



Theory selection and applications for immigrant enterprises, entrepreneurs and entrepreneurship (IEEE) research

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Abstract

Five decades of research into immigrant enterprises, entrepreneurs and entrepreneurship (IEEE) calls for a synthesis of the field to note the theories and matching applications. The paper aims to fill this literature gap in IEEE field by improving and synthesizing existing knowledge and establishing a clear picture for IEEE study. The paper argues that it is important to choose appropriate theories to guide the research design and inquiry procedure, and thus the comprehensive interpretation of the results in this multi- or interdisciplinary literature of IEEE research. This paper synthesizes traditional and contemporary theories with their application conditions. Authors argue that since IEEE research needs to be conducted with numerous disciplines such as economics, sociology, anthropology, entrepreneurship and business studies, the chosen theories need to be logically matching the researchers, conceptual frameworks, investigation questions, data collection and analysis methods. The findings contribute to the immigrant business, management and social science researchers, in particular for higher degree research students.

Keywords Immigrant enterprises · Immigrant entrepreneurship · Immigrant entrepreneurs · Theory and application

Introduction

International migration has reached nearly all corners of our increasingly interconnected world (UN, 2019). In search of jobs, opportunities, education and a better quality of life, people can now move to other countries more easily, cheaper and faster thanks to modern transportation. During the last few years, international migrants have continued to increase rapidly, reaching 272 million in 2019 and 258

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million in 2017, up from 220 million in 2010 and 173 million in 2000 (International Organization for Migration [IOM], 2020), according to the United Nations International Migrant Report (2019). It was further stated in the UN report that the growing trend of international migration would continue for the foreseeable future. In addition to making it easier for individuals to move internationally, globalization is also facilitating faster growth in international migration, product trade, services and culture diffusion across borders. As a result of global immigration trends, the IOM also emphasized the growing connections between people and countries.

Immigrant enterprises, entrepreneurs and entrepreneurship (IEEE) are recognized as an integral part of socioeconomic development and a crucial component of the support programs for immigrants. Evidence for these outcomes can be found in studies reporting on IEEE in Europe and North America. The US statistics have shown that although immigrants make up only 13% of the total population, they make up 27.5% of entrepreneurs (Vandor & Franke, 2016). Global Entrepreneurship Monitor (GEM) reported that migrants are twice as likely to become early-stage entrepreneurs in the UK as white British counterparts (Hart et al., 2018). About one-fourth of all engineering and technology companies founded in the USA between 2006 and 2012 had at least one immigrant co-founder, according to Vandor and Franke (2016). As a result of Gould's (1994) calculation, based on immigration numbers and transnational trade data in the USA, the number of immigrants directly impacts international trade in the host country, and the size of the home country is directly linked to the success of immigrant entrepreneurs. As a result of the synergistic effect of the combined knowledge bases, ventures established by natives and immigrants tend to expand faster internationally than ventures established by natives in Australia and New Zealand (NZ) (Li et al., 2018). By virtue of having left their native land, Hart and Acs (2011) argued that they may have entrepreneurial inclinations. Their outsider status may allow them, in some cases, to recognize "out-of-the-box" opportunities that native-born individuals with similar knowledge and skills do not perceive. These capabilities may be linked to unique entrepreneurial resources, such as access to partners, customers and suppliers in their countries of origin (Hart & Acs, 2011).

The increased interest in entrepreneurship among immigrants compared to born natives can be attributed to a higher level of entrepreneurial motivation among immigrants (Kerr & Kerr, 2019). Furthermore, many governments have established programs to attract immigrant entrepreneurs to their countries as a strategy for sustainable socioeconomic development. Among the projects that promote immigrant entrepreneurship in Europe is the Project for the Promotion of Immigrant Entrepreneurship (PEI). As business regulations and immigration policies have improved over the last three decades, the entrepreneurial environment for immigrants has improved in many developed countries. Despite this, immigrants' entrepreneurial capability has not yet caught up to the UN's 2030 Agenda for Sustainable Development goal of "[creating] economic opportunities for all, without leaving anyone behind" (UNCTAD, 2018). The promotion of entrepreneurship among immigrant groups is one way of achieving this agenda.

Therefore, immigrant entrepreneurship is an international phenomenon, especially in developed countries, and is both theoretically and empirically worth

studying. Scholars have become increasingly interested in this area since the 1960s. IEEE research, however, is still in its infancy from a strategic, theoretical and empirical standpoint (Aliaga-Isla & Rialp, 2013). As Collins and Low (2010) noted, “there is a lack of interest in immigrant or ethnic entrepreneurship in the literature on entrepreneurship.” Despite the fact that early work on IEEE has addressed many important issues, insufficient attention has been paid to the big picture, and few in-depth studies have been conducted. In terms of research methodology, it is evident that individual level analysis is common. As a result, Aliaga-Isla and Rialp (2013) argue that future investigations should include meso- and macro-level factors, because institutional context is important in promoting IE.

So far, IEEE research has centered on the individual, the immigrant community and the host society (Aliaga-Isla & Rialp, 2013). From the home-country perspective, scholars have only examined some individual factors in different studies, thus the existing studies lack a holistic approach. Sometimes the home country is treated as a socioeconomic political system, but there is a lack of clarity concerning the factors in the home-country ecosystem that impact IE. Moreover, there is no comprehensive framework that analyses the combined effects of factors from the host country (including the co-ethnic community), home country, individuals and their firms on IE.

It has also been recognized that the IEEE phenomenon is largely attributed to immigrants’ adjusting to a new and very different environment after emigrating from their home country to the host country. As a resource-based view of entrepreneurship asserts, entrepreneurs do not literally “create something out of nothing.” They require capital to start and operate their businesses, aside from human and social capitals.

Several antecedents of IEEE have been identified by the UN Conference on Trade and Development: individuals and socioeconomic and political environments (UNCTAD, 2018). Studies of entrepreneurs as individuals have even been deemed a dead end by some scholars (Dana, 1997, p. 53). Changing environmental (technological, demographic, regulatory, economic, social) factors are fundamental reasons immigrants engage in entrepreneurship. Immigrant entrepreneurial activity will be affected by changes in any one or more of these environmental domains, whether positively or negatively. Scholars argue that the entrepreneurial environment in which immigrant entrepreneurs operate is what makes them different from native entrepreneurs (Dabić et al., 2020). Immigrants generally face more obstacles to starting new businesses in their new environment due to the liability of foreignness (Gurău et al., 2020).

In terms of research methods, some scholars suggest IEEE research should focus on systematic evaluations of entrepreneurship practices and study multiple factors. Using a multidimensional approach to explore the IEEE phenomenon can be valuable, according to them. There is a need to address structural factors in different regional and cultural settings. It is important not to ignore factors such as political, socioeconomic and cultural settings in home-country settings, according to IEEE researchers.

To summarize, researchers have demanded systematic, multifactor investigations that consider the effects of host- and home-country ecosystems in order to

achieve instrumental, rigorous and practical results. In recent decades, IEEE has emerged as a new research discipline that greatly differs from general entrepreneurship studies, garnering the attention of numerous scholars worldwide. Both scientifically and empirically current studies show objectives entailing (1) attributes of immigrants from various countries; (2) effects of a venture—pursue debating the ethnic enclave were observed by analyzing immigrant’s human, social and financial capitals; (3) incentives of immigrants to create their businesses; (4) equating the entrepreneurial disparities among immigrant communities; and (5) examining the function of ethnic resources in business creation (Dabić et al., 2020; Duan et al., 2022).

From the theory-building perspective, the most potent theories established sociologically to explain the prodigy of IEEE include (1) the middleman minority theory (Bonacich 1973); (2) the enclave economy hypothesis (Wilson and Portes, 1980); (3) the discrimination hypothesis (Waldinger, 1989; Light, 1979); (4) the interactive model (Waldinger et al., 1989); (5) the social capital argument (Portes & Sensenbrenner, 1993); and (6) the notion of mixed embedment (Kloosterman et al., 1999). Other researchers have conducted investigations on enterprise processing outcomes that include (1) recognizing opportunity (Shane, 2000); (2) cause and effect (Sarasvathy, 2001); and (3) boot scraping and inform investors (Day, 2002); and others.

More debates have arisen in regard to the methodology (which is key to any successful research) used in IEEE studies. Some researchers (Dana & Dana, 2005) support the use of qualitative research methods in a constructivist/interpretivist paradigm since they believe entrepreneurs are making decisions subjectively. They also believe that effective methods for carrying out empirical studies such as case studies, phenomenology and grounded theory explain the phenomenon of IEEE where topics are unquantifiable (Aliaga-Isla & Rialp, 2013). Others (Dana & Dana, 2015) defend the view that quantitative inquiries into IEEE are the best way to generalize the knowledge required for creating new ventures. Recently, mixed methods for studying IEEE and its phenomena have become more acceptable under a “what works better” paradigm.

All these research aims, objectives and theories can be classified into numerous disciplines: social science, ethnic studies, human research, sociology and business management and so on. Methodologies and methods used are based on a few overarching philosophical foundations (paradigms or worldviews). These philosophical foundations will strengthen (1) scholars’ explanatory outcomes, (2) novel contributions and (3) the trustworthiness of claims (Huff, 2009). Without a clear paradigm statement, confusion can be created when reading research texts. All researchers’ philosophical roots and assumptions, made from knowledge gained during studies, should be known to people as these assumptions form the research processes.

This paper explores the most popular theories used in IEEE study. Most commonly used theories are explained in the next section, thereby providing a list of characteristics of the theories to ease scholars’ real-world practices. Finally, a review of research methodologies being used in entrepreneurship study is given to emphasize the point of research rational.

Method

A theoretical framework includes concepts, as well as their definitions and existing theory/theories that are relevant to the study. A theoretical framework should demonstrate a grasp of relevant theories and concepts to the topic of your research paper and its relationship to the broader knowledge fields within the class. It is difficult to find a theoretical framework readily available in the literature. For the research problem you are exploring, you should review course readings and pertinent research literature. Explanatory power, appropriateness and ease of application should all be considered when selecting a theory.

The value of good social science theory lies in its application nature, which means that it serves one primary purpose: explaining what a phenomenon is, what it is and what it means to other researchers, so they can use that knowledge and understanding to take more informed, effective action in the world in which we live. There are four ways in which the theoretical framework strengthens the study. First, it is possible to evaluate theoretical assumptions critically if they are explicitly stated. Second, research is connected to existing knowledge through the theoretical framework. Using a relevant theory, researchers choose hypotheses and methods based on a theoretical framework. Third, researchers must answer why and how questions when articulating the theoretical assumptions of a research study. It permits researchers to generalize about various aspects of a phenomenon observed from merely describing it. Finally, a theory can help researchers identify the limits of generalizations. An evaluation of a phenomenon of interest is based on the identification of key variables that influence it. Researchers are alerted to examine how and under what circumstances those key variables might differ.

The research follows the procedure of the theory-context-characteristics-methodology literature review. First, a selected theory must match the research paradigm: ontology, epistemology, methodology and research methods (Fig. 1). IEEE

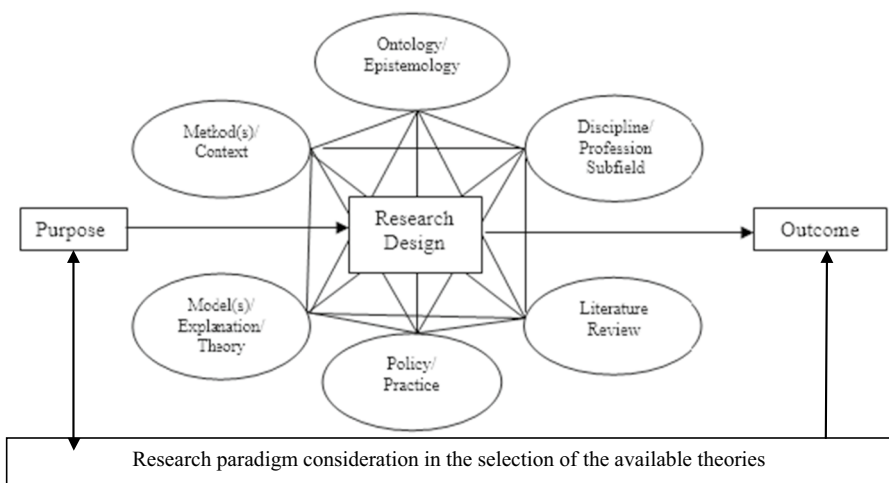


Fig. 1 Relationship between theory selection and research paradigm

study process can be either objective or subjective with an inductive or deductive approach; with these objectives, researchers are able to select the best matching theories and apply them in to the research. The paper argues that the key to discovering the nature of knowledge in the field is to apply the best match theories for appropriate projects. From the discussions, it is apparent that theories as positions to explain the phenomena significantly impact research projects' success. Thus, the choice of a theory infers a near certitude about a particular study that comes from a specific combination of researchers, targets and related environmental factors. This relationship is significant because the theoretical implications of theory choice suffuse the research question/s, participants' choice, data collection implementation and collection processes, and data analysis. It should be noted that theories can be combined in one research project. This paper provides a clear understanding of the different aspects of the commonly used theories and conditions for application. The paper can be a handy reference for all researchers.

Exploring the known and unknown in a particular discipline is one of the purposes of this review research article. The subject is advanced when synthesizing research is designed to provide clear instructions for other scholars. Reviewing applicable theories in a discipline is impactful and useful when authors use the appropriate methodology and craft such articles with systematic rigor. Review studies then reconcile conflicting findings, identify research gaps and suggest exciting new directions for a given field of research, with reference to methodology, theory and contexts. This research adopted a research framework from Huff (2009), which provides an audience-focused purpose → design → outcome outline for design decisions (Top box Fig. 1). This research further extended the process to include the theory selection process (Bottom box).

Second, it utilizes a well-accepted IEEE analytical framework (Fig. 2) that contains three constructs: IEEE process, environmental factor and personal characteristics of entrepreneurs (Duan et al., 2021a). Three IEEE process phases are

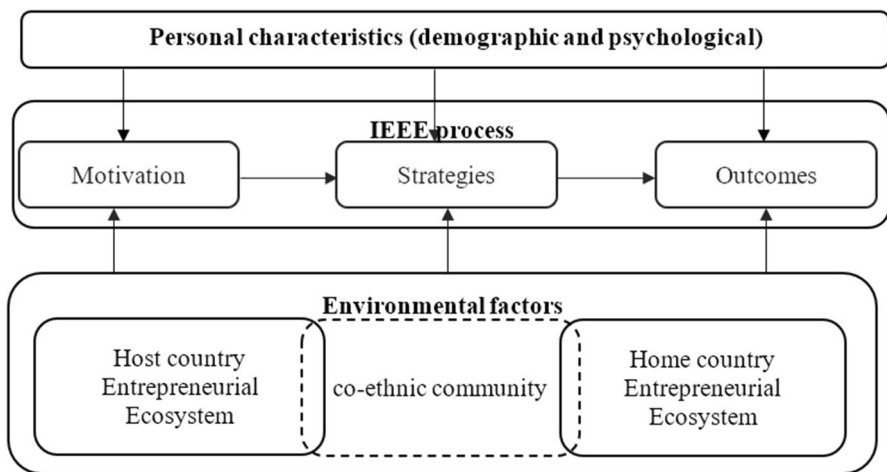


Fig. 2 IEEE research framework and analytical constructs

motivation, strategies and outcomes. Environmental factor construct includes host- and home-country entrepreneurial ecosystems and co-ethnic community. Within each factor, there are social, economic, culture, market, legal system and infrastructure domains. Furthermore, each domain contains a number of components. Drawing on the framework, IEEE is determined by personal and environmental characteristics, including personal traits, socioeconomic, human capital, cultural, institutional and many other influential dimensions. Therefore, the theory selection and application in IEEE studies must be from multi- or interdisciplinary perspectives with correct constructs (process, environment or individual characteristics).

Theories in IEEE field explained

Theory of entrepreneurship process

Shane and Venkataraman (2000, p. 218) defined entrepreneurship as the process by which “opportunities to create future goods and services are discovered, evaluated, and exploited.” In Bygrave and Zacharakis’ (2011) view, the entrepreneurship process involves all functions, activities and actions associated with identifying, pursuing, evaluating and seizing perceived opportunities and the bringing together of necessary resources for the successful formation of a new firm. Although theoretical frameworks of the entrepreneurship process differ in their assumptions and constituent variables and constructs (Chababi, et al., 2017), they do include common components such as opportunity recognition to inspire motivation, resource acquisition as one of the strategies and achievement as outcomes. This study adopted Naffziger et al. (1994) and Shane et al.’s (2003) models in which the entrepreneurship process starts from motivations and ends with outcomes through strategies. Figure 2 shows that IEEE study needs to be considered as a process, so this theory is critically importance.

Social cognitive theory

Social cognitive theory (SCT) (Bandura, 2001) holds that learning takes place socially and dynamically through interactions among the individual and the environment, leading to the behavior. Social context is central to the theory because it provides internal and external reinforcement of behavior. Individuals are understood to uniquely develop and sustain behavior through the influence of their environments. Their past experiences of control and reinforcement shape and explain their behaviors, since individuals self-regulate to achieve and maintain goals over time. Social cognitive theory, therefore, integrates several levels (e.g., individual, community, countries, regions) that interact and influence behaviors. SCT has been widely used in entrepreneurship research, given its emphasis on individual entrepreneurs and their environment and the increasing focus on the latter in contemporary entrepreneurship research. Notably, SCT has provided the foundations for creating entrepreneurship theory, as scholars often use the triangle framework of SCT (individual,

environmental and behavioral determinants) to explain entrepreneurial behavior. In IEEE study, the researcher used SCT to create an overarching analytical framework to investigate the relationship between individual and environmental factors that impact the immigrant entrepreneur's behavior.

Theory of planned behavior

The theory of planned behavior (TPB) (Ajzen, 1991; Fishbein & Ajzen, 1975) predicts an individual's intention or motivation to engage in a behavior at a specific time and place. It was intended to explicate all behaviors over which individuals have the capability to exert self-control. The key component of TPB is behavioral intent, which is influenced by both the belief that the behavior is likely to produce the desired outcome and the subjective evaluation of the risks and benefits of that outcome. Three types of beliefs are identified: behavioral, normative and control. The theory has been used successfully to explain a wide range of entrepreneurial behaviors and motivations, such as being independent, becoming rich and utilizing personal skills (Shehnaz & Anderson, 2020; Shinnar & Young, 2008; Khosa & Kalitanyi, 2015), and to develop entrepreneurial theory and conceptual frameworks (Naffziger et al., 1994; Shane et al., 2003). Behavioral outcome is understood to depend on both motivation (intention) and ability (behavioral control). The theory of planned behavior emphasizes a person's actual control over the behavior determined by attitudes, intention, subjective norms, social norms, perceived power and perceived control. In IEEE study, TPB was used to explain the IEEE process in which entrepreneurial strategies and activities (behavior) are driven by immigrant entrepreneurial motivation and intention.

Motivation model of entrepreneurship

Immigrant entrepreneurship studies reveal a wide range of motivations underlying the decision to start a business in a foreign land (Kourtit et al., 2015; Lan & Zhu, 2014). Entrepreneurial motivation is often loosely defined (Shane et al., 2003). Naffziger et al. and and's (1994, p.30) broad description is commonly used: "entrepreneurial motivation... describes the process by which entrepreneurs decide whether or not to engage in entrepreneurial behavior." Shane et al. (2003, p.273), however, recommended that "researchers better define the motives that they think are important and focus on more precise measures of them." Three entrepreneurial motivations—new venture initiation, venture growth and venture exit—apply to IE, the first being the most studied motivation (Murnieks et al., 2020). This research focused on the initial stage motivations associated with venture initiation and their precise measurement, antecedents and outcomes. To precisely measure IEEE motivations, the research conceptualized an integrated six-dimensional framework by combining two existing models: Naffziger et al.'s (1994) five-dimensional entrepreneurial process framework, comprising individual characteristics, personal environment, personal goals, idea and opportunity and business environment, and Shane et al.'s (2003) model, which depicts the importance of vision, knowledge, skills and

capabilities as cognitive factors that shape entrepreneurship and opportunities and of environmental conditions as external actors in entrepreneurship.

Entrepreneurial ecosystem framework

More recently, scholars have recognized the importance of employing a systems-based framework, involving the entrepreneurial environment, to support research that incorporates a comprehensive analysis of the entrepreneurial environment (Nicotra et al., 2018; Warwick, 2013), in particular by using the EE framework (Isenberg, 2011; Stam, 2015). The latter derives from the understanding that new ventures emerge and grow not only because of talented and visionary individuals but also because of the business environment in which entrepreneurs carry out their activities to achieve success.

Before the EE framework appeared as an instrument to systemically investigate and configure the entrepreneurial environment in IEEE literature, various studies had shown that IEEE is influenced by personal attributes, host-country entrepreneurial environment, co-ethnic community characteristics and immigrants' home-country factors. Host-country influential factors identified in the literature include financial support, labor market, consumers, suppliers, professional services, social reception, regulation and political context. From the co-ethnic community perspective, community size, entrepreneurial culture, willingness to share knowledge and acceptance of low-paying jobs contribute to IEEE (Collins, 2002; Li et al., 2018; Oliveira, 2010). Home-country factors include finance, education, economic development, corruption status and government policies (Van Tubergen, 2005; You & Zhou, 2019). In this study, host- and home-country and immigrant ethnic community environments were examined together and conceptualized as the immigrant entrepreneurial ecosystem.

Applied to the entrepreneurship discipline, an ecosystem refers to a system of socioeconomic, political and infrastructural domains promoting the development of innovative businesses and enhancing their performance (Stam, 2014; Stam & Spiegel, 2016). Several definitions of "entrepreneurial ecosystem" have been proposed over the last two decades (Isenberg, 2011; Mason & Brown, 2014; Spiegel & Harrison, 2017) Stam & Spiegel, 2016. Although each definition incorporates different entrepreneurial factors that dynamically interact with one another, the general consensus is that a functional EE provides capital (e.g., financial, knowledge, institutional, social) to enable entrepreneurs to discover, assess, exploit and take advantage of market opportunities (Isenberg, 2011; Nicotra et al., 2018; Stam, 2015). Recent studies have expanded the elements of an ecosystem to cover additional dimensions such as culture, market, human, research institute, government and institutions (Isenberg, 2011; Motoyama & Knowlton, 2017). Each dimension is weighted differently in a specific EE. The World Economic Forum (WEF, 2013) argued that funding, workforce and market are the most critical factors to a functional EE.

The EE framework can be applied equally at the city, regional and national levels (Isenberg, 2011; Von Bloh et al., 2020). An often-cited article by Isenberg (2011) focuses on an overview of EE at the national level. Research in IEEE studies,

however, has expanded beyond local communities and regions to country or even multi-country studies (Legros et al., 2013).

While EE has emerged as a framework for economic development for fostering entrepreneurship, existing research has focused mainly on typology and theory, and its relation to entrepreneurial outcomes has not yet been explored (Spigel & Harrison, 2017). Additionally, IEEE research seldom applies the EE framework (Von Bloh et al., 2020). As part of this study, literature reviews, analytical framework development and empirical evaluations were conducted in the context of the EE framework.

Theories of immigrant entrepreneurship

Numerous theories, concepts, frameworks and hypotheses have been developed and employed to explore factors that drive new immigrants to start business ventures in their host countries (Zhou, 2004). Some of these theories include the middleman minority theory (Bonacich, 1973), the discrimination hypothesis (Slamecka, 1960), the blocked mobility positions (Collins, 2002), the culture model (Kourtit et al., 2016), the enclave economy hypothesis (Portes & Jensen, 1992), the interactive model (or opportunity structure) (Aldrich & Waldinger, 1990) and mixed embeddedness (Kloosterman et al., 1999). They have been used effectively to explain the forces that drive IEEE in many of the advanced countries and from population ecology, anthropological, sociological and immigration perspectives (Collins, 2002).

Hubert Blalock (1967) developed the concept of “middleman minorities” after he found some ethnic minorities were relying on their competitive advantage by occupying an intermediate position between mainstream society and their ethnic community. Blalock’s (1967) term “middleman minorities” refers not only to individual minority entrepreneurs but also to an entire entrepreneurial-oriented ethnic group. The middleman minority theory was subsequently used by Bonacich (1973) and focused on sojourners, those who do not intend to, or have not yet decided to settle permanently in their host country and therefore seek occupations with high liquidity (Aldrich & Waldinger, 1990). Subsequently, scholars applied the theory to study permanent immigrants engaging in entrepreneurship (Aldrich & Waldinger, 1990). The theory is still commonly used to investigate the IEEE phenomenon (Vinogradov et al., 2017). In this research, the original theorized position of the immigrant entrepreneur as a middleman, between the boundaries of mainstream society and their ethnic community, was expanded to that between their host and home countries.

Discrimination and blocked mobility hypotheses emphasize the immigrant’s reaction to environmental obstacles in a new society. After examining the association between the rate of immigrant entrepreneurship and the unemployment rate in a country, Light (1979) suggested that immigrants are disadvantaged in the job market because of discrimination, requiring that they start small-scale ethnic businesses to survive. These interconnected hypotheses were applied to investigate and interpret IEEE motivation in this research.

The culture model recognizes that different cultural backgrounds predispose immigrants to pursue entrepreneurship as a personal goal (Kourtit et al., 2016). The

model emphasizes sociocultural effects that pull immigrants toward engaging in entrepreneurship and was used in this study to explain why the entrepreneurship rate is higher among CCIs than most of the other ethnic groups in the IEEEE literature, especially in Australia and NZ.

The enclave economy hypothesis states that immigrants start businesses that rely on their ethnic resources (e.g., in employment from customers and financial lenders) or because they lack the skills required in mainstream society (Portes & Jensen, 1989). The interactive model promoted by Aldrich and Waldinger (1990) is based on the idea that ethnic entrepreneurs adapt ethnic resources to meet the demands of mainstream opportunities. In other words, host-country opportunities are used as pull factors. The model is related to the opportunity structure notion, which emphasizes that mainstream society requires certain low-margin commercial activities that locals simply would not engage in because, for example, they involve long hours of work or too much hard work. These gaps in commercial activities provide opportunities for immigrants. Waldinger's (1989) opportunity structure model shows that multiple interconnected factors motivate new immigrants to engage in entrepreneurship. These factors include market conditions (enclave and mainstream), access to business ownership, local employment prospects, host-country legal framework, ethnic social network and culture. The enclave economy hypothesis was used in this research to argue the position that immigrant entrepreneurs adopt enclave and mainstream strategies concurrently.

One of the often-cited theories in IEEEE literature is mixed embeddedness, proposed by Kloosterman et al. (1999) and Kloosterman and Rath (2001). These authors postulated that IEEEE activities originate from the immigrant entrepreneurs' embeddedness in the co-ethnic community within the socioeconomic and politico-institutional environments of the host country. Mixed-embeddedness theory gives weight to the environmental drivers from the ethnic community and the host country. This theory was deployed to explain that immigrant entrepreneurs are simultaneously embedded in their host country and co-ethnic community.

Theory of dual embeddedness

The theory of dual embeddedness, as alternative perspectives to assimilation and integration theories, centers on the reasons and evidence for, and implications of transnational migration (Schiller et al., 1995). Granovetter (1985) described embeddedness as the extent to which an individual's behavior depends on their networks in a specific network structure. He separated embeddedness into relational and structural aspects. Structural embeddedness emphasizes the configuration of an individual's network of relationships, while relational embeddedness deals with the quality of those relationships. In the context of IE, transnationalism and dual embeddedness refer to immigrants who are embedded in their host and home countries and simultaneously engage in economic, political and cultural activities within the two countries.

Dual embeddedness theories postulate that economic activities occur only when the actors are embedded in the social networks and institutions of both societies

(Ren & Liu, 2015). The extant literature on IEEE portrays the twenty-first century as a multicultural era, featuring transnationalism and dual embeddedness, whereby ethnic minorities utilize their home-country networks to access an array of valuable resources not available to their native peers in order to facilitate their transnational entrepreneurial activities (Brzozowski, 2017; Colic-Peisker & Deng, 2019). Immigrant entrepreneurs, therefore, benefit from their dual embeddedness in, and familiarity with host- and home-country socioeconomic environments. These bifocal attributes have led scholars to affirm that IEEE does have competitive advantages over host-country-focused entrepreneurship (Nkongolo-Bakenda & Chrysostome, 2020; Solano, 2015). These two theories, combined with the entrepreneurship ecosystem theory, informed the dual entrepreneurship ecosystem (DEE) framework (Duan et al., 2022) and home-country EE embeddedness theories generated in this study (Duan et al., 2020).

Theory of transnationalism and transnational entrepreneurship

Transnationalism, first used by Bourne in 1916 in relation to migrants that maintain cultural ties with their home country (Kerr & Kerr, 2019), refers to the spread of economic, political and cultural processes beyond national borders. Transnational entrepreneurship in IEEE study, based on the transnationalism concept, has risen to prominence in the last twenty years. Strategic transnational entrepreneurship is “an alternative form of economic adaptation of foreign minorities in advanced societies that is based on the mobilization of their cross-country social networks” (Portes et al., 2002, p. 278). The strategies executed by immigrant entrepreneurs include importing goods, exporting goods, investing in home-country business and real estate, hiring at least one home-country employee and traveling abroad at least twice a year (Portes et al., 2002, p. 292). Immigrants can either be pushed or pulled to engage in cross-national economic activities.

Today, the business model of transnational entrepreneurship has evolved. Information technology and digital platforms (e-commerce and social media) reduce the need for entrepreneurs to travel between host and home countries. There is also no need for transnational immigrants to employ staff or invest in real estate in their home countries. Thus, transnational entrepreneurs are simply immigrants who engage in cross-border business between host and home countries. Transnational entrepreneurship was one of the key concepts used across all the chapters in this research. Each analytical framework was based on transnational entrepreneurship and transnational entrepreneur(ship) and immigrant entrepreneur(ship) were often viewed as interchangeable.

Necessity and opportunity for immigrant entrepreneurship

The necessity and opportunity IEEE model has been adapted from the entrepreneurship literature that organizes motivations for entrepreneurship into the dichotomous streams of necessity-driven (push) and opportunity-driven (pull) factors. In the

necessity scenario, immigrants are pushed into entrepreneurship by obstacles that prevent them from competing in the local labor market (Chrysostome & Arcand, 2009; Reynolds et al., 2002). Consequently, they enter less profitable and deserted business clusters and work long hours with family support to achieve business success (Chrysostome & Arcand, 2009).

Opportunity-driven IE, unlike necessity IE, is motivated by the pursuit of achievement, such as the desire for approval, personal development, independence, wealth creation and following a role model (van der Zwan et al., 2016). Typically, opportunity-driven entrepreneurs have innovative ideas, resources and market opportunities before they embark on the IEEE journey. Some scholars have identified several types of opportunity-driven immigrant entrepreneurs: traditional opportunity immigrant entrepreneurs, diaspora entrepreneurs, transnational immigrant entrepreneurs and born global entrepreneurs (Chrysostome & Arcand, 2009). Others have continued to argue, however, that immigrants become transnational entrepreneurs because of necessity (Portes et al., 2002). Nevertheless, there is a consensus that IEEE in high-tech clusters is opportunity-driven (Hart & Acs, 2011; Lan & Zhu, 2014).

An individual's socioeconomic status, personality and perception of the entrepreneurial environment are the critical determinants of their engagement in necessity or opportunity entrepreneurship (van der Zwan et al., 2016). Both theoretical models developed by Chrysostome (2010) identified low levels of education and lack of language skills as obstacles to social mobility, thus leading to necessity entrepreneurship. In contrast, host-country socioeconomic conditions, job opportunities and institutional and government support are external factors that provide individuals with choices and encourage opportunity IE. In some situations, entrepreneurship is perceived as the only option for many immigrants, especially those from developing countries (Rubach et al., 2015). Immigrants who feel socially marginalized will fall back on creating opportunities through self-employment (Min & Bozorgmehr, 2000).

Necessity and opportunity entrepreneurs have also been observed to differ in their growth aspirations. Opportunity entrepreneurs' desire to grow is paramount, while necessity entrepreneurs look for low-risk and stable businesses (Chrysostome, 2010). With respect to business development strategies, necessity entrepreneurs are more likely to pursue a cost-saving strategy than an innovative strategy (Block et al., 2015). Lack of financial capital is a major barrier many necessity entrepreneurs face at the beginning of their entrepreneurial journey (Kushnirovich & Heilbrunn, 2008; Light, 1979). Chrysostome and Arcand (2009) therefore argued that it may not be appropriate to assess necessity and opportunity firm performance using the same indicators.

Push and pull are the primary theory employed to differentiate between immigrant and native-born entrepreneurs (Shinnar & Nayir, 2019). The former are more likely to be driven by push factors, while the latter are largely pull-factor driven. The extant literature, however, presents mixed findings. Some studies have reported that the majority of immigrant entrepreneurs are necessity-driven (Bosiakoh & Tetteh, 2019), while others have signaled that opportunity entrepreneurship is the main driving force (Rametse et al., 2018). Despite the inconclusive findings, scholars have

widely embraced the push–pull theory and the necessity and opportunity entrepreneurship typology (GEM, 2017/2018; Reynolds et al., 2002).

The theory of push–pull factors and related necessity and opportunity immigrant entrepreneurship were key to the investigations in this study for each sub-project, where motivations for IEEE are proposed as being associated with pull and push factors or necessity and opportunity entrepreneurs.

Findings

This research successfully classified the abovementioned IEEE-related theories through content analysis into three large groups: personal demographic-related notions, entrepreneurial process-oriented propositions and IEEE business environment-focused hypotheses (top, middle and bottom boxes, Fig. 2). Both group theories are driving forces for each stage of IEEE process, which includes three key components: motivation, strategy and activities and outcomes. The research concludes that the correct theory selection needs to be based on the analytical framework and its components illustrated in Fig. 2.

By classifying the theories discussed in the previous section into three groups and linked with the constructs in Fig. 2, Table 1 clearly indicates how to apply each theory in which construct of IEEE study. It can be a quick reference for IEEE research and education.

Given the absence of a comprehensive analytical framework of theory selection for IEEE, this study applied a framework (Fig. 2) to examine the abovementioned theories. Some theories such as process, motivation, transnationalism and transnational entrepreneurship, dual embeddedness and entrepreneurial ecosystem are explicitly present in the framework, while others such as push–pull, SCT and TPB are implied (but explained in detail in the chapters where they are applied). To apply this framework in the IEEE context, this study considered that the ecosystem constructs for IEEE ought to comprise both host- and home-country ecosystems since immigrant entrepreneurs operate in two business environments (Drori et al., 2009). Thus, the immigrant entrepreneurial process illustrated in Fig. 2 comprises two constructs, motivations and strategies, which result in a third outcomes.

IEEE is conceptualized as a process starting from the motivation to engage in entrepreneurship, which defines the strategies employed to achieve the desired outcomes. The dual (host and home-country) entrepreneurial ecosystem (DEE) framework (Duan et al., 2022) and its domain factors as well as personal characteristics of the entrepreneur affect each stage of the process. In other words, the motivations are determined by the DEE domain factors and personal characteristics of the entrepreneurs. Motivations in turn interact with these antecedents to determine the strategies pursued. Strategies are influenced by resources and opportunities in the DEE, the personal characteristics of the entrepreneur determine how they are deployed, and this results in outcomes. The outcomes reinforce personal characteristics of the immigrant entrepreneur as well as access to resources and opportunities in the DEE, expanding the process to generate more outcomes. The analytical framework extends Stam's (2015, p. 1765) EE framework from the host country only to the

Table 1 Theories' applicabilities for IEEE study (own elaboration)

Theory	Environmental factors			Entrepreneurial process			Personal characteristics	
	Host-country EE	Community	Home-country EE	Motivation	Strategies	Outcomes	Demographics	Psychological
Theory of entrepreneurship process				✓		✓		
Social cognitive theory	✓		✓	✓				✓
Theory of planned behavior	✓	✓	✓	✓			✓	✓
Motivation model of entrepreneurship	✓	✓	✓	✓			✓	✓
Entrepreneurial ecosystem framework	✓	✓	✓	✓		✓	✓	
Theories of immigrant entrepreneurship ^a	✓	✓	✓	✓		✓	✓	✓
Theory of dual embeddedness	✓	✓	✓					
Theory of transnationalism and transnational entrepreneurship	✓	✓	✓	✓		✓	✓	✓
Necessity and opportunity for immigrant entrepreneurship	✓	✓	✓	✓		✓	✓	✓

^aTheories of immigrant entrepreneurship is a group of hypotheses relevant to IEEE

host and home countries, with IE determined by factors in the DEE. This DEE concept is supported by recent empirical studies, wherein scholars have concluded that new immigrants are embedded in dual economic, political and sociocultural settings (Colic-Peisker & Deng, 2019; Schott, 2018). The framework depicts how embeddedness in the DEE determines the IE process and outcomes. In contrast to the region-specific EE framework, the DEE depicts the ethnic community as a subsystem that bridges the host- and home-country ecosystems. The DEE agglomerates resources from all three ecosystems to nurture entrepreneurial activities, leading to new venture creation and enhancing firm performance.

The framework also draws on the SCT and TPB theories to illustrate how personality characteristics of immigrant entrepreneurs shape their motivations, determine the strategies they adopt and the outcomes pursued. This is consistent with the generally accepted position that entrepreneurship emanates from both the individual and the environment in which they are embedded. The framework presents the central role of motivation as a process variable, which, in conjunction with the DEE factors, defines strategies pursued to achieve the desired outcomes.

Conclusion

This research conceptualized and investigated the IEEE theories and their application based on a review and content analysis focused on current available hypotheses, notions, positions and viewpoints in the research of immigrants, behavior and entrepreneurship. The study contributes to research in IEEE and to policy planning and implementation. Importantly, immigrants make up a significant proportion of entrepreneurs in their host countries and help expand international trade, thereby improving the balance of trade in these countries. Immigrant entrepreneurs have the potential to not only create economic value but also establish productive social and cultural connections between immigrants and their host societies. The sociocultural diversity created through multiculturalism encourages new ideas and innovations that benefit the host countries.

The research concludes that the theory selection should consider the stages of IEEE. The findings from the analyses of the environmental effects on the IEEE process variables of motivation and business strategies and also on business outcomes provide evidence that policy makers need to understand how immigrants experience the entrepreneurial terrain in their new country in order to formulate appropriate policies to advance the sector. This research identifies common as well as unique entrepreneurship ecosystem domains and associated elements that must be considered if policy makers are to encourage IEEE and enhance their contributions to the economy. The findings highlight the importance of improving ecosystem embeddedness and engagement for new immigrants, as they constitute new and resourceful contributors to the future economic and social development of both their host and home countries.

The finding revealed that theory selection should consider entrepreneurs' individual circumstances. The research uncovers how theories connect immigrants' host

countries, home countries and communities and how barriers such as the liability of foreignness and discrimination push them into necessity entrepreneurship, where they struggle to survive. The economic value derived from necessity immigrant entrepreneurs is in unambiguous contrast to that of immigrants who pursue opportunity-driven behaviors within the host and home countries, thus transferring innovations to enhance economic outcomes in the two contexts. These opportunity-driven entrepreneurs have the potential to further prosperity by reaching into several other foreign markets. Immigrant entrepreneurs actively pursue a better life and business opportunities in the host country, so a more socially inclusive system would be beneficial for localizing and/or internationalizing immigrants' entrepreneurial and business activities.

Furthermore, the research identifies the importance of business environment-related theories, which suggests to host-country governments that they should design and promote incentive programs to foster and reward enterprising individuals and outstanding immigrant firms.

Finally, the research contributes to the IEEE and entrepreneurship literature. It drew on key theories and models to create a new integrated conceptual framework of DEE for theory selection. It also recommends to apply the concept of the immigrant entrepreneurial ecosystem to engage IEEE research theory selection and application. It depicts an entrepreneurship process triggered by events in the host- and home-country environments. These combine with the personal characteristics of the immigrant to create the motivation to pursue entrepreneurship. Motivations, which could be necessity- or opportunity-driven, determine the strategic activities pursued and the outcomes achieved in terms of firm performance. The results, therefore, contribute empirical evidence to the IEEE field in terms of the relationships among host- and home-country ecosystems and personal characteristics of immigrants, as antecedents, and the process variables of (necessity/opportunity) motivation and strategies adopted. The findings present the relationships among these antecedents and process variables on one end and the financial and nonfinancial outcomes of the IEEE process on the other. The findings also reveal direct and mediated effects theory selection.

This research only evaluated nine most frequently used theories in current IEEE literature based on the author's article collection. Future research needs to consider more traditional and contemporary theories in regard to IEEE studies. In particular, some interdisciplinary theories can be added into the research field of IEEE. The trend of the research is another consideration when engaging in theories selection such as sharing economy studies for IEEE.

Data availability The datasets generated during and/or analysed during the current study are available by email request: carson.duan@une.edu.au

Declarations

I confirm that this work is original and has not been published elsewhere, nor is it currently under consideration for publication elsewhere.

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