia, cat. no. 3416.0). Canberra: ABS.
- Acs, Z. (2006). How is entrepreneurship good for economic growth? *Innovations: Technology, Governance, Globalization*, 1(1), 97–107.
- Ahmad, N., Wilson, C., & Kummerow, L. (2011). A cross-cultural insight into the competency-mix of SME entrepreneurs in Australia and Malaysia. *International Journal of Business and Management Science*, 4(1), 33–50.
- Aldrich, H. E. (2000). Entrepreneurial strategies in new organizational populations. In R. Swedberg (Ed.), *Entrepreneurship: The social science view* (pp. 211–228). Oxford: Oxford University Press.
- Aliaga-Isla, R., & Rialp, A. (2013). Systematic review of immigrant entrepreneurship literature: Previous findings and ways forward. *Entrepreneurship and Regional Development*, 25(9–10), 819–844.
- Aliaga-Isla, R., Rialp, A., & Martins, I. (2012). *Past accomplishments and ways forward on international immigrant entrepreneurship research*. Available at SSRN: <https://ssrn.com/abstract=2121242> or <https://doi.org/10.2139/ssrn.2121242>
- Amit, R., & Muller, E. (1995). “Push” and “pull” entrepreneurship. *Journal of Small Business and Entrepreneurship*, 12(4), 64–80.
- Anderson, A. R. (2015). Conceptualising entrepreneurship as economic ‘explanation’ and the consequent loss of ‘understanding’. *International Journal of Business and Globalisation*, 14(2), 145–157.

- Azmat, F., & Samaratunge, R. (2009). Responsible entrepreneurship in developing countries: Understanding the realities and complexities. *Journal of Business Ethics*, 90(3), 437–452.
- Azmat, F., & Zutshi, A. (2008). A study of social responsibility of Sri Lankan immigrant entrepreneurs in Australia. *The Business Review*, 10(2), 302–308.
- Basu, A. (2006). Ethnic minority entrepreneurship. In *The Oxford handbook of entrepreneurship*. Oxford University Press. Retrieved February 27, 2018, from <http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199546992.001.0001/oxfordhb-9780199546992-e-21>
- Baycan, T., Sahin, M., & Nijkamp, P. (2012). The urban growth potential of second-generation migrant entrepreneurs: A sectoral study on Amsterdam. *International Business Review*, 21(6), 971–986.
- Baycan-Levent, T., & Nijkamp, P. (2009). Characteristics of migrant entrepreneurship in Europe. *Entrepreneurship and Regional Development*, 21(4), 375–397.
- Bourdieu, P. (1986). The forms of capital. In J. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241–258). Westport, CT: Greenwood.
- Brettell, C., & Alstatt, K. (2007). The agency of immigrant entrepreneurs—Biographies of the self-employed in ethnic and occupational niches of the urban labor market. *Journal of Anthropological Research*, 63(3), 383–397.
- Bryman, A., & Bell, E. (2011). *Business research methods*. Oxford: Oxford University Press.
- Burns, P. (2016). *Entrepreneurship and small business*. London: Palgrave Macmillan Limited.
- Bygrave, W. D., & Hofer, C. W. (1991). Theorizing about entrepreneurship. *Entrepreneurship Theory and Practice*, 16(2), 13–22.
- Carter, N. M., Gartner, W. G., Shaver, K. G., & Gatewood, E. J. (2003). The career reasons of nascent entrepreneurs. *Journal of Business Venturing*, 18(1), 13–39.
- Cassim, F. (1982). Labour market segmentation: The theoretical case. *South African Journal of Economics*, 50(4), 240–247.
- Chell, E. (2008). *The entrepreneurial personality: A social construction* (2nd ed.). East Sussex, Routledge.
- Collins, J. (2003). Cultural diversity and entrepreneurship: Policy responses to immigrant entrepreneurs in Australia. *Entrepreneurship and Regional Development*, 15(2), 137–149.
- Collins, J. (2008). Immigrant entrepreneurs in Australia: Regulations and responses. *Migracoes: Journal of the Portugal Immigration Observatory*, 3, 49–59. High Commission for Immigration and Intercultural Dialogue. <http://hdl.handle.net/10453/10371>
- Collins, J., & Low, A. (2010). Asian female immigrant entrepreneurs in small and medium-sized businesses in Australia. *Entrepreneurship and Regional Development: An International Journal*, 22(1), 97–111. <https://doi.org/10.1080/08985620903220553>
- Crockett, D. L. (2013). Immigrant entrepreneurs' selectivity: Host market distance and opportunity. *Journal of Enterprising Communities: People and Places in the Global Economy*, 7(3), 196–212.
- Davidsson, P. (2015). Entrepreneurial opportunities and the entrepreneurship nexus: A re-conceptualization. *Journal of Business Venturing*, 30(5), 674–695.
- Dawson, C., & Henley, A. (2012). “Push” versus “pull” entrepreneurship: An ambiguous distinction? *International Journal of Entrepreneurial Behavior and Research*, 18(6), 697–719.
- Dawson, C., Henley, A., & Latreille, P. L. (2009). *Why do individuals choose self-employment?* (IZA discussion papers, No. 3974). Bonn: Institute for the Study of Labor (IZA). <http://nbn-resolving.de/urn:nbn:de:101:1-20090210136>
- Deakins, D., Majmudar, M., & Paddison, A. (1997). Developing success strategies for ethnic minorities in business: Evidence from Scotland. *New Community*, 23(3), 325–342.
- Department of Employment, Education and Training. (1995, June 13). *Self-employment programs for the unemployed, Australia*. In Paper presented to the Conference on Self Employment Programs for the Unemployed, Washington, DC.
- Employment and Skills Formation Council. (1994). *More than able: Small business employment and skills supplementary, Report*. Canberra: National Board of Employment, Education and Training, Australian Government Publishing Service.

- Ensign, P. C., & Robinson, N. P. (2011). Entrepreneurs because they are immigrants or immigrants because they are entrepreneurs? A critical examination of the relationship between the newcomers and the establishment. *Journal of Entrepreneurship*, 20(1), 33–53.
- Frederick, H. H., & Kuratko, D. F. (2010). *Entrepreneurship: Theory, process, practice* (2nd ed.). Australia: Cengage Learning Pty Ltd.
- Gibb, A. A. (2005). The entrepreneur as the core competence of the firm: Implication for management educators. *Entrepreneurship, Innovation, and Small Business Network*, 2, 2.
- Hindle, K., & Rushworth, S. (2000). *Global entrepreneurship monitor. Yellow Pages® global entrepreneurship monitor: Australia 2000*. Melbourne: Swinburne University of Technology.
- Hofstede, G., Garibaldi de Hilal, A. V., Malvezzi, S., Tanure, B., & Vincken, H. (2010). Comparing regional cultures within a country: Lessons from Brazil. *Journal of Cross-Cultural Psychology*, 41(3), 336–352.
- Hyndman-Rizk, N. N. (2014). Migration, wasta and big business success: The paradox of capital accumulation in Sydney's Hadchiti Lebanese Community. *Labour and management in development*, 15. <http://pandora.nla.gov.au/pan/13884/20140907-0001/www.nla.gov.au/openpublish/index.php/lmd/article/view/3329.html>
- Hyndman-Rizk, N., & Monsour, A. (2014). Immigrant business: Choice or necessity? Introduction. *Labour and Management in Development*, 15, 1–9.
- Ilhan-Nas, T., Sahin, K., & Cilingir, Z. (2011). International ethnic entrepreneurship: Antecedents, outcomes and environmental context. *International Business Review*, 20(6), 614–626.
- Katz, J., & Gartner, W. B. (1988). Properties of emerging organizations. *The Academy of Management Review*, 13(3), 429–441.
- Kermond, C. L., Luscombe, K. E., Strahan, K. W., & Williams, A. J. (1991). *Immigrant women entrepreneurs in Australia* (Vol. 137). Working Paper 14. Centre for Multicultural Studies, University of Wollongong. <http://ro.uow.edu.au/cmsworkpapers/12>
- Khosa, R. M., & Kalitanyi, V. (2015). Migration reasons, traits and entrepreneurial motivation of African immigrant entrepreneurs: Towards an entrepreneurial migration progression. *Journal of Enterprising Communities: People and Places in the Global Economy*, 9(2), 132–155.
- Kloosterman, R. C. (2010). Matching opportunities with resources: A framework for analysing (migrant) entrepreneurship from a mixed embeddedness perspective. *Entrepreneurship and Regional Development: An International Journal*, 22(1), 25–45. <https://doi.org/10.1080/08985620903220488>
- Ljubicic, M., Breen, J., & Bertone, S. (2011). An investigation into small business activities of croatian migrants in Australia. In H. Fulford (Ed.), *Proceedings of the 6th European Conference on Innovation and Entrepreneurship* (pp. 976–974). Aberdeen: Robert Gordon University.
- Lo, L. (2009). *Ethnic economies. International encyclopedia or human geography* (pp. 608–6014). Elsevier. <https://doi.org/10.1016/B978-008044910-4.00155-3>
- Mahuteau, S., Piracha, M., Tani, M., & Lucero, M. V. (2014). Immigration policy and entrepreneurship. *International Migration*, 52(2), 53–65.
- Manson, S. M. (2001). Simplifying complexity: A review of complexity theory. *Geoforum*, 32, 405–414.
- Masurel, E., Nijkamp, P., & Vindigni, G. (2004). Breeding places for ethnic entrepreneurs: A comparative marketing approach. *Entrepreneurship and Regional Development: An International Journal*, 16, 77–86. <https://doi.org/10.1080/0898562042000205045>
- Mazzarol, T. (2011). *Entrepreneurship and innovation* (2nd ed.). Pahrn Victoria: Tilde University Press.
- Min, P. G., & Bozorgmehr, M. (2000). Immigrant entrepreneurship and business patterns: A comparison of Koreans and Iranians in Los Angeles. *The International Migration Review*, 34 (3), 707–738.
- Minkov, M., & Hofstede, G. (2014). A replication of Hofstede's uncertainty avoidance dimension across nationally representative samples from Europe. *International Journal of Cross Cultural Management*, 14(2), 161–171.

- Monsour, A. (2010). *Not quite white: Lebanese and the white Australia policy 1880–1947*. Brisbane: Post Pressed.
- Morrison, A. (2001). Entrepreneurs transcend time: A biographical analysis. *Management Decision*, 39(9), 784–791.
- OECD. (2010). *Entrepreneurship and migrants* OECD: OECD Working Party on SMEs and Entrepreneurship.
- Ram, M., Jones, T., & Villares-Varela, M. (2017). Migrant entrepreneurship: Reflections on research and practice. *International Small Business Journal*, 35(1), 3–18.
- Reynolds, P. D., Bygrave, W. D., Autio, E., & Arenius, P. (2004). *GEM 2003 global report*. Babson College.
- Rueda-Armengot, C., & Peris-Ortiz, M. (2012). The emigrant entrepreneur: A theoretical framework and empirical approximation. *The International Entrepreneurship and Management Journal*, 8(1), 99–118.
- Sanders, J. M., & Nee, V. (1996). Immigrant self-employment: The family as social capital and the value of human capital. *American Sociological Review*, 61, 231–249.
- Segal, G., Borgia, D., & Schoenfeld, J. (2005). The motivation to become an entrepreneur. *International Journal of Entrepreneurial Behavior and Research*, 11(1), 42–57.
- Smans, M., Freeman, S., & Thomas, J. (2014). Immigrant entrepreneurs: The identification of foreign market opportunities. *International Migration*, 52(4), 144–156.
- Stokes, D., Wilson, N., & Mador, M. (2010). *Entrepreneurship* (391 p.). Hampshire: Cengage Learning EMEA. ISBN: 978-1-4080-0745-7.
- Tang, J., Kacmar, K. M. M., & Busenitz, L. (2012). Entrepreneurial alertness in the pursuit of new opportunities. *Journal of Business Venturing*, 27(1), 77–94.
- van Hulten, A. (2012). Women's access to SME finance in Australia. *International Journal of Gender and Entrepreneurship*, 4(3), 266–288.
- Volery, T. (2007). Ethnic entrepreneurship: A theoretical framework. In L. Dana (Ed.), *Handbook of research on ethnic minority entrepreneurship* (pp. 30–41). Cheltenham: Edward Elgar.
- Walsh, J. P. (2011). Quantifying citizens: Neoliberal restructuring and immigrant selection in Canada and Australia. *Citizenship Studies*, 15(6–7), 861–879. <https://doi.org/10.1080/13621025.2011.600135>
- Wang, Y., Warn, J., May, M., & de Klerk, S. (2013). *Business start-ups and development strategies of Chinese immigrant entrepreneurs in Australia*. Thesis, PhD, UNSW Canberra. <http://handle.unsw.edu.au/1959.4/53148>
- Wayland, S. (2011). *Immigrant self-employment and entrepreneurship in the GTA: Literature, data and program review*. Toronto: Metcalf Foundation. www.metcalfoundation.com
- Welter, F., Baker, T., Audretsch, D. B., & Gartner, W. B. (2017). Everyday entrepreneurship—A call for entrepreneurship research to embrace entrepreneurial diversity. *Entrepreneurship: Theory and Practice*, 41(3), 311–321.
- Williams, C. C. (2009). The motives of off-the-books entrepreneurs: Necessity-or opportunity-driven? *The International Entrepreneurship and Management Journal*, 5(2), 203–217.
- Yang, C., Colarelli, S. M., Han, K., & Page, R. (2011). Start-up and hiring practices of immigrant entrepreneurs: An empirical study from an evolutionary psychological perspective. *International Business Review*, 20(6), 636–645.
- Zhou, M. (2004). Revisiting ethnic entrepreneurship: Convergencies, controversies, and conceptual advancements. *International Migration Review*, 38(3), 1040–1074.

Technology Entrepreneurship and Gender in Emerging Countries



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Abstract This paper explores the role of gender in new technology-based firms creation and whether this role differs across developed and emerging countries. By using a sample of 244,471 individuals in 70 countries, the results firstly show a negative relationship between being a woman and setting up a technology entrepreneurial initiative, regardless the stage of the country's economic development. Secondly, in less-developed countries, there is a positive effect of being a woman on starting non-technology entrepreneurship. Thirdly, in emerging countries, being a woman has an even greater negative effect on technology entrepreneurship than it has in developed countries.

1 Introduction

The contribution of entrepreneurship to economic growth is well acknowledged. Nevertheless, its positive effects are strongly linked to the quality and the type of entrepreneurship, rather than to the entrepreneurship per se. In particular, in today's environment of knowledge-driven economy (Muller and Zenker 2001; Byun et al. 2017), technology entrepreneurship (TE) is actually considered as the more effective mechanism in the creation and development of economies (Audretsch 1995; Bertoni et al. 2011). Thus, Kantis et al. (2002) summarise the contributions of TE into four important points: turning innovative ideas into economic opportunities; improving competitiveness; creating jobs; and increasing productivity. As a result, Coad and Reid (2012) note that new technology-based firms (NTBFs) are frequently seen as a panacea for boosting economic growth in modern economies. Therefore, the factors that influence their creation have increasingly attracted the attention of academia and

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policymakers (Colombo and Grilli 2010). However, very few studies have properly addressed the analysis of the individual determinants of TE.

In turn, whereas a strand of entrepreneurship literature has begun devoting attention to gender differences (Jennings and Brush 2013), the rates of female entrepreneurs remain significantly lower than males (Malach-Pines and Schwartz 2008), and this gender gap is even higher in TE. In spite of this evidence, few studies have explored the role of gender in TE [see Xie and Lv (2016) for the Chinese case and Fernández-López et al. (2013), Rodríguez-Gulfás et al. (2013) and Bobillo (2015) for university knowledge-based entrepreneurship]. At the same time, much of the literature on TE has been focused on developed countries (Goyal and Yadav 2014), whereas there is a lack of research on transitioning and emerging economies (Bruton et al. 2008; Yadav and Unni 2016), even when these countries, namely, Brazil, Russia, India and China, have proved important sources of NTBFs.

This paper aims to fill these gaps in the literature on TE. Using a sample of 244,471 individuals in 70 countries, logit models are applied to explore the role of gender in NTBF creation and whether this role differs across developed and emerging countries. In doing so, this paper contributes to the discussion of gender differences in start-up activity. At a scientific level, empirical research aimed at analysing the importance of gender differences in TE is scarce, moreover in emerging countries. To the best of our knowledge, this is the first study that addresses this issue focusing on TE and covering emerging and transitioning economies. At a policy level, NTBF creation has often been supported by public policies at a country level. Knowing how gender might influence NTBF creation could help policymakers to design supportive policies.

The rest of the work is structured as follows: In Sect. 2, the authors present the theoretical framework and the hypotheses. In Sect. 3, the sample, data, variables and econometric models used are presented. In Sect. 4, the authors provide the results of the descriptive and econometric analyses and in Sect. 5 conclude with the main findings and recommendations.

2 Literature Review

Different studies have concluded that men are more likely to engage in entrepreneurial activity than women (Mueller and Conway Dato-On 2008; Deborah et al. 2015) in developed countries. According to the European Commission (2015), women are the most underrepresented source of entrepreneurship in Europe, with only 30% of new start-ups set up by women. Similarly, in the United States, the rate of female business ownership was around 30% in 2014 (American Express 2014). However, recent studies show that the number of women starting businesses is increasing (Forbes 2013; Coughlin and Thomas 2002), especially in emerging countries. Thus, it is estimated that female entrepreneurs represent more than 50% of the entrepreneurship sector in Southeast Asia (Coughlin and Thomas 2002). Similarly, the International Labour Office (2008) highlights that female-owned

firms play an important role in stimulating job creation and economic growth in most African emerging countries.

In TE, the percentage of male entrepreneurship initiatives used to be also higher than female initiatives, as the work of Westhead and Storey (1994) and Harvey (1994) shows for the United Kingdom and Rodríguez-Gulías et al. (2013) and Zapata-Huamaní et al. (2014) for Spain. According to Rodríguez-Gulías et al. (2013), this lower female presence is attributed by the literature to the barriers traditionally associated with greater difficulties for female entrepreneurship in TE. In particular:

1. High-technology sectors, in addition to having a small presence of female leadership, have been characterised as sectors related to an individualistic and competitive character (Mayer 2008). In fact, Zhao et al. (2005) show that women perceive that their environment is more difficult and less appropriate to carry out entrepreneurial activities, aspects which would be intensified in a competitive environment such as the medium- and high-technology sectors.
2. One of the motivations to start a business by women is seeking an equilibrium between work and family life, which may lead to such initiatives targeting sectors that require less intense dedication (Ruiz et al. 2012). In this sense, the hours of work and the high degree of flexibility required in high-technology sectors conflict with the workers' family responsibilities (Mayer 2008).
3. In NTBFs created by women, the growth and profitability of these companies are threatened by some investors and other economic agents due to the fact that their novelty is questioned (Morse et al. 2007). The reason behind this is that female entrepreneurs not only tend to have fewer resources (Cliff 1998), but also they face greater difficulties when they need to obtain them (Carter et al. 2003), compared to their male counterparts.
4. In particular, access to resources highlights the difficulty of accessing funds for female-owned firms (Eurochambres 2004), which is highlighted in sectors with high investment requirements such as technological sectors (Ruiz et al. 2012). Thus, gender differences have been widely studied in the field of financial resources of firms. In general, the literature suggests that the lower personal wealth of women (Borzi 1994), which means a lower guarantee to back up external financing, limits women's access to credit (Jennings and Cash 2006; Webber 2004). In addition, different studies had found that female-owned businesses underperform in sales, employment and growth, among other performance indicators, compared to their male-owned counterparts (Gottschalk and Niefert 2013; Du Rietz and Henrekson 2000), which leads to further difficulties in accessing credit. Even when women start a business in traditionally male sectors, they are once again considered the highest-risk debtors, either because they are considered to have little experience or because they consider that their experience is not enough in competitive sectors (Neergaard et al. 2006).

Therefore, based on the above arguments and the differences between genders, the following hypothesis is proposed:

Hypothesis 1 There is a gender effect in the creation of a NTBF.

In addition, there are other factors associated with female entrepreneurship in technological sectors. The low involvement of women in TE is also related to their minor presence in degrees from which these types of firms mostly emerge (Greene 2000). This would be the case in technical education, where companies are often created based on the development of new technologies derived from research activities. Thus, for the study of 316 female entrepreneurs in the technological field in China, Xie and Lv (2016) found that practically 40% had studied in Engineering and Technology and another 30% in Natural Sciences.

It should be added that the number of PhD theses by women is lower than that of men (Vaquero et al. 2011). This is a critical factor in promoting TE insofar as many of the firms generated from the experimental sciences are the result of research conceived in doctoral theses. Additionally, the traditional roles conferred on women have disrupted the commercialisation of their research (Murray and Graham 2007).

Some decades ago, the presence of women in university studies was scarce, and they tended to perform studies that were traditionally female. This would explain the lower presence of women in technical degrees, characterised by higher rates of dropout and failure, and in doctoral theses, which leads to great uncertainty about their completion (Vivel-Búa et al. 2011).

Thus, TE is found to have the same behaviour as entrepreneurship in general regarding the participation of women, which is characterised by a lesser presence. Even in countries such as the United States, where the presence of female entrepreneurs has been increasing in recent years in nontraditional sectors, a new segmentation is taking place within them. Thus, entrepreneurs start activities in the technology sector in typified businesses for women such as consulting and management services, research services, software publishing or systems design services and not in the high-technology productive sectors, typified for men, where female participation is again absent (Mayer 2008).

Therefore, the following hypothesis is proposed:

Hypothesis 2 Gender effect on the creation of a NTBF is greater than on the creation of a non-NTBF.

In addition, emerging countries are different from developed ones in terms of culture, economic development level and political institutions (Alon and Rottig 2013). As a result of these differences, Valliere and Peterson (2009) suggest that the form and influence of entrepreneurship can vary between emerging and developed countries.

One of these differences is the motivation to start up a business. In emerging countries, entrepreneurship motivation can be based on the necessity of subsistence, whereas in developed countries, it can be closer to personal noneconomic goals (Valliere and Peterson 2009).

Furthermore, emerging countries are characterised by trade liberalisation measures and rapid institutional change (Marcotte 2014). The effects of privatisation and market liberalisation policies can be a source of differences in entrepreneurship

between emerging and developed countries (Valliere and Peterson 2009). For instance, the transformation of state companies into private ones is one source of entrepreneurial activity in many emerging economies (Zahra et al. 2000).

Another difference is the major dependence on development-oriented international financial institutions in emerging countries, which allows them to achieve legitimacy in international markets and share risk (George and Prabhu 2000).

All the aforementioned aspects will affect the interaction between women and TE in emerging countries. Thus, whereas female entrepreneurship tends to be more associated with the motivation of necessity, TE is often related to opportunity-driven entrepreneurship. Moreover, TE usually requires a stable institutional environment to be developed in order to protect the knowledge on which it is based. Nevertheless, emerging countries are characterised by uncertain contexts which theoretically increase entrepreneurship while constrain innovation (Marcotte et al. 2010). In this changing environment, TE is an even riskier activity than in developed countries. As a result, women, who have often been regarded as more risk-averse individuals compared to men (Minniti and Arenius 2003), may be even more reluctant to start up a technology business in emerging markets.

Hypothesis 3 Gender effect on the creation of a NTBF in emerging countries is greater than in developed countries.

3 Research Methodology

3.1 *Sample and Data*

The sample used was elaborated from the information provided by the Global Entrepreneurship Monitor (GEM) project. Since the GEM database is associated with individuals, it fits the proposed approach. Moreover, given that the limited empirical work focused on individual determinants of TE is usually restricted to a country, region or industry, the use of the GEM database is a major advance in TE literature. Moreover, standardisation of the methodology used in GEM limits the divergent and even contradictory results and conclusions, which are often derived from the use of different databases and methodologies (Almus and Nerlinger 1999). Nevertheless, the availability of information in the GEM dataset conditioned to a great extent the selection of the countries.

In particular, the data for this research came from the GEM database 2013, in which 70 countries participated and 244,471 adults (18–64 years of age) were interviewed. The 70 participating countries have been classified according to the GEM methodology. More specifically, GEM methodology uses the criterion of the World Economic Forum (WEF) Competitiveness Report, which classifies countries according to the stage of economic development (see Table 1). After comparing GEM classification with the FTSE Country Classification, it can be observed that

Table 1 Countries participating in the GEM 2013 project in terms of their stage of economic development

Stage of economic development	Countries
First stage: Factors-based economies (13)	Philippines ^{a, b} , Vietnam, India ^b , Iran ^a , Algeria ^a , Libya ^a , Ghana, Nigeria, Angola ^a , Uganda, Zambia, Malawi, Botswana ^a
Second stage: Efficiency-based economies (31)	Russia ^{a, b} , South Africa ^b , Hungary ^{a, b} , Romania, Poland ^{a, b} , Peru ^b , Mexico ^{a, b} , Argentina ^a , Brazil ^{a, b} , Chile ^{a, b} , Colombia ^b , Malaysia ^{a, b} , Indonesia ^b , Thailand ^b , China ^b , Turkey ^{a, b} , Barbados ^a , Namibia, Lithuania ^a , Latvia ^a , Estonia, Croatia ^a , Bosnia and Herzegovina, Macedonia, Slovakia ^a , Guatemala, Panama ^a , Ecuador, Suriname, Uruguay ^a , Jamaica
Third stage: Innovation-based economies (26)	United States, Greece ^b , Netherlands, Belgium, France, Spain, Italy, Switzerland, United Kingdom, Sweden, Norway, Germany, Singapore, Japan, South Korea, Canada, Portugal, Luxembourg, Ireland, Finland, Slovenia, Czech Republic ^b , Puerto Rico, Trinidad and Tobago, Taiwan, Israel

Source: Own elaboration based on Sanchez-Escobedo (2011)

^aCountries in transition to the next stage of economic development according to the GEM methodology

^bEmerging countries according to FTSE Country Classification

most of the countries considered as ‘emerging’ by FTSE are regarded as ‘efficiency-based economies’ by GEM methodology (see Table 1), with the exception of the Philippines and India (in the group of ‘factors-based economies’) and Greece and Czech Republic (in the group of ‘innovation-based economies’). Although the groups of countries do not exactly match, in the empirical analysis, we considered as emerging countries those in the group of ‘efficiency-based economies’.

3.2 Definition of Variables

In order to analyse whether gender influences attitudes towards TE, two dependent dummy variables were defined from the original variables in the GEM database. Both dummy variables indicate if the individual was actively involved in setting up a new business or owning/managing a young firm (up to 3.5 years old), including self-employment, which operates in a high- or medium-technology sector (first dependent variable) or in a low-technology sector (second dependent variable), according to the OECD classification. OECD (2001) identifies high-technology sectors as those which perform above-average levels of R&D (measured as industry R&D expenditures divided by industry sales). In the former case, the group of ‘technology entrepreneurs’ (1) is compared to the ‘non-entrepreneurs’ (0), whereas in the latter case, the group of ‘non-technology entrepreneurs’ (1) is compared to the ‘non-entrepreneurs’ (0).

Table 2 Definition of independent variables

Factors	Variable and question in GEM database (2013)		Value and recodification
	Variable	Question in APS	
Gender	Gender	What is your gender?	Male (0) Female (1)
Age range	Age9c	What is your age range?	18–24 years old (1) 25–34 years old (2) 35–44 years old (3) 45–54 years old (4) 55–64 years old (5)
Level of studies completed	Uneduc	Level of studies currently completed	No studies (1) Primary studies (2) Secondary studies (3) Technical studies (4) Higher education (5)
Work experience	GEMWork3	Which of the following best describes your current job status?	Unemployed (0) Employed (1)
National annual family income range	GEMHhinc	Annual rent of your household including yours and other potential family members	Inferior national third level (1) National third level (2) Superior national third level (3)
Entrepreneurial skills	Suskill	Do you have the knowledge, skills and experience required to start up a new business?	No (0) Yes (1)
Knowing entrepreneurs	Knowent	Do you personally know someone who has started a new business in the last 2 years?	No (0) Yes (1)
Economic development stage	Cat_gcr2	WEF classification	Factors-based economy (1) Efficiency-based economy (2) Innovation-based economy (3)

Source: Authors own table

The main independent variable was a dummy variable coded as 1 if the individual was a woman and 0 otherwise. Similarly, country dummy variables were included in order to test whether the gender role on TE differs across developed or ‘innovation-based’ economies and emerging or ‘efficiency-based’ economies. Additionally, drawing on the reviewed literature, the following independent variables are considered (Table 2). It should be noted that the original variables have been modified. In addition, the response categories ‘do not know’ and ‘no answer’ have been treated as missing values.

4 Results and Discussion

4.1 Univariate Analysis

The TEA (Total Entrepreneurial Activity) index, which measures the percentage of the population between the ages of 18 and 64 years involved in a newly created entrepreneurial activity (until 42 months of activity) in the last 12 months, reached a worldwide rate for 2013 of 12.42%. The TEA index corresponding to initiatives in medium- and high-technology sectors represents only 0.47% of the world's population (Table 3). It should be pointed out that, as the percentage of entrepreneurship in general is usually low in most countries, the initiatives pertaining to high- and medium-technology sectors, as part of total entrepreneurship, tend to be even lower. In this sense, for our data, of the total of entrepreneurial initiatives initiated in 2013, 3.81% are technology-based.

Table 4 shows the distribution of both technology and non-technology entrepreneurs by the groups of countries classified according to their stage of economic development. As can be seen, the differences between the two groups of entrepreneurs are mainly found in the first and third stages of economic development, being less marked in the second stage (emerging countries). The countries whose economies are based on factors represent 6.85% of the sample's TE and 22.72% of the non-TE. In contrast, the countries with economies based on innovation (developed countries) represent 41.21% of the sample's TE and 21.48% of the non-TE. These

Table 3 TEA index according to the technological level of the entrepreneurial initiatives (%)

	2013	
	TEA index	Percentage
Technology entrepreneur	0.47%	3.81%
Non-technology entrepreneur	11.95%	96.19%
Total	12.42%	

Source: Own elaboration based on GEM 2013

Table 4 Distribution of entrepreneurial initiatives by the groups of countries (%)

	Non-technology entrepreneur	Technology entrepreneur
Factors-based economy	22.72%	6.85%
Efficiency-based economy (emerging countries)	55.80%	51.94%
Innovation-based economy (developed countries)	21.48%	41.21%
Equality of variances	0.0000	
Equality of variances	0.0000	

Source: Own elaboration based on GEM 2013

results support the argument of that uncertain contexts increase entrepreneurship while constrain innovation (Marcotte et al. 2010). In turn, emerging countries represent more than half of both TE (51.94%) and non-TE (55.80%), providing evidence that a set of emerging countries is being remarkably successful in launching NTBFs.

In any case, these results reflect the importance of the economic context for the promotion of TE. Thus, the findings suggest that after surpassing the early stages of economic development, economies are more linked to innovation and technology processes. In turn, this translates, in terms of Shumpeter (1950) and Kirzner (1973), into the generation of quality business initiatives motivated by the perception of an economic opportunity rather than a need for subsistence.

4.2 *Multivariate Analysis*

We examined the role of gender on TE by estimating regression models. Since we constructed two dummy dependent variables, we applied non-linear regression models, particularly logit models (Table 5). More specifically, we proposed the following relation:

$$\text{Prob}(Y_i = 1) = \varphi(\beta_0 + \beta_1 \text{Gender}_i + \beta_2 \text{Country}_i + \beta_i X_i)$$

The dependent variable (Y_i) quantifies the individual's probability of being a 'technology entrepreneur' (first dependent variable) or being a 'non-technology entrepreneur' (second dependent variable), i is the index of individuals, and φ denotes the logistic distribution function. Gender and country variables have been previously defined, and X_i refers to the remaining variables included in Table 2.

As Table 5 (first column) shows, gender effect exists in the creation of a NTBF (Hypothesis 1). In particular, the fact of being female has a negative and highly significant effect on the probability of being a technology entrepreneur at a global level. The same result is repeated for groups of countries regardless of what stage of economic development they are at. Therefore, there are barriers for women linked to TE as noted by Rodríguez-Gulias et al. (2013), Mayer (2008) and Zhao et al. (2005), who point out that this happens due to the lack of female models in this area and the perception of the technological environment as highly competitive. These factors make it more difficult for female entrepreneurs to create technology firms, in addition to the difficulties of reconciling work and family life, the more difficult access (Carter et al. 2003) and less resources than male entrepreneurs (Cliff 1998), especially in the area of financial resources (Neergaard et al. 2006).

The results have showed an effect of gender on non-TE in the global sample; being a woman increases the probability of setting up an entrepreneurial initiative. This positive relationship holds across the groups of economies, with the exception of developed countries, where being a woman influences negatively the non-TE. These results suggest that the role played by gender in establishing firms differs across economies. Whereas in developed countries being a woman acts as a

Table 5 Logit estimation of the probability of being entrepreneur: technology and non-technology entrepreneur

Variables	All countries		Factors-based economies		Efficiency-based economies		Innovation-based economies	
	Tech. Ent.	Non-tech. Ent.	Tech. Ent.	Non-tech. Ent.	Tech. Ent.	Non-tech. Ent.	Tech. Ent.	Non-tech. Ent.
Gender—female	-1.05*** (0.08)	0.07*** (0.02)	-0.57* (0.27)	0.25*** (0.03)	-1.27*** (0.13)	0.12*** (0.02)	-0.89*** (0.13)	-0.22*** (0.03)
Age range (ref: 35–44 years)								
18–24 years	0.41*** (0.11)	0.23*** (0.03)	0.44 (0.35)	0.24*** (0.05)	0.47** (0.15)	0.25*** (0.03)	0.41* (0.20)	0.27*** (0.06)
25–34 years	0.27** (0.09)	0.23*** (0.02)	0.29 (0.32)	0.32*** (0.04)	0.40*** (0.12)	0.23*** (0.03)	0.08 (0.14)	0.14** (0.04)
45–54 years	-0.13(0.10)	-0.15*** (0.02)	-0.05 (0.42)	-0.03 (0.06)	-0.11 (0.14)	-0.19*** (0.03)	-0.16 (0.15)	-0.12** (0.05)
55–64 years	-0.33*(0.13)	-0.36*** (0.03)	-0.32 (0.63)	-0.10 (0.07)	-0.33 (0.20)	-0.39*** (0.04)	-0.33 (0.19)	-0.48*** (0.06)
Level of studies completed (ref: secondary studies)								
No studies	-0.99* (0.42)	0.01 (0.04)	-1.62* (0.73)	-0.19*** (0.06)	-0.61 (0.51)	0.26*** (0.07)	-	0.24 (0.21)
Primary studies	-0.42* (0.18)	0.11*** (0.03)	-1.44* (0.61)	0.03 (0.05)	-0.22 (0.20)	0.15*** (0.04)	-1.48 (1.01)	-0.11 (0.12)
Technical studies	0.29** (0.11)	-0.02 (0.02)	0.20 (0.35)	-0.07 (0.05)	0.10 (0.16)	-0.05 (0.03)	0.57*** (0.17)	0.08 (0.05)
Higher education	0.74*** (0.08)	-0.07*** (0.02)	0.56* (0.28)	-0.25*** (0.05)	0.60*** (0.11)	-0.14*** (0.03)	1.01*** (0.14)	0.18*** (0.04)
Work experience— employed	1.46*** (0.13)	1.46*** (0.02)	2.03*** (0.44)	1.80*** (0.05)	1.63*** (0.19)	1.55*** (0.03)	1.08*** (0.20)	0.89*** (0.05)

National annual family income range (ref: lower national third level)									
National third level	-0.01 (0.09)	-0.05* (0.02)	-0.30 (0.31)	0.06 (0.04)	0.14 (0.13)	-0.02 (0.03)	-0.12 (0.15)	-0.19*** (0.04)	
Superior national third level	0.14 (0.09)	0.09*** (0.02)	-0.11 (0.29)	0.28*** (0.04)	0.32** (0.12)	0.15*** (0.03)	-0.01 (0.15)	-0.21*** (0.04)	
Entrepreneurial skills—yes	1.37*** (0.09)	1.34*** (0.02)	1.11** (0.38)	1.06*** (0.05)	1.16*** (0.12)	1.27*** (0.03)	1.65*** (0.15)	1.69*** (0.04)	
Knowing entrepreneurs—yes	0.88*** (0.07)	0.80*** (0.02)	0.57* (0.27)	0.54*** (0.04)	0.67*** (0.10)	0.73*** (0.02)	1.19*** (0.12)	1.19*** (0.03)	
Stages of economic development (ref: innovation-based economy)									
Factors-based economy	-0.67*** (0.13)	0.90*** (0.02)							
Efficiency-based economy	0.11 (0.07)	0.71*** (0.02)							
Constant	-7.66*** (0.18)	-4.95*** (0.04)	-8.16*** (0.64)	-4.08*** (0.08)	-7.49*** (0.25)	-4.24*** (0.05)	-7.80*** (0.28)	-4.74*** (0.07)	
Observations	150,261	172,163	19,368	24,823	71,323	83,627	59,088	63,713	
-2LL	-4931.04	-55,778.09	-423.58	-11,261.07	-2604.40	-30,553.70	-1873.90	-13,566.34	
Verisimilitude test chi-2	1500.90	23,209.14	102.22	3802.64	767.86	10,494.75	652.68	5415.14	
Degrees of freedom	16	16	14	14	14	14	13	14	
<i>p</i> -value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Pseudo- <i>R</i> ²	0.1321	0.1722	0.1077	0.1445	0.1285	0.1466	0.1483	0.1664	

Standard errors in parenthesis; ****p* < 0.01, ***p* < 0.05, **p* < 0.1

Source: Authors own table

barrier for entrepreneurship, in less-developed countries, women have a higher probability of setting up a non-technology entrepreneurial initiative. In any case, Hypothesis 2 expected that the effect of gender on entrepreneurship would be greater in the case of TE compared to non-TE is not confirmed as gender affects both types of entrepreneurship with a $p < 0.01$, although the relationship is positive for non-TE and negative for TE.

Therefore, there are barriers for women entrepreneurship in the field of TE, independently of the level of development of economies. This may be due to different factors specific to TE, such as a lower presence of women in studies that give rise to this type of entrepreneurship (engineering and technology) (Vaquero et al. 2011; Vivel-Búa et al. 2011). Even when women succeed in engineering and technology degrees and in the academic career, they are less prone to commercialise the knowledge that they create (Murray and Graham 2007), hampering the NTBFs creation. Another barrier for women entrepreneurship in technology sectors could be the higher level of uncertainty associated with TE versus conventional entrepreneurship, given that the literature often agrees in the fact that women are more risk-averse than men.

Hypothesis 3 expected that gender effect on TE would be greater in emerging countries compared to developed countries. The estimations referred to efficiency-based economies (emerging countries) and innovation-based economies (developed countries) confirm the Hypothesis 3. Our results suggest that women in emerging countries are affected by the obstacles in NTBFs creation to a greater extent than in developed countries. Several reasons could explain these differences. Thus, female entrepreneurship has been more linked to necessity-driven entrepreneurship, which is also more frequent in emerging than in developed countries. These relationships could be behind the positive estimated coefficients for gender and non-TE found in factors-based and efficiency-based economies. In contrast, TE is often related to opportunity-driven entrepreneurship. In addition, TE requires a stable institutional environment to be developed. In contrast, emerging countries are characterised by environments with a high level of uncertainty (Marcotte et al. 2010), in which TE becomes an even riskier activity than in developed countries. As a result, women might be more reluctant to start up a technology entrepreneurial initiative in emerging countries than in developed countries, since they are more risk-adverse (Minniti and Arenius 2003).

5 Conclusions

In the last two decades, the NTBFs creation has experienced increased attention as a means to boost the economic growth of the countries. At the same time, the number of academic studies in the TE has also flourished. Recently, a set of emerging countries have proved remarkably successful in launching NTBFs. However, literature on TE in emerging countries is still limited. Moreover, the role of gender in TE has been barely explored.

In this paper, we try to fill this gap. Using a sample of 244,471 individuals in 70 countries, we explore the role of gender in TE and whether this role differs across developed and emerging countries. The results firstly show a gender effect; there is a negative relationship between being a woman and setting up a technology entrepreneurial initiative, regardless the stage of the country's economic development. Secondly, whereas this negative effect holds for TE, in less-developed countries, there is a positive effect of being a woman on starting non-TE. Thirdly, in emerging countries being a woman has an even greater negative effect on TE than it has in developed countries.

This empirical evidence leads us to establish some recommendations. Thus, in some countries, the increase in the number of NTBFs has been supported to a large extent by public government on the basis that TE may contribute to the country's economic growth to a higher extent than non-TE. The evidence shows that this support has not helped to reduce gender differences in business, particularly in emerging countries. Women represent around the half of the world's population; ignoring them as potential entrepreneurs can lead to suboptimal levels of TE and economic growth. Therefore, decision-makers might encourage TE with policies aimed at reducing inequalities between women and men.

In this sense, policy and support mechanisms must be sensitive to specific gender needs of women entrepreneurs. Thus, micro-credit programmes have proved remarkably successful in boosting women entrepreneurship in developing countries. This scheme can be adapted to promote women entrepreneurship in high-technology sectors, given that access to funds is an important obstacle for TE, especially in emerging countries where financial institutions are not as mature as those prevailing in developed countries. Furthermore, the use of alternative ways of funding as crowdfunding platforms, which represent an investment context different from traditional mechanism, can benefit female and avoid the disadvantages of women to raise fund in capital markets attributed mainly to choice homophily among predominantly male funders. In this sense, a recent study of Gorbatai and Nelson (2015) found women are systematically more successful than men in online fundraising, an outcome contrary to offline gender inequality.

TE is often developed in a very competitive environment and requires high intense dedication. In this sense, policymakers should provide women with infrastructures and services, which allow them to find certain harmony between work and family life, such as elder and child care services. Additionally, it is necessary to mitigate the women's fear of competitive environments, which suppose a major barrier for starting NTBFs.

Although it has not been analysed as such, the underrepresentation of women in TE is partly reflecting gender differences in education and training. Women remain underrepresented in those degrees from which most of NTBFs are set up, namely, engineering and science, mathematics and computing. It is necessary to overcome this segregation in education which reinforces gender stereotypes

Finally, this paper presents some limitations that could open the way for further research. In particular, the availability of information was determined by the content of the GEM database. GEM methodology classifies countries into groups according

to the stage of economic development. However, this classification does not exactly match with that of the FTSE Country Classification, hampering a better understanding of the TE in emerging countries. It would be interesting to compare the effect of gender across more homogeneous groups of countries. Moreover, future research on this topic might benefit from applying a multilevel approach in order to account for the unobserved heterogeneity across groups of countries. Finally, according to the recent study of Henry et al. (2016), we agree that it is necessary to engage future studies with post-structural feminist and in-depth qualitative approaches.

References

- Almus, M., & Nerlinger, E. A. (1999). Growth of new technology-based firms: Which factors matter? *Small Business Economics*, 13(2), 141–154.
- Alon, I., & Rottig, D. (2013). Entrepreneurship in emerging markets: New insights and directions for future research. *Thunderbird International Business Review*, 55, 487–492.
- American Express. (2014). *The 2014 state of women-owned business report: A summary of important trends, 1997–2014*. New York City: American Express.
- Audretsch, D. B. (1995). *Innovation and industry evolution*. Cambridge, MA: MIT.
- Bertoni, F., Colombo, M. G., & Grilli, L. (2011). Venture capital financing and the growth of high-tech start-ups: Disentangling treatment from selection effects. *Research Policy*, 40(7), 1028–1043.
- Bobillo, M. (2015). *Mujeres emprendedoras en la universidad iberoamericana: casi todo por hacer*. In *Colección informes Redemprendia*, 3. Santiago de Compostela: RedEmprendia.
- Borzi, A. (1994). *The gender finance gap*. Sydney: Borzi, Smythe Pty Ltd.
- Bruton, G. D., Ahlstrom, D., & Obloj, K. (2008). Entrepreneurship in emerging economies: Where are we today and where should the research go in the future. *Entrepreneurship Theory and Practice*, 32(1), 1–14.
- Byun, J., Park, H. W., & Hong, J. P. (2017). An international comparison of competitiveness in knowledge services. *Technological Forecasting and Social Change*, 114, 203–213.
- Carter, N. M., Brush, C. G., Greene, P. G., Gatewood, E., & Hart, M. M. (2003). Women entrepreneurs who break through to equity financing: The influence of human, social and financial capital. *Venture Capital: An International Journal of Entrepreneurial Finance*, 5, 1–28.
- Cliff, J. E. (1998). Does one size fit all? Exploring the relationship between attitudes towards growth, gender, and business size. *Journal of Business Venturing*, 13(6), 523–542.
- Coad, A., & Reid, A. (2012). *The role of technology and technology-based firms in economic development: Rethinking innovation and enterprise policy in Scotland*. Belgium: Technopolis Group.
- Colombo, M. G., & Grilli, L. (2010). On growth drivers of high-tech start-ups: The role of founders' human capital and venture capital. *Journal of Business Venturing*, 25, 610–626.
- Coughlin, J. H., & Thomas, A. R. (2002). *The rise of women entrepreneurs: People, processes, and global trends*. Westport: Greenwood Publishing Group.
- Deborah, A. E., Wilhelmina, S., Oyelana, A. A., & Ibrahim, S. I. (2015). Challenges faced by women entrepreneurs and strategies adopted by women entrepreneurs to ensure small business success in Nkonkobe Municipality, South Africa. *Journal of Economics*, 6(1), 37–49.
- Du Rietz, A., & Henrekson, M. (2000). Testing the female underperformance hypothesis. *Small Business Economics*, 14(1), 1–10.

- Eurochambres. (2004). *Women in business and in decision making. A survey of women entrepreneurs*. Research Project funded by the European Commission. Available at: <http://www.echwomennetwork.eu>
- European Commission. (2015). *Report on equality between women and men 2015*. Luxembourg: Publications Office of the European Union.
- Fernández-López, S., Rodeiro-Pazos, D., Rodríguez-Gulías, M., & Vivel-Búa, M. (2013). Mujeres emprendedoras en la universidad. In A. J. Lopez (coord.), *Emprender. Una perspectiva de género*. Servicio de publicaciones de la UDC.
- Forbes. (2013). *Around the world, women entrepreneurs are on the rise*. Available at: <http://www.forbes.com/sites/tompost/2013/03/27/around-the-world-women-entrepreneurs-are-on-the-rise/>
- George, G., & Prabhu, G. N. (2000). Developmental financial institutions as catalysts of entrepreneurship in emerging economies. *Academy of Management Review*, 25, 620–629.
- Gorbatai, A., & Nelson, L. (2015). *The narrative advantage: Gender and the language of crowdfunding*. Working paper. Available at: <http://faculty.haas.berkeley.edu/gorbatai/working%20papers%20and%20word/CrowdfundingGenderGorbataiNelson.pdf>
- Gottschalk, S., & Niefert, M. (2013). Gender differences in business success of German start-up firms. *International Journal of Entrepreneurship and Small Business*, 18(1), 15–46.
- Goyal, P., & Yadav, V. (2014). To be or not to be a woman entrepreneur in a developing country? *Psychosociological Issues in Human Resource Management*, 2(2), 68–78.
- Greene, P. G. (2000). Self-employment as an economic behavior: An analysis of self-employed women's human and social capital. *National Journal of Sociology*, 12(1), 1–55.
- Harvey, K. (1994). *From handicap to nice little earner: A study of academic spin-off enterprise*. Paper presented at Manchester Business School Conference.
- Henry, C., Foss, L., & Ahl, H. (2016). Gender and entrepreneurship research: A review of methodological approaches. *International Small Business Journal*, 34(3), 217–241.
- International Labour Office. (2008). *Voices of women entrepreneurs in Tanzania*. International Labour Office (ILO) in Partnership with Irish Aid. Geneva: ILO.
- Jennings, J. E., & Brush, C. G. (2013). Research on women entrepreneurs: Challenges to (and from) the broader entrepreneurship literature? *The Academy of Management Annals*, 7(1), 663–715.
- Jennings, J. E., & Cash, M. P. (2006). Women's entrepreneurship in Canada: Progress, puzzles and priorities. In C. G. Brush et al. (Eds.), *Growth-oriented women entrepreneurs and their businesses: A global research perspective*. Cheltenham: Edward Elgar.
- Kantis, H., Ishida, M., & Komori, M. (2002). *Empresarialidad en economías emergentes: Creación y desarrollo de nuevas empresas en América Latina y el Este de Asia*. Washington, DC: Inter-American Development Bank.
- Kirzner, I. M. (1973). *Competition and entrepreneurship*. Chicago, IL: University of Chicago Press.
- Malach-Pines, A., & Schwartz, D. (2008). Now you see them, now you don't: Gender differences in entrepreneurship. *Journal of Managerial Psychology*, 23(7), 811–832.
- Marcotte, C. (2014). Entrepreneurship and innovation in emerging economies conceptual, methodological and contextual issues. *International Journal of Entrepreneurial Behavior and Research*, 20(1), 42–65.
- Marcotte, C., Soussi, S. A., Molz, R., Farashahi, M., & Hafsi, T. (2010). Strategy implementation in emerging countries: Three theoretical approaches. In R. Molz, C. Ratiu, & A. Taleb (Eds.), *The multinational enterprise in developing countries: Local vs global logic* (pp. 19–30). Abingdon: Routledge.
- Mayer, H. (2008). Segmentation and segregation patterns of women-owned high-tech firms in four metropolitan regions in the United States. *Regional Studies*, 42(10), 1357–1383.
- Minniti, M., & Arenius, P. (2003). *Women in entrepreneurship*. In The entrepreneurial advantage of nations: First annual global entrepreneurship symposium, Vol. 29.
- Morse, E. A., Fowler, S. W., & Lawrence, T. B. (2007). The impact of virtual embeddedness on new venture survival: Overcoming the liabilities of newness. *Entrepreneurship Theory and Practice*: 139–159.

- Mueller, S. L., & Conway Dato-On, M. (2008). Gender role orientation as a determinant of entrepreneurial self-efficacy. *Journal of Developmental Entrepreneurship*, 13(1), 3–20.
- Muller, E., & Zenker, A. (2001). Business services as actors of knowledge transformation: The role of KIBS in regional and national innovation systems. *Research Policy*, 30(9), 1501–1516.
- Murray, F., & Graham, L. (2007). Buying science and selling science: Gender differences in the market for commercial science. *Industrial and Corporate Change*, 16(4), 657–689.
- Neergaard, H., Nielsen, K. T., & Kjeldsen, J. I. (2006). State of the art of women's entrepreneurship, access to financing and financing strategies in Denmark. In C. G. Brush et al. (Eds.), *Growth-oriented women entrepreneurs and their businesses: A global research perspective* (pp. 88–111). Cheltenham: Edward Elgar.
- OECD. (2001). Fostering high-tech spin-offs: A public strategy for innovation. *STI Review*, 26. Special issue.
- Rodríguez-Gulias, M. J., Fernández-López, S., Rodeiro-Pazos, D., & Vivel-Búa, M. (2013, Febrero 7–9). *Emprendimiento tecnológico. ¿Una cuestión de género también en la universidad?* XXIII Jornadas Hispano-Luso de Gestión Científica. Malaga, España.
- Ruiz, J., Camelo, M. C., & Coduras, A. (2012). Mujer y desafío emprendedor en España. Características y determinantes. *Economía Industrial* (383), 13–22.
- Sanchez-Escobedo, M. C. (2011). *Análisis del género en las distintas fases del proceso de creación de empresas*. Doctoral Thesis. Universidad de Extremadura. Departamento de Economía Financiera y Contabilidad.
- Shumpeter, J. (1950). *Capitalism, socialism and democracy*. New York: Harper Perennial.
- Valliere, D., & Peterson, R. (2009). Entrepreneurship and economic growth: Evidence from emerging and developed countries. *Entrepreneurship and Regional Development*, 21(5–6), 459–480.
- Vaquero, A., Fernández-López, S., Vivel-Búa, M., López, A.J., Porto, N., & Filgueira, A. (2011). *El papel de la mujer en el campo científico, tecnológico y de transferencia del conocimiento en Galicia*. Ourense.
- Vivel-Búa, M., Fernández-López, S., & Rodeiro-Pazos, D. (2011). El sistema universitario: ¿motor o freno del emprendimiento académico femenino? En A. López (coord.), *La mujer en la ingeniería* (pp. 113–130). Universidad de A Coruña—Servicio de Publicaciones.
- Webber, P. (2004). Capitalization of women-owned businesses (WOBS). In *Sustaining the momentum*. Ottawa: Economic Forum on Women Entrepreneurs.
- Westhead, P., & Storey, D. J. (1994). *An assessment of firms located on and off science parks in the United Kingdom*. London: HMSO.
- Xie, X., & Lv, J. (2016). Social networks of female tech-entrepreneurs and new venture performance: The moderating effects of entrepreneurial alertness and gender discrimination. *International Entrepreneurship Management Journal*, 12(4), 963–983.
- Yadav, V., & Unni, J. (2016). Women entrepreneurship: Research review and future directions. *Journal of Global Entrepreneurship Research*, 6(12), 1–18.
- Zahra, S. A., Ireland, R. D., & Hitt, M. A. (2000). International expansion by new venture firms: International diversity, mode of market entry, technological learning, and performance. *Academy of Management Journal*, 43(5), 925–950.
- Zapata-Huamaní, G., Fernández-López, S., Vivel-Búa, M., Neira, I., & Rodeiro-Pazos, D. (2014). El emprendimiento de base tecnológica; Características diferenciales. En X. Vence & D. Rodeiro-Pazos (coord.), *Innovación y emprendimiento con base en las ciencias* (pp. 3–22). Santiago de Compostela: Servicio de Publicaciones e Intercambio Científico de la Universidad de Santiago de Compostela.
- Zhao, H., Seibert, S. E., & Hills, G. E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of Applied Psychology*, 90(6), 1265–1272.

Opening the “Black Box” of the Marketing/ Entrepreneurship Interface Through an Under-investigated Community



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Abstract This paper examines ethnic entrepreneurship through a study of Maghrebian entrepreneurs in Canada. The entrepreneurship and marketing literature that focuses on the role of ethnic entrepreneurs in creating sustainable communities is discussed. The methodology is a qualitative study that seeks to examine how does marketing translate into ethnic enterprises in Montreal. The findings have important implications for ethnic entrepreneurship and sustainable economic development.

1 Introduction

It has been vehemently acknowledged that ethnic entrepreneurship is a global phenomenon, deeply rooted in large cities (Radaev 1994; add more references). According to Dyer and Ross (2000), many of the major Western cities are now multicultural, and therefore understanding how ethnic entrepreneurs (EEs) operate is a critical research topic.

From an economic perspective, several previous studies have demonstrated the contributions of EEs' contributions to host countries' economies, and therefore, the position of the detractors of cultural diversity has become somewhat non-credible, at least economically (Arrighetti et al. 2014; Crick and Chaudhry 2010). The study by Iyer and Shapiro (1999) is one of several corroborating this finding. These authors showed that EEs' businesses have a positive impact at the microeconomic level by filling the needs of both ethnic and nonethnic consumers (Iyer and Shapiro 1999). Further, at the macroeconomic level, their study showed that EE networks influence economic development by making markets more commercially efficient and contributing to sectoral and economic growth (Iyer and Shapiro 1999).

Scholars studying marketing in the context of EEs' businesses have largely examined countries known for their cultural diversity, such as the United States (Ueltschy 2002; Shanmuganathan et al. 2004; Quinn and Devasagayam 2005; Carter 2009; Shin 2014), England (Jamal 2003, 2005; Emslie et al. 2007; McPherson 2007;

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Pankhania et al. 2007; Altinay and Altinay 2008; Knight 2015), and Australia (Pires 1999; Wilkinson and Cheng 1999; Pires et al. 2011). These studies have demonstrated that EEs have implications beyond EE-run firms. Thus, it is clear to both the academic and professional world that any firm can reap the benefits or suffer the consequences of EEs.

Moreover, globalization has a lot to do with the emergence of the ethnic marketing/EE interface. In recent years, globalization has greatly shaped society by inducing profound changes at the local, regional, and international levels. These changes have led to the emergence of new methods of market segmentation, such as segmentation based on religion, race, ethnicity, and nationality (Jamal 2005).

Though some earlier studies on ethnic entrepreneurship and ethnic marketing have yielded interesting results, the majority have not considered the entrepreneurship/marketing interface (Carson and Gilmore 2000; Chaudhry and Crick 2004). Examining this intersection is essential to better understand these two concepts. Thus, the present study contributes to the literature by examining the entrepreneurship/marketing interface.

Compared to the countries mentioned earlier, Canada, despite being known for its cultural diversity, has been the subject of little research on ethnic entrepreneurship or ethnic marketing. Paré et al. (2008) tried to understand the role of “ethnicity on entrepreneurial practices such as the co-direction of a firm, and more particularly on aspects of venture creation, management, and business development.” The few Canadian studies available, even at the international level, have ignored the Maghreb community, which represents a non-negligible part of the population of several Western countries. Hence, our second contribution lies in our focus on case studies of entrepreneurs from this underrepresented community in Canada.

With respect to procedure, the few previous studies on the entrepreneurship/marketing interface have focused on only single dimensions, such as relational or transactional marketing (Altinay and Altinay 2008), segmentation (Pires et al. 2011), or marketing mix (Masurel et al. 2004). Thus, their results offer only a partial understanding of marketing in the context of ethnic entrepreneurship. Thus, the third and main objective of this work is to attempt to open the “black box” of the entrepreneurship/marketing’s interface by considering all three of these dimensions simultaneously.

Beyond all the above, it has been demonstrated that the limited research and the lack of valid data are significant barriers to the understanding of marketing in multicultural environments (Cui and Choudhury 2002). This further justifies the appeals of researchers seeking to document the reality of EEs (Chaudhry and Crick 2004) by focusing primarily on the “marketing dimension” (Jamal 2005; Altinay and Altinay 2008; Slater and Yani-de-Soriano 2010). The vagueness and incompleteness of contributions on EEs’ marketing activities highlight the need for our study (Altinay and Altinay 2008). Further studying the topic becomes imperative when we consider the continued validity of the words of Holland and Gentry (1999): the number of contributions on ethnic marketing is not proportional to the extent to which these segments represent ethnic consumers.

In light of these facts, we were able to develop the plan for our study that seeks to shed light on Maghrebians’ marketing practices. The next section presents a literature review of the entrepreneurship/marketing interface, and the following discusses our methodological framework. Finally, we present and discuss the findings of our interviews before concluding. Through this approach, we seek to respond to the following main research question:

How does marketing translate into Maghrebians’ ethnic enterprises (MEEs) based in Montreal?

2 Literature Review

This section focuses on the strategic and operational variables of marketing. The literature presented here deals with segmentation, relationship marketing, and marketing mix.

2.1 *Segmentation and Targeting for Ethnic Firms: Mixed Results*

Segmentation based on ethnicity is not a common practice (Pires et al. 2011), and it is not likely to become as routine as segmentation based on demographic characteristics, such as age or sex (Zouaghi 2015). However, the literature has revealed that ethnic minorities represent profitable market segments (Nwankwo and Lindridge 1998; Carter 2009). With the demographic explosion of many regions and the increase in the flow of immigrants, it has, therefore, become necessary for marketing specialists to deal with the new reality by finding ways to effectively target minority groups (Nwankwo and Lindridge 1998; Burton 2002; Pires and Stanton 2002; Palumbo and Teich 2004).

To accomplish this, it is necessary to examine the concept of the niche strategy (Logan and Alba 1999; Boyd 2001; Rath 2002), which is closely linked to EEs’ business model. Indeed, although certain minorities now constitute whole segments by themselves, simply talking about minorities in the context of marketing implies capturing a market’s profitability despite its very reduced size: thus, a niche strategy.

Segev et al. (2014) discussed the importance of segmentation and implicitly expanded the spectrum. They argued that companies working in multicultural contexts need to understand the characteristics of each consumer segment to deploy effective targeting strategies. This poses a dilemma previously raised by Brenner et al. (2010), who identified two ways of “doing business” for Canadian ethnic businesses: one that incorporates the firm in the ethnic enclave and one that incorporates the firm more widely within the host society. However, it seems more appropriate to split EEs’ ways of “doing business” into three approaches:

(1) targeting one's own community, (2) targeting other ethnic communities, and (3) targeting the host community. This method is consistent with Altinay et al.'s (2014) remarks that small EEs operate at interfaces within three cultures: their own, the cultures of other ethnic minorities, and the culture of their host country.

2.1.1 For a Narrower Targeting

The literature refers to the risks associated with not extending a firm's target clientele and demonstrates that several firms suffer the consequences of these risks, as we will see in the next subsection. Conversely, some studies indicate that EEs focus primarily, and even exclusively, on ethnic consumers. These studies stipulate, among other things, that EEs' clientele comes largely from the same country as the EEs themselves (Jamal 2003, 2005; Altinay and Altinay 2008; Altinay 2010) and that the ethnic economy benefits only the ethnic communities it serves (Knight 2015). Similarly, but with some differences, Masurel et al. (2004) found that the segmentation of the EE portion of their sample was not limited to the EEs' ethnicity but was still limited to ethnic minorities. Their results fit the logic of the ethnic enclave theory, according to which EEs serve only the needs of ethnic customers (Waldinger 1986; Waldinger et al. 1990). These findings demonstrate the need to focus on segments limited to ethnic minorities: a strategy that becomes even more interesting when we consider that various groups of consumers may have limited interactions in multicultural markets due to discrepancies in values, making an optimal larger segmentation quite complex (Demangeot et al. 2015).

Reduced targeting also helps ethnic organizations gain stability more quickly (Wright et al. 2003) and represents a huge opportunity for immigrants who are "aspiring entrepreneurs" and do not want to be assigned to positions deemed undesirable by people from the host community (Pang and Lau 1998). Many scholars advocate limiting target consumers, arguing that marketing professionals should not hesitate to consider the sub-segments of a population according to such characteristics as ethnic group, national proximity, or demographic measures because, otherwise, these consumers are likely to be underrepresented (Richardson 2012). In the logic of ethnic enclaves, a niche strategy would allow EEs to provide jobs for their family, and total control of a niche by an ethnic community would ensure that it would become the symbol of this community (Ndoen et al. 2002). Hedberg and Pettersson (2012) also supported reduced targeting, as one entrepreneur they surveyed indicated that she considered ethnicity to be a resource.

Lee (1999) identified several other positive aspects of ethnic targeting, such as the vertical integration, the possibility to delay payment (credit), the creation of corporate associations, and the taking of joint command to benefit from discounts. Holland and Gentry (1999) highlighted the relevance of ethnic marketing as a method of segmentation by specifying that it is even more optimal in the context of small- and medium-sized enterprises (SMEs), as larger organizations tend to ignore small segments.

It is essential to note that the benefits of reduced targeting are not the only reasons EEs might implement such a targeting approach. The literature also reveals that a strategy of reduced targeting may be the consequence of several factors. For example, EEs may find it easier to do business with members of their own communities, as this allows them to interact in a more familiar language (Altinay and Altinay 2008; Varlander and Julien 2010). EEs tend to isolate themselves within their own communities and to not be well informed about the needs of traditional consumers (Basu 2004; Rusinovic 2008). Lee (1999) gave a concrete example of this phenomenon when describing Afro-Americans’ difficulty settling into neighborhoods of “white people” due to barriers related to the English language.

2.1.2 For a Wider Targeting

Though segmentation is important for any business, it is more crucial for “less known firms” (Holland and Gentry 1999), such as those owned by EEs. This is partially because EEs often target single communities, which are much smaller targets than the majority population. The literature shows that the choice to segment is a “double-edged sword.” Indeed, reduced targeting also involves several drawbacks. For example, although ethnicity may lead to pride among some, it may also create distance among others (Dyer and Ross 2000), resulting in a loss of interesting opportunities for the dominant market (Wright et al. 2003). Furthermore, even if an ethnic market offers many opportunities, the growth of ethnic firms remains limited (Barrett et al. 2002), since, even if the flow of immigrants continues to increase, as all predictions suggest, the community will remain much smaller than the host population. The decision to focus on an ethnic niche can, therefore, be very risky, as a firm may face extinction if the targeted ethnic market is not profitable (Tamagnini and Tregear 1998).

Although Holland and Gentry (1999) have pointed out some of the benefits of targeting an ethnic community, they added that targeting ethnic consumers is not always successful. They also noted the recurring absence of their characteristics among standard demographic accounts (Holland and Gentry 1999), which proves a considerable barrier for targeting purposes. Similarly, Cui and Choudhury (2002) concluded that, even if an ethnic group represents an interesting criterion for segmentation, groups from the same ethnic group can differ greatly in their behavior, making targeting particularly complex. This is partially due to the tendency of younger generations to integrate further into their host populations (Cui and Choudhury 2002; Wright et al. 2003).

Segmentation and targeting are important for small firms, particularly EEs. It is necessary for each EE to determine which strategy is best for its particular context. This discussion allows us to complement our research question with several sub-questions related to the segmentation/targeting dimension.

How do MEEs based in Montreal target their customers?

Is the targeting strategy of a MEE based in Montreal a “reduced” one (limited to the community of the leader), a “larger” one (including other communities), or a “very large” one (including the host community)?

2.2 The Relational Dimension

The marketing literature has not really sought to understand how EEs create and maintain relationships with several groups of consumers (Altinay et al. 2014). This gap raises several questions regarding how EEs operating in multicultural markets can exploit the cultural dimension to build durable relationships with their consumers (Altinay et al. 2014).

Relational marketing—and, more precisely, interpersonal relationships—has previously been associated with entrepreneurship (Wei et al. 2013). Even if they are established in an intuitive and natural way, this contradicts studies stating that EEs often do not understand the concept of marketing (Moriarty et al. 2008). Indeed, though EEs might not be aware of such concepts as relational marketing from a theoretical perspective, they are likely to understand such concepts if raised in an informal discussion.

The relational dimension is primarily relevant for client retention; thus, it plays a major role in the deployment of marketing strategies and in helping organizations improve their reputation and increase their clientele (Altinay et al. 2014). Here, a link can be established with the previous section (segmentation and targeting) through Soydas and Aleti’s (2015) study, which showed that EEs often take a gradual approach: targeting ethnic consumers from their own communities prior to also establishing relationships with traditional consumers over time. This suggests that, in the context of EEs, scholars should consider the relational dimension and the segmentation/targeting dimension as a whole, rather than as two different constructs.

Dyer and Ross (2000) stressed that marketing specialists should emphasize commitment and common values to develop and maintain durable relationships between entrepreneurs and customers. They also specified that managers who focus on these aspects will be able to develop strategies to maximize the positive impact of the relationships that link them to the ethnic community (Dyer and Ross 2000). In a similar vein, Wei et al. (2013), who studied the Chinese community, suggested that it is wise to consider the relational dimension as an indicator of consumers’ behavior and a predictor of the effectiveness of relational marketing activities during the development of marketing strategies. Soydas and Aleti (2015) offered similar findings, defining relational marketing as a central element of the day-to-day business operations of Turkish entrepreneurs. They suggested that the centrality of relational marketing in this culture is due to Turkish entrepreneurs’ collectivist societal backgrounds, which value intuition and interpersonal relationships (Soydas and Aleti 2015).

This position is supported by several other studies in very different contexts. For example, in a banking context, the empirical results of Chakiso's (2015) study of the Zemen Bank indicate that relational marketing (e.g., commitment, conflict management, and communication) has a positive effect on customer loyalty. In a similar context, a study of a sample of 164 investment banks found that the amount of the monetary benefits provided to each customer depended on the magnitude and potential of the relationship between the bank and the borrower (Yu 2015). This same study also stressed the reciprocity sought by each of the parties, thereby supporting the findings of Lee et al. (2014) who argued that two parties must benefit from a “merchant–customer” relationship to be able to develop and maintain close links. In addition, Lee et al. (2014) found that investments in relational marketing positively affected consumers' recognition and satisfaction.

The literature demonstrates that managers seem more focused on building and maintaining relationships with current clients than on acquiring new customers (O'Donnell 2011). Furthermore, SMEs, such as EEs, are more oriented toward client commitment, networking, and “word-of-mouth” communication (Day et al. 1998; Gilmore et al. 2001; Wright et al. 2003; Soydas and Aleti 2015). This observation appears to be more of a consequence of the limited resources available to the owners of small firms (as compared to the owners of large firms) than the result of a well-defined strategy. Indeed, EEs tend to rely on relational marketing to alleviate problems related to marketing (Wright et al. 2003).

Another factor in the importance with regard to small firms, which can be linked to the previous section (segmentation/targeting), lies in these firms' general dependency on the loyalty of a small number of consumers. In this regard, Altinay and Altinay (2008) studied the marketing strategies of Turkish SMEs in England. They found that relational marketing was the most important marketing practice in daily operations and that ethnic firms rely heavily on loyalty as a pillar in their relationships. Iyer and Shapiro (1999) and Masurel et al. (2004) found similar results stressing the importance of social interactions. Iyer and Shapiro (1999) stated that SMEs compete particularly in terms of their capacity to establish lasting relationships with consumers. Chitu and Albu (2013) corroborated these findings in the context of the tourism industry by emphasizing the importance of a consistent client approach for building lasting relationships. More recently, Casini et al. (2016) stressed the importance of communication in reducing the relational distance between customers and merchants, and Elvira and Xhaferi-Elona (2014) found that two of the three key success determinants of Albanian entrepreneurs (reputation among consumers and the maintenance of close customer relations) were related to the relational dimension. Jones et al. (2015) found similar results: 70% of the consumers they consulted had a positive attitude toward relational marketing, while the remaining 30% had a neutral attitude, rather than a negative one.

In sum, there is no doubt that the relational aspect is important in the context of small businesses and, particularly, ethnic organizations. This has been confirmed by studies suggesting that the choice to invest in relationships supports EEs' development (Wei et al. 2013). The relational dimension could even constitute a competitive advantage (Reinartz et al. 2004; Musalem and Joshi 2009), making it clear that

relational marketing represents a considerable asset for EEs (Wright et al. 2003). In sum, this section has helped to refine our main research question in the context of EEs' relational marketing:

What is the importance of relational marketing in the context of MEEs based in Montreal?

How does relational marketing for MEEs based in Montreal translate for customers, suppliers, and competitors?

2.3 Marketing Mix in the Context of EE

To better understand marketing in the context of MEEs, it is useful to explore the concept of marketing mix. This concept is also known as “transactional marketing” and is commonly defined by the “4Ps” (promotion, price, product, and place).

2.3.1 Location and Price: Determinant Factors for EEs

Place

When facing increased competition, developing and implementing marketing strategies to attract and retain customers become essential for survival and success (Jang et al. 2011). An interesting track of investigation is the relationship between an EE's ethnicity and choice of location, which has received very little attention (Jean et al. 2011).

The few contributions in this area have demonstrated that location is not important for EEs and their consumers (Masurel et al. 2004; Băltescu and Boşcor 2013, 2016). However, most of the literature on EEs argues the contrary. For example, Altinay and Altinay (2008) emphasized the importance of “place” for consumer accessibility, particularly in sectors with perishable products. Kauppinen-Räsänen et al. (2013) identified many of the characteristics that ethnic consumers consider in their gourmet experience and found that the two key elements are context and place. Similarly, other authors have underlined EEs' efforts to make their products easily accessible through better store locations (Jamal 2005). The strategic nature of location was also discussed by Lee (1999), who examined Afro-American firms' choices to settle into “black neighborhoods.” The author stated that this strategy is justified by the presence of lesser competition from large firms and better rents (Lee 1999). In the completely different context of ethnic banks, Herjanto and Gaur (2011) found similar findings. They concluded that place and opening hours are critical factors in customers' choice of bank branches (Herjanto and Gaur 2011).

For EEs, the strategic nature of location does not seem to be limited to being situated on a busy boulevard or near many parking lots (Erdem and Schmidt 2008). It extends to being in residential areas surrounded by members of the ethnic

community (Erdem and Schmidt 2008). The importance of networking and a geographic location near a concentration of businesses and individuals from the same community have been emphasized by several studies (Ndofor and Priem 2011). Zhou and Cho (2010) identified Berlin’s “China Town” and “Korea Town” as good examples of such benefits, as these social spaces offer many opportunities to businesses from these communities. In the Canadian context, Brenner et al. (2010) noted that EEs’ strategies differ depending on location. They also noted that this is particularly true for firms in Montreal, which face an additional challenge, since the first language of this area is French (Brenner et al. 2010). Therefore, EE networks are more important in Montreal than in other cities, such as Toronto and Vancouver (Brenner et al. 2010).

In connection with the first dimension presented in this article (segmentation/targeting), some authors consider location an important element to clearly define a target clientele (Tamagnini and Tregear 1998). This indicates that the three dimensions which are the subject of this literature review are interrelated and should be analyzed jointly, rather than separately, to better understand EEs’ marketing strategies.

Price

Location is not the only determining factor for EEs. Ethnic businesses must also consider other aspects, such as quality of service and prices (Jang et al. 2011). Marinkovic et al. (2015) demonstrated that price was one of the most important elements for consumers of ethnic restaurants in Serbia. Liu and Jang (2009) were even more categorical, identifying price as the factor with the greatest impact on the satisfaction of Chinese restaurants’ clientele. Basu (2011) identified several dimensions that are important for EEs, including positioning in terms of price/quality (low prices and low quality vs. high prices and high quality). His results show that EEs exert great effort to reduce their prices because most of their consumers see price as very important. Jamal (2005) followed a similar logic, finding that, in addition to “place,” EEs also try to offer products from their countries of origin at an affordable price, which pushes them to adopt a strategy of differentiation. In a more recent study with colleagues, this author emphasized the need to see promotions not only as negative elements but as things that could add value to products (Jamal et al. 2012). Supporting these remarks, Wei et al. (2013) associated price with a need for adaptation, concluding that it would be beneficial for Chinese retailers to use different promotional strategies depending on their region. This finding supports Jamal et al.’s (2012) claims by showing that saving a little money makes ethnic consumers happy and encourages them to purchase larger quantities.

Nevertheless, although some have noted that most EEs compete on price, offering a low price is not always a viable marketing solution (Altinay and Altinay 2008). This is supported by Elvira and Xhaferi-Elona (2014), who established that the success of Albanian entrepreneurs based in Italy was only 27% attributable to the

price. Similarly, Huang et al. (2013) revealed that Chinese customers are more sensitive to receiving a quality good than obtaining a competitive price.

Overall, the literature shows that the elements of price and place are integral parts of EEs' strategies. It is important to note that, though EEs conduct marketing informally, they seem to push the boundaries of the concept of marketing by deploying two theoretically opposed strategies: relationship marketing and transactional marketing.

2.3.2 Advertising and Products: Non-negligible Elements for EEs

Products

The literature on EEs has put less emphasis on the product component, likely because firms run by EEs usually offer specialized ethnic products that protect them from competition. However, Altinay and Altinay's (2008) suggestion that EEs now face strong competition from "traditional firms" has been echoed by others. Indeed, it is becoming urgent that EEs pay attention to the product element, especially as many consumers of ethnic shops attach great importance to product quality (Jang et al. 2011; Băltescu Boşcor 2013; Kauppinen-Räsänen et al. 2013; Marinkovic et al. 2015). Various studies have identified product/service quality as the main factor for EEs' success (Elvira and Xhaferi-Elona 2014) and underlined that the growth of market shares through product diversification or improved product quality are the most important elements for EEs (Masurel et al. 2004). This shows that product is very important when it comes to marketing for EEs.

Promotion

Concerning the promotional element, Soydas and Aleti (2015) focused on the case of Turkish EEs based in Australia and concluded that advertising was not really a common practice. They also found that EEs rarely used plans, procedures, and documentation (Soydas and Aleti 2015). Instead, the firms in their study used local newspapers, pamphlets, and the Internet to support their targeting strategies, which included customers from the host country (Soydas and Aleti 2015). Thus, some EEs chose to deploy promotional strategies that went beyond their ethnic enclave, implying a link with the segmentation/targeting dimension.

Another study supports a second link between promotion and the relational dimension. Shani and Chalasani (1992) found that the ability to accommodate customers through incentives, service options, and exchanges has a positive impact on them, demonstrating that the merchant-client relationship goes beyond a typical commercial transaction.

Credit is another important element. Lee (1999) emphasized the impact credit can have on the success and growth of small businesses, noting the flexibility and benefits of credits on merchandise, such as allowing EEs to acquire economic

advantage over companies that pay on delivery. Also related to the element of promotion, Jamal and Sharifuddin (2015) revealed that religion is another potential promotional marketing tool for EEs. Specifically, they pointed to the benefits of using the *halal* logo for promotional messages.

Moreover, the literature on marketing stresses the importance of religion for Muslim communities by mentioning, for example, the role religion plays in the behaviors of Muslim consumers (Siala et al. 2004). In addition, since Muslim communities are considered collectivist (Jamal 2003), it is possible to predict the potential impact of the religious component on consumers’ motivations and EEs’ use of marketing strategies. Jamal gave a good example by stipulating that the religion and culture of some ethnic customers led them to resist the temptation to buy larger quantities, despite promotions.

How does marketing mix translate to the context of MEEs based in Montreal? What is the importance of pricing and location for MEEs based in Montreal? What about product and promotion?

3 Methodology

3.1 A Qualitative Study Through an Exploratory Multiple Case Approach

A multiple case study was chosen for this study because this approach is the most suitable for answering the questions of “why” and/or “how” (Yin 2009). Following Miles, Huberman, and Saldana’s (2013) recommendations, we first partitioned each case before proceeding to a joint analysis, which allowed us to highlight the cases’ commonalities and particularities.

The choice of a qualitative approach is consistent with Kloosterman’s (2010) argument that such an approach is most conducive for exploring EEs’ strategies. Our focus on a minority population also supports the adoption of a qualitative approach because this approach allows an in-depth analysis despite a small sample of enterprises (Deslauriers 1991). In addition, qualitative research is particularly appropriate in an exploratory context (Miles et al. 2013; Strauss and Corbin 2004), especially for subjects that have been underrepresented in research (Cooper and Schindler 2003).

3.2 The Rationale for Considering the Maghrebian Community and the City of Montreal

A recent report on 30 main countries of birth of the immigrant population admitted to Quebec from 2005 to 2014 illustrates the relevance of considering the Maghrebian community (Statistique Québec 2016). In this report, Algerian nationals were the most common, Moroccans were fourth, and Tunisians were thirteenth. Thus,

together, Algeria, Morocco, and Tunisia accounted for approximately one quarter of the total number of immigrants admitted to Quebec from 2005 to 2014.

This study takes place in the city of Montreal and its surroundings. For the surrounding area, we limited ourselves to the North Shore and, more specifically, the city of Laval. This choice is rooted, in part, in the concentration of persons and firms from the studied community in these areas (Gouvernement du Québec 2014). For indicative purposes, according to a Statistique Canada (2011) census, 67.2% of North Africans in the country live in the administrative region of Montreal, and Laval comes in second place, with 10.7%. Note that the exclusion of the two other countries of Maghreb (Libya and Mauritania) is due to their low representation at both the population level and the firm level.

3.3 Case Studies

We analyzed the cases of five MEEs based in Montreal and its surroundings. This is consistent with the object of our research, which aims to understand a phenomenon, rather than to statistically demonstrate a relationship for the purposes of generalization. Thus, the logic of sampling is not relevant to this case study (Yin 2009), as the goal was to choose a number of companies that reflected the number of cases we wanted to analyze through the principles of literal replications and theory. A case study focuses not on representativeness but, rather, on the quality of the case (Eisenhardt 1989). As Miles, Huberman, and Saldana (2013) pointed out, qualitative research usually examines a small sample in a specific context to support an in-depth study.

Our choice of cases is also consistent with Cui and Choudhury's (2002) statements, who concluded that, even if ethnic groups can represent an interesting segmentation criterion, groups from the same ethnic group can differ greatly in their behavior, making their targeting particularly complex. For this reason, we have sought to identify possible differences (i.e., subgroups) within one country of origin by considering "Arab Algerians" (dispersed across Algeria), "Berber Algerians" (living mainly in the mountains), and "Saharawi Algerians" (living mainly in the desert). Algeria was selected for more detailed representation because, as seen earlier, it is the most represented country in terms of both individuals and ethnic businesses. Table 1 presents our five cases.

Table 1 Summary of our ethnic entrepreneurs

Name	Country	Subgroup	Sector	City
Alpha	Algeria	Sahara	Mini Grocery store	Montreal
Beta	Algeria	Arabic	Grocery store	Laval
Gamma	Algeria	Berber	Mini Grocery store	Montreal
Delta	Tunisia	Arabic	Mini Grocery store	Laval
Epsilon	Morocco	Arabic	Mini Grocery store	Montreal



Fig. 1 Marketing in the context of Maghrebian’ entrepreneurs

3.4 Data Collection

Our data collection was carried out through semi-structured in-depth interviews of the owners/managers (EEs) of our five case companies. The semi-structured interview method is the most commonly used approach in qualitative research (Yin 2009). In our case, each interview lasted for about an hour and a half. It has been established that conducting well-prepared interviews supports the obtainment of high-quality information, despite a small sample size (Yin 2009; Masurel et al. 2004). Thus, we sent an interview guide to the five entrepreneurs a month before meeting with them to ensure that they were ready to provide the necessary information. This process ensured a certain fluidity to the interviews.

During the interviews, we took notes and built a text based on the notes of the same day. Then, we sent each participant the text corresponding to the transcript of his interview to ensure the texts were faithful to the participants’ remarks. After receiving the approval of all entrepreneurs, we sought the advice of two scholars specializing in marketing with experience conducting interviews. These two steps supported the validity of our data and followed the recommendations of Yin (2009), who stated that the design of case studies should follow a continuous quality assessment approach.

3.5 Accessibility

We enjoyed a level of access that greatly enhanced the quality of our study. The main author was a co-owner and vice-president of a mini supermarket in the studied community. In addition to his experience and network, he spoke the common language of the three considered countries fluently. These benefits greatly facilitated the identification of businesses and the collection of data.

Because of the main author’s experience, we did not have to employ a native expert in the affairs of the entrepreneurs’ countries of origin, as was the case in the

study by Masurel et al. (2004), nor did we need to employ students from the studied countries (Jamal 2005). This minimized the risk of potential problems in perception or interpretation.

Finally, the accessibility provided by the main author allowed us to communicate with the interviewees multiple times after the interviews. This proved a precious asset because of the diversity of the information contained in our interview guide. We made sure to obtain answers to all our points by involving the interviewees at multiple stages of the research.

4 Analysis and Discussion

The analysis of the *marketing data* we collected was consistent with our literature review and our interview guide. Thus, it was separated into three main themes: segmentation/targeting, relational marketing, and marketing mix. In addition, we added a fourth section to support a better understanding of the motives that pushed the entrepreneurs to start their businesses and a fifth section to identify other marketing tools they used/mobilized.

4.1 Motivations

The results concerning the entrepreneurs' motivations to start their businesses did not support the studies suggesting they did so due to a lack of skills (Johnson quoted by Knight 2015), the presence of discrimination (Chaudhry and Crick 2004; Piperopoulos 2010), or political/economical reasons (Khosa and Kalitanyi 2015). Rather, our interviewees evoked "more positive" reasons, such as the identification of opportunities (Soydas and Aleti 2015) and "also being their own boss or after identifying a niche in the market" (Knight 2015).

An analysis of the Statistique Canada (2009) report allowed us to build a more detailed reasoning. This report indicated that 30% of Canadians of Arab origin are likely to have a university degree, two times more than other Canadians (15%). Yet, Canadians of Arab origin who are 15 years old or older are less likely to have a job (56% employed) than other Canadians (62% employed). At first sight, these statistics suggest the presence of a certain discrimination.

Nevertheless, in light of our results, we can conclude that it would be more appropriate to raise the problem of diploma recognition, since the fact that Canadians of Arab origin have diplomas does not mean that these diplomas are necessarily recognized. In fact, all our cases demonstrated an inability to obtain diploma recognition. In that way, some people try to create their own job by becoming entrepreneurs.

On this subject one of the entrepreneurs told us: "I didn't complete my studies to end-up lifting boxes in a manufacturing firm because my diploma is not recognized."

Another entrepreneur mentioned that “after having to do small jobs and realizing his diploma was not recognized, it became evident to open his business.”

4.2 Segmentation/Targeting

With respect to segmentation strategy/targeting, the interviewees were unanimous in saying that their clientele was mainly of Maghreb origin. This result is consistent with many prior studies (Peñalosa and Gilly 1999; Jamal 2003, 2005; Altinay and Altinay 2008; Altinay 2010). We found that this segmentation was mainly due to the products offered. More precisely, the targeting/segmentation strategy was rooted in two factors: the fact that the interviewees offered products from Maghrebian countries that customers could not find elsewhere and a religious dimension, as all products were *halal*. One of the entrepreneurs told us: “Maghrebian’ businesses are made for a Maghrebian clientele. The bad side is that it might create distance with people from other regions of the world. The good side is that the Maghrebian clientele is very loyal to us.”

We also noted that some entrepreneurs implemented highly reduced targeting. For example, the Gamma entrepreneur’s customers were mainly Berbers, and those of the Epsilon entrepreneur were mostly from Morocco. Only one of the entrepreneurs had a more diversified clientele, which he said was the result of a desire to *rake broader*, as well as a positive consequence of the multiculturalism that characterizes the city of Montreal. Overall, we saw that the MEEs’ segmentation/targeting process was less of a well-defined strategy and more of a logical consequence of the companies’ product offerings, which was exclusively *halal* and largely imported from Algeria, Morocco, and Tunisia.

We also noticed that the MEEs attracted other ethnic communities, largely through the religious dimension. Syrians, Senegalese, Lebanese, and Pakistanis, to name a few, also seek *halal* products and could, therefore, shop at the MEEs. Here, the religious dimension follows the logic of the ethnic enclave theory (Waldinger 1986; Waldinger et al. 1990; Masurel et al. 2004), which suggests that EEs target an ethnic clientele that is not necessarily limited to people from their own community. In our sample, this was accomplished through the Islamic religion, which is shared by a diverse range of countries. One of the interviewees even stated: “if my products weren’t all *halal*, I would lose 90% of my clientele, it’s that simple.” Showing once again the importance of the religious dimension in targeting customers, one of the entrepreneurs told us: “Without *halal* products and products that are imported from Maghreb, Maghrebians would not come to us nor the Pakistanis, Lebanese, and other Muslim-majority communities that constitute my clientele.”

In sum, from a theoretical point of view, we saw that each of the three forms of targeting has advantages and disadvantages. In practice, the Maghreb EEs did not have an interest in or perceived opportunity to target beyond their own community, and when did so, it was rather a consequence of their product offering than the result of a defined strategy. That said, we strongly recommend that these firms work to

ensure that their sustainability does not depend on a single community, especially given recent developments in the food industry. Specifically, large companies have begun to recognize Muslim customers as a very interesting segment in the field of food. As a result, these firms are starting to guide their product offerings to target this type of customers. What seems to still be in a testing phase could soon become an integral part of these companies' strategies. This represents a danger for MEEs, who lack the capacity to compete with such businesses.

4.3 Relational Marketing

All the surveyed entrepreneurs agreed on the importance of relational marketing and considered interpersonal relationships to be crucial to sustainability. In our sample, interpersonal relationships concerned not only relationships with clients—although our results, like those of previous studies, demonstrate that this relationship plays a decisive role in their success (see Wulf et al. 2001; Reinartz et al. 2004; Musalem and Joshi 2009; Wei et al. 2013; Jones et al. 2015)—but also relationships with suppliers and competitors, which our interviewees considered equally important. Regarding the clients, one of the entrepreneurs stated: “We talk with our competitors to make clear that we must complement each other and not eat each's other slice.” Another added that “if he keeps good relationships with suppliers, it can sometime result for him in having better prices than other businesses while good relationships with clients is the best way to keep them.”

With respect to suppliers, we found that a good relationship also allows a degree of flexibility in terms of payment deadline (see Lee 1999) and entrepreneurs to benefit from priority delivery. The MEEs in our sample appeared to have measured the profits they could gain from their relationships with suppliers and advocated friendly relationships that transcended the commercial framework (see Wei et al. 2013).

Concerning relationships with competitors, our results are unprecedented. Several studies have mentioned the potential for collaboration among competitors (O'Donnell 2011; Chen and Redding 2017), but our results suggest that, in the case of MEEs, this collaboration goes even further. Indeed, some of the EEs redirected their customers to competitors to accommodate them when they were unable to meet their needs. Even more, four of the five EEs revealed that they often lent equipment to competitors. The cases studied indicate a complete lack of the concept of competition in the context of MEEs. Religion plays, once again, a big role in this finding. As one entrepreneur said: “In all cases, it is God who decides to whom he grants profits.”

4.4 *Mix Marketing*

According to our entrepreneurs, price plays an important role in attracting and retaining clients. Only one entrepreneur did not consider price to be a determining factor. Our results are, therefore, similar to those of Jamal (2005), who identified EEs’ need to provide affordable products. It should be noted that the quality was not a negligible element. Thus, it seems that MEEs opt for a good quality/price ratio (Basu 2011), as this strategy allows them to target more consumers. In sum, our results support Altinay and Altinay’s (2008) assertion that offering low prices is not a viable solution.

With respect to location, the results were more mixed. Some EEs stressed that location helped to attract new customers if a store was located, for example, on a large boulevard. However, according to most of the EEs, the share of customers who cared about location was very low compared to the total clientele. This result is consistent with some studies (Masurel et al. 2004; Jean et al. 2011) but contradicts those mentioning the strategic nature of location for EEs (Tamagnini and Tregear 1998; Jamal 2005; Altinay and Altinay 2008; Lee 1999). Indeed, one of the entrepreneurs we have interviewed said: “As small firms, we look for affordable rent price, so we don’t have the luxury to choose top locations.”

Advertising and promotions in general are clearly less relevant in the context of MEEs. The MEEs we have interviewed primarily focused on *word of mouth* due to a lack of resources. The only advertising initiatives were ads in the Ramadan calendar, in the community newspaper, and, more rarely, on the radio. Our conclusions are similar to those of Soydas and Aleti (2015), who found that advertising was not a common practice for Turkish EEs established in Australia. According to the case studies, EEs’ reluctance to use promotions was also rooted in a lack of resources and flexibility, since their products were mainly imported, and there was a monopoly in terms of suppliers of “made in Maghreb” products. On this subject, one of the entrepreneurs told us: “Advertising and discount offers are for large companies, it doesn’t apply to us, we don’t have the financial resources to use these tools.”

4.5 *Other Elements*

With respect to the other elements relevant to marketing for MEEs, we identified three main themes: religion, academic and professional experience, and the adaptation of schedules. We have already underlined the central place of religion in MEEs; however, we reiterate its importance here because more detailed questions about this aspect revealed that MEEs’ business model would fail without the religious dimension. Thus, we agree with Jamal and Sharifuddin’s (2015) findings concerning opportunities linked to the use of the label *halal*.

With respect to academic and professional experience, our interviews revealed that experience played a bigger role in helping the EEs develop marketing tactics.

Some EEs also mentioned benefits related to their academic training, such as a good capacity for reasoning and calculation. However, what was apparent from the interviews was that, between the two, professional experience was the more crucial success factor. An entrepreneur made it very clear by stating: “Theory is good for courses, but it doesn’t prepare you for the real world. I laugh when I hear about entrepreneurial academic programs; I would like to tell the students that choose these programs to start their business, even if it fails the first times; that’s the best learning they can get!”

We also found that one of the strategies the EEs implemented was the maximization of opening hours. In other words, the EEs minimized the number of days on which their businesses were closed. Indeed, the MEEs were generally only closed a maximum of two days per year, which allowed the EEs to achieve “very good days, economically speaking, during the holidays.”

Finally, in keeping with the findings of several other studies of ethnic marketing (see Wright et al. 2003; Brenner et al. 2010), our interviews suggest that, at first sight, the EEs did not seem to pay attention to marketing. Indeed, we noted a lack of formality and management that can be termed *day-to-day*, translating to the choice of short-termism and simplicity over a long-term vision and well-defined strategy. In contrast to prior studies, however, and thanks to our high level of access and the detailed information contained in our interview guide, we were able to conclude that marketing is at the heart of the MEEs’ operations. However, EEs’ “marketing initiatives” are often carried out unconsciously or intuitively, which may tempt scholars to conclude too soon that marketing is not relevant to EEs.

5 Implications and Directions for Future Research

Our results have important implications for both literature and practice. First, the discussions concerning Maghreb entrepreneurs’ motivations to start their businesses suggest that previous studies’ conclusions referring to the presence of discrimination or the identification of opportunities are a little hasty. Indeed, although some of our cases also revealed these two motivations, a more detailed analysis revealed that the root problem was a lack of diploma recognition.

We drew a similar conclusion concerning the importance of marketing in the context of MEEs. The EEs’ appeals to several dimensions illustrated that marketing occupied a central place in the MEEs’ affairs. This implies that scholars wishing to contribute to this area of research would benefit from finding ways to help entrepreneurs be more explicit and clear in their answers; otherwise, scholars’ reports may be inaccurate.

On the theoretical level, this study suggests that the definition of ethnic marketing as “the action to segment according to the homogeneity of an ethnic strain” is not sufficiently precise. Indeed, an ethnic strain often includes a certain level of diversity. Our results offer a good example of this, as the responses of the different Algerian EE subgroups were sometimes divergent. Thus, we propose a more

acceptable definition of ethnic marketing: “A circumscription of the homogeneity of an ethnic strain according to what is the most shared and a segmentation on this basis.”

Moreover, the three marketing pillars of the MEEs (products, relationships, and religion) show that, in general, discussions of ethnic or multicultural marketing are either too limited or, paradoxically, too large. They are too limited because they keep the analysis at the surface and do not dive more deeply into the theme. On the other hand, they are too large because they put all the ethnic groups of a given society into the same bag.

On a more practical side, our results allow MEEs to conduct a “marketing audit,” give other ethnic firms a basis of comparison, and offer traditional businesses a better idea of how to target the Maghreb community. With respect to the concept of “compagrement,” this philosophy in doing business could be beneficial for all micro and small enterprises and improve their survival rate.

Despite interesting results, our study had several limitations. First, it was conducted in a particular context: the multicultural city of Montreal. Conducting the same study in a different context may lead to different results. To consolidate our results, it could be interesting to conduct similar studies in other regions that could support further analysis of the Maghreb community, such as France and Belgium, where this community has been well established for several decades.

Another major limitation of this study is that all five case companies operated in the same sector: groceries. In this case, the cultural link between the product and the customer explains a large part of the results. Thus, a study of EE in a different industry, such as electronics, may have yielded different findings. Precisely, we strongly believe that a more substantial understanding of the phenomenon of marketing within ethnic firms can result only from the compilation of several studies examining different communities, in different contexts, and through several different dimensions. Cui (2001) stressed the importance of conducting more studies on this aspect almost 20 years ago; since then, however, awareness has remained limited. If interest and awareness do not increase, the marketing–entrepreneurship interface will remain an abstract concept.

6 Conclusion

The study of the marketing/entrepreneurship interface raises several questions. We have tried to fill in some of the gaps in the literature by investigating how five EEs deployed marketing tactics in Montreal (Canada). Further, we have attempted to diversify the methodology mobilized to study this subject by considering a community that is absent from the scientific research and by conducting our study in a fertile context. Finally, and primarily, we have shed light on several marketing dimensions of ethnic entrepreneurship, where most previous studies have limited their analysis to one.

In addressing these three main objectives, we were able to better understand Maghrebians' motivations to start their businesses, which seem to be rooted in problems of diploma recognition. In addition, we were able to conclude that EEs' daily affairs revolve around marketing, though it is often conducted in an unconscious manner. Through our approach and the privileged access we had, we were also able to identify how our cases operationalized the marketing aspect. Finally, we found that competition is nonexistent in the context of our MEEs and that their marketing processes and their sustainability were based on three pillars: products (imported), relationships, and religion.

References

- Altınay, L. (2010). Market orientation of small ethnic minority-owned hospitality firms. *International Journal of Hospitality Management*, 29(1), 148–156.
- Altınay, L., & Altınay, E. (2008). Marketing strategies of ethnic minority businesses in the UK. *Service Industries Journal*, 28(8), 1183–1197.
- Altınay, L., Saunders, M. N., & Wang, C. L. (2014). The influence of culture on trust judgments in customer relationship development by ethnic minority small businesses. *Journal of Small Business Management*, 52(1), 59–78.
- Arrighetti, A., Bolzani, D., & Lasagni, A. (2014). Beyond the enclave? Break-outs into mainstream markets and multicultural hybridism in ethnic firms. *Entrepreneurship et Regional Development*, 26(9–10), 753–777.
- Băltescu, C. A., & Boşcor, D. (2013). Customers' opinions regarding eating-out in national type restaurants. *Ovidius University Annals*, XIII(2), 370–374.
- Băltescu, C. A., & Boşcor, D. (2016). Are ethnic restaurants a solution to dine out for the young local population? *Bulletin of the Transylvania University of Brasov. Economic Sciences. Series V*, 9(2), 113.
- Barrett, G., Jones, T., McEvoy, D., & McGoldrick, C. (2002). The economic embeddedness of immigrant enterprise in Britain. *International Journal of Entrepreneurial Behavior and Research*, 8(1/2), 11–31.
- Basu, A. (2004). Entrepreneurial aspirations among family business owners: An analysis of ethnic business owners in the UK. *International Journal of Entrepreneurial Behavior and Research*, 10(1/2), 12–33.
- Basu, A. (2011). From “break out” to “breakthrough”: Successful market strategies of immigrant. *Marketing Intelligence and Planning*, 20(7), 442–451.
- Boyd, R. L. (2001). Ethnicity, niches, and retail enterprise in northern cities, 1900. *Sociological Perspectives*, 44(1), 89–110.
- Brenner, G. A., Menzies, T. V., Dionne, L., & Filion, L. J. (2010). How location and ethnicity affect ethnic entrepreneurs in three Canadian cities. *Thunderbird International Business Review*, 52(2), 153–171.
- Burton, D. (2002). Incorporating ethnicity into marketing intelligence and planning. *Marketing Intelligence and Planning*, 20(7), 442–451.
- Carson, D., & Gilmore, A. (2000). Marketing at the interface: Not ‘what’ but ‘how’. *Journal of Marketing Theory and Practice*, 8(2), 1–7.
- Carter, E. V. (2009). Deepening multicultural marketing instruction: The universal and temporal dimensions of ethnic diversity. *Journal for Advancement of Marketing Education*, 15, 1546–1566.

- Casini, L., Contini, C., Romano, C., & Scozzafava, G. (2016). New trends in food choice: What impact on sustainability of rural areas? *Agriculture and Agricultural Science Procedia*, 8, 141–147.
- Chakiso, C. B. (2015). The effect of relationship marketing on customers’ loyalty (Evidence from Zemen Bank). *Emerging Markets Journal*, 5(2), 58–70.
- Chaudhry, S., & Crick, D. (2004). Understanding practices at the “ethnic” marketing/entrepreneurship interface: A case study of kirit Pathak. *Qualitative Market Research*, 7(3), 183–193.
- Chen, K., & Redding, G. (2017). Collaboration and opportunism as a duality within social capital: A regional ethnic Chinese case study. *Asia Pacific Business Review*, 23(2), 243–263.
- Chitu, I. B., & Albu, R. G. (2013). Aspects regarding the use of Facebook within the hospitality industry—A case study in Romania. *Bulletin of the Transylvania University of Brasov. Economic Sciences. Series V*, 6(1), 97–102.
- Cooper, D. R., & Schindler, P. S. (2003). *Business research methods* (Vol. 15, 8th ed.). Boston: McGraw-Hill Irwin.
- Crick, D., & Chaudhry, S. (2010). An investigation into UK-based Asian entrepreneurs’ perceived competitiveness in overseas markets. *Entrepreneurship and Regional Development*, 22(1), 5–23.
- Cui, G. (2001). Marketing to ethnic minority consumers: A historical journey (1932–1997). *Journal of Macromarketing*, 21(1), 23–31.
- Cui, G., & Choudhury, P. (2002). Marketplace diversity and cost-effective marketing strategies. *Journal of Consumer Marketing*, 19(1), 54–73.
- Day, J., Dean, A. A., & Reynolds, P. L. (1998). Relationship marketing: Its key role in entrepreneurship. *Long-Range Planning*, 31(6), 828–837.
- Demangeot, D. C., Broderick, P. J., Craig, P. S., Elliot, E. A., Xiao, Y., & Wilson, E. (2015). A multicultural blend: Metaphors, cognitive social capital and multiculturalism. *International Marketing Review*, 32(2), 200–218.
- Deslauriers, J. P. (1991). *Recherche qualitative: Guide pratique*. Montréal: McGraw Hill.
- Dyer, L. M., & Ross, C. A. (2000). Ethnic enterprises and their clientele. *Journal of Small Business Management*, 38(2), 48–66.
- Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, 14(4), 532–550.
- Elvira, F. B., & Xhaferi-Elona, F. (2014). The spontaneity of international market and the need for entrepreneurial marketing evidence of Albanian entrepreneurs in Italy. *Business Management Dynamics*, 3(10), 14–20.
- Emslie, L., Bent, R., & Seaman, C. (2007). Missed opportunities? Reaching the ethnic consumer market. *International Journal of Consumer Studies*, 31(2), 168–173.
- Erdem, K., & Schmidt, R. Ä. (2008). Ethnic marketing for Turks in Germany. *International Journal of Retail and Distribution Management*, 36(3), 212–223.
- Gilmore, A., Carson, D., & Grant, K. (2001). SME marketing in practice. *Marketing Intelligence and Planning*, 19(1), 6–11.
- Gouvernement du Québec. (2014). *Immigration et démographie au Québec*. Retrieved from http://www.midi.gouv.qc.ca/publications/fr/recherches-statistiques/Pub_Immigration_et_demo_2015.pdf
- Hedberg, C., & Pettersson, K. (2012). Disadvantage, ethnic niching or pursuit of a vision? *Journal of International Migration and Integration*, 13(4), 423–440.
- Herjanto, H., & Gaur, S. S. (2011). Intercultural interaction and relationship selling in the banking industry. *Journal of Services Research*, 11(1), 101.
- Holland, J., & Gentry, J. W. (1999). Ethnic consumer reaction to targeted marketing: A theory of intercultural accommodation. *Journal of Advertising*, 28(1), 65–77.
- Huang, Y., Oppewal, H., & Mavondo, F. (2013). The influence of ethnic attributes on ethnic consumer choice of service outlet. *European Journal of Marketing*, 47(5/6), 877–898.
- Iyer, G. R., & Shapiro, J. M. (1999). Ethnic entrepreneurial and marketing systems: Implications for the global economy. *Journal of International Marketing*, 7(4), 83–110.

- Jamal, A. (2003). Retailing in a multicultural world: The interplay of retailing, ethnic identity and consumption. *Journal of Retailing and Consumer Services*, 10(1), 1.
- Jamal, A. (2005). Playing to win: An explorative study of marketing strategies of small ethnic retail entrepreneurs in the UK. *Journal of Retailing et Consumer Services*, 12(1), 1–13.
- Jamal, A., & Sharifuddin, J. (2015). Perceived value and perceived usefulness of halal labeling: The role of religion and culture. *Journal of Business Research*, 68(5), 933–941.
- Jamal, A., Peattie, S., & Peattie, K. (2012). Ethnic minority consumers' responses to sales promotions in the packaged food market. *Journal of Retailing and Consumer Services*, 19(1), 98–108.
- Jang, S., Liu, Y., & Namkung, Y. (2011). Effects of authentic atmospherics in ethnic restaurants: Investigating Chinese restaurants. *International Journal of Contemporary Hospitality Management*, 23(5), 662–680.
- Jean, R. J. B., Tan, D., & Sinkovics, R. R. (2011). Ethnic ties, location choice, and firm performance in foreign direct investment: A study of Taiwanese business groups FDI in China. *International Business Review*, 20(6), 627–635.
- Jones, M. A., Reynolds, K. E., Arnold, M. J., Gabler, C. B., Gillison, S. T., & Landers, V. M. (2015). Exploring consumers' attitude towards relationship marketing. *Journal of Services Marketing*, 29(3), 188–199.
- Kauppinen-Räsänen, H., Gummerus, J., & Lehtola, K. (2013). Remembered eating experiences described by the self, place, food, context and time. *British Food Journal*, 115(5), 666–685.
- Khosa, R. M., & Kalitanyi, V. (2015). Migration reasons, traits and entrepreneurial motivation of African immigrant entrepreneurs: Towards an entrepreneurial migration progression. *Journal of Enterprising Communities: People and Places in the Global Economy*, 9(2), 132–155. <https://doi.org/10.1108/JEC-07-2014-0011>
- Kloosterman, R. C. (2010). Matching opportunities with resources: A framework for analysing (migrant) entrepreneurship from a mixed embeddedness perspective. *Entrepreneurship and Regional Development*, 22(1), 25–45.
- Knight, J. (2015). The evolving motivations of ethnic entrepreneurs. *Journal of Enterprising Communities: People and Places in the Global Economy*, 9(2), 114–131. <https://doi.org/10.1108/JEC-10-2013-0031>
- Lee, J. (1999). Retail niche domination among African American, Jewish, and Korean entrepreneurs: Competition, coethnic advantage, and coethnic disadvantage. *American Behavioral Scientist*, 42(9), 1398–1416.
- Lee, J., Kim, S., & Pan, S. (2014). The role of relationship marketing investments in customer reciprocity. *International Journal of Contemporary Hospitality Management*, 26(8), 1200–1224.
- Liu, Y., & Jang, S. S. (2009). Perceptions of Chinese restaurants in the US: What affects customer satisfaction and behavioral intentions? *International Journal of Hospitality Management*, 28(3), 338–348.
- Logan, J. R., & Alba, R. D. (1999). Minority niches and immigrant enclaves in New York and Los Angeles: Trends and impacts. In F. D. Bean & S. Bell-Rose (Eds.), *Immigration and opportunity: Race, ethnicity, and employment in the United States*. New York: Russell Foundation.
- Marinkovic, V., Senic, V., & Mimovic, P. (2015). Factors affecting choice and image of ethnic restaurants in Serbia. *British Food Journal*, 117(7), 1903–1920.
- Masurel, E., Nijkamp, P., & Vindigni, G. (2004). Breeding places for ethnic entrepreneurs: A comparative marketing approach. *Entrepreneurship and Regional Development*, 16(1), 77–86.
- McPherson, M. (2007). A comparison of marketing practices: Perspectives from first and second generation UK South Asians. *International Journal of Consumer Studies*, 31(2), 174–186.
- Miles, M. B., Huberman, A. M., & Saldana, J. (2013). *Qualitative data analysis: A method sourcebook* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Moriarty, J., Jones, R., Rowley, J., & Kupiec-Teahan, B. (2008). Marketing in small hotels: A qualitative study. *Marketing Intelligence and Planning*, 26(3), 293–315.

- Musalem, A., & Joshi, Y. V. (2009). Research note—How much should you invest in each customer relationship? A competitive strategic approach. *Marketing Science*, 28(3), 555–565.
- Ndoen, M. L., Gorter, K., Nijkamp, P., & Rietveld, P. (2002). Entrepreneurial migration and regional opportunities in developing countries. *The Annals of Regional Science*, 36(3), 421–436.
- Ndofor, H. A., & Priem, R. L. (2011). Immigrant entrepreneurs, the ethnic enclave strategy, and venture performance. *Journal of Management*, 37(3), 790–818.
- Nwankwo, S., & Lindridge, A. (1998). Marketing to ethnic minorities in Britain. *Journal of Marketing Practice: Applied Marketing Science*, 4(7), 200–216.
- O'Donnell, A. (2011). Small firm marketing: Synthesising and supporting received wisdom. *Journal of Small Business and Enterprise Development*, 18(4), 781–805.
- Palumbo, F. A., & Teich, I. (2004). Market segmentation based on level of acculturation. *Marketing Intelligence and Planning*, 22(4), 472–484.
- Pang, M., & Lau, A. (1998). The Chinese in Britain: Working towards success? *International Journal of Human Resource Management*, 9(5), 862–874.
- Pankhania, A., Lee, N., & Hooley, G. (2007). Within-country ethnic differences and product positioning: A comparison of the perceptions of two British sub-cultures. *Journal of Strategic Marketing*, 15(2–3), 121–138.
- Paré, S., Menzies, T. V., Filion, L. J., & Brenner, G. A. (2008). Social capital and co-leadership in ethnic enterprises in Canada. *Journal of Enterprising Communities: People and Places in the Global Economy*, 2(1), 52–72. <https://doi.org/10.1108/17506200810861258>
- Peñaloza, L., & Gilly, M. C. (1999). Marketer acculturation: The changer and the changed. *The Journal of Marketing*, 63, 84–104.
- Piperopoulos, P. (2010). Ethnic minority businesses and immigrant entrepreneurship in Greece. *Journal of Small Business and Enterprise Development*, 17(1), 139–158.
- Pires, G. D. (1999). Domestic cross cultural marketing in Australia: A critique of the segmentation rationale. *Journal of Marketing Theory and Practice*, 7(4), 33–44.
- Pires, G. D., & Stanton, J. (2002). Ethnic marketing ethics. *Journal of Business Ethics*, 36(1), 111–118.
- Pires, G. D., Stanton, J., & Stanton, P. (2011). Revisiting the substantiality criterion: From ethnic marketing to market segmentation. *Journal of Business Research*, 64(9), 988–996.
- Quinn, M., & Devasagayam, R. (2005). Building brand community among ethnic diaspora in the USA: Strategic implications for marketers. *Journal of Brand Management*, 13(2), 101–114.
- Radaev, V. (1994). Ethnic entrepreneurship. *Problems of Economic Transition*, 37(4), 57.
- Rath, J. (2002). A quintessential immigrant niche? The non-case of immigrants in the Dutch construction industry. *Entrepreneurship et Regional Development*, 14(4), 355–372.
- Reinartz, W., Krafft, M., & Hoyer, W. D. (2004). The customer relationship management process: Its measurement and impact on performance. *Journal of Marketing Research*, 41(3), 293–305.
- Richardson Jr., C. W. (2012). Diversity performance as a factor in marketing programs: A comparative analysis across ethnic group target audiences. *Journal of Marketing Development and Competitiveness*, 6(5), 62–70.
- Rusinovic, K. (2008). Moving between markets? Immigrant entrepreneurs in different markets. *International Journal of Entrepreneurial Behavior et Research*, 14(6), 440–454.
- Segev, S., Ruvio, A., Shoham, A., & Velan, D. (2014). Acculturation and consumer loyalty among immigrants: A cross-national study. *European Journal of Marketing*, 48(9/10), 1579–1599.
- Shani, D., & Chalasani, S. (1992). Exploiting niches using relationship marketing. *Journal of Consumer Marketing*, 9(3), 33–42.
- Shanmuganathan, P., Stone, M., & Foss, B. (2004). Ethnic banking in the United States. *Limras Market Facts Quarterly*, 23, 22–27.
- Shin, K. H. (2014). Korean entrepreneurs in Kansas City metropolitan area: An immigrant community under ethnic local and global intersection. *Journal of Enterprising Communities: People and Places in the Global Economy*, 8(4), 287–299. <https://doi.org/10.1108/JEC-11-2013-0034>

- Siala, H., O'Keefe, R. M., & Hone, K. S. (2004). The impact of religious affiliation on trust in the context of electronic commerce. *Interacting with Computers*, 16(1), 7–27.
- Slater, S., & Yani-de-Soriano, M. (2010). Researching consumers in multicultural societies: Emerging methodological issues. *Journal of Marketing Management*, 26(11–12), 1143–1160.
- Soydas, Y., & Aleti, T. (2015). Immigrant and second-generation Turkish entrepreneurs in Melbourne, Australia: A qualitative investigation of entrepreneurial motivations. *International Journal of Entrepreneurial Behavior and Research*, 21(2), 154–174.
- Statistique Canada. (2009). *La communauté arabe au Canada*. Repéré à <http://www.statcan.gc.ca/pub/89-621-x/89-621-x2007009-fra.htm>
- Statistique Canada. (2011). *Immigration et diversité ethnoculturelle au Canada*. Repéré à <http://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-010-x/99-010-x2011001-fra.cfm>
- Statistique Québec. (2016). *Recueil de statistiques sur l'immigration et la diversité au Québec*. Retrieved from http://www.midi.gouv.qc.ca/publications/fr/planification/BRO_RecueilStat_PlanificationImmigration.pdf
- Strauss, A., & Corbin, J. (2004). *Les fondements de la recherche qualitative: techniques et procédures de développement de la théorie enracinée* (p. 342). Trad. de la 2e édition de la version anglaise par Marc-Henry Soulet. Ville: Academic press Fribourg.
- Tamagnini, V., & Tregear, A. (1998). An assessment of niche marketing opportunities in the delicatessen meat sector. *British Food Journal*, 100(5), 228–235.
- Ueltsch, L. (2002). Multicultural marketing: Advertising strategies for the Mexican-American market. *Marketing Management Journal*, 12(1), 10–21.
- Varlander, S., & Julien, A. (2010). The effect of the internet on front-line employee skills: Exploring banking in Sweden and France. *Service Industries Journal*, 30(8), 1245–1261.
- Waldinger, R. (1986). Immigrant enterprise. *Theory and Society*, 15(1–2), 249–285.
- Waldinger, R. D., Aldrich, H., & Ward, R. (1990). *Ethnic entrepreneurs: Immigrant business in industrial societies* (Vol. 1). Newbury Park: Sage Publications.
- Wei, Y., Li, Z., Burton, J., & Haynes, J. (2013). Are Chinese consumers created equally relational? *Management Research Review*, 36(1), 50–65.
- Wilkinson, I. F., & Cheng, C. (1999). Multicultural marketing in Australia: Synergy in diversity. *Journal of International Marketing*, 7(3), 106–125.
- Wright, L. T., Martin, L. M., & Stone, M. (2003). Exploring the characteristics, attitudes to targeting and relationship marketing of small ethnic minority businesses. *Journal of Targeting, Measurement and Analysis for Marketing*, 12(2), 173–184.
- Wulf, K. D., Odekerken-Schröder, G., & Iacobucci, D. (2001). Investments in consumer relationships: A cross-country and cross-industry exploration. *Journal of Marketing*, 65(4), 33–50.
- Yin, R. K. (2009). *Case study research: Design and methods* (4th ed. p. 219). Thousand Oaks, CA: Sage.
- Yu, Y. (2015). Relationship investment and reciprocity: An empirical investigation. *Journal of Business and Industrial Marketing*, 30(5), 637–647.
- Zhou, M., & Cho, M. (2010). Noneconomic effects of ethnic entrepreneurship: A focused look at the Chinese and Korean enclave economies in Los Angeles. *Thunderbird International Business Review*, 52(2), 83–96.
- Zouaghi, S. (2015). Ethnic segmentation in marketing: A tool for social domination in France. *Society and Business Review*, 10(3), 243–257.

Shedding Light on the Driving Forces of the Romanian Shadow Economy: An Empirical Investigation Based on the MIMIC Approach



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Abstract In order to diminish the shadow economy as an important policy goal in EU countries, it is necessary to be aware of the magnitude and development of the shadow economy, offering to governments the opportunity to elaborate targeted policy measures meant to either discourage shadow economic activities or incentivize their conversion into official ones.

The focus of the paper lies on the “driving forces” of the development of the Romanian shadow economy providing also the most recent estimation of the dynamics and magnitude of the Romanian informal economy for the period 2000–2015. The MIMIC model was used taking into account multiple causes and multiple indicators of the Romanian shadow economy.

The empirical results revealed that the main driving forces are unemployment, regulatory quality, self-employment, and indirect taxation. The size of the Romanian shadow economy had decreased until 2008, reaching the value of about 27.8% of official GDP. During the economic crisis, a slow increase of the shadow economy took place, while for the last quarters, a slow decrease can be observed.

1 Introduction

Knowing more about the incidence of shadow economy, about its size, and about its evolution and specific patterns over the time will help governments in the process of elaboration of specific policy measures that can contribute either to the reduction of the shadow activity or to the increasing of the official one. Taking into account the

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last period of global economic crisis, this goal of diminishing the magnitude of the shadow economy is one of the priorities of European governments.

At national level, after a period of visible reforms regarding the undeclared work—the significant and substantive modification of the Labor Code in 2011 including provisions related to the criminalization of the undeclared work, the approval in 2010 of the National Strategy for reducing the incidence of undeclared work for the period 2010–2012, and the settlement in the same year of the National Mechanism for monitoring, prevention, evaluation, and control of the undeclared work built mainly to integrate and intensify the national effort to combat undeclared work, together with the adoption of Zealots' law—the launching of the European Platform tackling Undeclared Work in 2016 has brought again this phenomenon to the attention of the Romanian government. The platform emphasized even more the relevance of this topic enhancing the cooperation between EU countries in tackling the phenomenon of undeclared work at European level.

According to the information provided by the platform, the envelope wages represent the most common form of undeclared work consisting in the payment of the statutory minimum wage, while the rest will be given as envelope payments in order to avoid the social contribution payments. The repeated increases in the minimum wage in recent years have led to an even greater spread of this practice. Analyzing the reasons for which Romanians would be tempted to work in the unofficial sector, it can be mentioned the avoidance of taxation, the low salaries for public sector personnel, and deeply rooted lack of trust in the state and its institutions.

The results provided by the paper are even more relevant and useful in formulating policy measure to combat informality in the context of a shortage of empirical studies investigating such phenomenon difficult to be captured even taking into account the specificities of a former transition country with numerous global shocks and structural changes: severe economic fluctuations, exhibiting one of the highest economic growth rates in Europe in 2000s, then phasing through the global economic crisis at the end of the decade, and finally regaining economic performance in the following few years, preparing for EU membership in the early 2000s and as a result actively restructuring the economy, gaining EU membership in 2007 or the outbreak of the economic crisis in 2008.

Both Romania and other Southeastern European countries have been part of an extensive panel of transition countries, and the empirical estimations depend significantly on the selection of countries in the panel.

The paper aims to identify the “main driving forces” in explaining the evolution of the Romanian shadow economy and to estimate the size of the Romanian shadow economy, analyzing its dynamics and magnitude during the period 2000–2015. For this, the structural equation approach has been used allowing for the simultaneously consideration of multiple causes and indicators of the shadow economy as opposed to the other estimation methods.

Hence, the present paper aims to capture to what magnitude a certain determinant contributes to the dimension of the shadow economy, and we will explore how much an improving labor market may contribute to a decline in the shadow economy. In

such a way, governments will have an adequate tool in the process of development new strategies to tackle undeclared activities.

Having different terminologies in the literature—informal, shadow, hidden, second, black, unrecorded, unofficial, unobserved, undeclared work, or salary underreporting (envelope wages)—these labels refer to distinct phenomena, and it might be useful to underline the differences between all these. The national accounting system (SNA) uses the term of non-observed economy (NOE) referring to “all productive activities that may not be captured in the basic data sources used for national accounts compilation” (UNECE 2008, p. 2).

Eurostat (2005) identified seven sources of non-exhaustiveness for GDP estimates: (N1) producers deliberately not registered to avoid tax and social security obligations; (N2) producers deliberately not registered as a legal entity or as an entrepreneur because they are involved in illegal activities; (N3) producers not required to register because they have no market output; (N4) legal persons or (N5) registered entrepreneurs not surveyed due to a variety of reasons; (N6) producers deliberately misreporting to evade taxes or social security contributions; and (N7) other statistical deficiencies. Based on these, OECD (2014) considered $N1 + N6$ as underground production, $N2$ as illegal production, $N3 + N4 + N5$ as informal sector production (including those undertaken by households for their own final use), and $N7$ as statistical deficiency.

Two important definitions of the shadow economy have been provided by Schneider and Buehn (2013a) and Alm and Embaye (2013). If Schneider and Buehn (2013a) defined the shadow economy as “including all market-based legal production of goods and services that are deliberately concealed from public authorities for different reasons. . .” (pp. 3–4), excluding illegal and informal household production, Alm and Embaye (2013) have taken into account the illegal production defining the shadow economy as “all market-based goods and services (legal or illegal) that escape inclusion in official accounts” (p. 512).

The undeclared work is considered to be “the work that is undertaken without observing the provisions of the labour legislation, in most cases without a labour contract, permit or license” (European Commission 2016, p. 1), while the envelope wage was defined as an additional undeclared wage based on a verbal contract received by employee apart of the official declared salary, having as main purpose the avoidance of tax and social security contributions to the authorities (Williams and Horodnic 2017, p. 3).

From all these, the study takes into account the concept of shadow economy defined by Schneider and Buehn (2013a) excluding illegal activities and informal household activities.

The paper is organized in the following sections. Section 2 offers some insights into the existing studies on the Romanian shadow economy. Section 3 provides some theoretical considerations and presents the methodology of estimating the shadow economy and also the data. Section 4 is dedicated to the presentation of the empirical results. The paper ends with main conclusions and policy implications.

2 Literature Review: The Existing Studies on the Romanian Shadow Economy

There is an extensive literature approaching the main determinants of the shadow economy. The papers of Schneider and Buehn (2013a, b), Schneider and Williams (2013), or Schneider (2015) pointed out as main determinants of shadow economy: tax and social security burdens, tax morale, the quality of state institutions and labor market regulation, public sector services, official economy, self-employment, and unemployment.

Taking into account the data for 22 studies, Schneider and Williams (2013) evaluated the contribution to each potential cause to the dimension of the shadow economy highlighting on the first place the tax and social security contribution burdens with the highest influence (45–52%), followed by quality of state institutions (10–17%), and labor market regulation, transfer payments, and public sector services (7–9%), summing a total influence of 78–96%.

An important contribution brought to the literature was the research undertaken by Williams and Horodnic (2015) presenting four different theories related with shadow economy and undeclared work and also testing each of them in the case of salary underreporting across ten Central and East European countries using the data from 2013 Eurobarometer survey. Therefore, they analyzed the modernization thesis, the neoliberal thesis, the political economy thesis, and the institutional asymmetry thesis.

If according to the modernization theory, the incidence of envelope wages was considered to be lower in wealthier economies with modern state bureaucracies; the institutional asymmetry thesis stipulated that the prevalence of envelope wages is greater in populations expressing lower levels of tax morality (Williams and Horodnic (2015, p. 5). The other two theories are at the opposite poles; if according to the neoliberal thesis, the envelope wage phenomenon is “lower in economies with lower tax rates and lower levels of state interference,” the political economy thesis states that the salary underreporting is considered to be “lower in more equal economies with higher tax rates, greater levels of social protection and more effective redistribution via social transfers to protect workers from poverty” (Williams and Horodnic 2015, p. 7).

Finally, they revealed the validity of both the institutional asymmetry and modernization theses for the ten Central and East European countries, underlining that the salary underreporting tends to be higher in countries with lower tax morale, lower levels of economic development, and less modernized state bureaucracies, while the neoliberal theory has been infirmed.

In order to tackle and to evaluate this kind of phenomenon, the quantification of the shadow economy is absolutely essential. From the methods used in the literature-direct approaches, indirect approaches, and structural equation models (Garcia-Verdu 2007), the MIMIC approach becomes the most widely applied method for the estimation of the shadow economy all over the world, having also the big advantage of taking into consideration simultaneously multiple causes and multiple indicators of the shadow

economy and treating the shadow economy as a latent variable (Dell'Anno 2003, 2007).

Analyzing the estimates provided by the most relevant studies both at national and international levels concerning the size of the Romanian shadow economy, it can be highlighted that the figures are slightly different depending on the method used in the estimation (Table 1).

Therefore, the National Institute of Statistics quantified the size of the shadow economy based on the labor input method to the value of 18.1% in 2000 and 15.4% in 2003. Since 2004, the series followed a continuously ascendant evolution reaching the values of 20% in 2007, respectively, and 23.5% in 2010.

Based on the labor approach and using different kinds of data administrative vs. survey data, Davidescu (2016) stated that the results based on administrative data were deeply under evaluated, while the survey data reported significantly higher results. The empirical results based on the discrepancy method are considerably lower than those obtained from labor approach using both data sources. Hence, if the proportion of unofficial employment as % of active population was 18.2% in 2013 for the survey data, using administrative data, figures were a little bit smaller (17.1%), respectively, even smaller ones in the case of discrepancy method (10.2%).

Williams et al. (2017) evaluated the scale of the undeclared work among EU countries in 2013 using the labor input method, revealing that Romania registered a size of the undeclared work in the private sector as % of total GVA of 26.2% much higher than the EU average (16.4%). Reported to the total labor input in the economy, the size of undeclared work in Romania was 14.5%.

Using an indirect method, the income discrepancy method, Albu (2008) and Albu et al. (2010, 2011) estimated the shadow economy by confidence intervals stating that figures ranged between 21.7% and 22.3% in 2000, respectively, 17.2% and 17.3% in 2005, and 14.6% and 15% in 2007.

Using the currency demand approach, Alexandru and Dobre (2013) estimated the size of the shadow economy as % of official GDP as being 36.5% in 2000 and following a continuously decreasing evolution registering in 2010 approximately 31.6%.

On the other hand, Davidescu (2017) applied the MIMIC model to estimate the size of the shadow economy for the period 2000–2013 registering a value of 41.9% in 2000 and pointing out a downward evolution until 2008 (27.2%). In 2010, the Romanian shadow economy registered 31.9% of official GDP. For the last years, the size of the unreported economy oscillates around the value of 28–29% of official GDP.

Incorporating Romania in the panel of developing countries, Medina and Schneider (2017) and Schneider (2016) estimated the size of the shadow economy using the MIMIC model, pointing out a value of 34.4% of official GDP in 2000 and following a descendant trend until 2008 (25.44%). In 2009, at the onset of economic crisis, the size of the shadow economy slowly increased to 28% of official GDP. In the next years, the size of the shadow economy decreased continuously to almost 22.7% of official GDP in 2014, while for the years 2015–2016, the size increased to about 28% of official GDP.

Table 1 The size of the Romanian shadow economy (% of official GDP)

Authors	Approach	Size of SE (% of official GDP)
National Institute of Statistics	Labor input method	18.1% (2000) 15.4% (2003) 20.0% (2007) 23.5% (2010)
Albu (2008) Albu et al. (2010, 2011)	Income discrepancy method	21.7–22.3% (2000) 19.3–19.6% (2003) 17.2–17.3% (2005) 14.6–15.0% (2007)
Davidescu (2016)	Labor approach	
	– Administrative data	14.6% (2003) 15.2% (2007) 17.4% (2010) 17.1% (2013)
	– Survey data	15.2% (2003) 17.7% (2007) 17.4% (2010) 18.2% (2013)
	– Discrepancy approach	9.9% (2003) 10.1% (2007) 11.3% (2010) 10.2% (2013)
Alexandru and Dobre (2013)	Currency demand approach VECM models	36.5% (2000) 33.6% (2005) 32.1% (2008) 31.6% (2010)
Davidescu (2017)	MIMIC approach	41.9% (2000) 40.3% (2003) 36.2% (2005) 31.9% (2010) 28.7% (2013)
Schneider (2016), Medina and Schneider (2017)	MIMIC approach	34.4% (2000) 30.5% (2005) 26.8% (2010) 29.1% (2012) 28.0% (2015) 27.6% (2016)
Williams and Horodnic (2017)	Survey data (% of formal employees receiving underreported salaries)	7.0% (2013)
Putniņš et al. (2018)	Survey data	35.6% (2015) 33.3% (2016)
Williams et al. (2017)	Labor input method undeclared work in the private sector as % of total GVA (gross value added).	26.2% (2013)

Source: authors own table

As type of undeclared work, the envelope wages were considered one of the most common practice of underreporting activity in Romania, most of employers opting for the payment of an official wage (often at the level of minimum wage) and giving the rest as envelope payments, mainly to avoid social insurance contribution payments as it was mentioned also in the European Platform tackling undeclared work Member State Factsheets and Synthesis Report (European Commission 2016). The most recent increases of the minimum wage stimulated this kind of practice even more. Using the data of Eurobarometer on Undeclared Work 2013, Williams and Horodnic (2017) stated that in East-Central Europe, 22% of the formal employees' surveyed received envelope wages, while in Romania the percentage was 7%.

Using a relatively new method of estimating the size of the shadow economy based on company managers survey, developed by Putnins and Sauka and applied initially for Estonia, Letonia, and Lithuania, the method combines estimates of misreported business incomes, unregistered or hidden employees, and unreported wages in order to calculate a total estimate of the size of the shadow economy as a percentage of GDP. Most recently, Putniņš et al. (2018) evaluated the size of the Romanian shadow economy index for the years 2015–2016, revealing a value of 35.6% in 2015, respectively, and 33.3% in 2016.

Putting together all these information, different estimations based on various methods and capturing different components of the shadow economy offer a more comprehensive perspective about the shadow economy activity capturing the phenomenon from various angles (Fig. 1).

3 Modelling the Size of Romanian Informal Economy

3.1 Hypotheses, Data, and Methodology

The Romanian shadow economy was estimated using the MIMIC model, based on the statistical theory of unobserved variables, having the main advantage of using several causal variables that could impact the underground economy and considering several different “signals” of underground economic activity simultaneously.

According to Schneider et al. (2010), “this model presents the statistical relationships between the latent variable and the observed variables divided into causes and indicators, using the covariance matrix of them” (pp. 9–10).

The model has two kinds of equations, “the structural model—who revealed the relationships among the latent variable (η) and the causes (X_q) and—the measurement model—who links indicators (Y_p) with the latent variable (non-observed economy)” (Dell’Anno and Solomon 2007, pp. 6–7).

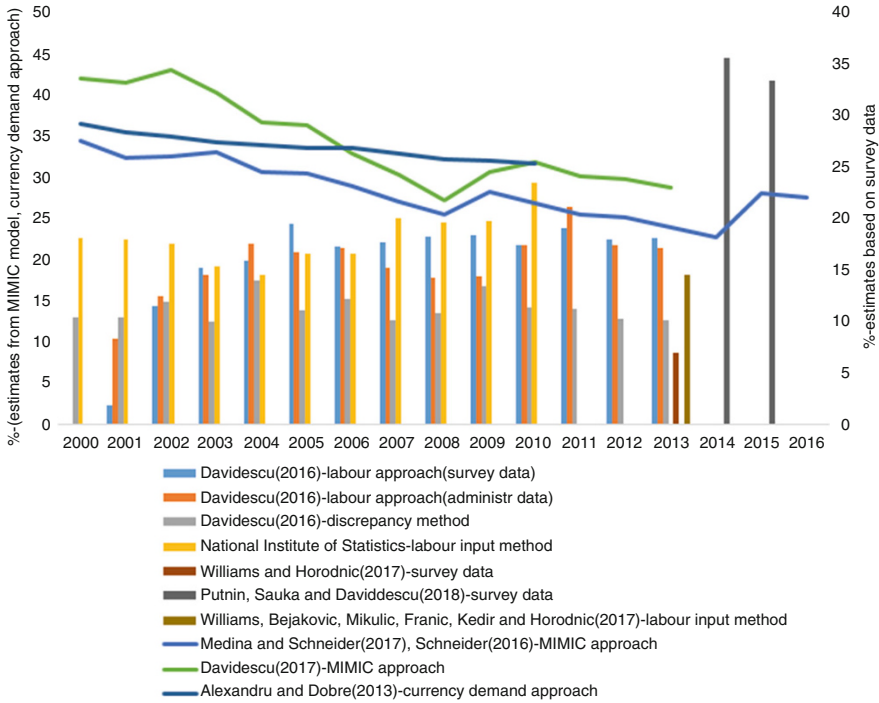


Fig. 1 Various estimates of Romanian shadow economy. Source: authors own figure

In the estimation of the Portugal shadow economy, Dell’Anno (2007) mentioned the following mathematical specification of the MIMIC model:

$$Y = \lambda\eta + \varepsilon \tag{1}$$

$$\eta = \gamma'X + \xi \tag{2}$$

where

η is the latent variable (the size of the shadow economy); $Y' = (Y_1, \dots, Y_p)$ is the vector of indicators; $X' = (X_1, \dots, X_q)$ is the vector of causes; $\lambda_{(p \times 1)}$ and $\gamma_{(q \times 1)}$ vectors of parameters; $\varepsilon_{(p \times 1)}$ and $\xi_{(p \times 1)}$ vectors of errors.

There is an important amount of studies providing theoretical explanations and empirical evidence for several causes and indicators of the shadow economy. Following all these studies, we decided to include in our model nine of the most relevant variables related to the size of the shadow economy.

Tax burden and its components (direct taxes, indirect taxes, and social contributions) mentioned to be one of the driving forces of the unofficial sector, a high level of taxation pushing individuals to accept working in such sector. Therefore, a positive sign is expected. This hypothesis has been confirmed by the studies of

Johnson et al. (1998a, b), Giles and Tedds (2002), Dell'Anno (2003, 2007), Christopoulos (2003), and also Schneider (1994a, b, 1997, 2002).

Hypothesis 1 *The higher the tax burden or its components, the larger the size of the shadow economy is, ceteris paribus.*

Government consumption is used as proxy for public sector services.

Hypothesis 2 *The higher the government consumption, the larger the size of the shadow economy is, ceteris paribus (Dell'Anno 2003).*

Government employment is used as proxy for the regulation degree of the economy.

Hypothesis 3 *The higher the government employment, the larger the size of the shadow economy is, ceteris paribus (Dell'Anno and Solomon 2007).*

According to Bordignon and Zanardi (1997), **self-employment rate** could be considered a determinant of the unofficial sector, due to the higher number of deductions in base and deductions in quote in personal income taxes.

Hypothesis 4 *The higher the self-employment rate, the larger the size of the shadow economy is, ceteris paribus.*

The impact of **unemployment** on the magnitude of the shadow economy is controversial. According to Giles and Tedds (2002), the unemployed individuals directly support the activity in the unofficial sector, since at least part of them complements their income there. The assumption was also proved by the study of Saafi and Farhat (2015) and Saafi et al. (2015) who revealed a causal relationship running from unemployment to unofficial sector. What is indeed very interesting is the remark of Tanzi (1999) who correctly pointed out that could be a problem also with the jobs in the unofficial sector mainly in the recession periods, so the impact could be also negative.

Hypothesis 5 *The higher the unemployment, the larger the size of the shadow economy is, ceteris paribus.*

Part-time employment has been considered into the model as potential determinant of the shadow economy, given that at least part of individuals accepted to receive only a part of their salary as official payment and the other part will be received as envelope wage.

Hypothesis 6 *The higher the part-time employment, the larger the size of the shadow economy is, ceteris paribus.*

The quality of public institutions and the trust in the government are considered to be important factors influencing the decision of working in the unofficial sector, highlighted also by Feld and Schneider (2010, pp. 11–12), who mentioned that “a bureaucracy with highly corrupt government officials seems to be associated with a larger unofficial activity, while a good rule of law by securing property rights and contract enforceability increases the benefits of being formal.” In order to

capture this, the index of regulatory quality was included in the model: regulatory quality a negative sign being expected. Hokamp and Seibold (2014) stated that the increasing trust in public institutions will grow also the tax compliance.

Hypothesis 7 *The better the quality of public institutions, the smaller the size of the shadow economy is, ceteris paribus.*

The indicators used in the model to reflect the existence of the shadow economy are the following:

The index of real GDP (2005 = 100) – reference variable

The starting point in analyzing the relationship between the official and unofficial economies could be the observation of Schneider (2005) who considered that these interactions between the two sectors are related to the degree of economic development. In the literature, there are various studies supporting both type of relationship between the two economies, complements and supplements. For the Latin America countries, Dell’Anno (2008) proved the both sectors are more likely complements, the shadow economy sustaining economic growth. Using a panel of 161 countries, Berdiev and Saunoris (2016) revealed that the financial development reduces the size of the shadow economy.

Due to the fact that the MIMIC approach requires the normalization of a parameter to a pre-assigned value (Bollen 1989), a negative relationship between both economies was considered setting out the index of real GDP to -1 in the model estimation process.

Hypothesis 1 *The larger the size of the shadow economy, the lower the GDP index is, ceteris paribus.*

The Currency Ratio (C/M1)

The share of currency in the monetary aggregate M1 was considered in the model starting from the remark of Cagan (1958) according to which a significant part of informal transactions uses cash as the main medium of exchange, because it leaves no traces.

Hypothesis 2 *The larger the size of the shadow economy, the larger the currency held by the public is, ceteris paribus.*

The Labor Force Participation Rate

A decreasing in the labor force participation rate could be associated with an increase in the unofficial sector, even if this hypothesis is available only for part of individuals. Dell’Anno (2003, p. 263) and Dell’Anno et al. (2007, p. 9) explained that “the greater is the participation in the informal economy, the smaller will be the labor supply in the official economy,” the expected impact being negative.

Hypothesis 3 *The larger the shadow economy, the lower the official participation rate is, ceteris paribus.*

Table 2 presents the summary of all ten hypotheses with derived signs from literature.

Table 2 The main hypotheses and the expected sign of the variables

Main hypotheses	Expected sign	Results
1. The higher the fiscal regime or its components, the larger the size of the shadow economy is	+	Hypothesis accepted
2. The higher the government employment, the larger the size of the shadow economy is	+	Hypothesis rejected
3. The higher the self-employment rate, the larger the size of the shadow economy is	+	Hypothesis accepted
4. The higher the unemployment, the larger the size of the shadow economy is	+	Hypothesis accepted
5. The higher the government consumption, the larger the size of the shadow economy is	+	Hypothesis rejected
6. The higher the part-time employment, the larger the size of the shadow economy is	+	Hypothesis rejected
7. The better the quality of public institutions, the smaller the size of the shadow economy is	–	Hypothesis accepted
8. The larger the size of the shadow economy, the lower the GDP index is	–	Hypothesis accepted
9. The larger the size of the shadow economy, the larger the currency held by the public is	+	Hypothesis accepted
10. The larger the shadow economy, the lower the official participation rate is	–	Hypothesis rejected

Source: Authors own table

The MIMIC diagram of the model is presented in Fig. 2. The estimation procedure requires starting with a more general model MIMIC 9-1-3 removing the variables not statistically significant.

The usual method of estimation is the maximum likelihood, but in the case of multivariate non-normal distributed data, the robust maximum likelihood was recommended. The choice of the optimal model was based on the following criteria (Bollen 1989; Long 1983): the statistical significance of parameters, the p -value of chi-square, the value of root mean squared error of approximation (RMSEA), the standardized root mean square residual (SRMR), the comparative fit index (CFI) and Tucker–Lewis index (TLI), the value of the coefficient of determination, and the values of AIC and SBC.

Given that the model provides only relative estimates for the shadow economy, there is necessary a calibration procedure in order to convert the figures as % of official GDP (Schneider et al. 2010; Dell’Anno and Schneider 2009).

The model was based on the quarterly data covering the period 2000Q1–2015Q2. The main sources of data were Eurostat databases, Monthly Bulletins of the National Bank of Romania, and the Tempo database of the National Institute of Statistics. Details about the main indicators used were provided in Appendix.

The seasonality has been removed from the original data using Census X-13 adjustment method, while the series have been tested for the presence of unit roots using ADF and PP tests.

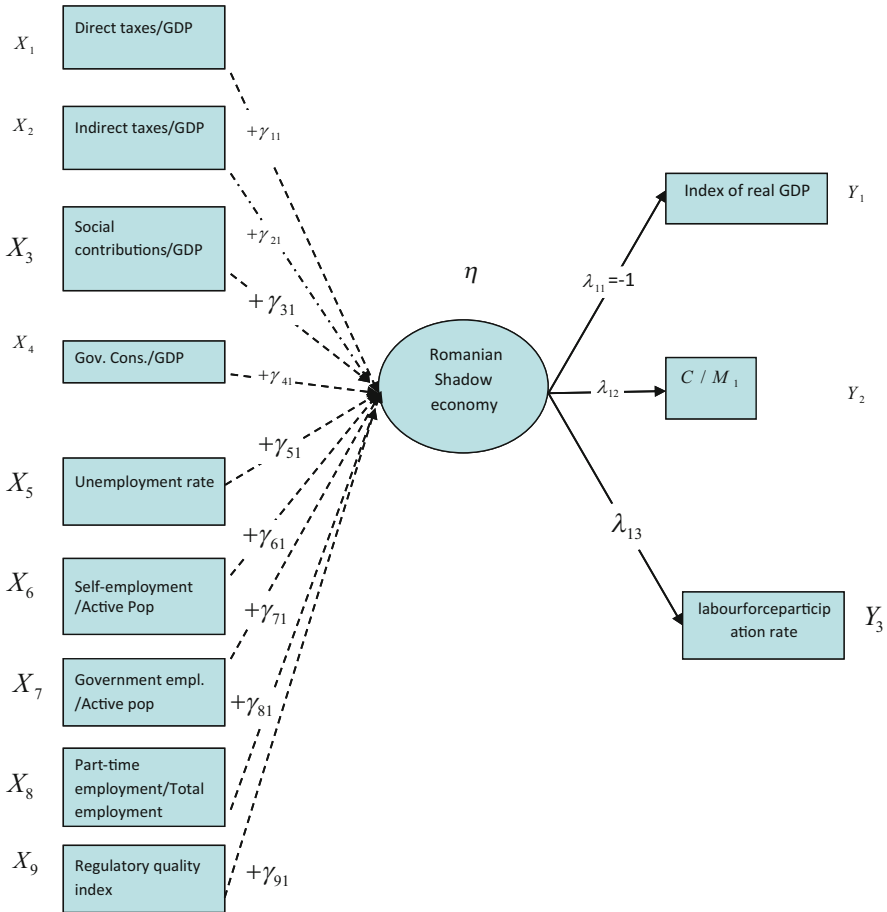


Fig. 2 Path diagram of MIMIC 9-1-3. Source: Authors own figure

3.2 Empirical Results

The analysis of stationarity based on the results of ADF and PP tests realised in Eviews 8.1 software revealed that all series are integrated of first order, $I(1)$, becoming stationary after the first difference.

Several specifications of MIMIC model realised in STATA 13 software have been taken into consideration in the estimation process looking for the optimal MIMIC model. For each specification, the empirical results of multivariate normality tests (Mardia 1970; Doornik and Hansen 2008; Henze and Zirkler 1990) revealed that the series are not multivariate normally distributed and thus the robust maximum likelihood method was recommended, offering the same parameters as the ML estimates, but the model's reliability statistics (Chi-square) and the standard errors are corrected. The empirical results of MIMIC models were presented in Table 3.

Table 3 Estimated coefficients of the MIMIC models

Models	Causes										Indicators			
	Tax burden	Direct taxes	Indirect taxes	Social contributions	Government consumption	Unempl. rate	Self-employment	Government employment	Regulatory quality	Part-time empl.	Real GDP index	Currency/MI	Lab. force part. rate	
MIMIC 9-1-3	-	0.022	0.121	0.205	0.098	1.21**	0.553***	1.069	-9.48**	0.113	-1	0.389	-0.167	
MIMIC 8-1-2	-	0.0.11	0.133	0.229	0.094	1.124**	0.616***	1.179	-8.92**	-	-1	0.33	-	
MIMIC 7-1-3	-	0.0095	0.168	0.27	0.092	1.14**	0.488	-	-9.64*	-	-1	0.422	-0.015	
MIMIC 7-1-2	-	-	0.117	-	0.124	1.26**	0.617***	1.21	-8.58**	0.139	-1	0.415	-	
MIMIC 6-1-3a	0.107	-	-	-	0.120	1.154**	0.495***	-	-9.73**	0.135	-1	0.386	-0.006	
MIMIC 6-1-2a	0.106	-	-	-	0.119	1.16**	0.49***	-	-9.68**	0.140	-1	0.395***	-	
MIMIC 6-1-2b	-	-	0.173***	0.275***	0.088	1.13**	0.506	-	-9.53**	-	-1	0.423***	-	
MIMIC 5-1-2a	-	-	-	-	0.137	1.268**	0.565***	-	-8.72**	0.187	-1	0.475***	-	
MIMIC 4-1-2a	-	0.083	-	-	-	1.26**	0.69**	-	-8.47*	-	-1	0.454***	-	
MIMIC 4-1-2b	-	-	0.197***	-	-	1.23**	0.617***	-	-8.36**	-	-1	0.524***	-	
Global goodness of fit statistics	SRMR		CD		AIC		SBC	Degrees of freedom						
MIMIC 9-1-3	0.058		0.30		1580.08		1706.73	60						
MIMIC 8-1-2	0.028		0.258		1287.19		1409.62	58						
MIMIC 7-1-3	0.053		0.294		1437.83		1545.48	51						
MIMIC 7-1-2	0.031		0.299		1105.27		1206.59	48						
MIMIC 6-1-3a	0.064		0.251		1280.65		1369.31	42						
MIMIC 6-1-2a	0.028		0.256		1143.97		1226.29	39						
MIMIC 6-1-2b	0.027		0.292		1105.22		1187.55	39						
MIMIC 5-1-2a	0.030		0.283		898.57		964.01	31						
MIMIC 4-1-2a	0.032		0.208		664.36		715.02	24						
MIMIC 4-1-2b	0.033		0.266		665.46		716.12	24						

Source: authors own table
 Note: *, **, and *** represent 1%, 5%, and 10%

Analyzing the contribution of both the tax burden and its components to the increase of shadow economy, it can be highlighted that even if the influence was a positive one, they suffered from the lack of statistical significance. The only exception concerns the indirect taxation revealing a positive and significant influence on the size of the Romanian shadow economy.

Self-employment, unemployment, and the trust in public authorities were discovered as main determinants of the unofficial sector, having strongly statistically significant impact and expected signs.

It is worth to mention that the negative sign of regulatory quality confirmed again “the low ability of government to formulate and implement policies and regulations that promote private sector development” (World Bank 2015a, b); therefore the size of the shadow economy is expected to increase.

The government consumption, government employment, and part-time employment do not have a statistically significant impact on the magnitude of the shadow economy.

Concerning the indicators, labor force participation had the predicted negative influence, but it suffers from lack of significance, while currency in circulation is statistically significant in almost specifications of the model.

Based on the selection criteria mentioned already above, the optimal model has been selected as being a MIMIC 4-1-2b in which main drivers of SE were the *unemployment rate*, *self-employment*, *indirect taxation*, and *regulatory quality* and the presence of SE was optimally reflected in the increase of currency reported to monetary aggregate M1.

The indirect taxation has a significant influence on the dimension of the shadow economy, while the significant positive sign of unemployment rate highlighted that SE is considered to be a “buffer” for the official economy, as part of the “official” unemployed persons go to the informal sector in order to supplement their earnings (Dell’Anno et al. 2007).

The sign of self-employment revealed the positive influence of self-employment on SE, due to the fact that these workers have more possibilities to evade. The negative impact of regulatory quality confirmed what Razmi et al. (2013, p. 51) already stated that “institutional instability, lack of transparency and rule of law undermine the willingness of frustrated citizens to be active in the formal economy. Citizens will feel cheated if they believe that corruption is widespread, their tax burden is not spent well, their government lacks accountability, and that they are not protected by the rules of law, increasing the probability to enter the informal sector.” Also, Friedman et al. (2000) drew attention on the fact that the main motivations for which people go in the unofficial sector are most likely based on reducing the burden of bureaucracy and corruption than avoiding the taxes.

The standardized coefficients revealed that the highest impact on the magnitude of the shadow economy in Romania is manifested by the unemployment (0.47) confirming again the observation of Schneider and Buehn (2013b) that people try to compensate their income loss by accepting working in the unofficial sector. The second determinant is perceived to be the regulatory quality with a standardized

coefficient -0.35 . Self-employment and indirect taxation show very similar standardized coefficients 0.26 and, respectively, 0.21 .

The structural equation of the 4-1-2 MIMIC model is:

$$\frac{\Delta \tilde{\eta}_t}{GDP_{2005}} = 0.197 \Delta Indirect_taxes_t + 1.23 \Delta UR_t + 0.617 \Delta Self_empl_t - 8.36 \Delta Reg_Qual_t \quad (3)$$

Based on the optimal MIMIC model, the relative estimates of the model have been converted into real estimates applying the calibration procedure and taking into account a specific exogenous value of the Romanian shadow economy for the base year (2005) computed as average of several available estimates using the studies of Schneider et al. (2010) and Schneider (2013, 2015)—namely, 32.2% of official GDP.

Based on the calibration procedure proposed by Dell'Anno and Solomon (2007), the size of the shadow economy is computed as % of official GDP:

$$\frac{\tilde{\eta}_t}{GDP_{2005}} \frac{\eta_{2005}^*}{\tilde{\eta}_{2005}} \frac{GDP_{2005}}{GDP_t} = \frac{\hat{\eta}_t}{GDP_t} \quad (4)$$

where:

1. $\frac{\tilde{\eta}_t}{GDP_{2005}}$ is the index of SE computed by eq. (3).
2. $\frac{\eta_{2005}^*}{GDP_{2005}} = 32.2\%$ is the exogenous estimate of SE.
3. $\frac{\tilde{\eta}_{2005}}{GDP_{2005}}$ is the value of the index computed by eq. (3) in 2005.
4. $\frac{GDP_{2005}}{GDP_t}$ is a measure used to make the conversion from the base year to current GDP.
5. $\frac{\hat{\eta}_t}{GDP_t}$ is the estimated SE as a percentage of official GDP.

In the beginning of 2000, the size of the SE registered the value of 36.5% and followed a declining trend attaining almost 27.8% in the end of 2008 considered as being the start moment of economic crisis in Romania. From this point forward, the size of the SE begins to increase, registering 30.2% in 2010. Until the beginning of 2011, the size of the shadow economy decreased slowly, while from 2011 to the end of 2013, we can mention a slowly increased trend. For the last quarters, a slowly descendant trend can be highlighted, attaining 29% in the second quarter of 2015 (Fig. 3).

The empirical results obtained are in line with the most empirical studies in the field. Schneider et al. (2010), Schneider (2012, 2013), Schneider and Buehn (2013b), and Schneider (2015) estimated the size of the Romanian informal economy using the currency demand approach and the MIMIC model, highlighting a magnitude of 34.4% in 2000 and 28% of official GDP in the last years. According to Schneider (2015), the decrease of the shadow economy from 2013/2012 comparative with 2008/2009 could be explained by the global economic crisis recovery (Fig. 4).

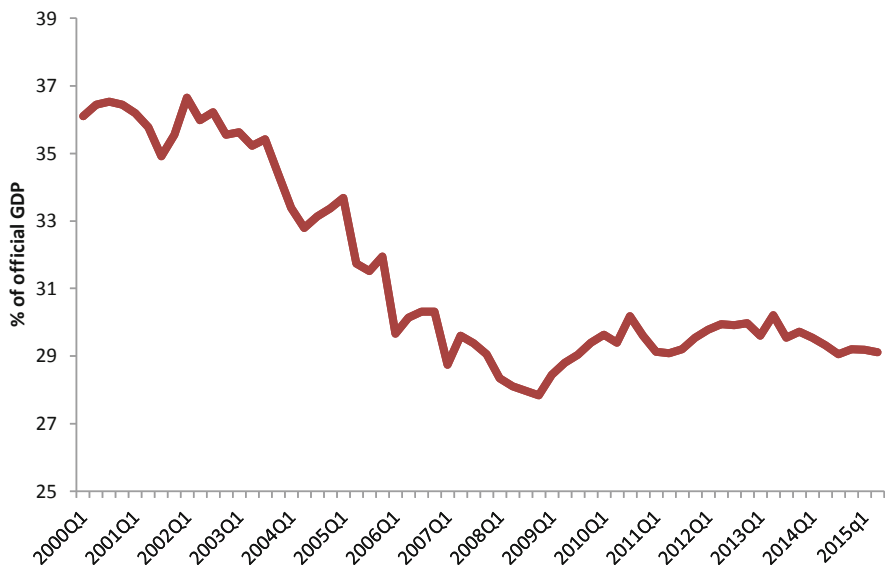


Fig. 3 The size of Romanian shadow economy (% of official GDP). Source: Authors own figure

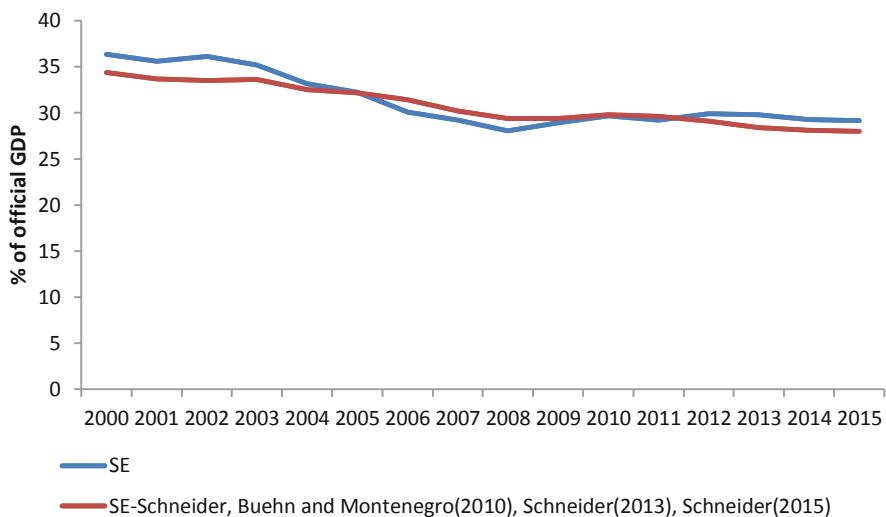


Fig. 4 Comparing the size of the size of the Romanian informal economy using different sources. Source: Authors own figure

4 Main Conclusions and Recommendations

4.1 *Summary of the Most Important Results*

During the period 2001–2008, the average real growth rate was supported mainly by domestic demand, and the credit boom had a very important influence in the increase of private consumption. Recovering from the period of economic crisis, the Romanian economic growth becomes positive only starting 2011, but the business environment instability has been enhanced by the changes in taxes. “Inefficiencies in public administration and corruption represent an extra burden on business in Romania” (World Bank 2015a, b); the main picture portrayed by the figures of governance indicators depicted the Romanian public institutions as favoring bureaucracy, overregulations having a relatively small transparency, and highlighting the lack of institutional trust. In such a context, it is worth to know the magnitude and also the pattern of such a phenomenon and mainly what causes it in order to be able to elaborate future policies that will tackle more efficiently the informal economy.

Thus, our paper aimed to reveal the “driving forces” of the development and also to compute the size of the Romanian shadow economy, providing also estimates of dynamics and the magnitude of the informal economy covering the period 2000–2015 using models that have the ability to take into account multiple causes and multiple indicators of the shadow economy—structural equation models—allowing policy makers to draw specific policies for the prevention and deterrence of informality in Romania taking into account the specificities of this country. The estimation results showed that causal variables’ unemployment, self-employment, indirect taxation, and regulatory quality have the theoretical expected signs and were highly statistically significant in all models. The best MIMIC model selected in the analysis was the 4-1-2 model in which unemployment has by far the largest influence, followed by regulatory quality, self-employment, and indirect taxation. Our empirical results revealed that the shadow economy had decreased until 2008, highlighting the value of about 27.8% of official GDP. During the period of economic crisis, it can be observed a slowly increase of the shadow economy, while for last quarters, it can be highlighted a slowly decrease, reaching the value of 29% in the middle of 2015.

Therefore, the most important results of our research apart of the magnitude of the shadow economy and also its pattern are the main determinants of this phenomenon unemployment, self-employment, and indirect taxation and also “on the quality of institutions by creating democratic and transparent institutions with lesser regulatory burden, corruption and bureaucracy in order to be able to restore the trust and confidence of the people in the public institutions” (Razmi et al. 2013, p. 5) that government needs to focus in order to elaborate more efficient strategies dedicated to tackle this kind of phenomenon.

The results are also confirmed by the study of Schneider and Buehn (2013b) who revealed that for selected transition and developing countries, indirect taxation, unemployment, and self-employment are the most influential determinants of the shadow economy.

More in-depth, for the transition countries, indirect taxes have the most influential role (33.1%), followed by self-employment (25.2%), unemployment rate (18.7%), tax morale (8.4%), business freedom index (7%), personal income tax (6.4%), and GDP growth (1.2%).

The impact of indirect taxes on the shadow economy exhibit high values for Malta (39.7%), Bulgaria (37.7%), and Estonia (36%), while at the opposite side were Romania (24.5%) and Poland (27.8%). Self-employment manifested its highest impact on the size of Romanian shadow economy (37.7%), while at opposite side was the Slovak Republic (13.7%) and Latvia (14.6%). The unemployment was considered to be influential in the Slovak Republic (34.9%), followed by Poland (26.1%), while at opposite side was Cyprus (11.2%). The personal income tax showed a large variance with respect to the relative impact on the shadow economy in Hungary (12.3%) and Estonia (10.0%).

The results for the case of Romania revealed that the highest impact on the shadow economy was registered by self-employment (37.7%) followed by indirect taxes (24.5%), tax morale (14.2%), unemployment (13.1%), business freedom (5.2%), personal income tax (4.2%), and GDP growth (1.1%).

The main challenge regarding undeclared work in Romania and Bulgaria, Cyprus, and Hungary remains the lack of public trust and confidence in authorities, confirming once again the importance of citizens' trust in government actions.

4.2 Policy Conclusions

In 2011, an integrated mechanism for the prevention and combating of undeclared work was created via a government decision. The year 2011 was also the year of labor market reform in Romania in general and of informality in particular by changing the Labor Code which includes now provisions related to the criminalization of undeclared work. The Labor Code provided penalties for employers ranging between 2500 and 5000 EUR for each person found to perform illegal work and for employees ranging between 100 and 220 EUR. According to the new Labor Code, the undeclared work above a certain level (more than five workers simultaneously without a labor contract) has become equal to a criminal offense and as such liable for prosecution.

Among the measures taken to tackle and reduce the undeclared work, there can be mentioned:

- The successive rounds of VAT reductions implemented from 2013 and also the reduction of social security contributions by five points in the last quarter of 2014. According to the European Platform tackling undeclared work Member State Factsheets and Synthesis Report (2016), "VAT was reduced for bread and bakery products from 24% to 9%, then for meat products and then to all of the alimentary products as of mid-2015, followed by a general reduction of VAT from 24% to 20% as of 2016" (p. 161).
- Increase of VAT collection by the introduction of the lottery of tax receipts.

- The prevention of undeclared work using inspections, controls, and information campaigns that warn against the perils of undeclared work and the disadvantages and risks associated with it.
- The enhancement of the system of electronic registration of all labor contracts via the REVISAL system which is a national database for scanned booklets, considered to be one of the best introduced measures for combating undeclared work.
- The significant role of daily laborer's law, passed in 2011.
- Limiting cash payments: according to Law no. 70/2015, cash payments were limited to the maximal amount of 50,000 lei (11.300 euro) per day for payments between physical persons and 10,000 lei per day for payments between physical and juridical persons. Between juridical persons, cash payments were limited to 5000 lei per day.

Also, government officials need to focus on the following measures in order to reduce the magnitude of such phenomenon:

1. Enforcement of institutions responsible for labor inspections and controls.
2. Reducing the administrative burden of businesses.
3. Increasing the amount of fines for companies that practice informal economic activity.
4. Increasing the number of information campaigns.
5. Introduction of more electronic instruments of contract registration and discouraging the use of cash, due to the fact that the level of undeclared work in Romania is somehow related to the high proportion of cash payments, especially in sectors such as industry, construction and trade, transport and communications, and hotels and restaurants in which undeclared activities are paid with cash.

Therefore, in order to reduce the magnitude of the shadow economy, the focus needs to be on the (1) development of adequate infrastructure for bank cards and wide spreading of electronic payments in the service sector and in rural areas, (2) creating incentives for companies that encourage their customers to use card payments, (3) educating the population about the importance of electronic payments usage, (4) determining companies to pay wages through bank transfers, and (5) fiscal incentives for all merchants who accept card payment, regardless of the type of bank card.

Appendix: The Description and Source of the Data

Variables	Unit root	Description	Sources
Fiscal regime	I(1) [$\Delta(X1)$]	Total fiscal revenues/GDP, %	Quarterly Government Finance Statistics, Eurostat. http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=gov_10q_ggnfa&lang=en

(continued)

Variables	Unit root	Description	Sources
Direct taxes	I(1) [$\Delta(X2)$]	Current taxes on income, wealth/GDP, %	Quarterly Government Finance Statistics, Eurostat. http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=gov_10q_ggnfa&lang=en
Indirect taxes	I(1) [$\Delta(X3)$]	Taxes on production and imports/GDP, %	Quarterly Government Finance Statistics, Eurostat. http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=gov_10q_ggnfa&lang=en
Social contributions	I(1) [$\Delta(X4)$]	Net social contributions/GDP, %	Quarterly Government Finance Statistics, Eurostat. http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=gov_10q_ggnfa&lang=en
Unemployment rate	I(1) [$\Delta(X5)$]	Unemployment rate represents the ratio of the unemployed, according to international definition (ILO*), in economically active population, %	Labor Force Survey, Eurostat. http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsq_urgan&lang=en
Self-employment	I(1) [$\Delta(X6)$]	Self-employed persons are the ones who work in their own business, farm, or professional practice. A self-employed person is considered to be working if she/he meets one of the following criteria: works for the purpose of earning profit, spends time on the operation of a business or is in the process of setting up his/her business Self-employed persons/active pop, %	Labor Force Survey, Eurostat. http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsq_esgaed&lang=en
Government consumption	I(1) [$\Delta(X7)$]	Final consumption expenditure of general government/GDP, %. It is a proxy for the size of government General government final consumption expenditure (formerly general government consumption) includes all government current expenditures for purchases of goods and services (including compensation of employees)	Quarterly Government Finance Statistics of Eurostat. http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=gov_10q_ggnfa&lang=en

(continued)

Variables	Unit root	Description	Sources
Part-time employment as a percentage of the total employment	I(1) [$\Delta(X8)$]	Part-time employment rates represent persons employed on a part-time basis as a percentage of the same age population, %	Labor Force Survey, Eurostat http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsq_epgaed&lang=en
Government employment	I(1) [$\Delta(X9)$]	Government employment/active pop %	Labor Force Survey, Eurostat. http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsq_egan22d&lang=en
Regulatory quality (X10)	I(1) [$\Delta(X10)$]	Worldwide Governance Indicators, WB	Reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. The scores of this index lie between -2.5 and 2.5 , with higher scores corresponding to better outcomes http://info.worldbank.org/governance/wgi/#home
Index of real GDP (2005 = 100)	I(1) [$\Delta(Y1)$]	Chain linked volumes, index 2005 = 100	Quarterly National Accounts database of Eurostat. http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=namq_10_gdp&lang=en
C/M1	I(1) [$\Delta(Y2)$]	C/M1, %. It corresponds to the currency outside the banks as a proportion of M1	Monthly Bulletins of National Bank of Romania, http://bnr.ro/PublicationDocuments.aspx?icid=1182
Labor force participation rate	I(1) [$\Delta(Y3)$]	Labor force participation rate, % It corresponds to the labor force participation rate, total (% of total population)	Labor Force Survey, Eurostat. http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsa_argacob&lang=en

Source: Authors own table

References

- Albu, L. L. (2008). A model to estimate spatial distribution of informal economy. *Journal for Economic Forecasting, Institute for Economic Forecasting*, 5(4), 111–124.
- Albu, L. L., Iorgulescu, R., & Stanica, C. (2010). Estimating hidden economy and hidden migration: The case of Romania. *Journal for Economic Forecasting, Institute for Economic Forecasting*, 2, 46–56.
- Albu, L. L., Ghizdeanu, I., & Stanica, C. (2011). Spatial distribution of the informal economy. A theoretical and empirical investigation. *Scienze Regionali, FrancoAngeliEditore*, 10(1), 63–80.
- Alexandru, A. A., & Dobre, I. (2013). The impact of unemployment rate on the size of Romanian shadow economy. *Public Finance Review*, 41, 608–632.
- Alm, J., & Embaye, A. (2013). Using dynamic panel methods to estimate shadow economies around the world, 1990–2006. *Public Finance Review*, 41(5), 510–543.
- Berdiev, A. N., & Saunoris, J. W. (2016). Financial development and the shadow economy: A panel VAR analysis. *Economic Modelling*, 57, 197–207.
- Bollen, K. A. (1989). A new incremental fit index for general structural equation models. *Sociological Methods & Research*, 17(3), 303–316.
- Bordignon, M., & Zanardi, A. (1997). Tax evasion in Italy. *Giornaledeglieconomisti e Annali Di Economia*, 56, 169–210.
- Christopoulos, D. K. (2003). Does underground economy respond symmetrically to tax changes? Evidence from Greece. *Economic Modelling*, 20(3), 563–570.
- Davidescu, A. A. (2016). Mapping the informal employment in Romania. A comparative analysis based on labour and discrepancy approaches. *Journal of Applied Quantitative Methods*, 11(1), 64–88.
- Davidescu, A. A. (2017). What are the main determinants of the Romanian shadow economy? An empirical analysis based on structural equation models. In S. Vaduva, I. Fotea, & A. Thomas (Eds.), *Development, growth and finance of organizations from an Eastern European Context*. Cham: Springer. https://doi.org/10.1007/978-3-319-54454-0_11. ISBN 978-3-319-54454-0.
- Dell'Anno, R. (2003). *Estimating the shadow economy in Italy: A structural equation approach* (Working Paper 2003–7). Department of Economics, University of Aarhus
- Dell'Anno, R. (2007). The shadow economy in Portugal: An analysis with the MIMIC approach. *Applied Economics Journal*, 10(2), 253–277.
- Dell'Anno, R. (2008). What is the relationship between unofficial and official economy? An analysis in Latin American countries. *European Journal of Economics, Finance and Administrative Sciences*, 12, 185–203.
- Dell'Anno, R., & Schneider, F. (2009). A complex approach to estimate shadow economy: The structural equation modelling. In M. Fagnini & T. Looks (Eds.), *Coping with the Complexity of Economics* (pp. 110–130). Berlin: Springer.
- Dell'Anno, R., & Solomon, O. H. (2007). Shadow economy and unemployment rate in USA: Is there a structural relationship? An empirical analysis. *Applied Economics*, 40, 1–19.
- Dell'Anno, R., Gómez-Antonio, M., & Pardo, A. (2007). The shadow economy in three Mediterranean countries: France, Spain and Greece. A MIMIC approach. *Empirical Economics*, 33(1), 51–84.
- Doornik, J. A., & Hansen, H. (2008). An omnibus test for univariate and multivariate normality. *Oxford Bulletin of Economics and Statistics*, 70, 927–939.
- European Commission. (2016). *European platform tackling undeclared work Member State Factsheets and synthesis report*. Retrieved from <http://ec.europa.eu/social/main.jsp?catId=1299&intPageId=4876&langId=en>
- Eurostat. (2005). *Eurostat's tabular approach to exhaustiveness guidelines*. 5th meeting of the GNI committee, 5–6 July 2005. Eurostat/C1/GNIC/050 EN
- Eurostat. Employment and unemployment database. Retrieved from <http://ec.europa.eu/eurostat/web/lfs/overview>

- Eurostat. Quarterly government finance statistics database. Retrieved from <http://ec.europa.eu/eurostat/web/government-finance-statistics/overview>
- Eurostat. Quarterly national accounts database. Retrieved from <http://ec.europa.eu/eurostat/web/national-accounts/data/database>
- Eviews 8.1 software. Retrieved from <http://www.eviews.com/EViews8/ev81whatsnew.html>
- Feld, L. P., & Schneider, F. (2010). Survey on the shadow economy and undeclared earnings in OECD countries. *German Economic Review*, 11(2), 109–149.
- Friedman, E., Johnson, S., Kaufman, D., & Zoldo-Lobaton, P. (2000). Dodging the grabbing hand: The determinants of unofficial activity in 69 countries. *Journal of Public Economics*, 76, 459–493.
- Garcia-Verdu, R. (2007). *Measurement of the shadow economy or Shadowy measurement? Photocopy*. Washington, DC: World Bank.
- Giles, D. E. A., & Tedds, L. M. (2002). *Taxes and the Canadian underground economy* (Canadian Tax Paper No.106). Toronto, Canada: Canadian Tax Foundation.
- Henze, N., & Zirkler, B. (1990). A class of invariant consistent tests for multivariate normality. *Communications in Statistics, Theory and Methods*, 19, 3595–3617.
- Hokamp, S., & Seibold, G. (2014). Tax compliance and public goods provision-an agent-based econophysics approach. *Central European Journal of Economic Modelling and Econometrics*, 4, 217–236. arXiv preprint arXiv:1409.8528.
- Johnson, S., Kaufmann, D., & Zoido-Lobaton, P. (1998a). Regulatory discretion and the unofficial economy. *The American Economic Review*, 88(2), 387–392.
- Johnson, S., Kaufmann, D., & Zoido-Lobaton, P. (1998b). *Corruption, public finances and the unofficial economy*. Washington, DC: MIT, The World Bank.
- Long, J. S. (1983). *Covariance structure models: An introduction to LISREL*. Beverly Hills, CA: Sage.
- Mardia, K. V. (1970). Measures of multivariate skewness and kurtosis with applications. *Biometrika*, 57, 519–530.
- Medina, L., & Schneider, F. (2017). *Shadow economies around the world: What did we learn over the last 20 years?* (IMF Working Paper WP/18/17). www.imf.org/~media/Files/Publications/WP/..wp1817.ashx
- National Bank of Romania. Monthly Bulletins of National Bank of Romania, 2000–2015. Retrieved from <http://bnr.ro/PublicationDocuments.aspx?icid=1182>
- National Institute of Statistics. Tempo database. Retrieved from <http://statistici.insse.ro/shop/?lang=ro>
- Organization for Economic Co-operation and Development. (2014). *OECD Statistics Directorate* (Statistics brief, June No. 18). <http://www.oecd.org/std/thestaticsbrief.htm>
- Putniș, T. J., Sauka, A., & Davidescu, A. A. (2018). Shadow economy index for Moldova and Romania 2015–2016. Retrieved May 1, 2018, from <https://ssrn.com/abstract=>
- Razmi, M. J., Falahi, M. A., & Montazeri, S. (2013). Institutional quality and underground economy of 51 OIC member countries. *Universal Journal of Management and Social Sciences*, 3(2), 1–14.
- Saafi, S., & Farhat, A. (2015). Is there a causal relationship between unemployment and informal economy in Tunisia: Evidence from linear and non-linear Granger causality? *Economics Bulletin*, 35(2), 1191–1204.
- Saafi, S., Farhat, A., Mohamed, H., & Bel, M. (2015). Testing the relationships between shadow economy and unemployment: Empirical evidence from linear and nonlinear tests. *Studies in Nonlinear Dynamics & Econometrics*, 19(5), 585–608.
- Schneider, F. (1994a). Measuring the size and development of the shadow economy. Can the causes be found and the obstacles be overcome? In H. Brandstätter & W. Güth (Eds.), *Essays on economic psychology* (pp. 193–212). Berlin: Springer.
- Schneider, F. (1994b). Can the shadow economy be reduced through major tax reforms? An empirical investigation for Austria. *Supplement to Public Finance*, 49, 137–152.
- Schneider, F. (1997). The shadow economies of Western Europe. *Economic Affairs*, 17, 42–48.

- Schneider, F. (2002). *The size and development of the shadow economies and shadow economy labor force of 16 central and South American and 21 OECD countries*. First Results for the 90's. Mimeo, Johannes Kepler University of Linz.
- Schneider, F. (2005). Shadow economies around the world: What do we really know? *European Journal of Political Economy*, 21, 598–642.
- Schneider, F. (2012). *Size and development of the shadow economy of 31 European and 5 other OECD countries from 2003 to 2012: Some new facts*. http://www.econ.jku.at/members/Schneider/files/publications/2012/ShadEcEurope31_March 2012.pdf
- Schneider, F. (2013). *Size and development of the shadow economy of 31 European and 5 other OECD countries from 2003 to 2013: A further decline* (pp. 5–7). Linz: Johannes Kepler Universität. Retrieved from http://www.econ.jku.at/members/schneider/files/publications/2013/shadeceurope31_jan2013.pdf
- Schneider, F. (2015). Size and development of the shadow economy of 31 European and 5 other OECD countries from 2003 to 2014: Different developments? *Journal of Self-Governance & Management Economics*, 3(4), 7–29.
- Schneider, F. (2016). Size and development of the shadow economy of 31 European and 5 other OECD countries from 2003 to 2016: Different developments. ShadEcEurope31_2016.doc
- Schneider, F., & Buehn, A. (2013a). Estimating the size of the shadow economy: Methods, problems and open questions. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2353281
- Schneider, F., & Buehn, A. (2013b). Shadow economies in 10 transition and 6 developing OECD countries: What are the driving forces? Retrieved from Studien/pfuschnu/2013/ShadEcOECD_DrivForces2013.doc
- Schneider, F., & Williams, C. (2013). *The shadow economy*. London: The Institute of Economic Affairs.
- Schneider, F., Buehn, A., & Montenegro, C. E. (2010). New estimates for the shadow economies all over the world. *International Economic Journal*, 24(4), 443–461.
- Stata 13 Software. Retrieved from <https://www.stata.com/support/updates/stata13.html>
- Tanzi, V. (1999). Uses and abuses of estimates of the underground economy. *Economic Journal*, 109, 338–347.
- United Nations Economic Commission for Europe. (2008). *Non-observed economy in national accounts – Survey of country practices (2008)*. United Nations Publication. ISSN: 0069–8458.
- Williams, C. C., & Horodnic, I. A. (2015). Evaluating the prevalence of the undeclared economy in Central and Eastern Europe: An institutional asymmetry perspective. *European Journal of Industrial Relations*, 21(4), 389–406.
- Williams, C. C., & Horodnic, I. (2017). Evaluating the illegal employer practice of under-reporting employees' salaries. *British Journal of Industrial Relations*, 55(1), 83–111.
- Williams, C., Bejaković, P., Mikulić, D., Franic, J., Kadir, A., & Horodnic, I. (2017, December 21). *An evaluation of the scale of undeclared work in the European Union and its structural determinants: Estimates using the labour input method*. Luxembourg: Publications Office of the European Union. ISBN: 978-92-79-75367-1. Retrieved from <https://ssrn.com/abstract=3092080> or <https://doi.org/10.2139/ssrn.3092080>
- World Bank. (2015a). Worldwide governance indicators. Retrieved from <http://databank.worldbank.org/data/reports.aspx?source=Worldwide-Governance-Indicators>
- World Bank. (2015b). Doing business. Retrieved from <http://www.doingbusiness.org/reports/global-reports/doing-business-2016>

More than Medicine: Pharmaceutical Industry Collaborations with the UK NHS



Mark Scoringe

Abstract This ‘critical realist’ research paper is an evaluation of collaborative projects between pharmaceutical companies and the British National Health Service (NHS). There is a strong tendency for NHS organisations to regard this industry with considerable caution; nonetheless, the evidence crafted through this undertaking has revealed an environment that is potentially well predisposed towards collaborative partnership. The primary focus of this evaluation is on a single organisation and how this company delivers, and seeks to deliver, Joint Working initiatives. Joint Working represents the most formalised and transparent mechanism for cooperation between the industry and the NHS. The specific aim of this research was to evaluate the level of capability that a specific organisation ‘desires’ to deliver these types of initiatives and the degree to which it possesses the competencies to deliver them. The findings have been developed employing a mixed method approach using secondary data analysis, case studies and a survey.

1 Introduction

Partnerships, whether they are personal, military alliances or commercial collaborations, can be complex and interesting relationships. This research paper was devised to shed light on a specific type of collaboration between the pharmaceutical industry and the National Health Service (NHS) in the UK. Joint Working is the term used by the Association of the British Pharmaceutical Industry (ABPI), the trade association for pharmaceutical companies operating in the UK (ABPI 2014), and the Department of Health (DOH) to describe a particular type of undertaking in which the NHS and pharmaceutical companies pool resources to deliver projects designed primarily to improve patient health whilst also offering benefits to the participating parties (ABPI 2013). The ABPI, DOH and NHS have cocreated tightly defined criteria, guidance, toolkits and a checklist to formally articulate the factors that must be present for a project to qualify as Joint Working (DOH et al. 2010). This paper has endeavoured to explore and evaluate the use of Joint Working initiatives in the UK

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and sought to understand their potential value to a multi-national pharmaceutical company. Therefore, with the exception of an initial secondary source review of competitor practice, it is principally an intra-organisation appraisal of desired and current organisational performance.

The pharmaceutical industry is one of the most tightly regulated sectors of the UK economy (Mossialos et al. 2004). Research and development (R&D) and commercial activities are regulated by legislation and through various governmental agencies and the ABPI (EMA 2015; MHRA 2015). However, the industry is often perceived to be highly profit-centric with a reputation blemished by controversies ranging from a disregard for patient welfare (Goldacre 2012; Kay 2010), the misrepresentation of data (Goldacre 2012; Kay 2010; Savitz and Weber 2014) and allegations of widespread corruption (Ward 2015; The Guardian 2015). Against this backdrop of misdemeanour and scepticism, there has been a desire within the industry to improve its image as a corporate citizen (Savitz and Weber 2014) and deliver on stakeholder expectations (Wang et al. 2014). In this context, collaborations between the NHS and the pharmaceutical industry—although potentially challenging (Evans 2012)—could offer all participating parties a range of possible benefits (Colquhoun 2012; Farrar 2012, in ABPI 2012; Horton 2009; Whitehead 2012). In recent years the DOH and NHS have proposed a number of policy drivers that have been seen as catalysing a greater degree of partnership working between the private and public healthcare sectors (Sodexo 2012, 2013; Ham and Murray 2015). The DOH ‘Innovation Health and Wealth’ report states that the NHS should ‘utilise partnership and collaborations to encourage and support radical innovation’ (DOH 2011, p. 23).

The primary aim of this paper was to evaluate the level of capability that an individual company aspires to within the Joint Working sector and the degree to which it possesses the project management competencies to deliver collaborative initiative of this type. The stimulus for this evaluation was Stephenson’s assertion that capabilities and competencies are not the same, as he describes capability as being about ‘knowledge, values, self-esteem and capacity for autonomous development of self and context’ (Stephenson 1994, p. 4). Stephenson and Yorke (1998) define ‘competency’ as existing within a familiar state, whereas ‘capability’ is the ability to strive towards unfamiliar problems within contexts that are unfamiliar. It was hoped that through this research endeavour, this organisation would gain a greater understanding of the capabilities and competencies necessary to deliver high-quality Joint Working collaborations in partnership with the NHS.

2 The Power of Partnership

In an attempt to redefine the relationship between the NHS and pharmaceutical companies, the ABPI has promoted efforts by the industry to move beyond a sponsorship model and towards a model of working in partnership (ABPI 2012; DOH et al. 2010). There are a number of possible partnership interactions between

the NHS and the industry, ranging from simple cooperation and coordination all the way through to formal collaborations. However, in general use, these descriptive terms for partnership types are often used interchangeably and inappropriately which leads to confusion regarding the terminology of ‘partnership’ (Huxham 2000; Wildridge et al. 2004). Mattessich et al. (2001) offer clarity on the different types of partnership by defining ‘cooperation’ as being characterised by informal relationships without a common goal, ‘coordination’ is characterised as more formal with acknowledgement of mutual rewards, whilst ‘collaborations’ require a collective goal, a pooling of resources and the sharing of risk and reward. Therefore, the term ‘collaboration’ most accurately describes formal Joint Working initiative taking place between the NHS and pharmaceutical industry. This evaluation focuses only on Joint Working as defined by the ABPI code of practice (PMCPA 2016).

Academic writing regarding collaborative projects is relatively rich, particularly in the engineering and construction industries (Bresnen 2009; Bygballe et al. 2010; Hong et al. 2012; Galliford 1998), where various authors espouse the potential virtues and pitfalls inherent within partnerships (Bresnen 2009; Bresnen and Marshall 2000; Chan et al. 2003). The Association for Project Management (APM) suggests that partnerships may present organisations with opportunities to pool resources and expertise and to increase value whilst spreading risk (APM 2009). Jacobsson and Roth (2014) articulate the view that partnerships are a good platform for engagement, whilst Naoum (2003) propagates them as a vehicle for the development of inter-organisational trust and long-term relationships. Several authors share the view that collaborations offer the possibility of ‘win-win’ benefits when the participating parties have shared objectives (Austin 2000; Child and Faulkner 1998; Langford and Murray, in Morris and Pinto, Langford and Murray 2004; Naoum 2003). The APM (2009) also considers mutually compatible objectives to be a core component in the delivery of successful multi-owned projects. Gray (1989) proposes a view that the quality of project outputs is improved by interagency partnership due to the deployment of diverse and complementary capabilities.

In the UK, collaboration has been a major component of the government’s agenda to modernise the public sector, particularly in healthcare (Wildridge et al. 2004). In 2000, the Office of the Deputy Prime Minister and the Nuffield Institute produced a partnership assessment tool in an attempt to improve public services through greater multi-agency collaboration (Hardy et al. 2000). More recently, the NHS’s ‘Five Year Forward View’ (NHS England 2014), the ‘Better Procurement, Better Value, Better Care’ report (DOH and NHS England 2013) and, perhaps most enthusiastically, the ‘Innovation Health and Wealth’ report (DOH 2011) have all been espoused as promoters of partnership working (Ham and Murray 2015; Sodexo 2012, 2013). Sodexo (a private sector organisation that manages and delivers a range of services in healthcare) has undertaken research into collaborations in the UK healthcare context (Sodexo 2016). Sodexo’s research, although not specific to the pharmaceutical industry, takes the form of two reports, ‘Partnership for Healthy Outcomes’ (Sodexo 2012) and ‘The Power of Partnership’ (Sodexo 2013), both offered practical guidance on forming and maintaining partnerships in healthcare. Reassuringly,

Sodexo's (2012, 2013) findings, and the 'hallmarks for successful partnership' that they articulate, support the literature from other industrial sectors in regard to the possible benefits to be gained from collaboration. However, as noted by the Audit Commission (1998), it is important to remember that there should not be an assumption that partnership working is guaranteed to be a good thing. Mattessich et al. (2001) warn that collaboration is not necessarily always the ideal way to address issues and accomplish tasks 'any more than a pair of pliers always serves as the best tool for household repairs'.

Nevertheless, the literature provides a reasonably homogeneous view that collaboration on the whole is a positive undertaking that can offer a wide range of benefits to all participating parties. However, the academic literature regarding private/public collaborations in healthcare is very limited; available material tends to be confined to partnerships linked to financing and building healthcare estate (Healthcare UK 2013; Holden 2009) or the R&D environment (Chataway et al. 2012). This raises questions around the potential validity of the available partnership literature in this particular context. This uniqueness is underscored by an ideological polarisation of the protagonists in public/private partnerships, with the pharmaceutical company operating within a commercial capitalist model and their NHS partner within a publicly funded socialised healthcare model. Therefore, it is the intent of this evaluation to add new insights into an area of partnership that has thus far been little explored.

3 Research Methodology and Approach

The choice of methodology for this paper was heavily influenced by Grix's (2002) assertion that our methods should be led by our research question and not the other way around. This ethos served to harmonise my question with my 'weltanschauung'¹ and provided the logic for my choice of research paradigms, methodologies and methods. Consequently, my research question, which concentrates on the 'what' and 'how' of the situation rather than the 'how much', led me towards the pursuit of a retroductive² qualitative methodology. Paradoxically, within my professional environment, research that is quantitative and within the realist epistemology is regarded as having the greatest value. However, as a researcher, I subscribe to Snider's (2010) notion that whilst we may be enthralled by statistical analysis, the numbers can often disguise more than they reveal. Indeed, the numbers can be flawed, or even manipulated, to provide an incorrect answer or skewed to tell a particular story (Somerset House 2016; Rothwell 2016). Consequently, to mitigate these concerns and to satisfy

¹Weltanschauung; translated from German to English to mean the 'world position' or 'worldview' of an individual standpoint.

²Retroduction; imagining possible 'mechanisms' that could explain a given phenomenon if they were real (Bhaskar 2014).

contradictions between professional and personal perspective, it was decided to employ a mixed methodology using complimentary quantitative and qualitative methods, with the additional promise that method diversification may offer the possibility of increased validity and reliability of my research findings (Zohrabi 2013).

According to Smith (2009), all researchers are storytellers. This is an opinion likely to be eagerly received by researchers like Olsen and Morgan (2005) who coined the term ‘ficts’ to describe a reality that is potentially fictional but nevertheless ‘true enough’ to be of value. Critical realists accept that beliefs can be false but also that understanding false beliefs may lead to emancipation (O’Mahoney and Vincent 2014). To investigate these beliefs, I have been an active and engaged contributor throughout this research to create a climate for potential change. The framework for this research project has been provided by Greenaway’s (1995) four-stage cycle of experiential learning, based on the work of Kolb (1984). The first stage entails the introduction of facts (or perhaps ‘ficts’) into the system, these facts are reflected upon, and then concepts as to why they exist are developed. These new understandings are then introduced and applied back into the system, thus continuing the cycle and engendering iterative organisational learning. The work of Greenhalgh et al. (2009) in their evaluation of health service modernisation in London helped galvanise the realist approach as a valid paradigm within the healthcare context.

This evaluation has been developed using a mixed method approach deploying secondary data analysis, case studies and surveys. The chosen approach is based on research undertaken by Hurrell (2014) to investigate patterns and reasons for soft skills deficits within the Scottish workforce. The structural design for this research has been modelled on an indicative ‘criticalist’ example proposed by Hallebone and Priest (2009). This design philosophy was followed as it was expected to provide a platform for colleagues and management to work together in efforts to codiscover and assemble an explanatory model that answers the primary research question. Initially, this project started with a literature review of public/private partnerships and the accumulation of objective data into the use of Joint Working initiatives by companies in the pharmaceutical industry. Data from secondary sources was then introduced to a focus group in an effort to codiscover the mechanism at play in the environment and within a particular organisation’s Joint Working initiatives. The output from the focus group was then used to inform a series of case studies developed through semi-structured interviews with four company project practitioners. Analysis of these case studies was then used to confirm and validate the findings from previous steps and also to inform the design of a research questionnaire.

4 Findings: Secondary Research

Secondary research into the Joint Working environment provided the background information on which this project was developed. In an effort to understand the environmental context in which partnerships exist, it was important to establish a baseline regarding the scale of industry investment in partnering. The industry sold US\$25.2 billion (£17 billion³) worth of medicinal product in the UK in 2015, of this total IMS was able to directly attribute \$19.9 billion directly to 485 different pharmaceutical companies (IMS Health 2016). The sales revenue data was employed to reduce this analysis of competitor performance to the 15 largest pharmaceutical companies operating in the UK according to their cash sales in 2015. The 15 organisations selected for more in-depth evaluation accounted for US\$12.9 billion (64.7%) of all pharmaceutical sales in the UK, with the other 470 companies contributing the remaining US\$7.0 billion (35.3%). The selection of only 15 organisations for evaluation was justified due to their market dominance in regard to cash revenue and because this company considered these corporations to be direct competitors. In 2015 the industry spent £340.3⁴ million on working in partnership with healthcare organisations (HCOs) and healthcare professionals (HCPs), £229.3 million (67%) of this expenditure was related to new medicines research and development (ABPI 2016). The remaining £111 million (33%) was invested in non-research and development partnership investment activities such as sponsorship, donations, consultancy fees and Joint Working (ibid.). The amount invested in Joint Working is also revealed by the ABPI to be just £3.3 million (ibid.), thus, only accounting for 3% of the entire non-research and development partnership expenditure. The in-depth analysis into Joint Working projects undertaken by the 15 largest pharmaceutical companies in the UK was used to evaluate a number of factors regarding these types of initiatives. These organisations disclose all of their Joint Working projects as executive summaries that are available in the public domain. These documents were scrutinised, and the information within them was used to build a database of relevant information. These data revealed that in 2013 a total of 42 projects were initiated, in 2014 there were 65 projects and by 2015 it had fallen back to just 43.

In 2013 market dominance regarding the number of projects deployed had been very much within the purview of AstraZeneca. However, by 2015 Novartis had become firmly ensconced as the new market leader in Joint Working partnering. This position as market leader goes beyond the absolute quantity of projects they commission, as data (normalised to factor in company revenue) confirms that Novartis initiates considerably more Joint Working than their competitors regardless of company size. In 2015 Novartis initiated one project for every US\$77 million of cash revenue; the next highest ratio of projects to revenue was Eli Lilly at one

³US dollars converted to UK sterling using exchange rate of 0.675 on December 31, 2015.

⁴This figure equates to approximately 1.99% of total cash revenue reinvested into partnerships with HCPs and HCOs.

initiative per US\$122 million. The average ratio among the 15 companies is a single project for every US\$299 million of revenue, representing a rather anaemic level of participation as a collection of organisations. ABPI guidance states that member companies must have written agreements for their Joint Working projects covering a number of factors, including financial arrangements (PMCPA 2016). However, it is not mandated that any of these factors need to be published as part of the publicly available executive summary. Therefore, there is some variability in what is required for governance purposes and what is contained within the published summaries. Financial details are only disclosed in 19 (41%) of the available documents, with the amounts invested per initiative ranging from £4115 to £300,000.

Joint Working projects in 2015 were focused on 14 different areas of medicine, with cancer, diabetes and ophthalmology in combination accounting for 53% of all initiatives undertaken. The high degree of project utilisation in cancer and diabetes can easily be attributable to NHS demand and priorities; however, the quantity of ophthalmological projects is completely disproportionate if assessed in the same way. It could be surmised that project uptake in ophthalmology is indicative of proactive demand creation from industry, particularly as all of the initiatives in this disease area were delivered by a single organisation, Novartis. Novartis is also the only organisation in 2015 to have explored Joint Working projects where the deliverables are based on infrastructure or digital, whilst all of their competitors have delivered projects that are more conservative in nature. It is probably no coincidence that Novartis, as the market leader in this space, commissions projects that are innovative and challenge conventional compliance doctrine. Identification of Novartis as the market ‘innovator’ is useful as it helps benchmark where this organisation sits on the adoption curve whilst effectively testing and stretching the boundaries for collaborations for all companies if they wish to increase their own capability in this space.

5 Findings: Focus Group

In an effort to codiscover the possible mechanisms influencing Joint Working collaborations in the external and intra-organisational environment, secondary source data were introduced to the focus group through an ‘appreciative inquiry’ session. Hammond (1998) describes ‘appreciative inquiry’ as a philosophy of change that focuses on what works, and improving what already works well, rather than the normal starting point of focusing on a problem. The group then undertook an exercise to co-populate a Lewin (1951) force field analysis diagram to articulate the internal and external forces ‘driving’ and ‘restraining’ potential Joint Working utilisation. Force field diagrams were used to help identify factors that potentially need to be addressed in order to successfully implement change (Swanson and Creed 2014). When identified, these forces then need to be mitigated or optimised to increase the chances that optimal change will occur. The group created a force field diagram, containing 12 driving factors and 14 restraining factors, and then

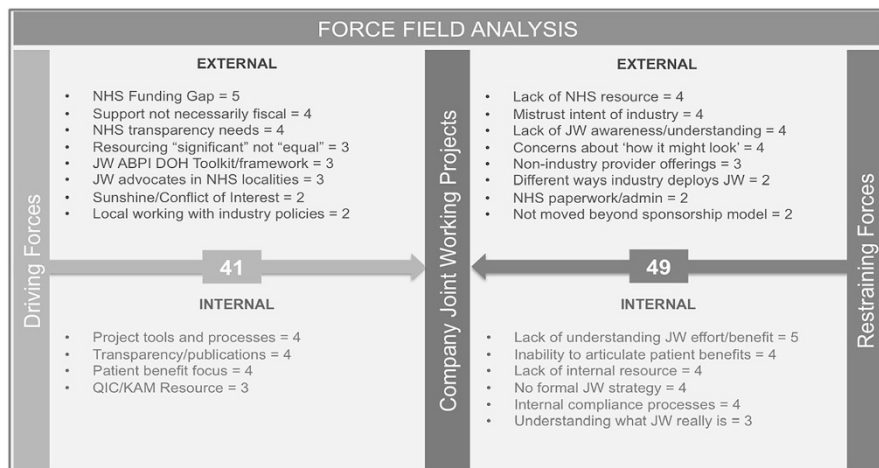


Fig. 1 Joint Working Force-field analysis co-created by the focus group

collectively appointed a number from 1 to 5 to each factor based on its influence within the Joint Working context; the higher the number, the more powerful the influence.⁵ To ease analysis these data factors were segregated into forces that were either internal or external in nature. The analysis provided output that illustrated a situational context in which restraining forces currently have a substantial advantage relative to driving forces (Fig. 1). Interestingly external driving and restraining factors returned combined scores of 26 and 25, respectively, indicating a near equilibrium in their influence on the change equation. It could be postulated that this balancing of forces offers promise, particularly as factors that are external to the organisation would remain somewhat more impervious to change in comparison to internal forces.

Internal forces highlighted by the focus group offer considerable opportunities for the organisation to facilitate a more proactive Joint Working strategy. The factors on the driver side of the change ledger are already relatively strong, but they could be nurtured and made even stronger. In particular a factor described as 'transparency/publications' could be boosted with relative ease through improved dissemination and a more coherent communication strategy in regard to the projects we undertake. These data could easily be made available for publication, particularly as it is already a mandatory requirement to capture this information within written partnership agreements. Intriguingly, internal factors that constrain collaborative participation were evaluated to substantially outweigh promoting forces. Therefore, the greatest potential for the organisation to create a climate for change in Joint Working resides

⁵The scale used to assess factor influence was 1, weak; 2, mild; 3, moderate; 4, strong; and 5, very strong.

in mitigating the multitude of factors described as powerful internal restraining forces.

The inability to appropriately express realisable benefits for the participants in Joint Working had been a well-acknowledged restraining force throughout the group discussion. These constraints were associated with apprehensions when it comes to describing project benefits that the ABPI ‘code of practice’ permits industry to acquire through collaborations and anxieties regarding the articulation of patient benefits. Concepts from the literature were communicated to the group in an effort to broaden the discussion and extend the definition of benefit realisation. This was done primarily to extend collective conceptualisation beyond considering projects as essentially a mechanism for organisational value creation that is fixed within a relatively short timeframe. Building on this holistic and longitudinal definition of project benefits ascribed by the literature, the group cocreated an analytical model designed to illustrate the benefits that could be realised through Joint Working. Creation of this model, Fig. 2, gave the group licence to consider a tranche of benefits for patients and healthcare organisations and also illuminated a range of possible tangible and intangible company benefits. The outcome of this exercise was that NHS and patient benefits are relatively easy to express, although, the real challenge is ensuring that they are articulated in a manner that satisfies stringent internal compliance processes. However, benefit realisation for the company from Joint Working is perhaps the element of collaborative project management that is most sensitive to compliance and business function intercession. Projects require backing from sales and marketing functions within the organisation in order to gain funding for implementation, and this support was regarded as only forthcoming if immediate fungible gains are on offer.

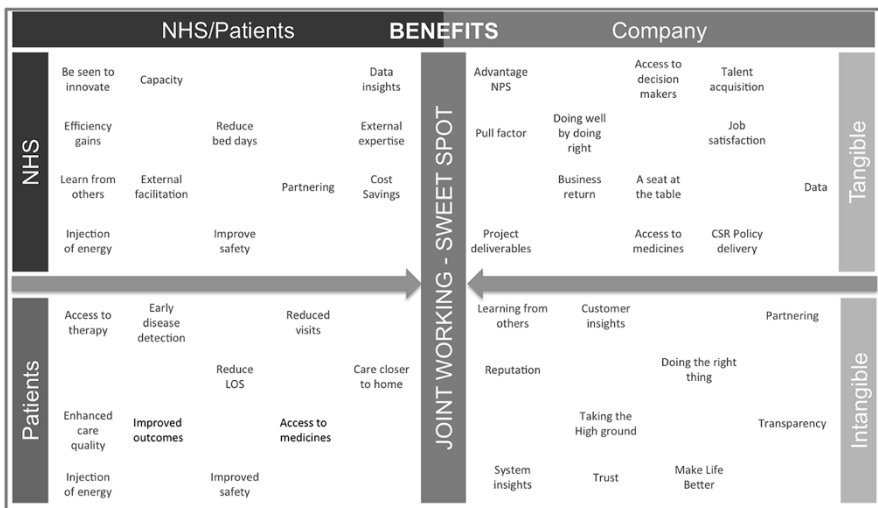


Fig. 2 Benefits for parties to Joint Working as described by the focus group

The perception is that the corporate ethics and compliance (E&C) teams' attitude towards risk is highly restrictive, seeking to ensure risk elimination rather than mitigation, thus ignoring the reality that the aim of risk management should be to contain rather than eliminate uncertainty (Cleden 2014). The cautious argument put forward by the E&C team regarding collaborations is that the organisation's contribution represents a 'transfer of value' that can easily be misrepresented as attempts at 'buying the business'. The counter argument to this would be to ensure that all agreements are above reproach by committing only to projects where benefits to all parties are exceptionally transparent and represent a mutual exchange of value rather than simply a transfer from one party to another. The ABPI code already states that all parties to a Joint Working initiative must make a significant contribution towards the project. Therefore, ensuring that the realisable benefits from projects are equitably balanced for all involved parties and that all of the details are published would do much to alleviate nervousness and accusations that the organisation is simply trying to buy the business. The focus group was able to articulate a very broad range of benefits that the organisation could realise through collaborative partnering. These benefits were segregated into two types, with factors that are relatively easily measurable such as 'data' and 'job satisfaction scores' regarded as tangible benefits. These types of benefits are quantifiable and valuable to the company; therefore, the presence of these elements could offer a reasonably straightforward justification for organisational commitment to a given project. In essence company participation in a project is contingent on the organisation receiving a proportional measurable return on the contribution and investment they have made towards the initiative. It could be argued that the industry is only open to accusations of inappropriate transfers of value (buying the business) if the benefits are disproportionately weighted in favour of their NHS partner. Therefore, ensuring that all foreseeable transfers of benefits are equitable and openly communicated is in the interest of all parties engaged in these collaborations. The group also isolated a number of intangible benefits, factors that although challenging to quantify are nonetheless entirely appropriate as descriptors to justify project participation. The essential finding from the group's analysis of benefits was that transparent and assertive disclosure regarding the value the organisation anticipated realising from Joint Working would be critical if an improved organisational capability in this space was desired.

6 Findings: Interviews

The output from the focus group provided information that was utilised in the development of a series of exploratory semi-structured interviews designed to corroborate earlier research findings and provide additional qualitative detail. The output from these interviews was used to develop four comparator case studies and to inform the questions that were used in the survey that followed. Data from the interview transcriptions had been coded into a list of 91 items and then consolidated into a spreadsheet to provide a descriptive display that could aid pattern recognition and offer a platform for further analytical examination. The items described by the interview participants were consolidated into a series of prominent themes, namely,

		Correlations			
		INTERVIEW 1	INTERVIEW 2	INTERVIEW 3	INTERVIEW 4
INTERVIEW 1	Pearson Correlation	1	.256*	.293**	.198
	Sig. (2-tailed)		.014	.005	.060
	N	91	91	91	91
INTERVIEW 2	Pearson Correlation	.256*	1	.175	-.021
	Sig. (2-tailed)	.014		.098	.847
	N	91	91	91	91
INTERVIEW 3	Pearson Correlation	.293**	.175	1	.180
	Sig. (2-tailed)	.005	.098		.088
	N	91	91	91	91
INTERVIEW 4	Pearson Correlation	.198	-.021	.180	1
	Sig. (2-tailed)	.060	.847	.088	
	N	91	91	91	91

*. Correlation is significant at the 0.05 level (2-tailed).
 **. Correlation is significant at the 0.01 level (2-tailed).

Fig. 3 Correlations between interview participants in answers they provided across 91 codified items. Source: Authors own figure

the participant’s general attitude towards Joint Working, their perceptions regarding realisable project benefits for all parties and factors that could act as potential constraints and enablers to collaboration. These data were then further assessed using graphs in an effort to uncover commonly attributed concepts and influential mechanisms. SPSS analytics software was also deployed to evaluate correlations between individuals and how often they expressed ideas relevant to the 91 coded items. The evaluation across all 91 items showed statistically significant bivariate correlations between the coded data for the first interview and the second interview at the 0.05 level ($r = 0.256, p, 0.014$), and between the first interview and the third interview at the 0.01 level ($r = 0.293, p, 0.005$), thus demonstrating significant affinity between the answers provided by three of the four participants involved (Fig. 3).

The interviewees all communicated a high degree of optimism for Joint Working that was very similar in tone and content; indeed, the level of enthusiasm was remarkably consistent among all interview participants. The view articulated by the first interviewee was that partnering in these types of collaboration provides individual practitioners and the organisation with a huge amount of value and credibility. In the opinion of the second interviewee, collaborative projects were now considered to be ‘game changers’ in the relationship between the NHS and industry. Joint Working was described as allowing the company to ‘punch above our weight’ and to be the conduit through which the organisation could gain significant kudos. The creation of relationships with key personnel within the NHS was a theme reiterated repeatedly throughout all of the interviews. The third interviewee described the opportunity to help the NHS through partnership as highly motivating, and that work to improve local services could be incredibly meaningful and rewarding. This point was echoed by the participants in the first and fourth interviews as they suggested that developing customer trust and gaining a greater understanding into the inner workings of the NHS would lead to a significant boost in their levels of

job contentment. There was genuine conviction that Joint Working is a valuable mechanism through which the company can make substantial reputational gains. In addition, an important consideration was voiced during the second interview when it was suggested that NHS efficiencies developed through collaboration could result in increased commercial opportunities due to improved patient throughput. This was an opinion backed by the third interviewee as it was stated that NHS efficiency gains could result in patients securing better access to a wider range of apposite therapies, including pharmaceuticals. The final participant articulated a view that Joint Working could provide the company with valuable data and that partnering would enhance its ability to shape the environment. The concept of Joint Working was described as the 'nirvana of collaboration' with the NHS and that if we were 'open and imaginative', there was substantial promise that an increased utilisation of the approach could lead to genuine competitive advantage.

There was a strongly held belief among all of the interview participants that Joint Working can significantly improve clinical outcomes for patients. Collaborations intended to streamline current processes and improve clinical pathways were proposed as providing particularly useful realisable project benefits to our NHS partners. The suggested benefits for healthcare organisations and patients were actually rather extensive, with numerous references to improvements against indicators for safety, quality and measurable patient outcomes, through to increases in clinical capacity. The first, second and fourth interviewees also stated that the additional project management and facilitation skills provided by industry could be extremely valuable to the health service. Integration across the public and private sector and an exchange of skills and knowledge were also depicted to be mutually valuable to all parties engaged in these types of collaboration. The final interviewee offered a somewhat different narrative into Joint Working compared to the assessments made by their colleagues. This participant suggested a substantially broader range of potential benefits to the NHS relative to those that had been mentioned previously. Two of these benefits had thus far remained unstated throughout the interviews, namely, medicines optimisation and the achievement of personal performance indicators for NHS personnel. Acknowledgement of performance indicators as a potential benefit may well be a significant point, particularly in light of a statement made during the third interview that critical influence on decisions to commission projects often resides with a single stakeholder.

The external constraints identified during the interviews repeated many of those suggested during the focus group, including confusion within the NHS regarding what Joint Working actually defines and low awareness that it even exists. Lack of trust and viewing the industry as a provider of sponsorship rather than as credible partner in healthcare were consistently affirmed as significant barriers to access for collaboration. Multi-corporation projects were considered to be extremely challenging, with a strong preference for undertakings managed by an individual company in harmony with NHS organisations. The third interviewee felt that the health service hindered collaboration by being overtly tribal and paternalistic, although it was acknowledged that this was primarily due to their mistrust of the pharmaceutical industry. In addition, there is a perception that the NHS is generally unaware of, or simply fails to fully understand, the potential that could be unleashed through

partnering with industry. However, it was felt that this situation might change significantly as demands for greater openness in the relationship between the NHS and industry could potentially provide the platform for an increase in transparent project partnerships. A number of external enablers for increased collaboration were portrayed throughout the interviews; these included the current drive from within the NHS for greater transparency (NHS England 2016) and the Joint Working guidelines and checklists published by the ABPI (PMCPA 2016). These formalised processes and governance structures were described as potential catalysts for increased demand for collaboration as the NHS endeavours to adapt to a relationship with the pharmaceutical industry that is more rigorously monitored.

The interviewees offered a number of attributes within this business that act to enable collaboration. Individual confidence to competently execute projects of this type and a thorough understanding of the paperwork and procedures required to implement Joint Working were specified as particularly important. The availability of template paperwork for much of the project documentation needed for implementation was also considered to provide significant assistance to practitioners wishing to undertake Joint Working. The participant in the second interview identified a number of internal enablers to project implementation, including Lean Six Sigma⁶ Green Belt training the individual had recently received. There were a number of internal constraints to Joint Working suggested throughout the interview discussions; three of the four interviewees provided very consistent commentaries linked to this particular issue (Fig. 4). The current business need for the team to

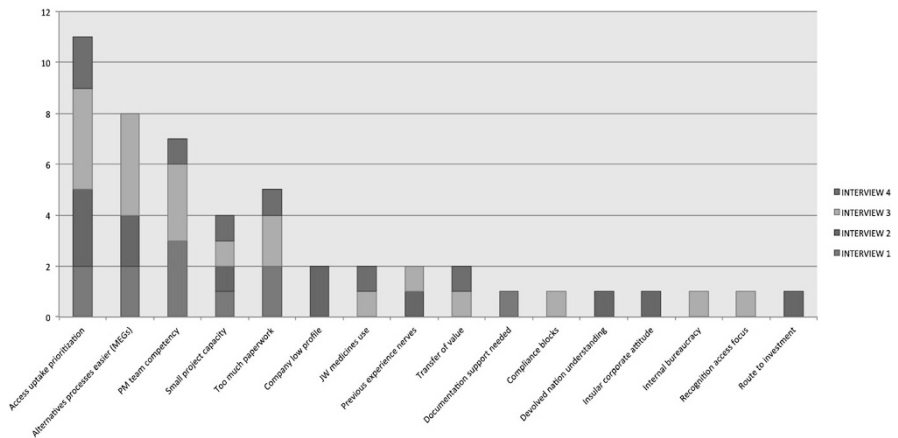


Fig. 4 Interviewee perceived internal constraints to Joint Working projects. Source: Authors own figure

⁶Lean Six Sigma is a technique used to manage process efficiency (George et al. 2004).

prioritise their time on achieving clinical access for new pharmaceutical products was a factor regarded as monopolising so much time that they would only have enough capacity to engage in relatively small Joint Working projects. The administrative burden associated with the paperwork needed to undertake Joint Working was also considered a disincentive to implementation by three of the four participants. The same number of interviewees also regarded the lack of project management competencies among their peer group as a significant barrier to uptake. Two of the participants revisited this theme several times, underlining their perception that this factor constitutes a substantial obstacle to operational practice. Interestingly, one individual held a belief that an insular corporate attitude meant there was no clear route to investment for collaborative projects. This interviewee hypothesised further that in order to get projects commissioned internally, it would normally be more effective to avoid ‘cumbersome’ internal hierarchy and garner support through informal networks within other divisions of the company. This statement offered insight into what Egan (1994) terms the ‘shadow side’ of the organisation, whereby covert channels are used in order to circumvent the official corporate structure.

7 Findings: Survey

The survey was completed by all 24 people in the organisation that have responsibility for the delivery of Joint Working as part of their job role. The survey questions were each linked to specific topics that had emerged throughout the subsequent research as the most salient themes when evaluating individual opinions regarding collaborative partnering. The overarching themes covered by the survey were professional experience, Joint Working perceptions, environmental perceptions, relevant ABPI knowledge, internal process assessment and a series of questions linked to the International Project Management Association’s (IPMA) competency baseline. Thirty-two of the 35 questions were posed using a five-point ‘strongly agree’ to ‘strongly disagree’ ordinal Likert scale.⁷ In total, there were 700 and 68 answers provided through the responses to the 32 ‘strongly agree’ to ‘strongly disagree’ questions. Calculations showed that 25.3% of these answers were given as ‘strongly agree’, 44.6% were ‘agree’, 12.8% were ‘neutral’, 14.1% were ‘disagree’, 2.01% were ‘strongly disagree’, and ‘no opinion’ accounted for the remaining 0.9% responses. These data showing a high proportion of confirmative responses would appear to support the assertion from Saris et al. (2010) that ‘acquiescence response bias’, whereby there is a tendency towards ‘agree’ answers, is common in these types of survey. However, even though in all probability this bias is present, and there can be a high degree of variation of ‘acquiescence’ between responders, it is likely to have been a phenomenon that is uniformly expressed across all of the individual answers (ibid.). This inspired confidence that significant variations and correlations

⁷The three questions related to the ‘experience’ theme were numerical (i.e. time/quantity related).

between responses, and patterns within these data, could represent inferential points of interest requiring further investigation. In order to further evaluate the survey responses using statistical methods, the ordinal response categories were recoded into a logical 1–5 ranking scale, with ‘strongly disagree’ being equal to 1 through to ‘strongly agree’ being equal to 5. When the 32 ordinal responses were quantified using this scale, these data were calculated and showed the average response value to be 3.747 (thus, the mean response is effectively just short of an ‘agree’), with a standard deviation of 0.657.

The primary rationale for commissioning the survey as part of this project was to establish a baseline regarding the current competencies of field-based practitioners to manage Joint Working projects. In addition, it was anticipated that the survey would shed light on to factors that are acting to restrict or encourage any efforts the organisation might make to increase its capability as a collaborative partner. The first set of questions sought to provide an understanding into perceptions about the environment in which we operate. Encouragingly, Q4 in the survey, which states ‘achieving good patient outcomes is the fundamental purpose of healthcare’, received a 100% response rate of strongly agree and agree. The renowned Harvard economist, Michael Porter (2010), states that the fundamental purpose of healthcare is the achievement of good patient outcomes. Responder agreement with Porter regarding the strategic intent of healthcare is reassuring, particularly as alignment of ‘vision’ between partners is one of the cornerstones of collaboration (Galliford 1998; Austin 2000; Mattesich et al. 2001). However, paradoxically there was a relatively low level of agreement to the statement in Q5 that the NHS, industry and patients often share objectives (mean response 3.33). Q7 asks the responders to assess their NHS customer’s appetite for collaboration with industry. Somewhat disturbingly, the mean response to this question is very low with an average answer of just 2.75. Q5 and Q7 share a close correlation ($r = 0.566$, $p < 0.004$); consequently, the attitude towards mutually shared objectives could well be a reflection on the perception that demand for partnering in the NHS is very modest. Indeed, when the questioning becomes more specific in Q11 and asks if there is a high degree of awareness in the NHS that Joint Working exists, the opinion expressed is even more depressed, registering the third lowest mean (2.58) of any question in the questionnaire. The answers to Q7 and Q11 are both statistically significant; however these negatively held perceptions are potentially also operationally significant. Q11 also has a very close affinity with Q13 ($r = 0.536$, $p < 0.007$), which asks whether leadership within the organisation is highly engaged with the concept of Joint Working, with the average given slightly below ‘neutral’ at just 2.79.⁸ The correlation between these answers is hardly surprising; why would company management be enthusiastically engaged with Joint Working when their field-based teams hold a view that demand from the NHS is light and awareness is limited?

⁸The average rating of 2.79 for Q11 is also of statistical significance.

The answer to the conundrum mentioned above is encapsulated within the responses given to the series of questions specific to the benefits the industry could gain through Joint Working. There was a very high level of agreement with the statement in Q10 that these initiatives offer industry a valuable platform to share experience and learning with the NHS, with a mean response of 4.46; this was the survey's fifth highest ranked question. Q21, which asserted that these types of projects provide partners with the opportunity to share ideas and drive innovation, was the sixth highest ranked question with a mean of 4.33. This grouping of three statements focusing on industry benefits also contained Q19, which declared that Joint Working provides industry with an opportunity to acquire deep customer insights. The responders consistently agreed with this statement, with the question receiving the seventh strongest level of agreement in the questionnaire, at a mean of 4.21. The sponsor organisation regards the acquisition of customer insights to be critical to decision-making in its attempts to fulfil a corporate ambition to be regarded as experts in commercial innovation. The generally held belief among this team that Joint Working is a channel for securing this knowledge is accordingly a very important point to consider when engaging with senior management to align proactive collaborations with corporate strategy. The five questions posed regarding project benefits are distinct from each other but share similarities in composition; therefore, in an effort to encourage responders to consider each question in isolation, they were intentionally segregated in the electronic survey. However, these responses still tended to be remarkably similar, with the level of highly confirmative responses mirroring the positive perceptions that had been articulated in the answers to Q4 and Q6 in the environmental section. In addition, this encouraging level of enthusiasm also serves to triangulate the extremely positive views so eloquently described by the participants in the exploratory interviews. The benefits described throughout the interviews, and ratified through this survey, would certainly appear to endorse greater organisational investment in Joint Working. Current perceptions of relatively poor leadership engagement could easily be parlayed if management were exposed to the benefits that enhanced deployment could potentially offer. Endorsement from leadership to increase investment and proactively promote greater engagement would in turn lead to improved customer awareness that Joint Working may well represent an opportunity for NHS organisations to achieve their goals.

The reality still remains that if there is an organisational desire to increase corporate Joint Working capability and capacity, there is a need to address a significant number of issues that are currently retarding engagement. In this regard, the survey acted to reaffirm issues that were well documented during the focus group and interviews. Q20, for example, asks if the internal paperwork needed for Joint Working is very simple and straightforward. This statement received the second lowest mean rating of any question in the survey, significantly below the lower limit of standard deviation, with a mean score of only 2.54. Therefore, issues with paperwork would appear to be a real barrier to any efforts to improve organisational uptake. Much of the documentation required for collaborations is designed to ensure adherence to internal governance processes and also the ABPI code of practice. There was above-average agreement (4.13) with Q20, which states that the

corporation's compliance processes significantly reduce risk associated with Joint Working. However, if these processes were acting to significantly reduce risk to the point where they strangle collaboration opportunities altogether, this would be highly problematic. Unfortunately, the indications are that these processes do indeed hamper utilisation of Joint Working. Q24, which asks if compliance processes enable increased utilisation, was refuted by 50% of the responders, with a further 37% providing neutral response. Therefore, it would only be fair to say that these processes are acting to dissuade individuals from engaging in collaboration, particularly as this question received the lowest mean score (2.46) in the questionnaire.

In an effort to understand the mechanisms influencing the organisation's capability to deliver collaborative projects, the individuals completing the survey were asked to provide an assessment into their own project management competencies. These survey questions were based on version 4.0 of the IPMA's Individual Competence Baseline (ICB) for project, programme and portfolio management (IPMA 2015). The 13 statements posed in this section of the questionnaire were selected in consultation with the interview participants as they considered them to be the most important project management IPMA ICB competencies within the context of Joint Working. Eleven of these statements asked responders to assess their own level of general project management competence; only two of the statements asked for an evaluation of competencies specific to Joint Working. The two specific statements inquired into competence elements that the IPMA defines as 'compliance' and 'governance', both of which reside within the 'perspective' area of the ICB (*ibid.*). This framework is made up of three distinct areas; the 'perspective' competencies encompass the tools, methods and techniques that an individual must possess in order to understand the environmental context in relation to their own projects (*ibid.*). The 'compliance' question, Q16, asked individuals if they possess a good understanding of the ABPI code of practice, 8 responders 'strongly agreed' and 13 responders 'agreed' with this statement. However, what makes the answers to the compliance question particularly interesting is that it shares a very tight correlation with numerous other responses throughout the questionnaire. There is a highly significant relationship between an individual's perceived understanding of compliance procedures and their perceptions that Joint Working provides an opportunity to develop 'deep customer insights' and to 'share ideas' with the NHS (Q19 and Q21). This suggests that the more confidence an individual has in matters related to compliance, the more positive their opinions in regard to this pair of highly desirable benefits that could be gained through Joint Working.

The part that self-appraised 'compliance' and 'governance' competencies play in Joint Working becomes increasingly pervasive when interrelationships with the other competencies are analysed. In addition to 'perspective', the other areas that the ICB framework describes are 'people' and 'practice'; these areas are then each subdivided into an array of competency elements (IPMA 2015). The 'people' competencies consist of the interpersonal skills individuals need in order to successfully manage projects (*ibid.*). The 'practice' area of this competency framework defines an individual's ability to utilise the methods, tools and techniques of project management (*ibid.*). What is immediately noticeable when reviewing the results

Q16 - Compliance

		Q16	Q32	Q33	Q34
Q16	Pearson Correlation	1	.523**	.700**	.751**
	Sig. (2-tailed)		.009	.000	.000
	N	24	24	24	24
Q32	Pearson Correlation	.523**	1	.839**	.710**
	Sig. (2-tailed)	.009		.000	.000
	N	24	24	24	24
Q33	Pearson Correlation	.700**	.839**	1	.744**
	Sig. (2-tailed)	.000	.000		.000
	N	24	24	24	24
Q34	Pearson Correlation	.751**	.710**	.744**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	24	24	24	24

Fig. 5 Bivariate correlations between survey Q16, Q32, Q33 and Q34. Source: Authors own figure

from the survey is that the responses to the ‘practice’ element questions are all marked appreciably lower than any of the other elements in either of the other competency areas. This is of interest as it highlights a potential area where competencies among the group probably require some attention if the organisation were to increase focus on Joint Working. The questions covering the ‘practice’ competencies asked individuals to evaluate their skills in four project management techniques and tools. Three of these questions, Q32 (quality), Q33 (planning) and Q34 (design), independently have highly significant correlations to Q16 (compliance). These correlations are shown alongside in Fig. 5. The ‘governance’ question (Q22), which specifically asked if responders were confident in their ability to write the project initiation documentation required to commence Joint Working, also had a high degree of affinity with a number of elements among the ‘practice’ competencies. Q22 (Fig. 6) has highly significant correlations with Q33 (planning), Q34 (project design) and Q35 (risk). It would be reasonable to assume that confidence in writing project initiation documents is contingent on the practitioner having a reasonable understanding of these particular techniques and tools. Consequently, training that addresses any competency shortcomings related to planning, project design and risk could be anticipated to improve governance processes in relation to project documentation. The need to address ‘practice’ competencies is also highlighted by the fact that the number of ‘strongly agree’ answers to the questions in this section was strikingly low. The average number of ‘strongly agree’ responses

Q22 - Governance

		Q22	Q33	Q34	Q35
Q22	Pearson Correlation	1	.572**	.600**	.559**
	Sig. (2-tailed)		.003	.002	.004
	N	24	24	24	24
Q33	Pearson Correlation	.572**	1	.744**	.451*
	Sig. (2-tailed)	.003		.000	.027
	N	24	24	24	24
Q34	Pearson Correlation	.600**	.744**	1	.263
	Sig. (2-tailed)	.002	.000		.215
	N	24	24	24	24
Q35	Pearson Correlation	.559**	.451*	.263	1
	Sig. (2-tailed)	.004	.027	.215	
	N	24	24	24	24

Fig. 6 Bivariate correlations between survey Q22, Q33, Q34 and Q35. Source: Authors own figure

was 25% across the whole questionnaire; however, for the ‘practice’ competency questions, this figure plummeted to just 11% of responses. This would appear to signal that whilst practitioners may generally think they have these competencies, their relative reluctance to ‘strongly agree’ indicates a comparative lack of confidence regarding technical practices.

The ‘people’ competency from the IPMA ICB provided this survey with a series of six questions that were adapted directly from definitions this framework uses to describe key competence indicators within each element (IPMA 2015). The specific elements the questionnaire covered were communication, integrity, leadership, resourcefulness, teamwork and negotiation. The responses to the ‘people’ competencies were remarkably consistent and relatively high across all six of these elements. Of these questions, the statement regarding negotiation (Q31) and resourcefulness (Q29) received the lowest mean scores at 3.92, with communication (Q28) receiving the highest mean score at 4.04.⁹ Two of the elements within this area of competency are worthy of additional investigation due to the high degree with which they are interrelated with other project management competencies. Q29, which refers to ‘resourcefulness’, asks if responders are skilled at analysing complex

⁹The mean for all questions in the survey was 3.747. The answers to the ‘people’ competency questions were all considerably higher than this mean; however, this is not statistically significant.

Q29 - Resourcefulness		Q29	Q25	Q28	Q35
Q29	Pearson Correlation	1	.560**	.689**	.561**
	Sig. (2-tailed)		.004	.000	.004
	N	24	24	24	24
Q25	Pearson Correlation	.560**	1	.486*	.317
	Sig. (2-tailed)	.004		.016	.131
	N	24	24	24	24
Q28	Pearson Correlation	.689**	.486*	1	.556**
	Sig. (2-tailed)	.000	.016		.005
	N	24	24	24	24
Q35	Pearson Correlation	.561**	.317	.556**	1
	Sig. (2-tailed)	.004	.131	.005	
	N	24	24	24	24

Fig. 7 Bivariate correlations between Q29, Q25, Q28 and Q35. Source: Authors own table

problems and finding agreeable solutions, and the results share a very strong correlation (Fig. 7) with Q25 (strategy), Q28 (leadership) and Q35 (risk).

Resourcefulness is defined by the IPMA as conceptual and holistic thinking that focuses on optimising the creative environment needed for idea generation (IPMA 2015). In essence, this element encompasses entrepreneurship and creativity, and the evidence suggests that such skills could enhance a practitioner's ability to operationalize corporate strategy (Q25), take the initiative (Q28) and identify risk and opportunities (Q35). In a similar vein, the 'negotiation' element shares a large number of highly significant interconnections with a wide array of other relevant competencies. Negotiation is covered by Q31, which asks individuals to assess their ability to identify trade-offs, options and alternatives that are highly attuned to the needs of other parties. The responses to this question were very closely correlated to the responses to Q25 (strategy), Q27 (integrity), Q28 (leadership) and Q30 (teamwork). These significant interrelationships (Fig. 8) suggest that as practitioners' confidence in their ability to negotiate increases, so too does the ability to integrate NHS and company strategy (Q25) and their willingness to proactively promote sustainability in their projects (Q27). Similarly, increased negotiation ability is also associated with increased confidence in taking initiative and coming up with new ideas (Q28) and when working in a group actively encouraging people to contribute their own ideas (Q30). Consequently, any training initiative designed to holistically improve practitioner competencies should focus on 'resourcefulness' and 'negotiation' due to the promising level of influence they are likely to provoke among a range of other competence elements.

Q31 - Negotiation		Q31	Q25	Q27	Q28	Q30
Q31	Pearson Correlation	1	.745**	.455*	.595**	.617**
	Sig. (2-tailed)		.000	.025	.002	.001
	N	24	24	24	24	24
Q25	Pearson Correlation	.745**	1	.376	.486*	.510*
	Sig. (2-tailed)	.000		.070	.016	.011
	N	24	24	24	24	24
Q27	Pearson Correlation	.455*	.376	1	.520**	.316
	Sig. (2-tailed)	.025	.070		.009	.132
	N	24	24	24	24	24
Q28	Pearson Correlation	.595**	.486*	.520**	1	.457*
	Sig. (2-tailed)	.002	.016	.009		.025
	N	24	24	24	24	24
Q30	Pearson Correlation	.617**	.510*	.316	.457*	1
	Sig. (2-tailed)	.001	.011	.132	.025	
	N	24	24	24	24	24

Fig. 8 Bivariate correlations between survey Q31, Q25, Q27, Q28 and Q30. Source: Authors own figure

8 Conclusions

In order to reflect the diverse multilayered evaluation that has taken place, the conclusions are grouped at sector level (macro), company level (meso) and finally at leadership/practitioner level (micro). The evidence from both primary and secondary sources reiterate authentic optimism that Joint Working offers substantial ‘win-win’ benefits for patients and all project partners. However, the resounding deduction from the findings of this research is that the potential benefits of engagement in partnering with the pharmaceutical industry are generally not well recognised by the NHS. The uptake of Joint Working is exceptionally low, with the 15 largest pharmaceutical companies initiating just 43 projects in the UK in 2015. To illustrate this point further, the industry sold £17 billion worth of medicinal products in the UK in 2015 (IMS Health 2016) whilst invested just £3.3 million undertaking Joint Working projects. The level of investment in these collaborations is trivial when compared to the overall income of the industry. However, there is hope; the interviewees and the survey participants provided data that employees in the NHS are often unaware that formal mechanisms for collaboration even exist. Furthermore, data from a competitor organisation indicates that uptake of Joint Working in ophthalmology (Novartis 2016), a relatively niche disease area, is reasonably substantial lending weight to an argument that the industry is failing to realise the full potential of partnership opportunities that exist in other clinical areas. The fact that Novartis commissioned 17 projects across all disease areas certainly

shows a respectable level of NHS partnering by this particular organisation. Needless to say, Novartis is actively promoting demand, and as such they offer an exemplar that proactive engagement in this space can lead to the establishment of projects that are significant in scale and ambition. There is also merit in statements made by several research participants that demand from the NHS for greater transparency could well lead to a surge in more formalised partnership arrangements. Therefore, the conclusions that can be reached pertaining to macro factors in the Joint Working arena are that even though the environment is still embryonic and in need of nurturing, the opportunities for partnering in the future could prove plentiful.

The external context offers promise that there is some potential for a substantial uplift in Joint Working partnering between the NHS and industry. Leadership in this organisation has expressed a desire for their company to become a more prominent player in the field of Joint Working; however, as of yet, there has been no definitive commitment towards becoming a more proactive corporate participant. The unwillingness to act was anticipated as this organisation is highly conservative and decision-making only tends to occur when the evidence for action is overwhelming. In truth, transformative changes in procedures governing transparency between the NHS and pharmaceutical industry are a significant unknown and could potentially represent the death knell for all inter-organisational interactions. However, if any mechanism for cooperation between the health service and industry is to survive, it's likely to be the one that is the most formalised in terms of governance and the most open to public scrutiny. Consequently, Joint Working as a process cocreated by the NHS, ABPI and DOH, with formal guidance and tightly defined deployment criteria (PMCPA 2016), is potentially the only activity currently deployed by the pharmaceutical industry that will have discernible longevity. Nonetheless, there are also a number of significant operational factors severely limiting the organisation's ability to fully engage in these activities. The supposition made by the focus group when creating the force field analysis diagram was that there is an appreciable imbalance in internal factors that are acting to restrict engagement. Therefore, the greatest potential to effect Joint Working engagement is within this organisation's direct control and resides primarily in mitigating the multitude of factors that are currently acting as dominant internal restraining forces. The most powerful of these identified by the group were a lack of internal awareness regarding the benefits in Joint Working, lack of resource to undertake and support projects and compliance procedures that are difficult to navigate. The analysis from the interviews and surveys also corroborated the validity of these findings, with those involved in the interviews offering additional insights into a number of critical internal barriers. The crucial restrictions they identified were the lack of capacity and competing priorities within their role and a deficit of project management skills among their peer group. These barriers (with the exception of awareness of benefits and competency deficits) are attributes of organisational structure and an entrenched dogmatism regarding regulatory requirements. These characteristics would require significant effort to change and as such would necessitate a steadfast commitment to Joint Working in order to justify the transformation needed.

The trade-offs required to transform this company into a more collaboration-orientated organisation would be significant. Therefore, the benefits that could be realised through more proactive engagement in Joint Working would need to be compelling in order to establish the business case for change. The findings from all of the methods used in this research offer a range of views that support a case that greater investment in formal partnering could stimulate disproportionate returns in realisable benefits for patients, the NHS and this company. The participants in the focus group and interviews articulated a consistent and comprehensive collection of benefits that the NHS and patients could achieve as outcomes from Joint Working initiatives. This underscores the importance of broadening discussions into project benefits beyond the fiscal and short term before attempting to assess the real value of collaborations. The participants in the focus group agreed unanimously that Joint Working could act as a major driver for the improvement of patient's outcomes—a view strongly endorsed by the participants in the interviews. The benefits of collaborative engagement with NHS partners were believed to act as a 'force multiplier' when it comes to the health service making efficiency gains and cost savings. Mattessich et al. (2001) suggest that, through shared expertise and reduction in duplication, improvements of this type occur commonly in partnerships. The tendency for collaboration to stimulate the development of creative solutions (through the deployment of diverse complementary capabilities) was offered as a factor that would benefit all parties. However, whilst the potential benefits for the organisation's NHS partners are compelling, Joint Working is not a philanthropic activity. Consequently, there is a need to provide legitimate benefits to the company involved for it to be a commercially viable undertaking.

The conclusion that can be reached from this research is that the business case for engagement in Joint Working is extremely robust. The benefits offered by the focus group participants and interviewees were almost identical in content and emphasis. The strongest factors articulated were the establishment of relationships with key personnel in the health service and significant gains for the company in regard to reputation and trust with its NHS partners. In the opinion of one of the participants in the interviews, Joint Working had enabled the individual to become 'massively embedded' within the organisation of his healthcare service partner, whilst another considered these partnerships to be 'game changers' in the relationship between the NHS and industry. The results from the survey also confirm that field-based practitioners in this company strongly believe that Joint Working provides an opportunity for the company to acquire deep customer insight. There was also a case put forward that NHS efficiencies developed through collaboration could generate increased commercial opportunities due to improved patient throughput. In addition, the participants in the focus group and interviews also stated a number of benefits from Joint Working that are quantifiable and as such may satisfy demands from the business for returns from partnership that have an easily measurable value. The benefits described included increases in employee job satisfaction scores,

improvements in Net Promoter Score¹⁰ and the use of particular company medicine in specific cases if agreed by the NHS.¹¹ This comprehensive range of benefits would appear to represent a compelling business rationale for enhanced capability in Joint Working; however, two major issues at micro level still need to be addressed.

The final influences that require summarising are those pertinent to the individual decision-makers and practitioners employed by the organisation. The evaluation offered by the group and those interviewed was that generally individual practitioners currently possess an adequate level of project management competencies to participate in Joint Working projects if delivered on an ad hoc basis. However, if it were decided to increase capability and be more proactive in partnering, it was felt that there would be a significant deficit in the skills required to undertake more sophisticated and ambitious projects. Therefore, if increased organisational capability is indeed desired, the principal conclusion that can be made from the findings at micro level is that any efforts to improve competencies need to be directed towards three main areas. The first of these areas, and arguably the most important, is that practitioners need to have an excellent knowledge of the ABPI compliance regulations in relation to Joint Working. The evidence from all of the research methods used indicates that a thorough understanding of compliance and governance processes is essential if practitioners are to actively engage in Joint Working activities. The next area of focus is related to the ability of the team to utilise the tools and techniques of project management. In particular there is potentially a significant deficit in competencies when it comes to planning, designing and managing risk within projects. The final major conclusion that can be reached from the practitioner survey is that the ‘resourcefulness’ and ‘negotiation’ competencies could significantly enhance the ability of individuals to deliver Joint Working in practice. This is primarily due to the fact that both of these competencies share a very high degree of interrelatedness across a broad spectrum of other project management competency elements. Nonetheless, the primary factor acting as a barrier to Joint Working is that leaderships in the business currently perceive these types of project as somewhat peripheral activities that are of little commercial value. Therefore, there will be a need for a groundswell in managerial desire to commit wholeheartedly to Joint Working ventures in order to justify the investment needed to address the deficit of practitioner skills that has been exposed. Thereafter, the findings from this research offer valuable insights into the competencies the organisation would need to acquire in order to enhance its capability to work in ‘beyond the pill’ partnerships with the NHS.

¹⁰Net Promoter Score (NPS) is an index used to measure customer loyalty to a company (Reichheld 2003).

¹¹This is permissible within the provisions of the ABPI code of practice, but only in circumstances where the parties to the Joint Working have satisfied themselves that the use of the medicines will enhance patient care (ABPI 2016).

References

- ABPI. (2012). *Joint working: A quick start reference guide for NHS and pharmaceutical industry partners*. London: Association of the British Pharmaceutical Industry.
- ABPI. (2013). *Joint working with the pharmaceutical industry: Guide and case studies*. London: Association of the British Pharmaceutical Industry.
- ABPI. (2014). *Association of the British pharmaceutical industry: Code of practice for the pharmaceutical industry 2015*. London: Association of the British Pharmaceutical Industry.
- ABPI. (2016). *Pharmaceutical industry spends £340.3m on working in partnership with leading UK health experts and organisations to improve patient care*. Accessed August 7, 2016, from www.abpi.org.uk/media-centre/newsreleases/Pages/default.aspx.
- APM. (2009). *Co-directing change: A guide to the governance of multi-owned projects*. High Wycombe: Association of Project Management.
- Audit Commission. (1998). *A fruitful partnership: Effective partnership working*. London: Audit Commission.
- Austin, J. (2000). *The collaboration challenge: How nonprofits and businesses succeed. Through strategic alliances*. San Francisco, CA: Jossey-Bass.
- Bhaskar, R. (2014). Foreword. In P. Edwards, J. O'Mahoney, & S. Vincent (Eds.), *Studying organizations using critical realism: A practical guide*. Oxford: Oxford University Press.
- Bresnen, M. (2009). Living the dream? Understanding partnering as emergent practice. *Construction Management and Economics*, 27(10), 923–933.
- Bresnen, M., & Marshall, N. (2000). Partnering in construction: A critical review of issues, problems and dilemmas. *Construction Management and Economics*, 18(2), 229–237.
- Bygballe, L. E., Jahre, M., & Swärd, A. (2010). Partnering relationships in construction: A literature review. *Journal of Purchasing and Supply Management*, 16(4), 239–253.
- Chan, D., Chan, A., & Ho, K. (2003). Partnering in construction: Critical study of problems for implementation. *Journal of Management in Engineering*, 19(3), 126–135.
- Chataway, J., Fry, C., Marjanovic, S., & Yaqub, O. (2012). Public-private collaborations and partnerships in stratified medicine: Making sense of new interactions. *New Biotechnology*, 29(6), 732–740.
- Child, J., & Faulkner, D. (1998). *Strategies of cooperation*. Oxford: Oxford University Press.
- Cleden, D. (2014). The uncertain feeling. In D. Dalcher (Ed.), *Advances in project management: Narrated journeys in uncharted territory*. Farnham: Gower.
- Colquhoun, A. (2012). How public-private partnerships bring benefits to NHS medicines management. *The Pharmaceutical Journal*, 288(7695), 280.
- DOH. (2011). *Innovation health and wealth: Accelerating adoption and diffusion in the NHS*. London: Department of Health.
- DOH and NHS England. (2013). *Better procurement better value better care a procurement development programme for the NHS*. Accessed May 20, 2016, from www.gov.uk/government/uploads/system/uploads/attachment_data/file/226835/procurement_development_programme_for_NHS.pdf
- DOH, NHS, & ABPI. (2010). *Moving beyond sponsorship—Joint working between the NHS and pharmaceutical industry*. London: Department of Health.
- Egan, G. (1994). *Working the shadow side: A guide to positive behind-the-scenes management*. San Francisco, CA: Jossey-Bass.
- EMA. (2015). *European Medicines Agency—What we do*. Accessed May 10, 2016, from www.ema.europa.eu/ema/index.jsp?curl=pages/about_us/general/general_content_000091.jsp&mid=WC0b01ac0580028a42
- Evans, T. (2012). Pharma and the NHS: Challenging, not cosy. *The Health Service Journal*, 122(6300), 18–19.
- Farrar, M. (2012). NHS confederation and industry foreword. In ABPI (Ed.), *Joint working: A quick start reference guide for NHS and pharmaceutical industry partners*. London: Association of the British Pharmaceutical Industry.
- Galliford. (1998). *Partnering in the construction industry*. Hinckley: Galliford (U.K.).

- George, M., Rowlands, D., & Kastle, B. (2004). *What is Lean Six Sigma?* New York: McGraw-Hill.
- Goldacre, B. (2012). *Bad pharma: How drug companies mislead doctors and harm patients*. London: Fourth Estate.
- Gray, B. (1989). *Collaborating*. San Francisco, CA: Jossey-Bass.
- Greenaway, R. (1995). *Powerful learning experiences in management learning and development*. PhD thesis, University of Lancaster. Accessed January 27, 2016, from <http://ethos.bl.uk/OrderDetails.do?did=1&uin=uk.bl.ethos.244218>.
- Greenhalgh, T., Humphrey, C., Hughes, J., Macfarlane, F., Butler, C., & Pawson, R. (2009). How do you modernize a health service? A realist evaluation of whole-scale transformation in London. *The Milbank Quarterly*, 87(2), 391–416.
- Grix, J. (2002). Introducing students to the generic terminology of social research. *Politics*, 22(3), 175–186.
- Hallebone, E., & Priest, J. (2009). *Business and management research: Paradigms and practice*. Basingstoke: Palgrave Macmillian.
- Ham, C., & Murray, R. (2015). *Implementing the NHS five year forward view: Aligning policies with the plan*. London: The King's Fund.
- Hammond, S. (1998). *The thin book of appreciative inquiry*. Plano, TX: Thin Book Publishing.
- Hardy, B., Hudson, B., & Waddington, E. (2000). *What makes a good partnership? A partnership assessment tool*. Leeds: Nuffield Institute for Health.
- Healthcare UK. (2013). *Public private partnerships*. London: UK Trade and Investment.
- Holden, C. (2009). Exporting public-private partnerships in healthcare: Export strategy and policy transfer. *Policy Studies*, 30(3), 313–332.
- Hong, Y., Yeung, J., Chan, A., & Chan, D. (2012). Critical analysis of partnering research trend in construction journals. *Journal of Management in Engineering*, 28(2), 82–95.
- Horton, R. (2009). The UK's NHS and pharma: From schism to symbiosis. *Lancet*, 373(9662), 435–436.
- Hurrell, S. (2014). Critical realism and mixed method research. In P. Edwards, J. O'Mahoney, & S. Vincent (Eds.), *Studying organisations using critical realism: A practical guide* (pp. 241–263). Oxford: Oxford University Press.
- Huxham, C. (2000). The challenge of collaborative governance. *Public Management Review*, 2(3), 337–358.
- IMS Health. (2016). Master data management. Accessed May 14, 2016, from www.imshealth.com
- IPMA. (2015). *Individual competence baseline for project, programme and portfolio management. Version 4.0*. Zurich: IPMA.
- Jacobsson, M., & Roth, P. (2014). Towards a shift in mindset: Partnering projects as engagement platforms. *Construction Management and Economics*, 32(5), 419–432.
- Kay, J. (2010). *Obliquity: Why our goals are best achieved indirectly*. London: Profile Books.
- Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.
- Langford, D., & Murray, M. (2004). Procurement systems. In J. Pinto & P. Morris (Eds.), *The Wiley guide to managing projects*. Hoboken, NJ: Wiley.
- Lewin, K. (1951). *Field theory in social science: Selected theoretical papers*. New York: Harper & Row.
- Mattessich, P., Murray-Close, M., & Monsey, B. (2001). *Collaboration: What makes it work* (2nd ed.). Saint Paul, MN: Fieldstone Alliance.
- MHRA. (2015). *Medicines and healthcare products regulatory agency—What we do*. Accessed December 20, 2015, from www.gov.uk/government/organisations/medicines-and-healthcare-products-regulatory-agency.
- Mossialos, E., Mrazek, M., & Walley, T. (2004). Regulating pharmaceuticals in Europe: An overview. In E. Mossialos, M. Mrazek, & T. Walley (Eds.), *Regulating pharmaceuticals in Europe: Striving for efficiency, equity and quality*. Maidenhead: Open University Press.
- Naoum, S. (2003). An overview into the concept of partnering. *International Journal of Project Management*, 21(1), 71–76.
- NHS England. (2014). *Five year forward view*. Accessed January 9, 2018, from www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf.

- NHS England. (2016). *NHS England takes robust action on conflicts of interest*. Accessed August 7, 2016, from www.england.nhs.uk/2016/03/coi/.
- Novartis. (2016). *Joint working in ophthalmology*. Accessed August 7, 2016, from www.novartis.co.uk/joint-working-ophthalmology
- O'Mahoney, J., & Vincent, S. (2014). Critical realism as an empirical project. In P. Edwards, J. O'Mahoney, & S. Vincent (Eds.), *Studying organizations using critical realism: A practical guide*. Oxford: Oxford University Press.
- Olsen, W., & Morgan, J. (2005). A critical epistemology of analytical statistics: Addressing the sceptical realist. *Journal for the Theory of Social Behaviour*, 35(3), 255–284.
- PMCPA. (2016). *Association of the British pharmaceutical industry: Code of practice for the pharmaceutical industry 2016*. London: Prescriptions Medicines Code of Practice Authority.
- Porter, M. (2010). What is value in health care? *The New England Journal of Medicine*, 363(26), 2477–2481.
- Reichheld, F. (2003). The one number you need to grow. *Harvard Business Review*. Available at <https://hbr.org/2003/12/the-one-number-you-need-to-grow>
- Rothwell, P. (2016, May 9). Junior doctors row: Jeremy Hunt's claims of NHS weekend effect based on flawed data. *Independent*, 4.
- Saris, W., Revilla, M., Krosnick, J., & Shaeffer, E. M. (2010). Comparing questions with agree/disagree response options to questions with item-specific response options. *Survey Research Methods*, 4(1), 45–59.
- Savitz, A., & Weber, K. (2014). *The triple bottom line* (2nd ed.). San Francisco, CA: Jossey-Boss.
- Smith, J. (2009). Judging research quality: From certainty to contingency. *Qualitative Research in Sport and Exercise*, 1(2), 91–100.
- Snider, J. (2010, March 30). The cult of statistical pyrotechnics. *The Hechinger Report*, 1–8.
- Sodexo. (2012). *Partnerships for healthy outcomes*. Accessed December 20, 2015, from <http://uk.sodexo.com/uk/en/Images/Partnerships%20for%20Healthy%20Outcomes336-690616.pdf>
- Sodexo. (2013). *The power of partnership: How to seize the potential*. Accessed December 20, 2015, from <http://uk.sodexo.com/uk/en/Images/The-Power-of-Partnership336-745600.pdf>
- Sodexo. (2016). *Services: Healthcare*. Accessed May 15, 2016, from <http://uk.sodexo.com/home/services/on-site-services/healthcare.html>
- Somerset House. (2016). *Big bang data: What data can't tell us*. Exhibition Poster. 3 December 2015–20 March 2016. London: Somerset House
- Stephenson, J. (1994). Capability and competence: Are they the same matter? *Capability*, 1(1), 3–4.
- Stephenson, J., & Yorke, M. (1998). *Capability and quality in higher education*. London: Kogan Page.
- Swanson, D., & Creed, A. (2014). Sharpening the focus of force field analysis. *Journal of Change Management*, 14(1), 28–47.
- The Guardian. (2015, August 31). Pfizer resists calls for greater clinical trial transparency. *Guardian Business*. Accessed January 9, 2018, from <http://www.theguardian.com/business/2015/aug/31/pfizer-resists-calls-for-greater-clinical-trial-transparency-medicine-drugs>
- Wang, L., Plump, A., & Ringel, M. (2014). Racing to define pharmaceutical R&D external innovation models. *Drug Discovery Today*, 20(3), 361–370.
- Ward, A. (2015, March 6). GSK fires 110 staff in China after corruption scandal. *Financial Times*. Accessed May 10, 2016, from www.ft.com/cms/s/0/9a72fa68-c44e-11e4-a949-00144feab7de.html#axzz3itiYXq9k
- Whitehead, S. (2012). NHS confederation and industry foreword. In ABPI (Ed.), *Joint working: A quick start reference guide for NHS and pharmaceutical industry partners*. London: Association of the British Pharmaceutical Industry.
- Wildridge, V., Childs, S., Cawthra, L., & Madge, B. (2004). How to create successful partnerships—A review of the literature: Literature review on partnerships. *Health Information and Libraries Journal*, 21, 3–19.
- Zohrabi, M. (2013). Mixed method research: Instruments, validity, reliability and reporting findings. *Theory & Practice in Language Studies*, 3(2), 254–262.

Entrepreneurship Motivation: Opportunity and Necessity



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Abstract Nascent entrepreneurs have their own business for several reasons, but one can easily distinguish their motivations in two types: the willingness to be an entrepreneur and the need to be one. Finding a good opportunity in the market is not the only way to start a business; entrepreneurs also start a business because there is no better or no other choice to avoid unemployment (e.g., Evans and Leighton, *Small Business Economics* 2:319–330, 1990; Masuda, *Small Business Economics* 26:227–240, 2006). The Global Entrepreneurship Monitor divides entrepreneurs' motivations in two ways: opportunity and necessity. This research analyzes the motivations of nascent entrepreneurs; more specifically, it identifies the main motivations of entrepreneurs across different countries, presenting the characteristics that most influence the motivations of the individuals either by necessity or opportunity; and finally, it clusters countries in terms of entrepreneurship types and characterizes them. The literature suggests that entrepreneurs by opportunity are strongly associated with developed countries. Therefore presenting a set of characteristics that influences these motivations allows a greater understanding of the entrepreneurship process, where the motivation and the process that influence the business decision-making of individuals are critical. Our results show that motivations for entrepreneurship are strongly correlated with the sociodemographic characteristics of the entrepreneur, e.g., age, education, and family income. Our study also shows that entrepreneurship by opportunity does not necessarily happen in developed countries. In contrast, it should be noted that entrepreneurs by necessity do not seek to start an innovative business, nor do they perceive good opportunities in their context; nevertheless they decide to become entrepreneurs as a way to overcome the lack of employment opportunities, suggesting that they seek to avoid possible risks.

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1 Literature Review

Entrepreneurial is a term that emerged in France to define those willing to take risks to start something new. Richard Cantillon (1725) was the first author to refer to this term in an economic perspective in his work *Essai sur la Nature du Commerce en Général* in 1755, where it is referred to as self-employment with uncertain return, thus relating entrepreneurial activity to uncertainty in which the individual in his or her decisions is willing to take risks (Van Praag 1999; Adaman and Devine 2002). Entrepreneurship is not necessarily the result of a successful research or an innovation. Entrepreneurs are able to overcome the insecurity associated with business with their resistance; they are thus distinguished by having charismatic characteristics. Schumpeter (1935, p. 130) emphasizes that “the entrepreneur is the revolutionary of the economy and the involuntary Pioneer of social and political revolution,” and considers them agents of change in production processes and economic development, and by being innovative, they implement changes in the markets through new combinations, such as the introduction of a new product, the introduction of a new production method, exploring a new market, the use of a new source of supply of new materials, and the reorganization of any sector (Carton et al. 1998).

The definition presented by Schumpeter suggests that characteristics associated with individuals are central to entrepreneurship. Drucker (1985) points out that innovation is the main characteristic of entrepreneurs and that determines his behavior and how they explore the opportunities for a new business or service. Therefore, the entrepreneur is defined as not being integrally related to the creation of firms, since it is also associated with the creation of value, innovation, and the implementation of changes. Shane and Venkataraman (2000) consider that the process of discovery, evaluation, and exploitation of opportunities, as well as the way individuals discover, evaluate, and exploit them, is opportunity entrepreneurship. For Goffee and Scase (1986), entrepreneurs’ behavior, ideas, and intentions are complex to determine; therefore, becoming or being entrepreneurial is something almost innate and inherited (Gibb and Ritchie 1982).

The lack of a conceptual definition of entrepreneurship is due to the fact that this issue is addressed in the social sciences (Swedberg 1993), in economics (Casson 2003; Von Hayek 1948), and in management (Ghoshal and Bartlett 1995); there are different perspectives of what entrepreneurship is. Table 1 presents some of the definitions.

Although there are different definitions, the perception and identification of market opportunities are one of the most important characteristics in the studies on entrepreneurship (Hills et al. 1997; Shane and Venkataraman 2000; Gaglio and Katz 2001; Ardichvili et al. 2003), being referred to as the one that allows entrepreneurs to succeed (Ardichvili et al. 2003). Entrepreneurship is also analyzed as a social process that is dependent on the context in which it operates and also where individuals or groups create wealth by exploiting market opportunities (Ireland et al. 2003). For Shane and Venkataraman (2000), entrepreneurship integrates two processes that are related: the discovery of opportunities and the exploration of these

Table 1 Definitions of entrepreneurship

Author	Characteristics
Cantillon	Entrepreneurs buy at certain prices in the present and sell at uncertain prices in the future. The entrepreneur is a bearer of uncertainty
Commission of the European Communities	Entrepreneurship is the mindset and process to create and develop economic activity by blending risk-taking, creativity, and/or innovation with sound management, within a new or an existing organization
Davids	Ambition, desire for independence, responsibility, self-confidence
Ireland et al. (2003)	Entrepreneurship is a context-dependent social process through which individuals and teams create wealth by bringing together unique packages of resources to exploit marketplace opportunities
Kirzner	The entrepreneur recognizes and acts upon profit opportunities, essentially a arbitrageur
Knight	Entrepreneurs attempt to predict and act upon change within markets. The entrepreneur bears the uncertainty of market dynamics
Penrose	Entrepreneurial activity involves identifying opportunities within the economic system
Weber	The entrepreneur is the person who maintains immunity from control of rational bureaucratic knowledge
Hartmann	Source of formal authority
Hornaday and Aboud	Need for achievement; autonomy; aggression; power; recognition; innovative/independent
Liles	Need for achievement
McClelland	Risk-taking, need for achievement
Palmer	Risk management
Sutton	Desire for responsibility
Timmons	Drive/self-confidence, goal-oriented moderated risk taker; internal locus of control; creativity/innovation
Welsh and White	Need to control; responsibility seeker; self-confidence/drive; challenge taker; moderate risk taker
Winter	Need for power

Source: Adapted from Carland et al. (1984), Gartner (1988), and Ahmad and Seymour (2008)

opportunities. In Stevenson and Gumpert (1985) approach, entrepreneurship consists only of looking for opportunities.

According to Reynolds and White (1997) and Reynolds et al. (2000), the entrepreneurial process can be classified in four stages (conception, gestation, childhood, and adolescence), with three transitions: (1) entrepreneurs have the time and resources to start a new firm and are considered nascent entrepreneurs when the firm is distinguished as a start-up, an independent activity, and on its own; (2) arises when the new business starts as an operating business; and (3) occurs when there is a positive change from the new company to a sustainable success.

This study addresses the first transition, in order to understand the motivations of nascent entrepreneurs. As pointed out by Gicheva and Link (2016), for more than two decades, there are bases for research on nascent entrepreneurship. This research used data from GEM where a nascent entrepreneur is a person who attempts to start a new business in the last 12 months and expects to be the owner or part owner of the new firm and whose start-up does not have positive cash flow to cover the expenses and salaries of the managing owner for more than 3 months (Reynolds and Koulopoulos 1999; Acs and Varga 2005). Nascent entrepreneurs are important to the process of development of countries and regions and consequently in the economic development and growth (Llopis et al. 2015). Wagner (2002) adds that the nascent entrepreneurs are, therefore, important for the emergence of new firms while also identifying crucial aspects of the economy, justifying the relevance of this research. Consequently, motivation and intentions are evidenced to be relevant to explaining entrepreneurial behavior (Valliere 2015) and are therefore considered important both in the role of internationalization and international entrepreneurship (Dimitratos et al. 2016; Busenitz and Barney 1997; Hessels et al. 2008). Herron and Sapienza (1992, p. 49) refer that “motivation plays an important role in creating new organizations, organizational creation theories that fail to solve this notion are incomplete.”

Entrepreneurial motivation is related to the motivation of entrepreneurs seeking market opportunities to obtain resources, knowledge, experience, and access to financing and risk reduction (Autio et al. 2000; Clercq and Sapienza 2005; Kontinen and Ojala 2011; Voudouris et al. 2011). It also refers to the motivation of international entrepreneurs that can be subdivided into two dimensions: the internationalization strategy (Segaro et al. 2014) and the implementation of an internationalization strategy (Dimitratos et al. 2012).

As reported by Van der Zwan et al. (2016), the literature distinguish the pull and push motivations between entrepreneurship for opportunity and necessity, and in most of the investigations, a distinction is made between factors that are positive that “pull” and the negatives that “push” people toward entrepreneurship (Shapiro and Sokol 1982; Gilad and Levine 1986), in which, for example, pull motivations include the need for achievement and the will to be independent and the motivations of “push” involve the risk of unemployment and dissatisfaction with the current situation. GEM distinguishes between pull and push motivations; however, they classify them as entrepreneurship by opportunity and necessity (Reynolds et al. 2002) where entrepreneurs by necessity are driven by pull motivations. GEM provides data allowing to analyze the two motivations to become entrepreneurs: the opportunities, where entrepreneurs are the ones who start a business to pursue an opportunity, and by necessity, where individuals feel compelled due to unemployment.

Oxenfeldt (1943), one of the first authors to explore push motivations, states that the unemployed or individuals with low employment prospects may become independent. However, there are other factors, such as family pressure, transferring business to the new generation, or job dissatisfaction (Bowen and Hisrich 1986). Entrepreneurs by opportunity tend to engage in innovative business, explore market

niches, while entrepreneurs by necessity tend to engage in less innovative businesses (Angulo-Guerrero et al. 2017).

Recognition of opportunities is one of the most important characteristics of a successful entrepreneur (Shane and Venkataraman 2000). On the other hand, Minniti and Bygrave (2001) refer that successful experience is not always able to increase the perception of opportunities in the market, because in return, individuals who have failed are more susceptible to exploit opportunities.

Choi and Shepherd (2004) add that the exploration of opportunities is a decision to act on the perceived opportunities for which their behaviors will enable success. Withey and Cooper (1989) consider that the entrepreneur's previous experience provides a set of information useful for the creation of his business, which reduces some of the costs of exploiting opportunities and increases his capacity to reduce obstacles and uncertainties related to creation of a new business.

As mentioned above, some authors state that being risk-averse is one of the distinctive characteristics of entrepreneurs (Kihlstrom and Laffont 1979), but Ahn (2010) refers that this attribute is difficult to determine because there are no direct measures about the risk, thus limiting some empirical studies. This is due to the fact that the risk that the future entrepreneur is willing to take depends on different variables, whether intrinsic or not to the enterprise (Baron and Ensley 2006). Wenckers et al. (2005) add that there is a negative relationship between the TEA index and economic growth, implicitly indicating that there is also a relationship between the TEA index and the risk of creating a business, and consequently there is a relationship between risk and economic growth (Marcotte 2012). There is, therefore, a causal relationship between the perception of risk and the behavior of the entrepreneur; likewise the risk is related to the perception of opportunities in the market and with entrepreneurship rate (Wenhong and Liuying 2010).

Necessity motivations are present when individuals have no other employment options, so such decision is more noticeable than those who start a business for exploring opportunities (Wang and Poutziouris 2010). This may suggest that entrepreneurs by necessity are more risk-averse. Wenckers et al. (2005) refer that, in developed countries, economic growth is directly related to entrepreneurship, given that individuals are more motivated to be entrepreneurs because of the opportunities they identify (Barros and Pereira 2008).

2 Hypotheses

The motivations of individuals to become entrepreneurs may differ by intrinsic and extrinsic stimuli, and knowing that the different motivations of business decisions influence the impact a new enterprise can have on society and the economy (Baumol 1990; Estrin et al. 2013; Williams 2009), and in order to reach the objective of the present study, a set of research hypotheses was formulated that relates the motivation by opportunity and necessity.

2.1 Motivation for Opportunity Versus Motivation by Necessity

Necessity entrepreneurship predominates in less developed regions or in those where there are significant unemployment levels; in developed economies, there is more opportunity entrepreneurship due to the existence of more entrepreneurial opportunities as a result of their wealth and innovation. Based on this argument, the first research hypothesis is defined as follows:

[H1]: Opportunity entrepreneurs create business in developed economies, while entrepreneurs by necessity create business in the less developed economy.

2.2 Characteristics of Entrepreneurs

In the same way that there are different motivations that lead individuals to become entrepreneurs, there are also characteristics that can influence such motivations. According to Levine (1986), entrepreneurs' motivation is distinguished by two hypotheses between pull and push. This distinction is implicitly present in the model of the entrepreneurial event (Shapero and Sokol 1982), where mention is made to initiating a business due to major changes in the life of an individual.

Entrepreneurs by opportunity are motivated to create innovative entrepreneurship and to increase productivity in an economy (Stenholm et al. 2013), thus seeking growth, profit, innovation, and personal aspirations (Cullen et al. 2014; McMullen et al. 2008; Reynolds et al. 2005), while entrepreneurs by necessity start a business given the lack of other employment options, economic recession, and poverty (Acs and Amorós 2008; Banerjee and Duflo 2007; Block and Sandner 2009; Gries and Naudé 2011).

Studies on the comparison of entrepreneurship by opportunity and necessity tend to focus on the rates of the GEM's early-stage entrepreneurial activity (TEA) (De Clercq et al. 2013; Levie and Autio 2011). Thus, the research hypothesis is described as follows:

[H2]: There are different characteristics that motivate the entrepreneurs by opportunity and necessity.

3 Methodology

GEM is an organization focused on the study of entrepreneurship, which brings together a set of statistical data that allows analyzing the characteristics and motivations of individuals who started businesses in their various stages of enterprise development. The approach is shared by all countries and recognizes entrepreneurship

as a process, thus enabling a comprehensive set of data, which facilitates international comparisons, to be able to track business activity, which is not the case with data national official statistics. GEM provides two sets of data, the Adult Population Survey (APS) and the National Expert Survey (NES). For this study, the most adequate data to achieve the research objectives are those of the APS, because it allows to focus on attitudes, behaviors, and motivations of the entrepreneurs.

3.1 Description of Variables

Data from the GEM Adult Population Survey (APS) is overseen by GEM national teams, which conduct annual surveys (usually between April and June) on a representative national sample of at least 2000 respondents, where the age range for the target population for the GEM APS is 18–64 years old and covers all geographic regions of the country, urban and rural areas, with the primary objective of ensuring that the sample data represents a close combination of the adult population of the country, aiming to random samples representative of each economy. However, the data are only available to the public 3 years after their collection. In this sense, the APS data that served as the analysis of this study are those of the year 2013 and 2014. In the GEM global report of 2013, more than 197,000 people were surveyed and approximately 3800 national entrepreneurship experts participated in the study in 70 economies. The following year, more than 206,000 people in 70 economies participated in GEM research—accounting for 72.4% of the world’s population and 90% of GDP. These data allow to present different profiles of entrepreneurship, for each region and stage of economic development.

The GEM APS allows analyzing the different characteristics of the entrepreneur in the various stages of their business life cycle, and for this study, the variable explained was “Total Early-Stage Entrepreneurial Activity” (TEA).

Note first that the year 2013, the initial business activity rates by age group and geographic region are as follows:

Figure 1 shows that, in the year 2013, the young entrepreneurs (18–24), at an early stage of their activity, are represented mainly in Latin America and the Caribbean and in sub-Saharan Africa. As it can be seen, the least developed countries have a higher TEA rate, because they have a higher percentage of adult population (18–24).

In developing countries and with greater income inequality, entrepreneurship initiatives are important, so need-oriented entrepreneurship is very important (Reynolds et al. 2002). Entrepreneurship research is vast, but it does not offer a unanimous view of how the economic environment can influence the initial dynamics of entrepreneurship and entrepreneurial profile (Devece et al. 2016). It is known that identifying the differences between economies around the world, about social values, individual attributes, and TEA, can be better understood if the motivational aspect to start a business is included.

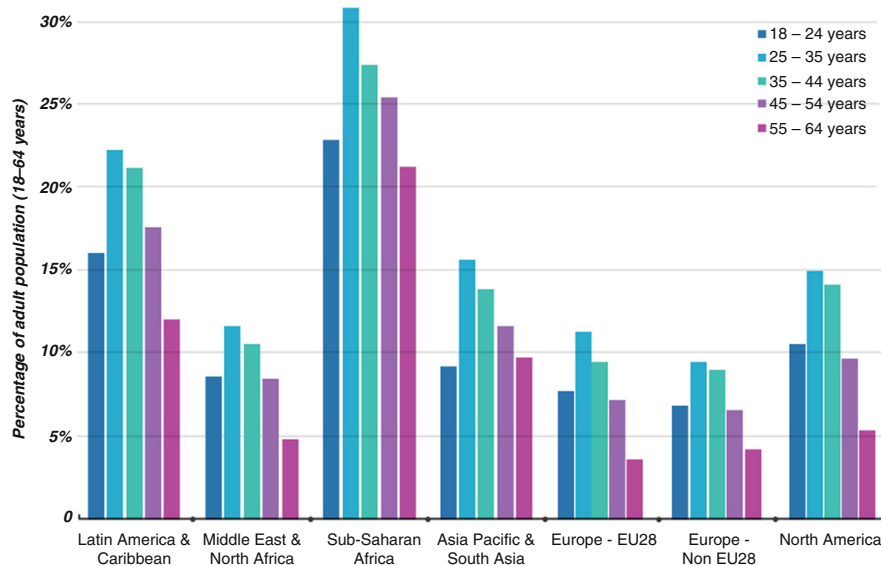


Fig. 1 Early-stage entrepreneurial activity rates within age groups by geographic regions. Source: Authors own figure

In this sense, we selected variables that would explain the motivation of individuals to want to start a business:

- Demographic data, business activity, and sectors of activity

There are several individual factors that are related to entrepreneurial self-efficacy, among them, gender, age, schooling level, and household income.

In general, young people are characterized by having more ideas and education, and because they do not have so many responsibilities, they are more risk-averse. Blanchflower et al. (2001) state that the younger the individuals, the greater the likelihood of becoming entrepreneurial. Education is one of the main factors that increases the entrepreneurial attitudes of individuals (Potter 2008). Household income can also boost entrepreneurship, being the example of some women who become entrepreneurs to support their families and be independent; however, one can read in the GEM report, the rate of entrepreneurship among women is less than the male one (Allen et al. 2007).

The following control variables were selected (Table 2):

- International entrepreneurship and growth expectation

Internationalization is part or consequence of a firm's strategy, which can be defined as an entrepreneurial action (Schumpeter 1935), and in this sense, entrepreneurship also explains the behavior of international firms. The issue of international entrepreneurship has been favoring new perspectives which, in turn, explain how firms face the new external market reality and succeed at the beginning of business activity (Ripollés-Meliá et al. 2007). There is research

Table 2 Variables of demographic data, business activity, and sectors of activity

Variables	
Tea13ac1/Tea14ac1 —% 18–64 pop age category 18–24: % involved in TEA	TEA13ed1/TEA14ed1 —% 18–64 pop some secondary degree: % involved in TEA
Tea13ac2/Tea14ac2 —% 18–64 pop age category 25–34: % involved in TEA	TEA13ed2/TEA14ed2 —% 18–64 pop secondary degree: % involved in TEA
Tea13ac3/Tea14ac3 —% 18–64 pop age category 35–44: % involved in TEA	TEA13ed3/TEA14ed3 —% 18–64 pop postsecondary degree: % involved in TEA
Tea13ac4/Tea14ac4 —% 18–64 pop age category 45–54: % involved in TEA	TEA13ed4/TEA14ed4 —% 18–64 pop graduate experience: % involved in TEA
Tea13ac5/Tea14ac5 —% 18–64 pop age category 55–64: % involved in TEA	Tea13s1p/Tea14s1p —% within TEA: Extractive sector
TEA13hi1/TEA14hi1 —% 18–64 pop lowest household 33 ptile: % involved in TEA	Tea13s2p/Tea14s2p —% within TEA: Transforming sector
TEA13hi2/TEA14hi2 —% 18–64 pop middle household 33 ptile: % involved in TEA	Tea13s3p/Tea14s3p —% within TEA: Business-oriented services
TEA13hi3/TEA14hi3 —% 18–64 pop highest household 33 ptile: % involved in TEA	Tea13s4p/Tea14s4p —% within TEA: Consumer-oriented services

Source: Authors own table

Table 3 Variables of international entrepreneurship and growth expectation

Variables	
TEA13HIX/TEA14HIX —% 18–64 pop: TEA exports: more than 50% customers outside country	TEA13mk2/TEA13mk2 —% 18–64 pop: TEA and some market expansion, no tech (TEA09MEM = 2)
Tea13e1p/Tea14e1p —% within TEA: No customers outside country	TEA13mk3/TEA14mk3 —% 18–64 pop: TEA and some market expansion, with tech (TEA09MEM = 3)
Tea13e2p/Tea14e2p —% within TEA: Export: 1–25% of customers outside country	TEA13mk4/TEA14mk4 —% 18–64 pop: TEA and profound market expansion (TEA09MEM = 4)
Tea13e3p/Tea14e3p —% within TEA: Export: 25–75% of customers outside country	TEA13HJG/TEA14HJG —% 18–64 pop: TEA expects more than 19 jobs in 5 years
Tea13e4p/Tea14e4p —% within TEA: Export: 75–100% of customers outside country	TEA13job/TEA14job —% 18–64 pop postsecondary degree: % involved in TEA
TEA13mk1/TEA14mk1 —% 18–64 pop: TEA and no market expansion (TEA09MEM = 1)	TEA13EMP/TEA14EMP —% 18–64 pop: TEA any jobs now or in 5 years

Source: Authors own table

that suggests that the speed at which a firm becomes internationalized can influence its internationalization process (Oviatt and McDougall 1994). When the entrepreneur’s goal is the rapid growth of business, it is referred to as high-expectancy entrepreneurship, where initiatives based on high-tech innovation play an important role (Seifert et al. 2008) (Table 3).

Table 4 Dependent variables of entrepreneurs by opportunity and necessity

Variables	
TEA13opp/TEA14opp —% 18–64 pop: TEA and Opportunity motive	TEA13nec/TEA14nec —TEA and necessity motive (entr because of no better choice for work)

Source: Authors own table

- Entrepreneurs by opportunity and necessity

In GEM, Reynolds et al. (2002), distinguish pull and push motivations, introduced the concept of opportunity and need for entrepreneurship. As discussed in Sect. 2, entrepreneurs by opportunity are more likely to engage in innovative business and exploit niche markets (Angulo-Guerrero et al. 2017), while entrepreneurs by necessity are characterized by lower levels of satisfaction (Wang and Poutziouris 2010) and because there is no better work option (Reynolds et al. 2005; Galbraith and Latham 1996; Block and Koellinger 2009; Kautonen and Palmroos 2010).

In order to identify the common characteristics of entrepreneurs by opportunity and necessity, the following dependent variables were selected (Table 4).

- Innovation

Innovation can be defined in five different ways: (1) development of a new product or change qualitatively; (2) development of the productive factor; (3) exploration of a new market; (4) implementation of supplies for raw materials; and (5) change in organization (Feeny and Rogers 2003).

Dyer et al. (2008) report that “innovative entrepreneurs have something called creative intelligence, which enables discovery.” And according to Gedik et al. (2015), an innovator is not only a person who has dreams or imagination and wants to create something new; there are still a set of factors that are related to his DNA that make it innovative.

High-tech and early-stage enterprising firms are important in encouraging the creation of emerging industry strategies but also to activate regional economic development (Pan et al. 2018).

In view of the above, we selected the following dependent variables related to innovation (Table 5).

- Attitudes, perceptions, behavior, and intentions of the entrepreneur

Entrepreneurship is referred to as a status of work (Arenius and Minniti 2005), so attitudes and perceptions about entrepreneurship relate to how the individual action is perceived by other individuals. From the GEM, a set of relevant indicators was analyzed to explore individuals’ perceptions of their competencies, knowledge, and experiences to start a business, as well as their intentions and the existence or not of opportunities to open a business.

Table 5 Innovation

Variables	
Tea13cm1/Tea14cm1 —% within TEA: Many businesses offer the same product	Tea13cs3/Tea14cs3 —% within TEA: Product new to noncustomers
Tea13cm2/Tea14cm2 —% within TEA: Few businesses offer the same product	Tea13nt1/Tea14nt1 —% within TEA: Uses very latest technology (only available since last year)
Tea13cm3/Tea14cm3 —% within TEA: None businesses offer the same product	Tea13nt2/Tea14nt2 —% within TEA: Uses new technology (1–5 years)
Tea13cs1/Tea14cs1 —% within TEA: Product new to all customers	Tea13nt3/Tea14nt3 —% within TEA: Uses no new technology
Tea13cs2/Tea14cs2 —% within TEA: Product new to some customers	TEA13tec/TEA14tec —% within TEA: Active in technology sectors (high or medium)

Source: Authors own table

Table 6 Attitudes, perceptions, behavior, and intentions of the entrepreneur

Variables	
Frfail13/Frfail14 —% 18–64 pop: YES: Fear of failure would prevent starting a business	Suskil13/Suskil14 —% 18–64 pop: YES: Has required knowledge/skills to start business
Opport13/Opport14 —% 18–64 pop: YES: Good conditions to start business next 6 months in the area I live	

Source: Authors own table

Next, we describe the variables that were selected through the GEM in the year 2013, related to the attitudes, perceptions, and attitudes of the entrepreneurs (Table 6).

3.2 Statistical Analysis

In order to answer our research questions and to evaluate the research hypotheses related to the motivation of the entrepreneur, we used chi-square tests, linear regression, and discriminant and cluster analysis techniques applied to GEM data.

The chi-square test was used to test independent groups and to analyze if they differ in relation to a given characteristic. This analysis aimed to test differences in entrepreneur’s motivation in different groups of countries, i.e., what was the motivational index of the entrepreneurs in a certain group. Based on this method, it was possible to analyze the research questions that derive from the literature review, in which some authors report that motivation for opportunity happens in economically more developed countries and motivation due to necessity arises due to the lack of better job opportunities.

Linear regression allowed to gauge the influence of the dependent variable and to assess a cause-and-effect relationship with independent variables, thus allowing to evaluate which variables explain early-stage entrepreneurs who started the business

led by opportunity or necessity. This analysis is important to display a number of early-stage entrepreneurs motivated by opportunity or necessity enabling governments and researchers to understand how young individuals can become entrepreneurs. As previously mentioned, Ozaralli and Rivenburgh (2016) show that the promotion of entrepreneurship is an important measure for both developed and developing countries.

Cluster analysis allows grouping a set of variables into homogeneous groups. This method is the most appropriate to analyze which countries show similarities in terms of cultural characteristics, attitudes, and entrepreneurial behaviors.

Discriminant analysis allows us to find a discriminant function that allows us to distinguish groups of samples known a priori.

The Statistical Package for the Social Sciences (SPSS Statistics) was used for analysis and presentation of results.

4 Results

4.1 *Motivational Index*

The motivational index (MI) allows to characterize entrepreneurship in terms of opportunity or necessity, between 2010 and 2016, in order to understand whether opportunity entrepreneurship prevails developed countries or if, on the other hand, motivations by necessity are predominant only in developing countries.

Based on the indicators of the behavior and attitudes of the entrepreneur, GEM, measured through the Adult Population Survey (APS), we selected the indicator motivational index, which is expressed in the following equation:

$$\text{Motivational index} = (\text{opportunity motivated})/(\text{necessity motivated})$$

in which, $MI \geq 1$ the motivation is by opportunity and $MI < 1$ motivation by necessity. By distinguishing motivation by opportunity and necessity, it is possible to analyze the motivation of entrepreneurs from 102 countries, which are grouped into 6 regional blocks: Africa, Oceania, North America, Latin America and the Caribbean, Europe, and Asia.

With crosstabs analysis for the motivation of entrepreneurs between 2010 and 2016, it is shown that, in general, motivation for opportunity prevails. However, we highlight situations in which there are significant changes in the motivation of the entrepreneurs, which are represented in the following Table 7.

As it turns out, Norway is one of the countries with the highest percentage of the individuals who most created a business motivated by opportunities, for example, the year 2014, where opportunity-motivated entrepreneurs were 19.5 times more frequent than necessity entrepreneurs.

It is interesting to note that, during this time period, in countries such as Uruguay, Ecuador, Russia, Croatia, and South Korea, the motivations of individuals vary

Table 7 Motivational index

Africa	2010	2011	2012	2013	2014	2015	2016
Algeria		1.27	1.58	2.92			
Angola	0.84		1.61	1.54	1.78		
Botswana			1.44	1.98	1.81	1.41	
Burkina Faso					2.37	1.36	1.4
Cameroon					1.21	1.26	1
Egypt	0.48		0.68			0.79	1
Ethiopia			3.4				
Ghana	0.94		1.85	1.32			
Libya				7.41			
Malawi			1.02	0.67			
Morocco						1.52	1.8
Namibia			0.99	0.98			
Nigeria		1.49	1.54	2.06			
Senegal						1.92	
South Africa	0.87	1.13	1.25	1.04	1.26	1.13	1.8
Tunisia	2.02		1.19			3.56	
Uganda	0.67		0.92	1.89	2.87		
Zambia	1.28		1.44	0.96			
<i>Oceania</i>							
Australia	3.17	4.86			3.62	5.19	3.9
New Zealand							
Tonga							
Vanuatu	0.63						
<i>North America</i>							
Canada				4.43	4.04	4.14	3.4
United States	1.81	2.78	2.78	2.7	4.96	4.82	6.4
<i>Lat Am and Caribbean</i>							
Argentina	1.19	1.35	1.35	1.59	1.55	1.7	1.6
Barbados		11.57	5.05	3.7	3.65		
Belize					3.64		6.2
Bolivia	3.36				2.26		
Brazil	1.48	1.47	1.95	2.01	2	1.11	1
Chile	1.78	1.98	3.96	2.87	3.53	2.42	2.8
Colombia	1.03	1.2	3.85	1.48	1.55	1.7	4.2
Costa Rica	1.19		2.37	3.29			
Dominican Republic							
Ecuador	1.61		0.84	0.95	1.19	1.13	1.2
El Salvador			1.11		1.71		1.3
Guatemala	1.83	1		1.41	0.96	0.89	1.1
Jamaica	0.91	1.2		0.84	1.04		0.8
Mexico	2.18	2.81	3.86	3.89	2.23	2.94	
Panama		1.5	2.91	2.14	2.29	0.86	3.9

(continued)

Table 7 (continued)

Africa	2010	2011	2012	2013	2014	2015	2016
Peru	2.24	2.32	2.27	2.41	3.59	2.12	5.4
Puerto Rico				1.99	2.49	1.65	1.3
Suriname				3.24	7.34		
Trinidad and Tobago	3.29	2.95	3.97	6.76	5.35		
Uruguay	2.06	0.89	2.17	3.07	1.71	2.95	1.4
Venezuela		1.52					
<i>Europe</i>							
Austria			3.53		3.41		3
Belgium	5.23	6.94	3.44	1.51	1.41	1.61	
Bosnia and Herzegovina	0.64	0.35	0.35	0.37	0.49		
Bulgaria					0.87		1.1
Croatia		0.87	1.04	0.8	0.62	1.02	
Cyprus							2
Czech Republic		2.07		2.65			
Denmark	6.73	9.05	8.58		11.09		
Estonia			2.7	3.38	2.72	4.17	3.3
Finland	3.01	3.25	3.5	3.68	4.04		
France	2.22	4.77	3.25	3.89	4.31		6.3
Germany	1.89	2.95	2.34	2.98	2.32	3.75	2.7
Greece	1.39	1.45	1.07	1.53	0.88	1.54	1.1
Hungary	2.18	0.94	1.13	1.38	1.09		
Iceland	10						
Ireland	1.08	1.25	1.44	2.43	1.64	1.99	3.2
Italy			1.42	0.98	2.84	1.61	
Kosovo					1.32		
Latvia	1.9	1.78	1.82	2.48		3.01	4
Lithuania		1.66	2.09	2.37	2.23		
Luxembourg				10.04	5.06	5.6	4.8
Macedonia	0.4		0.55	0.38		0.51	0.7
Montenegro	1.03						
Netherlands	7.6	6.85	7.86	8.41	4.01	4.45	3.2
Norway	4.76	16.34	9.4	15.2	19.5	6.26	
Poland		0.66	0.74	0.69	1.28	1.65	2
Portugal	2.31	3.26	2.97	2.36	1.8	1.46	2.7
Romania	1.59	0.83	1.56	1	1.72	1.21	
Russia	0.94	1.56	0.86	1.19	1.07		1.3
Serbia							
Slovakia		1.23	1.21	1			1
Slovenia	3.32	4.25	8.69	2.22	1.76	1.9	2.7
Spain	1.65	1.52	1.27	1.13	1.12	1.8	1.9
Sweden	5.36	11.1	7.11	6.03	7.1	5.71	11.8
Switzerland	4.27	5.39	3.18	8.97	4.05	6.53	5.1

(continued)

Table 7 (continued)

Africa	2010	2011	2012	2013	2014	2015	2016
United Kingdom	4.06	2.69	2.33	2.8	4.09	2.14	3.8
<i>Asia</i>							
Bangladesh		1.83					
China	0.82	0.71	1.07	1.06	1.37	1.12	1.5
Georgia					0.64		0.7
Hong Kong							4.4
India				0.93	1.15	1.81	1.2
Indonesia				1.72	1.85	1.92	2.3
Iran	1.04	0.6	0.86	0.94	1.28	1.68	1.5
Israel	2.24		2.41	2.83		3.29	2.6
Japan	1.29	2.55	3.21	2.38	3.63		
Jordan							1.9
Kazakhstan					1.28	0.87	0.8
Lebanon						2.09	1.1
Malaysia	3.33	7.06	4.56	3.53	3.65	4.9	3.7
Pakistan	0.96	0.53	0.45				
Palestine	1.04		0.63				
Philippines				0.87	1.14	1.62	
Qatar					2.53		6
Saudi Arabia	7.47						5.4
Singapore		3.24	3.69	8.18	6.21		
South Korea	1.28	0.87	1.32	1.4		2.55	2.7
Syria							
Taiwan	1.58	2.85	2.38	1.6	4.98	3.78	2.7
Thailand		3.53	4.04	3.63	4	4.42	3.5
Turkey	1.25	1.42	1.77	1.77			1.9
United Arab Emirates		4.67					1.4
Vietnam				2.48	1.79	1.55	
Yemen							

Source: Authors own table

between need and opportunity, i.e., 1 year the motivation was opportunity; in another motivation was necessity and vice versa. This analysis allowed us to conclude that [H1] could not be confirmed, motivation for opportunity and necessity is not directly related to economic development; there are other factors that lead individuals from different countries to become entrepreneurs, either by opportunity or necessity.

4.2 *Linear Regression Analysis*

This study sought to analyze demographic data, business activity, sectors of activity, internationalization, growth expectations, innovation, attitudes and perceptions, and behavior of individuals, in order to determine the characteristics of individuals who create business in which the motivation was due to opportunity or necessity, for which we used the linear regression statistical analysis and two dependent variables were selected: TEA and opportunity motive and TEA and necessity motive.

As we have seen, crosstabs' analysis shows that, in some of the countries, the motivation of the entrepreneurs has undergone changes in which in 1 year the motivation was for opportunity and changing in the following one—changes that may possibly be associated with the policies adopted in the countries and, with the purpose to understand which factors can influence the motivational level of the individuals, we used a linear regression analysis model for the years of 2013 and 2014. In this model of analysis, the stepwise estimation method was used. This method is hybrid as a combination of the two forward and backward methods, allowing, easily, the removal of a variable whose importance in study is reduced by the addition of new variables. This analysis allows to critically evaluate the determination of a functional relation and the recognition of its importance of the behavior of an independent variable, so that in the following table, it shows the independent variables that contribute to explain the change of the motivation of the entrepreneur (opportunity or necessity).

Table 8 presents the summarized model with the results for each model, highlighting the variables that were inserted in the stepwise analysis, which are statistically significant.

Model I

The results show that age, education level, activity sectors, internationalization, and technology and product innovation are characteristics that are associated with the motivation for opportunity in the year 2013. However, although these dimensions are significant based on the analysis of the absolute values of the standardized coefficients, it allows us to conclude that the variables % 18–64 pop age category 35–44: % involved in TEA; % within TEA: Uses no new technology; % within TEAopp opportunity type: maintain income; % within TEA: Business-oriented services; % 18–64 pop: TEA and no market expansion (TEA09MEM = 1) have a greater importance in relation to the other variables of the model, i.e., these are the ones that better explain and influence the motivation of entrepreneurs in the 70 countries under study, among them, United States, Japan, Norway, Brazil, and South Africa. In general, this analysis shows that entrepreneurs aged 35–44 years old have identified opportunities to start a business, by offering business-oriented services, as a way to maintain or increase their income. This also means that the motivation for opportunity is not necessarily a motivation that leads individuals to explore opportunities in other markets, as well as a way to maximize their income.

Table 8 Model summary

Model	Dependent variable	Method = Stepwise	R _a ²	Durbin-Watson
1	% 18–64 pop: TEA and opportunity motive—2013	(1) % 18–64 pop age category 35–44% involved in TEA (2) % 18–64 pop postsecondary degree% involved in TEA (3) % within TEAOPP opportunity type: Maintain Income (4)% within TEA: Business-oriented services (5) % 18–64 pop; TEA and no market expansion (TEA09MEM = 1); (6) % within TEA: Uses no new technology (7) % 18–64 pop graduate experience:% involved in TEA (8)% within TEA: Product new to some customers (9) % 18–64 pop: TEA and profound market expansion (TEA09MEM = 4) (10) % within TEA: Product new to noncustomers	0.976	2.076
2	% 18–64 pop: TEA and necessity motive (entr because of no better choice for work)—2013	(1) % 18–64 pop some secondary degree: % involved in TEA (2) % 18–64 pop: YES: Good conditions to start business next 6 months in the area I live (3) % 18–64 pop: TEA and profound market expansion (TEA09MEM = 4) (4) % within TEA: Extractive sector	0.730	1.584
3	% 18–64 pop: TEA and opportunity motive—2014	(1) % 18–64 pop age category 35–44: % involved in TEA (2) % 18–64 pop: TEA and some market expansion, no tech (TEA09MEM = 2) (3) % 18–64 pop age category 25–34: % involved in TEA (4) % 18–64 pop: YES: Good conditions to start business next 6 months in the area I live (5) % within TEA: Consumer-oriented services	0.949	1.937
4	% 18–64 pop: TEA and necessity motive (entr because of no better choice for work)—2014	(1) % 18–64 pop middle household 33 ptile: % involved in TEA (2) % within TEA: Many businesses offer the same product	0.752	1.787

Source: Authors own table

Model II

This analysis allowed to verify that, in 2013, entrepreneurs' motivation by necessity in 70 countries could be explained by four dimensions: schooling level, activity sector, internationalization, and individuals' perceptions of their context. It is also worth mentioning that from the analysis of the absolute values of the standardized coefficients, the variables % 18–64 pop some secondary degree: % involved in TEA and % 18–64 pop: YES: Good conditions to start business next 6 months in the area I live, are variables that are seen as having a greater influence on the motivation of entrepreneurship by necessity. Based on these results, it is verified that the individuals, who in turn have some degree of schooling, consider that the place they are located meets the necessary conditions to start a business, being the extractive sector of the business activity that had a greater impact about the motivation of these entrepreneurs. Although opportunity entrepreneurs are naturally recognized as being entrepreneurs who discover and exploit the opportunities, from these results, it is evident that entrepreneurs by necessity also seek to expand the market, as a way to take advantage of the opportunities that may exist.

Model III

Through the adjusted coefficient of determination, it was possible to determine a set of dimensions: age, the sectors of activity, the internationalization, and the good conditions to start business in the place where they live that are directly related to the motivation of the entrepreneurs by opportunity in the year 2014 in 70 countries. Although the variables previously indicated in Table 8 are considered significant, with the analysis of the absolute values of the standardized coefficients, it is verified that some of these variables have a greater importance in the model, such as % 18–64 pop age category 35–44: % involved in TEA; % 18–64 pop age category 25–34: % involved in TEA; % 18–64 pop: YES: Good conditions to start business next 6 months in I live area, that is, show a greater influence on the dependent variable TEA14opp. The results show that individuals aged 25–34 also had a greater impact on motivation for opportunity; it is relevant evidence, since it may be related to entrepreneurship incentives in different countries or simply a reflection of importance that entrepreneurship has for young people.

Model IV

In order to determine possible changes in the variables that influence the decisions of individuals who start businesses by necessity in the year 2014, in 70 countries, we have also used the linear regression model, in which the dependent variable is TEA14nec % 18–64 pop: TEA and necessity motive because of the fact that there are two variables % 18–64 pop middle household 33%: % involved in TEA and % within TEA; Many businesses offer the same product which are the variables that influence the dependent variable TEA14nec. The analysis of the absolute values of the standardized coefficients shows that the independent variable % 18–64 pop middle household 33%: % involved in TEA is the variable that significantly contributes to explain and which has a greater influence on the dependent variable TEA14opp.

4.3 Cluster Analysis

Cluster analysis is an exploratory technique of multivariate analysis that allows grouping a set of common characteristics based on similarity or dissimilar measures. Note that, for 2014, 7 of the 41 independent variables were those that had a greater influence on the motivation of the entrepreneurs (opportunity or need), so it was considered equally important to group the different countries, into homogeneous groups in relation to one or more common characteristics. In its more abstract form, this analysis allows to distinguish the entrepreneurial characteristics that have a greater influence on a group of countries. Therefore, we selected the independent variables that better explain the behavior of individuals in motivational terms, in particular in 2014. Table 9 “cluster membership” allows to evaluate how similar (or dissimilar) each observation is to each of the clusters, while Table 10 presents the average of each variable in each of the three clusters, reflecting the characteristics of the typical case of each cluster:

Cluster I—Innovative entrepreneurs. Entrepreneurs try to offer products different from their competitors.

Cluster II—Entrepreneurs oriented to consumers. Businesses focus on consumer-oriented services.

Cluster III—Unfavorable entrepreneurship. The country offers mediocre conditions to start a business.

The analysis of ANOVA allows to observe which variables allow a better of clustering. Thus, the variables that mostly contribute to the definition of clusters are those that have a larger mean square cluster (QMC) and lower mean square error (QME), i.e., those with a higher F value ($F = QMC/QME$). Thus, as variables contributing to a greater discrimination between clusters are “% 18–64 pop: yes: good conditions to start the business next 6 months in the area I live,” followed by “% 18–64 pop average home 33 ptil: % involved in the TEA”; the variable “% inside the TEA: Many companies offer the same product” displays a lower discriminating power between clusters (Table 11).

4.4 Discriminant Analysis

This multivariate technique is used to determine the statistically significant differences and which of the independent variables contain a greater capacity for differentiation. The results of tests of equality of group means show that the independent variables that were studied in the cluster analysis should contribute to this model, since the difference between the three groups is statistically significant.

The assumptions of the multicollinearity and homogeneity of the variance-covariance matrices of each group were tested; given the sample size, the rejection of the normality assumption does not undermine the quality of the model because the

Table 9 Cluster membership

Cluster I		Cluster II		Cluster III	
Country	Distance	Country	Distance	Country	Distance
United States	939	Peru	101	Russia	129
Netherlands	8779	Mexico	17,206	South Africa	19,434
Switzerland	12,306	Brazil	15,653	Greece	13,666
Austria	8056	Chile	24,118	Belgium	12,957
United Kingdom	13,351	Colombia	21,117	France	21,734
Denmark	16,534	Philippines	26,392	Spain	11,804
Sweden	25,573	Thailand	12,996	Hungary	1494
Norway	1957	Vietnam	3594	Italy	16,806
Australia	12,066	Burkina Faso	21,552	Romania	28,982
India	32,319	Cameroon	42,825	Poland	17,306
Canada	1159	Angola	24,822	Germany	13,693
Luxembourg	12,877	Uganda	32,201	Argentina	11,325
Estonia	13,604	Botswana	29,298	Malaysia	24,344
Kosovo	22,631	Guatemala	1541	Indonesia	24,062
Belize	25,095	El Salvador	31,195	Singapore	19,295
Panama	27,349	Bolivia	9673	Japan	25,553
Suriname	21,059	Ecuador	16,639	China	35,791
Uruguay	20,045	Jamaica	13,033	Iran	19,601
Trinidad and Tobago	19,615			Barbados	24,989
Qatar	18,497			Portugal	10,505
				Ireland	22,514
				Finland	20,753
				Lithuania	982
				Croatia	22,929
				Slovenia	2288
				Bosnia and Herzegovina	2779
				Slovakia	14,883
				Costa Rica	17,059
				Kazakhstan	22,419
				Puerto Rico	2957
				Taiwan	11,819
				Georgia	14,551

Source: Authors own table

multivariate normality test is particularly sensitive large samples (Tables 12, 13, and 14).

This study presents the discriminant functions, by canonical correlation, for which it can be concluded that $\lambda = 3785$ corresponds to 76.49% of the variance explained in terms of differences between groups. In contrast, the second

Table 10 Final cluster centers

	Cluster		
	1	2	3
% 18–64 pop: YES: Good conditions to start business next 6 months in the area I live	5089	5754	2918
% within TEA: Consumer-oriented services	4486	6646	4816
% within TEA: Many businesses offer the same product	4396	5593	568
% 18–64 pop age category 25–34: % involved in TEA	1214	2926	1232
% 18–64 pop age category 35–44: % involved in TEA	1097	2683	1054
% 18–64 pop: TEA and some market expansion, no tech (TEA09MEM = 2)	314	658	238
% 18–64 pop middle household 33 ptile: % involved in TEA	96	2546	852

Source: Authors own table

Table 11 ANOVA

	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
% 18–64 pop: YES: Good conditions to start business next 6 months in the area I live	5,577,267	2	88,830	67	62,786	000
% within TEA: Consumer-oriented services	2,627,194	2	186,284	67	14,103	000
% within TEA: Many businesses offer the same product	1,125,468	2	84,200	67	13,367	000
% 18–64 pop age category 25–34: % involved in TEA	1,934,881	2	31,634	67	61,164	000
% 18–64 pop age category 35–44: % involved in TEA	1,738,784	2	31,145	67	55,829	000
% 18–64 pop: TEA and some market expansion, no tech (TEA09MEM = 2)	105,297	2	4804	67	21,918	000
% 18–64 pop middle household 33 ptile: % involved in TEA	1,831,942	2	29,232	67	62,668	000

Source: Authors own table

discriminant function only explains 23.50% of the variance. When analyzing Wilk’s lambda, it is verified that $p = 0.0002$; therefore, we can conclude that the discriminant functions are highly significant. Results show that 95.70% of cases are correctly grouped and confirmed by cross validation. Through standardized analysis, canonical discriminant function coefficients show that the variables, % 18–64 pop: YES: Good conditions to start business next 6 months in the area I live; % within TEA: Consumer-oriented services; % within TEA: Many businesses offer the same product; % 18–64 pop age category 35–44: % involved in TEA; % 18–64 pop age category 45–54: % involved in TEA; % 18–64 pop: TEA and some market expansion, no tech (TEA09MEM = 2); and % 18–64 pop middle household 33% involved in TEA, discriminate between groups. These are the characteristics that most contribute to explain the motivations of the entrepreneurs.

Table 12 Tests of equality of group means

	Wilks' lambda	F	df1	df2	Sig.
% 18–64 pop: YES: Good conditions to start business next 6 months in the area I live	0.348	62,786	2	67	0
% within TEA: Consumer-oriented services	0.704	14,103	2	67	0
% within TEA: Many businesses offer the same product	0.715	13,367	2	67	0
% 18–64 pop age category 35–44: % involved in TEA	0.375	55,829	2	67	0
% 18–64 pop age category 45–54: % involved in TEA	0.36	59,433	2	67	0
% 18–64 pop: TEA and some market expansion, no tech (TEA09MEM = 2)	0.604	21,918	2	67	0
% 18–64 pop middle household 33 ptile: % involved in TEA	0.348	62,668	2	67	0

Source: Authors own table

Table 13 Wilks' lambda

Test of function(s)	Wilks' lambda	Chi-square	df	Sig.
1 through 2	0.097	149,567	14	0
2	0.462	49,376	6	0

Source: Authors own table

Table 14 Classification results

		Cluster	Predicted group membership			Total
			1	2	3	
Original	Count	1	19	0	1	20
		2	0	18	0	18
		3	2	0	30	32
	%	1	95	0	5	100
		2	0	100	0	100
		3	6,3	0	93,8	100

Source: Authors own table

^a95,7% of original grouped cases correctly classified

5 Discussion and Main Conclusions

The study concluded that, between 2010 and 2016, motivation for opportunity is the main motivation that led individuals to become entrepreneurs, regardless of the economic development level of different countries. This conclusion supported the results of the other studies, which indicate that when there is a crisis, individuals see it as an opportunity to start a business, since the period under study is characterized by the international economic and financial crisis that is still recovering; therefore, the results confirm that the existence of a crisis does not, necessarily, mean that there is a necessity motivation to start a business.

This research reveals to what extent a set of characteristics related to the attitudes, behaviors, and perceptions of individuals can positively or negatively influence the motivation of individuals, either by opportunity or necessity. Results show that individuals' willingness to become entrepreneurs depends on age, schooling level, activity sector, and family income. In 2014, the family income was one of the main motivations of the entrepreneurs by necessity willingness to start a business; as confirmed by Oxenfeldt (1943), the unemployed or individuals with reduced employment prospects can become independent through entrepreneurship. Motivation of individuals is also influenced by how individuals perceive the world (external stimuli—which are provided by the environment) which are factors that lead individuals to start a business, an example is the variable “% 18–64 pop: YES: Good conditions to start business next 6 months in the area I live” that, in 2013, had a positive impact on motivation by necessity and in 2014 on motivation for opportunity.

Norway was one of the most distinguished countries due to the increase in percentage terms of entrepreneurs by opportunity between 2013 and 2014, which may be due to the fact that individuals between the ages of 25 and 34 also began to have a greater interest in being entrepreneurs. For Croatia, there has been an increase in motivation by necessity from 2013 to 2014, which may be related to the fact that individuals with an average family income are more motivated to become entrepreneurs due to the eventual needs. It is known that Croatia became a member of the European Union in 2013, and Croatia and Norway have enjoyed bilateral relations since February 20, 1992, where Norway has cooperated closely with Croatia in political terms and the European economy. This may explain the increase in the motivation of individuals for opportunity, rather than an increase in entrepreneurship by necessity, thus being an example of how not always the cultural or political level explains the motivation of entrepreneurs.

In the cluster analysis, one can verify that the independent variables “% 18–64 pop: YES: Good conditions to start business next 6 months in the area I live” and “% 18–64 pop middle household 33%” (Cluster I), Angola and Brazil (cluster II), and Russia and China (cluster III) are different in terms of the perception of opportunities and family income. It is, thus, important to develop policies that allow an increase in entrepreneurial opportunities for entrepreneurs, as well as an increase in family income. Through the discriminant analysis, it is verified that the following variables: “% 18–64 pop: YES: Good conditions to start business next 6 months in the area I live”; “% within TEA: Consumer-oriented services”; “% within TEA: Many businesses offer same product”; “% 18–64 pop age category 35–44: % involved in TEA”; “% 18–64 pop age category 45–54: % involved in TEA”; “% 18–64 pop: TEA and some market expansion, no tech (TEA09MEM = 2)”; and “% 18–64 pop middle household 33%”, are involved in explaining the motivations of entrepreneurs.

The different motivational characteristics that lead the individuals to start their own businesses is a promising approach for further research, as it enables the development of governmental strategies that aim to increase the rate of entrepreneurship.

References

- Acs, Z. J., & Amorós, J. E. (2008). Entrepreneurship and competitiveness dynamics in Latin America. *Small Business Economics*, 31(3), 305–322.
- Acs, Z. J., & Varga, A. (2005). Entrepreneurship, agglomeration and technological change. *Small Business Economics*, 24(3), 323–334.
- Adaman, F., & Devine, P. (2002). A reconsideration of the theory of entrepreneurship: A participatory approach. *Review of Political Economy*, 14(3), 329–355.
- Allen, I. E., Langowitz, N., & Minniti, M. (2007). *Global entrepreneurship monitor*. (2006 report on women and entrepreneurship).
- Angulo-Guerrero, M. J., Pérez-Moreno, S., & Abad-Guerrero, I. M. (2017). How economic freedom affects opportunity and necessity entrepreneurship in the OECD countries. *Journal of Business Research*, 73, 30–37.
- Ahmad, N., & Seymour, R. G. (2008). Defining entrepreneurial activity: Definitions supporting frameworks for data collection.
- Ahn, T. (2010). Attitudes toward risk and self-employment of young workers. *Labour Economics*, 17(2), 434–442.
- Ardichvili, A., Cardozo, R., & Ray, S. (2003). A theory of entrepreneurial opportunity identification and development. *Journal of Business Venturing*, 18(1), 105–123.
- Arenius, P., & Minniti, M. (2005). Perceptual variables and nascent entrepreneurship. *Small Business Economics*, 24(3), 233–247.
- Autio, E., Sapienza, H. J., & Almeida, J. G. (2000). Effects of age at entry, knowledge intensity, and imitability on international growth. *The Academy of Management Journal*, 43(5), 909–924.
- Banerjee, A. V., & Duflo, E. (2007). The economic lives of the poor. *The Journal of Economic Perspectives*, 21(1), 141–168.
- Baron, R. A., & Ensley, M. D. (2006). Opportunity recognition as the detection of meaningful patterns: Evidence from comparisons of novice and experienced entrepreneurs. *Management Science*, 52(9), 1331–1344.
- Barros, A. A. D., & Pereira, C. M. M. D. A. (2008). Entrepreneurship and economic growth: Some empirical evidence. *Revista de Administração Contemporânea*, 12(4), 975–993.
- Baumol, W. J. (1990). Entrepreneurship: Productive, unproductive, and destructive. *Journal of Political Economy*, 98, 893–921.
- Blanchflower, D. G., Oswald, A., & Stutzer, A. (2001). Latent entrepreneurship across nations. *European Economic Review*, 45(4–6), 680–691.
- Block, J., & Koellinger, P. (2009). I can't get no satisfaction—Necessity entrepreneurship and procedural utility. *KYKLOS*, 62(2), 191–209.
- Block, J., & Sandner, P. (2009). Necessity and opportunity entrepreneurs and their duration in self-employment: Evidence from German micro data. *Journal of Industry, Competition and Trade*, 9(2), 117–137.
- Bowen, D. D., & Hisrich, R. D. (1986). The female entrepreneur: A career development perspective. *The Academy of Management Review*, 11(2), 393–407.
- Busenitz, L. W., & Barney, J. B. (1997). Differences between entrepreneurs and managers in large organizations: Biases and heuristics in strategic decision-making. *Journal of Business Venturing*, 12(1), 9–30.
- Carland, J. W., Hoy, F., Boulton, W. R., & Carland, J. C. (1984). Differentiating entrepreneurs from small business owners: A conceptualization. *Academy of Management Review*, 9(2), 354–359.
- Carton, R. B., Hofer, C. W., & Meeks, M. D. (1998, June). *The entrepreneur and entrepreneurship: Operational definitions of their role in society*. In Annual International Council for Small Business, Conference, Singapore.
- Casson, M. (2003). Entrepreneurship, business culture and the theory of the firm. In Z. J. Acs & D. B. Andretsch (Eds.), *Handbook of entrepreneurship research* (pp. 223–246). Boston, MA: Springer.

- Choi, Y. R., & Shepherd, D. A. (2004). Entrepreneurs' decisions to exploit opportunities. *Journal of Management*, 30(3), 377–395.
- Clercq, D. D., & Sapienza, H. J. (2005). When do venture capital firms learn from their portfolio companies? *Entrepreneurship Theory and Practice*, 29(4), 517–535.
- Cullen, J. B., Johnson, J. L., & Parboteeah, K. P. (2014). National rates of opportunity entrepreneurship activity: Insights from institutional anomie theory. *Entrepreneurship Theory and Practice*, 38(4), 775–806.
- De Clercq, D., Lim, D. S., & Oh, C. H. (2013). Individual-level resources and new business activity: The contingent role of institutional context. *Entrepreneurship Theory and Practice*, 37(2), 303–330.
- Devece, C., Peris-Ortiz, M., & Rueda-Armengot, C. (2016). Entrepreneurship during economic crisis: Success factors and paths to failure. *Journal of Business Research*, 69(11), 5366–5370.
- Dimitratos, P., Voudouris, I., Plakoyiannaki, E., & Nakos, G. (2012). International entrepreneurial culture—Toward a comprehensive opportunity-based operationalization of international entrepreneurship. *International Business Review*, 21(4), 708–721.
- Dimitratos, P., Buck, T., Fletcher, M., & Li, N. (2016). The motivation of international entrepreneurship: The case of Chinese transnational entrepreneurs. *International Business Review*, 25(5), 1103–1113.
- Drucker, P. F. (1985). *Innovation and entrepreneurship practices and principles*. Amacon.
- Dyer, J. H., Gregersen, H. B., & Christensen, C. (2008). Entrepreneur behaviors, opportunity recognition, and the origins of innovative ventures. *Strategic Entrepreneurship Journal*, 2(4), 317–338.
- Estrin, S., Mickiewicz, T., & Stephan, U. (2013). Entrepreneurship, social capital, and institutions: Social and commercial entrepreneurship across nations. *Entrepreneurship Theory and Practice*, 37(3), 479–504.
- Feeny, S., & Rogers, M. (2003). Innovation and performance: Benchmarking Australian firms. *The Australian Economic Review*, 36(3), 253–264.
- Gaglio, C. M., & Katz, J. A. (2001). The psychological basis of opportunity identification: Entrepreneurial alertness. *Small Business Economics*, 16(2), 95–111.
- Galbraith, C. S., & Latham, D. R. (1996). Reluctant entrepreneurs: Factors of participation, satisfaction, and success. In *Frontiers of Entrepreneurship Research*. Babson Park, FL: Babson College.
- Gedik, Ş., Miman, M., & Kesici, M. S. (2015). Characteristics and attitudes of entrepreneurs towards entrepreneurship. *Procedia – Social and Behavioral Sciences*, 195, 1087–1096.
- Ghoshal, S., & Bartlett, C. (1995). Building the entrepreneurial corporation: New organizational processes, new managerial tasks. *European Management Journal*, 13(2), 139–155.
- Gibb, A., & Ritchie, J. (1982). Understanding the process of starting small businesses. *European Small Business Journal*, 1(1), 26–45.
- Gartner, W. B. (1988). “Who is an entrepreneur?” is the wrong question. *American Journal of Small Business*, 12(4), 11–32.
- Gicheva, D., & Link, A. N. (2016). Sobre o desempenho econômico de empreendedores nascentes. *European Economic Review*, 86, 109–117.
- Gilad, B., & Levine, P. (1986). A behavioral model of entrepreneurial supply. *Journal of Small Business Management*, 24, 45.
- Goffee, R., & Scase, R. (1986). Are the rewards worth the effort? Changing managerial values in the 1980s. *Personnel Review*, 15(4), 3–6.
- Gries, T., & Naudé, W. (2011). Entrepreneurship and human development: A capability approach. *Journal of Public Economics*, 95(3–4), 216–224.
- Herron, L., & Sapienza, H. J. (1992). The entrepreneur and the initiation of new venture launch activities. *Entrepreneurship Theory and Practice*, 17(1), 49–55.
- Hessels, L. K., & Van Lente, H. (2008). Re-thinking new knowledge production: A literature review and a research agenda. *Research Policy*, 37(4), 740–760.

- Hills, G. E., Lumpkin, G. T., & Singh, R. P. (1997). Opportunity recognition: Perceptions and behaviors of entrepreneurs. *Frontiers of Entrepreneurship Research*, 17(4), 168–182.
- Ireland, R. D., Hitt, M. A., & Sirmon, D. G. (2003). A model of strategic entrepreneurship: The construct and its dimensions. *Journal of Management*, 29(6), 963–989.
- Kautonen, T., & Palmroos, J. (2010). The impact of a necessity-based start-up on subsequent entrepreneurial satisfaction. *The International Entrepreneurship and Management Journal*, 6(3), 285–300.
- Kihlstrom, R. E., & Laffont, J. J. (1979). A general equilibrium entrepreneurial theory of firm formation based on risk aversion. *Journal of Political Economy*, 87(4), 719–748.
- Kontinen, T., & Ojala, A. (2011). Social capital in relation to the foreign market entry and post-entry operations of family SMEs. *Journal of International Entrepreneurship*, 9(2), 133–151.
- Levine, K. (1986). *The social context of literacy*. New York: Taylor & Francis.
- Levie, J., & Autio, E. (2011). Regulatory burden, rule of law, and entry of strategic entrepreneurs: An international panel study. *Journal of Management Studies*, 48(6), 1392–1419.
- Lopis, J. A. S., Millán, J. M., Baptista, R., Burke, A., Parker, S. C., & Thurik, R. (2015). Good times, bad times: Entrepreneurship and the business cycle. *The International Entrepreneurship and Management Journal*, 11(2), 243–251.
- Marcotte, C. (2012). Measuring entrepreneurship at the country level: A review and research agenda. *Entrepreneurship and Regional Development*, 25, 174–194.
- McMullen, J. S., Bagby, D. R., & Palich, L. E. (2008). Economic freedom and the motivation to engage in entrepreneurial action. *Entrepreneurship Theory and Practice*, 32(5), 875–895.
- Minniti, M., & Bygrave, W. (2001). A dynamic model of entrepreneurial learning. *Entrepreneurship Theory and Practice*, 25(3), 5–16.
- Oviatt, B. M., & McDougall, P. P. (1994). Toward a theory of international new ventures. *Journal of International Business Studies*, 25(1), 45–64.
- Oxenfeldt, A. R. (1943). *New firms and free enterprise*. Washington, DC: American Council on Public Affairs.
- Ozaralli, N., & Rivenburgh, N. K. (2016). Entrepreneurial intention: Antecedents to entrepreneurial behavior in the USA and Turkey. *Journal of Global Entrepreneurship Research*, 6(1), 3.
- Pan, X., Zhang, J., Song, M., & Ai, B. (2018). Innovation resources integration pattern in high-tech entrepreneurial enterprises. *The International Entrepreneurship and Management Journal*, 14(1), 51–66.
- Potter, J. (2008). Entrepreneurship and higher education: Future policy directions. *Local Economic and Employment Development (LEED)*, 313–335. <https://doi.org/10.1787/9789264044104-16-en>
- Reynolds, H., & Koulopoulos, T. (1999). Enterprise knowledge has a face. *Intelligent Enterprise-San Mateo*, 2, 28–37.
- Reynolds, P. D., & White, S. B. (1997). *The entrepreneurial process: Economic growth, men, women, and minorities*. Westport, CT: Quorum Books.
- Reynolds, W., Savage, W., & Williams, A. J. (2000). *Your own business: A practical guide to success*. Melbourne: Cengage Learning Australia.
- Reynolds, P. D., Camp, S. M., Bygrave, W. D., Autio, E., & Hay, M. (2002). *Global entrepreneurship monitor gem 2001 summary report*. London Business School and Babson College
- Reynolds, P., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., et al. (2005). Global entrepreneurship monitor: Data collection design and implementation 1998–2003. *Small Business Economics*, 24(3), 205–231.
- Ripollés-Meliá, M., Menguzzato-Boulard, M., & Sánchez-Peinado, L. (2007). Entrepreneurial orientation and international commitment. *Journal of International Entrepreneurship*, 5(3–4), 65–83.
- Schumpeter, J. A. (1935). The analysis of economic change. *The Review of Economics and Statistics*, 17(4), 2–10.

- Segaro, E. L., Larimo, J., & Jones, M. V. (2014). Internationalisation of family small and medium sized enterprises: The role of stewardship orientation, family commitment culture and top management team. *International Business Review*, 23(2), 381–395.
- Seifert, R. W., Leleux, B. F., & Tucci, C. L. (2008). *Nurturing science-based ventures: An international case perspective*. London: Springer Science & Business Media.
- Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *The Academy of Management Review*, 25(1), 217–226.
- Shapiro, A., & Sokol, L. (1982). The social dimensions of entrepreneurship. *Encyclopedia of Entrepreneurship*, 1, 72–90.
- Stenholm, P., Acs, Z. J., & Wuebker, R. (2013). Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity. *Journal of Business Venturing*, 28(1), 176–193.
- Stevenson, H., & Gumpert, D. (1985). The heart of entrepreneurship. *Harvard Business Review*, 85, 85–94.
- Swedberg, R. (Ed.). (1993). *Explorations in economic sociology*. New York: Russell Sage Foundation.
- Valliere, D. (2015). Entrepreneurial sense giving and the attention contract. *The International Entrepreneurship and Management Journal*, 11(1), 77–94.
- van der Zwan, P., Thurik, R., Verheul, I., & Hessels, J. (2016). Factors influencing the entrepreneurial engagement of opportunity and necessity entrepreneurs. *Eurasian Business Review*, 6(3), 273–295.
- Van Praag, C. M. (1999). Some classic views on entrepreneurship. *De Economist*, 147(3), 311–335.
- von Hayek, F. A. (1948). *Individualism and economic order*. Chicago: Chicago University Press.
- Voudouris, I., Dimitratos, P., & Salavou, H. (2011). Entrepreneurial learning in the international new high-technology venture. *International Small Business Journal*, 29(3), 238–258.
- Wagner, J. (2002). Taking a second chance: Entrepreneurial restarters in Germany.
- Wang, Y., & Poutziouris, P. (2010). Entrepreneurial risk taking: Empirical evidence from UK family firms. *International Journal of Entrepreneurial Behavior & Research*, 16(5), 370–388.
- Wenhong, Z., & Liuying, F. (2010). The impact of entrepreneurial thinking system on risk-taking propensity and entrepreneurial behavior. *Journal of Chinese Entrepreneurship*, 2(2), 165–174.
- Wennekers, S., Van Wennekers, A., Thurik, R., & Reynolds, P. (2005). Nascent entrepreneurship and the level of economic development. *Small Business Economics*, 24(3), 293–309.
- Williams, C. C. (2009). The motives of off-the-books entrepreneurs: Necessity-or opportunity-driven? *The International Entrepreneurship and Management Journal*, 5(2), 203.
- Withey, M. J., & Cooper, W. H. (1989). Predicting exit, voice, loyalty, and neglect. *Administrative Science Quarterly*, 34, 521–539.

Website

<https://www.norway.no/en/croatia/norway/> (Retrieved on 05/24/2018)