Influence of generational status on immigrants' entrepreneurial intentions to start new ventures: a framework based on structural equation modeling and multicriteria decision-making

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Abstract

Purpose – This study aims to identify the intentions of immigrant entrepreneurs to start new projects by investigating the role of influence of institutional support, social context, cultural intelligence, self-efficacy, optimizing personality traits and hierarchy legitimacy on intentions to start new ventures. In addition, the strength of the relationship for such factors and intentions to start new ventures was determined through the moderator role of easy access to venture capital.

Design/methodology/approach – To this end, this study complements the academic literature by integrating the structural equation modeling (SEM) and multiple-criteria decision-making (MCDM) techniques. Thus, the MCDM (i.e. analytic hierarchy process and vlsekriterijumska optimizcija i kaompromisno resenje [VIKOR]) is an effective approach to solving the problem of complexity and evaluation (i.e. multiple evaluation criteria, important criteria and data variation). Hence, to complete the strategic guideline solution, this study uses a survey for collecting data from 202 immigrants in Malaysia, Pakistan, Nigeria and Singapore.

Findings – The results from SEM prove several critical factors of immigrants' entrepreneurs. These factors of immigrants' entrepreneurs can be vital for academics and host countries. By focusing on these aspects and by developing some personality traits (such as self-efficacy and optimal personality traits), these factors can contribute a good deal to increasing the capabilities of immigrant's entrepreneurs toward entrepreneurial intentions. In the validation, the statistical objective method indicates that the immigrants' prioritizations in all countries are supported by the systematic ranking. Thus, entrepreneurial intentions for immigrants can pursue the order proven by the VIKOR results.

Research limitations/implications – This study has some significant practical and theoretical implications. Practically, the study findings will enable managers to develop strategies to support immigrants for entrepreneurial intentions to start new ventures.

Originality/value – The novelty of the context under given circumstances of global environment adds to the originality of this study. Several previous studies have also emphasized the need for this

type of study in other contexts. The findings can call managers' attention toward a critical issue of immigrants' entrepreneurial intentions to start new ventures.

Introduction

Immigrant entrepreneurship is a process through which the immigrants seek various businesses opportunities in the host countries to start their own businesses (Dheer and Lenartowicz, 2020). Over the years, there has been an enormous increase in migration to developed and developing countries. Furthermore, during the recent past, we have witnessed immigration phenomenon at peak due to the war crises in countries like Syria, Yemen, Afghanistan, Palestine, Iraq, etc., and has sufficiently burdened the national economies of host countries (Yew, 2020; Al-Abrrow *et al.*, 2021a). According to World Immigration Report 2020 in 2019, there have been 272 million immigrants, which is 3.5% of the total World population. This huge immigration from war-effected countries and other less developed countries has caught the attention of research scholars and policy-makers to attend the issue through effective policy measures (Kerr and Kerr, 2020). The issue of immigrants has not only economic implications but also has social consequences. Immigrant entrepreneurship is one possible solution to the issue (Zolfagharian and Iyer, 2020). Immigrants needs to be facilitated to start their own businesses rather to burden the host economies. Immigrants play an important role in the growth of local economies and contribute to their home economies through remittances (Dheer and Lenartowicz, 2020). For example, in 2019 immigrant entrepreneurs were 21.7% of the total business owners in USA. Similarly, in UK 14% of all the UK companies were started by immigrants and 17.2% non-UK national started their own companies as compared to 10.4% UK national. Likewise in 2018, the international remittances increased by US$689bn (Kerr and Kerr, 2020). Researchers and policy-makers have recognized immigrant entrepreneurship as major contributor to the host economies. Immigrant entrepreneurs not only create job opportunities but also facilitate social integration of the immigrants (Liu *et al.*, 2021; Al-Abrrow *et al.*, 2021b). The role of immigrant entrepreneurs has changed from "necessity-driven" to "opportunity-driven." Instead of starting a new venture to meet their economic needs, immigrant entrepreneurs are more interested to locate new business avenues and benefit through high skills and capital availability (Newman *et al.*, 2019). An important dimension of immigrant entrepreneurship is that it relates to government policies to encourage the immigrant entrepreneurship process. For example, in USA, policy-makers believe that immigrant can foster the economic growth and thus various policies have been introduced to encourage immigrant entrepreneurship (Chen and Jiang, 2020).

The increased phenomenon of international immigration and significance of immigrant entrepreneurship has invited researchers to explore the different facets of immigrant entrepreneurship (Abdulkareem *et al.*, 2020). For the past many years, immigrant entrepreneurship has remained an interesting research area in the domain of social and economic policy measures. Accordingly, there have been growing research to explore and understand the different dimensions of immigrant entrepreneurship phenomenon (Titiyal *et al.*, 2019).

Migrants' movement from their home country to host country has become usual phenomenon. There are multiple reasons responsible for this migrants' movement (Dheer and Lenartowicz, 2020). Economic instability and war crises are bigger reasons for

migrants' movement. Many of the migrants in host countries prefer to engage in entrepreneurial activities due to the limited opportunities as compared to the native people (Esfandiar *et al.*, 2019). Through entrepreneurial activities, the migrants contribute to the socio-economic development of the host countries. The increasing trend of migrants' entrepreneurship over the many years has surged researchers to explore various facets of migrants' entrepreneurship. It has been well-documented that migrants exhibit more prospects to start their own business as compared to the locals as evident from the studies across different developed countries like USA (Fairlie, 2008), Canada (Schuetze and Antecol, 2006), Australia (Collins, 2003) and UK (Clark and Drinkwater, 2000). The GEM survey of 2013 within 69 nations also reflected that number of migrants engaged in entrepreneurial activities is higher than those of local people (Xavier *et al.*, 2013).

Many researchers have interest in understanding the entrepreneurial intentions of migrants. In this regard, many studies have already been conducted with the focus on entrepreneurial intentions of migrants without taking into accounts the intentions differential among the subsequent generations of migrants (Vandor and Franke, 2016; Dheer and Lenartowicz, 2020; Zolfagharian and Iyer, 2020). Accordingly, this study intends to bridge this gap in entrepreneurship research. The findings of this study will not only contribute to the entrepreneurship literature but will also be helpful to devise migrants' entrepreneurship policies of the host countries. Though there are many studies to explore the entrepreneurial intentions of migrants, but we know less about the entrepreneurial intentions of migrants' subsequent generation (Dheer, 2018; Lofstrom, 2019). Entrepreneurship research categorizes immigrants into single class of entrepreneurs and overlooked the generational differences while explaining the different facets of their entrepreneurial intentions (Jiménez, Park and Pedroza, 2018; Edgar, 2014). Cultural experiences significantly differ within the immigrants' generations which must be embraced in entrepreneurship research (Logan and Shin, 2012; Alba and Nee, 2009).

After the seminal research work of Shapero (1975), many studies have been conducted to understand the entrepreneurial intentions. These studies have used theories such as theory of reasoned action, theory of planned behavior, implementation theory and theory of goal-directed behavior to explore entrepreneurial intent. Generally, these theories argue that entrepreneurial intent is a kind of conscious and goal-directed behavior. Literature suggests that though the research on entrepreneurial intentions is escalating still it needs to be extended to other contexts for more implications (Cadenas *et al.*, 2020; Dheer and Lenartowicz, 2020). This has been witnessed that entrepreneurial activities are significant to economic development especially in emerging economies. Entrepreneurial activities are considered as backbone for sustainable economic development. The role of entrepreneurship is well-documented in eradicating socio-economic inequalities through employment opportunities and technology advancement (Dy and Agwunobi, 2019).

Most importantly, the previous literature has classified factors affecting immigrants' entrepreneurial intentions including institutional support, social context, cultural intelligence, self-efficacy, optimizing personality traits, hierarchy legitimacy and easy access to venture capital (Ang *et al.*, 2015; Newman *et al.*, 2019; Dheer and Lenartowicz, 2020; Liu *et al.*, 2021; Zolfagharian and Iyer, 2020). These variables have been individually evaluated in the previous literature. However, the most influential variables affecting immigrants' decisions in pursue entrepreneurship have not been identified explicitly (Dheer and Lenartowicz, 2020). Consequently, there is a difference between immigrants' entrepreneurial intentions based on these criteria which leads to three core issues which are multi-criteria, the importance of criteria and data variations. The first issue is that of multi-criteria that influences immigrants' entrepreneurial intentions (Abdulkareem *et al.*, 2020). Hence,

assessing multiple criteria is a difficult task. The second issue is concerned with the criteria (variables) that has the most significant influence on immigrants' entrepreneurial intentions (Titiyal *et al.*, 2019). The data variations have widely occurred for the different cases within immigrants' entrepreneurial intentions. In other words, as the maximization goals come with high values, while the minimization goals that come with low values (Zolfagharian and Iyer, 2020). Moreover, there are variables influence immigrants' entrepreneurial intentions in choosing the best adventurer (Vandor and Franke, 2016; Kushnirovich *et al.*, 2018). The above discussion indicates the influence of generational status on immigrants' entrepreneurial intentions for starting new ventures. The presence of different factors that differ in their stimulation based on previous literature (Vandor and Franke, 2016; Dheer and Lenartowicz, 2020; Zolfagharian and Iyer, 2020) raises an important challenge in testing these factors before weighting them. Especially since the structural equation modeling (SEM) leads to the selection of the most influential factors in the context of this study (Sarstedt *et al.*, 2014; Alnoor *et al.*, 2020). Based on the issues discussed above, a complex decision-making problem [multiple-criteria decision-making (MCDM)] appears in the assessment of the adventurer based on entrepreneurial intentions. Thus, MCDM is an effective approach to solving the problem of complexity and evaluation (Lee and Chang, 2018).

MCDM evaluates alternatives based on individual criteria that are conflicting to solve various problems by obtaining more accurate results based on the weight of criteria and ranking of alternatives (Abdel-Basset *et al.*, 2020). In ranking alternative, the technique for order of preference by similarity to ideal solution (TOPSIS) and Vlsekriterijumska Optimizcija I Kaompromisno Resenje (VIKOR) are the most popular methods (Guleria and Bajaj, 2020). There are several methods available including BWM and analytic hierarchy process (AHP) for the evaluation of a criteria (Rezaur Rahman *et al.*, 2019). The AHP has proven to be the most effective method among them for weighing a criterion (Souissi *et al.*, 2020; Alnoor, 2020). This study develops and validates a multi-criteria framework for measuring the factors affecting immigrants' entrepreneurial intentions based on SEM and evaluation of immigrants to start new ventures based on the integration of AHP with the VIKOR method.

Literature review

This section discusses the literature review and the development of hypotheses. Thus, it consists of three phases. The first phase deals with the effect of immigrant generational status on the entrepreneurial intentions; the second phase focuses on the development of the mediating role and the third phase is concerned with the development of moderation role.

The relationship between the immigrant generational status and entrepreneurial intentions

Entrepreneurial intentions play a determining factor in entrepreneurship, and their determinants can be understood by identifying important factors that hinder starting a new venture (Farrukh *et al.*, 2018). Evidence indicates that entrepreneurial intentions are formed in the early stages of new processes of ventures rather than intentions created in a vacuum. The research of the scientists regarding immigrants' entrepreneurial intentions focuses on understanding the factors behind starting new ventures (Esfandiar *et al.*, 2019; Al-Abrrow *et al.*, 2020). Moreover, the push-pull theory suggests that pull factors such as social context and independence and push factors such as unemployment motivate immigrants to start new ventures (Ojiaku *et al.*, 2018). Likewise, disadvantage theory such as limited knowledge of the host country's culture and the inability to speak the host country's language can

explain the immigrants 'intentions in starting new ventures (Aliaga-Isla and Rialp, 2013). While the institutional support theory, such as university support or external support from organizations, are key factors that increase the motivation of immigrants to start new ventures (Chen and Tan, 2009). Immigrant entrepreneurship is a vital survival strategy. Factors such as social restrictions and financial constraints very negatively affect the likelihood that immigrants will start new ventures (Chrysostome, 2010; Al-Abrrow *et al.*, 2019).

As a result, immigrants exhibit different entrepreneurial behaviors in accordance with the policies of the host country that affect their entrepreneurial intentions (Hajro *et al.*, 2019). However, the fundamental dilemma emerges in the fact that previous literature did not explore these variables collectively thus it provided a very limited knowledge of immigrants' entrepreneurial intentions. Consequently, the available knowledge of the results of the entrepreneurial intentions is limited. The previous literature tried to describe entrepreneurship of immigrants from the point of view of entrepreneurs although (Dheer and Lenartowicz, 2020) the earlier study focused on immigrants' entrepreneurial intentions, but it neglected the ranking of entrepreneurs while dealing with determinants that had already been raised in the previous literature (Xu *et al.*, 2019; Lorenz *et al.*, 2018; Cadenas *et al.*, 2020). Therefore, the existing models did not include an approach directed toward the entrepreneur and their entrepreneurial intentions processes. The development of such a framework is important for understanding the immigrant's generational status of starting new ventures.

Most of the immigrant generational status is characterized by bilingualism and is an indication of the linguistic assimilation of immigrants in the host country (Drouhot and Nee, 2019). On the marital level, it can be concluded that there is a strong tilt found in the behavior of immigrants for forming matrimonial bonds in the host country, which indicates the power of absorption imbedded in society of the host country (Waters and Jiménez, 2005). In short, the evidence indicates that there are differences between the social and economic adjustments of immigrants in the host society. Nevertheless, due to the factors of social upbringing, the immigrants integrate well into the culture of the host country (Hajro *et al.*, 2019). This factor has strong implications for immigrants to start new ventures (Dheer and Lenartowicz, 2020). Hence these factors enable immigrants to engage more in creative and innovative activities. These cultural, governmental and economic factors promote flexible thinking by making immigrants more open to the seemingly mysterious experiences (Newman *et al.*, 2019; Dheer and Lenartowicz, 2020; Liu *et al.*, 2021). Immigrants develop an awareness that enables them to create new processes and products. They also get the ability to access resources for trying new ideas and starting new ventures without any fears (Kwon *et al.*, 2013). In a nutshell, immigrants' generational status indicates that they are more likely to identify and exploit entrepreneurship opportunities for starting new ventures which translate into entrepreneurial intentions. To support this idea, the earlier literature indicates that immigrant generational status has the ability of high participation in entrepreneurship (Kerr and Kerr, 2020). On the basis of this discussion, the researcher has come up with the following hypotheses:

H1. The generational status of immigrants is positively correlated with their entrepreneurial intentions.

Institutional support and entrepreneurial intentions

Demirdag and Eraydin (2020) conducted a study to investigate the role of government policies/institutional support for promotion of entrepreneurship.in Turkey. The study found

that government policies/institutional support was instrumental in promotion and development of entrepreneurial activities. Over the past two decades, governments have introduced several institutional reforms with the purpose to provide institutional support in combating the challenges faced by entrepreneurs and providing conducive environment for entrepreneurial activities (Akinyemi and Adejumo, 2018). A number of studies have been conducted to evaluate the effectiveness of institutional support toward entrepreneurship development and found that institutional support is critical in promoting the regional entrepreneurship. Institutional support facilitates the entrepreneurship development through ease of credit provision (Dvouletý, 2017a). Many studies suggest that institutional support can directly stimulate entrepreneurial intentions through provision of entrepreneur friendly environment and competitive opportunities. Institutional support also encourages people to start their own businesses with minimal administrative and bureaucratic obligations and thus allowing them to spare more resources for the promotion of businesses (Dvouletý and Mareš, 2016; Eraydin, 2016).

Contrary to this, excessive legal and other administrative requirements refrain people from starting new businesses. Several studies have highlighted the role of institutions toward provision of financial support for new venture creation. Additionally, institutions must provide technical assistance and other training programs to inspire people to start new ventures (Clark and Drinkwater, 2000). The role of institutions in provision of strong infrastructure to create entrepreneurial intent has been also highlighted. It has been argued that entrepreneurial intent is closely associated with the availability of strong infrastructure. In this regard, governments are establishing free trade zones, industrial zones, incubation centers and information technology structures (Titiyal *et al.*, 2019). Thus, the hypothesis would be:

H2. Institutional support is positively correlated with immigrants' entrepreneurial intentions.

Social context and entrepreneurial intentions

Social context refers to societal settings in which social activities and relations take place. Social context is featured by social values, norms, practices, social networks and social processes (Njoroge *et al.*, 2020; Atshan *et al.*, 2021). Earlier research has asked to study the societal dimension of entrepreneurship with particular emphasis on entrepreneurial activities, which are induced by societal interactions (Ahmed *et al.*, 2021). Many scholars have embraced socially embedded nature of entrepreneurship involving societal structural elements. Social networks help entrepreneurs to facilitate their access to social and other economic resources. These networks serve to bridge between the entrepreneurs and their clients (Sulphey and Salim, 2021). These networks help entrepreneurs in establishing, developing and growing their businesses. It is found that social context influences subjective behaviors. Previous research has reported that social context significantly influences entrepreneurial intentions. For example, the existence of the entrepreneurial activities in a society tends others to start their own businesses (Bygrave and Minniti, 2000). Social context has critical role to determine entrepreneurial intentions among the young graduates in Vietnam. The social norms, believes and values plays an active role to influence individuals' behaviors and thus also affect entrepreneurial behaviors (Begeç and Arun, 2021; Albahri *et al.*, 2022). Research on immigrant's entrepreneurship suggest that immigrants are more intended to start their own ventures and thus to become entrepreneurs than the locals. It has been demonstrated that immigrants are more risk seeker as compared to the native people in their pursuit to start their own businesses (Aljuwaiber, 2021).

H3. Social context is positively correlated with immigrants' entrepreneurial intentions.

Cultural intelligence and entrepreneurial intentions

Cultural intelligence is one's ability and capacity to understand and integrate in a diverse cultural setting (Alexandra, 2018). Cultural intelligence facilitates social interaction with others from diverse cultures, knowledge sharing and adaption to other diverse cultures. Individuals with higher levels of cultural intelligence display better knowledge of norms and values across cultures (Ng *et al.*, 2009). They demonstrate more openness to accept cultural diversity and ability to assimilate the behaviors and thoughts of varied cultural settings. Various intercultural studies show that more exposure to diverse culture works as catalyst to develop cultural intelligence. Cultural intelligence permits individuals to accommodate different cultural experiences, learn social skills and demonstrate diverse culture exposure in practice (Ratasuk and Charoensukmongkol, 2020; Abdullah *et al.*, 2021). It has been found that cultural cognizance acquired through the interaction with culturally diverse individuals helps development of cultural intelligence (Rehg *et al.*, 2012). Similarly, an understanding and knowledge of different cultural languages helps to develop cultural connections and thereby promoting cultural intelligence. Those who perceive themselves as belonging to more than one culture demonstrate higher levels of cultural intelligence than those who have single culture association (Hu *et al.*, 2017). In this way the subsequent generations of immigrants tend to be less culturally intelligent than their first- and second-generation ancestors. Recent research has shown the significant role of cultural intelligence toward stimulating entrepreneurial activities (Dheer and Lenartowicz, 2020). More culturally intelligent individuals have more exposure to divers' culture and are more likely to take risk of starting new ventures. Studies have shown cultural intelligence allows to knot more social ties with ethnic and locals which facilitate immigrants to development of their own businesses (Van Schaik and Burkart, 2011). Cultural intelligence helps to negotiate the cultural differences between host and home countries culture and thus helps to address the cultural issue to entrepreneurship activities. Culturally intelligent people develop legitimacy of diverse cultures and know which competing cultural is legitimate to use under given circumstances (Alexandra, 2018). It has been argued that individuals who are more culturally intelligent have more opportunities to start their own ventures. It has been found that individuals with diverse cultural knowledge and ability to perform under varied contexts have stronger conviction to engage in entrepreneurship activities (Rehg *et al.*, 2012). Thus, the hypothesis is posited as:

H4. Cultural intelligence is positively correlated with immigrants' entrepreneurial intentions.

Self-efficacy and entrepreneurial intentions

Self-efficacy refers to one own belief in his/her abilities to accomplish a given task. Higher level of self-efficacy is associated with more intentions to start a new business. It has been documented that higher level of self-efficacy will cause individuals to create social enterprise and enable the development of related intention to create new ventures. Entrepreneurial intentions are largely influenced by entrepreneur's personality. Fuller *et al.* (2018) argued that personality effects intuition, which in turns induce entrepreneurial intention. Self-efficacy is one major personality trait. Individuals with higher levels of self-efficacy are more intended to start their own businesses. Self-efficacy as a motivational factor has been found to positively influence entrepreneurial intentions. Ahmed *et al.* (2021) also found self-

efficacy as one major predictor of entrepreneurial intentions among university students. Self-efficacy is an important factor that boost confidence to start new business venture. It helps to exploration and identification of new business avenues. Earlier studies have shown that one's mental abilities and skills with belief in himself/herself positively influence entrepreneurial intentions. Research has demonstrated that individuals with lower levels of self-efficacy lack motivation to pursue their target and vice versa. Studies have found that individuals with higher self-efficacy level exhibit stronger intentions to start the new businesses; they are more intend to new product development. Self-efficacy enhances one's desire and passion toward new venture creation. Another study (Ozgen and Baron, 2007) found that individuals with high self-efficacy intends to explore more information that may encourage new business startup. It is well-acknowledged that self-efficacy is positively associated with intention to entrepreneurial activities (Bullough *et al.*, 2014; Zhao *et al.*, 2005).

Self-efficacy empowers individuals to take advantage of available business opportunities. Shepherd and Krueger (2002) found that self-efficacy sufficiently influences entrepreneurial activities to define the level of efforts required to succeed. Higher levels of entrepreneurial self-efficacy tend entrepreneurs to expand their businesses and seize the other business opportunities. Perceived level of self-efficacy was found to positively influence the entrepreneurial intentions of Vietnamese students (Nguyen and Nguyen, 2019). In another study of Lee *et al.* (2011) self-efficacy was found a strong determinant of students' entrepreneurial intentions. Self-efficacy is one major predictor of entrepreneurial intentions and helps entrepreneurs to prevent unsafe solutions to entrepreneurial problems. Self-efficacy as an emotional construct effect individuals' behaviors in multiple ways. One's own perceptions about his/her abilities will determine the extent to resist the barriers and sustain entrepreneurial behavior. Hence, it is theorized that:

H5. Self-efficacy is positively correlated with immigrants' entrepreneurial intentions.

Optimizing personality traits and entrepreneurial intentions

A meta-analysis of entrepreneurial research reported a strong influence of personality traits on entrepreneurial intentions. Similarly, some other studies have found a significant effect of personality traits and entrepreneurial creativity which is outcome of strong entrepreneurial intentions. Ariani (2013) presented a model called 'five factors model' to explain personality traits. The model accounts for five main personality traits including openness, conscientiousness, agreeableness, extraversion, neuroticism and openness. Openness means being unconventional and accepting different options and intent to perform variety of tasks. Conscientiousness defines one's degree of self-control, consistency, diligence and ability to plan and perform the given tasks. Agreeableness is being cooperative trusting and caring. Extraversion is being energetic, enthusiastic and ambitious. Neuroticism refers to the inclination toward negative emotions (e.g. fear, anger, anxiety, vulnerability, etc.). Two meta-analysis studies by Brandstätter (2011) and Zhao *et al.* (2010) indicated a significant relationship between personality traits and entrepreneurial intentions that individuals with higher level of openness, extraversion and conscientiousness (optimizing personality traits) have more intention to entrepreneurial activities. Other studies have found positive association between agreeableness, openness and entrepreneurship intents. These personality traits have found to be associated with entrepreneurial intentions with varying degrees due to different social contexts where the studies have been conducted. Liu *et al.* (2019) studied the relationship between optimizing personality traits as precursor of entrepreneurial intentions among 1,930 participants from Taiwan through five subsequent

survey studies. They found that personality traits and prior experience significantly predicted the entrepreneurial intentions among study participants. Consequently, we posit the next hypothesis as:

H6. Optimizing personality traits are positively correlated with immigrants' entrepreneurial intentions.

Hierarchy legitimacy and entrepreneurial intentions

Legitimacy is central to inter-group relationships theories. Relative deprivation theory states that people feel deprived when they feel that they have lesser share than they deserve rightfully. Immigrants have relative deprivation because of two major reasons. First, disadvantageous position and second less satisfaction with their current status. These both cause stress for immigrants and influence their psychological well-being. When immigrants perceive their intergroup hierarchy as less legitimate or unfair, they develop feelings of stress. The inability to overcome the hierarchical disadvantaged position heightened the levels of stress among immigrants. The feeling of stress and anger cause immigrants to believe that their hierarchical disadvantageous position in not fair and illegitimate. This cause relative deprivation among the immigrants. The emotional feelings about hierarchy [il]legitimacy caused by disadvantageous position significantly influence immigrants' intention to become entrepreneurs and thus counter their disadvantageous positions. It is quite usual for immigrants to engage in opportunistic behavior even if these are socially disruptive and potentially harmful. The extent of [il]legitimacy determine the nature and course of action of immigrants to address the hierarchy disadvantage. This can be concluded that perception of hierarchy [il]legitimacy significantly influence immigrants' entrepreneurial intentions. A study of Zolfagharian and Iyer (2020) found that hierarchy legitimacy is one major structural determinant of immigrants' intentions to engage in entrepreneurial activities.

Migrants generally face difficulties to start their businesses in host countries. Difficulty to adjust to local culture, less knowledge of local language and culture, difficulty in obtaining financial assistance and locating reliable clients and attracting customers are some of the pertinent challenges to migrant entrepreneurs. Also, they are at distance from the native people and thus have to rely on their own ethnic social networks to obtain initial success. In way migrants are at disadvantage position to start their own venture in host country. As a result, they operate their business informally due to their disadvantageous position (Lassalle *et al.*, 2020; Alnoor *et al.*, 2021). The disadvantage perspective suggests due to marginalization of migrants and their businesses is ascribed to the local economy, which favors the locals and thus migrants look for self-employment as an option for their livelihood (Czinkota *et al.*, 2021; Fadhil *et al.*, 2021). It further suggests that because in majority cases, migrants belong to less developed country with more cultural disparity with the host country [developed] so they experience exclusion from the profitable host country market due to capital deficiency, language issues and difficulty to access other resources. Under these circumstances, their own ethnic minority networks serve as shelter for migrant entrepreneurship. For example, Polish migrant entrepreneurs in UK use their ethnic network to deescalate issues of marginalization (Lassalle *et al.*, 2020). In South Africa, the migrants from less developed other African countries rely on their home country networks to capture on entrepreneurial opportunities (Griffin-EL and Olabisi, 2018; Eneizan *et al.*, 2019).

H7. Optimizing personality traits is positively correlated with their entrepreneurial intentions.

Mediating role

The cognitive theory of entrepreneurship refers to the necessity of focusing on the cognitive elements that influence an individual's culture toward entrepreneurial activities (De Visser *et al.*, 2017; Jabbar *et al.*, 2020). As illustrated in the conceptual framework (Figure 1), the mediating role of institutional support, social context, cultural intelligence, self-efficacy, optimizing personality traits and hierarchy legitimacy has been expanded by explaining the reason behind the entrepreneurial intentions of immigrant generational. Institutional support refers to governmental and non-governmental support that increases an individual's capacity to start new ventures (Stephan *et al.*, 2015). Immigrants, who receive high institutional support, have strong intentions of starting new ventures (Lewin-Epstein *et al.*, 2003; Aymen *et al.*, 2019). The researcher considers that immigrants having different generational status show different entrepreneurial intentions. The difference in institutional support increases the likelihood of demonstrating greater entrepreneurial intentions on the part of the immigrants (Teixeira *et al.*, 2007). Institutional support facilitates the process of entrepreneurship, thus the importance of supporting resources from all formal and informal institutions behaves as incentives for immigrants of different generations to increase entrepreneurial intentions (Zahra *et al.*, 2009). Institutions refer to the social structure that acts as guidelines for behavior and serves as guidelines for individuals. Formal institutions are the governmental organizations meant for organizational and individual actions while informal institutions are socially constructed institutions (Javidan *et al.*, 2006). Institutional support is represented in providing public goods and looking after the welfare of citizens and residents. It is the institutional support that encourages immigrants to achieve their goals by starting new ventures. Thus, institutions can be considered as partners in increasing entrepreneurial intentions (Sud *et al.*, 2009). There is a positive relationship between institutional support and the initiation of starting new ventures by immigrants (Stephan *et al.*, 2015). After these arguments, corporate support is expected to affect the immigrants' generational status of starting new ventures. The researcher hypothesizes that:

H8. The generational status of immigrants is negatively correlated with their institutional support.

The context refers to the conditions and attitudes of a particular phenomenon and the context in the field of entrepreneurship still needs further investigation. The social context
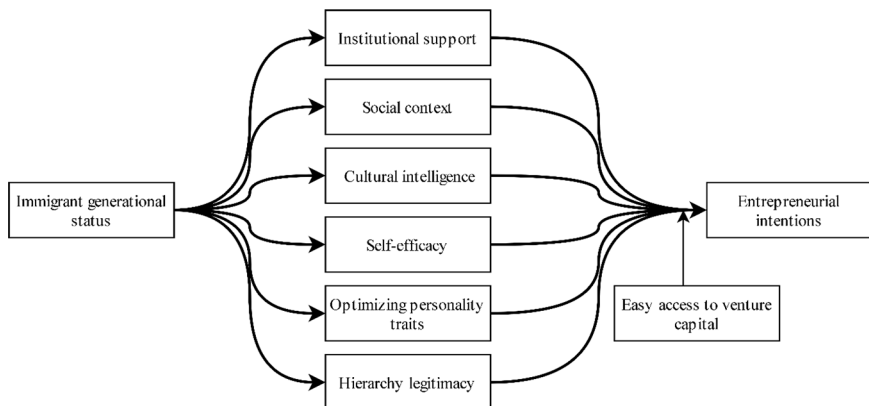

Figure 1.
Hypothesized model

represents the awareness of resources, attitudes, motives, beliefs and behavior, which
addresses myopia in the field of entrepreneurship (Dy and Agwunobi, 2019). Social cognitive
career theory relies on Bandura's social cognitive theory for address how the social context
of immigrants affects entrepreneurial intentions (Meoli *et al.*, 2020). Social context has a
strong impact on inspiration, awareness, purpose and behavior of the immigrants (Liñán
et al., 2016). Thus, the decision of entrepreneurial intentions is shaped by values in the social
context (Pinillos and Reyes, 2011; Hadi *et al.*, 2018). Different social contexts influence the
choices, identities and experiences of immigrants in the field of entrepreneurship. Social
hierarchies such as gender, ethnicity and class also influence entrepreneurial endeavors to
varying degrees (Jayawarna *et al.*, 2014). The influence of the social context depends on how
individuals or migrants interpret any opportunity they face (Lent *et al.*, 1994). Moreover,
these trends and interpretations are translated into goals, especially when it is realized that
efforts in these directions are not obstructed by contextual factors (Hunter and Lean, 2018;
Abbas *et al.*, 2021). The researcher hypothesizes that:

H9. The generational status of immigrants is negatively correlated with their social
context.

Cultural intelligence refers to an individual's ability for adapting himself or herself in
diverse cultures and understandings (Alexandra, 2018). Immigrants with high cultural
intelligence possess the ability to understand different assumptions, norms and cultures and
demonstrate empathy for diverse cultures (Ng *et al.*, 2009). Cultural intelligence also
indicates the openness of immigrants to other cultures and ideologies and the ability to
adapt their behaviors to different cultural and social environments. Cultural intelligence is
the result of continuous exposure to culturally diverse environments (Hu *et al.*, 2017).
Cultural intelligence increases by acquiring knowledge about other cultures and forming a
sense of distance from the complexity of different cultures (Ratasuk and
Charoensukmongkol, 2020). Consequently, generations that live between diverse cultures
develop cultural intelligence more than others, and this provides them with an
understanding of different beliefs, standards and values, as well as their involvement in
multiple cultures (Dheer and Lenartowicz, 2020). These factors increase the adaptation to
different cultures, which affects cultural intelligence. Thus, generations of immigrants show
higher cultural intelligence owing to their openness to more opportunities for cultural
learning (Van Schaik and Burkart, 2011). Therefore, generations of immigrants differ in
their levels of cultural intelligence. The researcher hypothesizes that:

H10. The generational status of immigrants is negatively correlated with their cultural
intelligence.

The available literature emphasizes the fact that people having lack of self-efficacy do not
show high enthusiasm even if the goals are attractive (Mauer *et al.*, 2017). Moreover, they
accept difficult goals if they can achieve them. It is worth noting regarding entrepreneurial
activities that self-efficacy increases people's perseverance toward entrepreneurship (Puni
et al., 2018). Hence, highly qualified individuals are more prone to start new ventures (Urban,
2020). As a result, entrepreneurship self-efficacy positively affects entrepreneurial intentions
(Wilson *et al.*, 2007; Fesharaki, 2019). The researcher examines and hypothesizes this
relationship in the case of refugees as follows:

H11. The generational status of immigrants is negatively correlated with their self-
efficacy.

The five-factor model was developed to encompass five dimensions of extraversion, openness, neuroticism, conscientiousness and agreeableness (Zhao and Seibert, 2006). Extraversion is characterized by unrestrained energy versus secluded and reserved. Openness is about experiments, creativity, inquisitiveness versus cautiousness. Neuroticism is sensitive and anxious versus reassuring and confident. Conscientiousness is efficient and orderly versus indifferent. Then agreeableness and affectionate is juxtaposed against challenging and detached (Liu *et al.*, 2021). The literature has emphasized the link between personality traits and entrepreneurship (Antoncic *et al.*, 2015). People with entrepreneurial intentions scored the highest for extraversion, openness and conscientiousness while their score remained the lowest for neuroticism and agreeableness (Bowler *et al.*, 2009). The researcher hypothesizes that:

H12. The generational status of immigrants is negatively correlated with their optimizing personality traits.

The concept of legitimacy is a principle one in the theories of intergroup relations, and it includes the recognition of an inappropriate position and dissatisfaction with the situation (Bartlett and Goshal, 1996). Dissatisfaction is the result of anxiety and stress, while stress is the response to admitting harm (Gill, 2014). When immigrants realize that the hierarchy is less legitimate and unfair, they feel nervous (Zolfagharian and Iyer, 2020). Being unable to overcome the hierarchical flaw leads them to the feelings of anger especially when the hierarchy is illegal (Williams, 2009). These negative consequences affect immigrant entrepreneurs and make them engage in opportunistic behaviors. Besides, anger also becomes a cause of their less entrepreneurial intentions (Gill, 2014). Hence, the hierarchy legitimacy can motivate entrepreneurs to make decisions for starting new ventures if they are favorable. However, when there is a flaw in the hierarchy, they feel angry and thus they engage in behaviors that ultimately diminish their entrepreneurial intentions (Zolfagharian and Iyer, 2020). The researcher hypothesizes that,

H13. The generational status of immigrants is negatively correlated with their hierarchy legitimacy.

Keeping in mind the human and intellectual capital (Hmieleski *et al.*, 2015), this study attempts to understand the impact of immigrant generational status on entrepreneurship potential. Thus, Institutional support influences immigrants' intentions for starting new ventures (Stephan *et al.*, 2015). Social context is a motivational factor for immigrants' generational status to influence their entrepreneurial intentions (Meoli *et al.*, 2020). According to cultural theory, indigenous customs, traditions and values enhance the entrepreneurial capacity of migrants (Collins, 2003). Consequently, the socio-economic conditions of the migrants' home country affect the launching of new ventures (Dheer and Lenartowicz, 2020). Research in the field of cultural intelligence indicates that cultural knowledge increases the chances of developing ideas and obtaining favorable opportunities that lead to engaging in entrepreneurial activities (Lorenz *et al.*, 2018). Moreover, cultural intelligence positively affects the process of starting new ventures by identifying new cultures and knowledge by reflecting weaknesses and gaps in the host community. The knowledge gained from these cultural practices can be highly helpful in achieving economic gains (Baluku *et al.*, 2019). Immigrant generational status influences cultural recovery (Dheer and Lenartowicz, 2020). However, other studies confirm that self-efficacy affects immigrants' entrepreneurial intentions, making it difficult to start new ventures for low-skilled immigrants in the host country (Sequeira *et al.*, 2007). The available literature also

indicates the importance of optimizing personality traits in explaining the potential for immigrants to start new ventures. For instance, according to Liu *et al.* (2021), the optimizing personality traits provide immigrants with incentives to start new ventures. While hierarchy legitimacy increases the entrepreneurial intentions among immigrant generational status (Zolfagharian and Iyer, 2020). The researcher hypothesizes that:

H14. Institutional support, social context, cultural intelligence, self-efficacy, optimizing personality traits and hierarchy legitimacy will mediate the effect of immigrants' generational status on their entrepreneurial intentions.

Moderating role

As stated earlier those immigrants are at disadvantageous position due to perceived relative disparity. One disadvantage to them is that they do not have an easy access to financial resources of the host country. Access to financial capital is considered as an important factor for creation, as well as for success of entrepreneurship. Immigrants often face difficulties in securing the requisite capital to create their own businesses. Mostly the relevant rule does not allow immigrants for entitlement to local financial markets. Earlier research has recognized the problems faced by immigrants to access the required venture capital. Inability to present collateral, non-familiarity with the rules and procedures, unawareness to local business market and unproven business skill are some of the major barriers to access the venture capital. Studies have shown that immigrants face problems in access to capital because of complexity of financial markets in developing and developed countries and in many cases, they have to rely on their ethnic networks or personal savings to obtain the required capital. Immigrants are likely to be disadvantaged to become entrepreneurs because of lack of capital, which negatively effects their entrepreneurial intentions. Access to venture capital has been determined as an important factor to entrepreneurial success both in developing and developed countries (Matshekga and Urban, 2013). Easy access to venture capital allows entrepreneurs to invest in innovative products and services. Moreover, easy access to venture capital allows entrepreneurs to locate new business avenues and thus to expand their businesses (Ebben and Johnson, 2006). There is a wider agreement between researchers that access to financial resources is critical to entrepreneurship success (Anton and Bostan, 2017). Access to finance is positively associated with rate of new firms' formation. The probability of becoming entrepreneurs is largely dependent on entrepreneur' vision and the required capital to use the vision. An access to finances increases likelihood of becoming entrepreneurs. De Clercq *et al.* (2013) reported that access to financial capital and other social resources effectively influence positive entrepreneurial intentions and commitment. Research on entrepreneurship emerging from theory of planned behavior approach also suggest that easy access to finance increases entrepreneurial commitment to start new ventures and subsequently influence entrepreneurial intentions, positively (Urban and Pendame, 2015).

Due to larger immigration from underdeveloped and war-effected countries governments in developed countries are extending support to immigrants to adjust in local communities. Governments also do not want immigrants to accommodate on the cost of benefits to locals. Governments are facing problem of financial assistance to Immigrants. In that case, immigrants' entrepreneurship can offer the better solution. As it has already been argued that government (institutional) support helps immigrants to start their own businesses and thus has positive influence on immigrants' entrepreneurial intentions and this relationship is strengthen when immigrants' financial institutions give immigrants an easy access to financial capital. Financial constraints have been found as major challenge to immigrants'

entrepreneurship. Governments need to facilitate access to venture capital to encourage immigrants' entrepreneurship and thus to reduce the burden of immigrants on local economy. Studies have found that immigrants have no access to local financial resources which hamper their entrepreneurial intentions. This has been shown that despite of relaxed immigration policies local financial market offers little help to immigrants to start their own businesses. Complex financial systems of developed countries dilute the positive effects of government policies on immigrants' entrepreneurial intentions (Kristiansen and Indarti, 2004). It has been argued that government support to immigrant's entrepreneurship can be more effective if immigrants have more access to financial resources. Levie and Autio (2008) found ease of access to venture capital a critical factor to entrepreneurship process and argued that access to financing is vital to influence entrepreneurial intentions. A sophisticated financial system encourages financial assistance to initiate entrepreneurial activities. Financial difficulties faced by immigrants are major constraints to immigrant's entrepreneurial intentions. Lesser availability of personal capital coupled with costly external funding negatively influence immigrants' entrepreneurial intentions.

Easy access to venture capital is immigrants' ability to access financial resources with minimal financial and non-financial barriers (Hussain *et al.*, 2007). Access to financial resources is an essential factor for commercial activities, and many immigrants seek to obtain self-financing, or they search for support through institutions to start new ventures (Raijman, 2001). Entrepreneurial intentions are positively linked to easy access to venture capital. For instance, poor access to venture capital raises rates of entrepreneurial abandonment for immigrants even when institutional support, social context, cultural intelligence, self-efficacy, optimizing personality traits and hierarchy legitimacy are favorable (Antoncic *et al.*, 2015; Mauer *et al.*, 2017; Dheer and Lenartowicz, 2020; Zolfagharian and Iyer, 2020). Hence, access to valuable resources is a source of opportunity for entrepreneurship that leads to a social and economic benefit to the host country's economy (Tengeh and Nkem, 2017). Access to financial resources has fundamental implications for increasing entrepreneurial activities, reducing risk and promoting creativity and innovation and as a result, it can encourage immigrants to start commercial operations (Chrysostome, 2010).

Access to venture capital will influence immigrants' entrepreneurship intentions. Rather than being the result of innate characteristics, the researcher considers these intentions to stem from cognitive and financial traits (Hussain *et al.*, 2007; Dheer and Lenartowicz, 2020). Immigrants' perception of their capabilities and qualification is not sufficient for starting new ventures. In addition to this, access to capital positively affects their intentions toward entrepreneurship (Fairlie and Lofstrom, 2015). To give them the ability to invest and meet their goals in the host country, access to financing increases migrants' effectiveness toward entrepreneurial activities (Mustafa and Chen, 2010). Moreover, Entrepreneurial intentions increase when the knowledge and financial requirements of immigrants are available (Malki *et al.*, 2020). The researcher hypothesizes:

H15. Easy access to venture capital will moderate the effect of entrepreneurial institutional support, social context, cultural intelligence, self-efficacy, optimizing personality traits and hierarchy legitimacy on immigrants' entrepreneurial intentions.

Methodology
The methodology for immigrants' entrepreneurial intentions evaluation framework can be divided into two phases. The first phase is the identification, which discusses sample size,

measurement and proposed decision matrix (DM). While phase two proposes an MCDM solution based on the AHP method for determining criteria weights and for prioritizing immigrants' entrepreneurial intentions using the VIKOR method. These phases are thoroughly discussed in detail in Table 2 and the following sections (Figure 2).

Identification
This section describes the sample size and measurement for the proposed DM to rank immigrants' entrepreneurial intentions as follows.

Sample size
In recent years, the challenges faced by immigrants in developing countries are increased (especially in Asia and Africa), and we believe that it is important to focus on immigrants' economic condition in the host country. This research was conducted in the entrepreneurial field, with a group of immigrants in Asia and Africa (i.e. Malaysia, Pakistan, Singapore and Nigeria). The collection of data from these countries was considered acceptable due to its massive intake of migrants (Mosbah *et al.*, 2017; Mosbah *et al.*, 2018; Rahman, 2018; Antwi Bosiakoh and Williams Tetteh, 2019). The utilization of data from various countries has also allowed us to control country-based disparities in policy, infrastructure and social support system variables that can contribute to a discrepancy in entrepreneurial intentions between individuals (Luthans and Ibrayeva, 2006). In addition, ease of access, access to data and cultural affinity motivated us to choose the four mentioned countries. Questionnaires were in English and respondents were asked to complete the survey online. The population of the study was chosen from the immigrant entrepreneurs who came from different countries (Pakistan, Singapore and Nigeria), but now all of them live in Malaysia, beside the Malaysian entrepreneurs. The previous studies have focused on the countries with high the immigrant entrepreneurs (Duan *et al.*, 2021). Therefore, the current study will focus on the counties with low immigrant entrepreneurs, also those immigrant entrepreneurs have the same sharing values and cultures. The electronic questionnaire was sent to 1,000 immigrant entrepreneurs by using different social network (Facebook, email, WhatsApp and Telegram). A total of 202 completed questionnaires were gathered, which represents a (70 for Malaysia, 50 for Nigeria, 40 for Pakistan and 42 for Singapore) percent response of immigrant entrepreneurs. Therefore, this size of sample is suitable for data analysis specially with partial least squares (PLS)-SEM (Hair *et al.*, 2014).
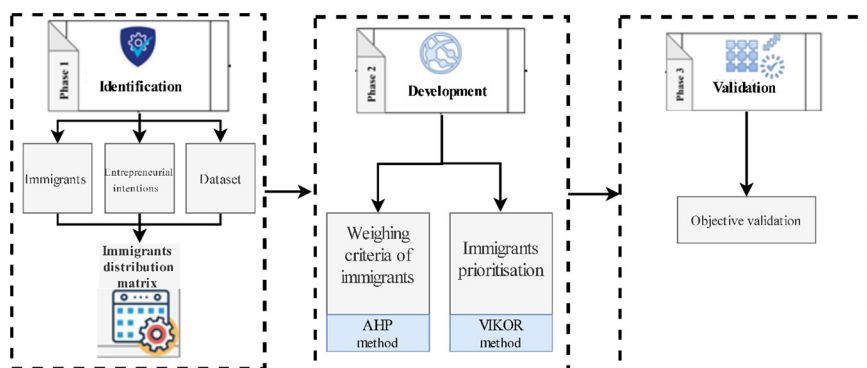

Figure 2.
Summarized
proposed framework
methodology

The questionnaire was translated and distributed among the respondents for understanding (the intended sample of the research). A validity test of the research tool (questionnaire) was also conducted. The research tool (questionnaire) consisted of 79 items covering the variables and respondents answered using a five-point Likert scale. The problem of common method bias in the field of human resources research, especially when questions are asked according to the self-report. To address the issue, some preventive measures were taken, such as guaranteeing the confidentiality of information for respondents, formulation of some inverse items (back-translation), separating the sources of information on the independent and dependent variables. In addition, a Harman single-factor test (Podsakoff *et al.*, 2003) has been performed. According to the test, the problem of bias appears when the variance of the first factor exceeds 50%, but in this study, the percentage was 42.32%. This satisfactorily ended the apprehension of any prejudice. Besides, according to Hair *et al.* (2014) if skewness and kurtosis close with zero, the responses are normally distributed. Hence, the PLS-SEM results shown all items have skewness and kurtosis less than 1 and they close with zero value. Therefore, the data of this study has normal distribution. The final sample consisted of 202 adventurers representing 54% of males and 46% of females. Those with a diploma represented the majority at a rate of 54%, while the percentage of those having a bachelor's degree was 26% of the sample and the percentage of masters and doctorates were 20%. The age group between 35–45 was the largest percentage of 65%.

Measurement

This section includes a description of various scales used to determine the variables of this study.

Immigrants' generation status has been calculated using a dichotomous variable. Immigrants contributing to the first and second generations were coded one and those assigned to the next generations were coded two. Generational categorization was described as follows: first and second-generation immigrants included those born outside the country or whose parents were born outside the country; later waves of refugees included those who themselves, as well as their parents, were born in the country, but their forefathers and other relatives were not born in the country (Dheer and Lenartowicz, 2020). *Institutional support*, according on Yi (2021), a one-dimensional variable consisting of eight items was developed, by only two of the four representations adopted in Li and Atuahene-Gima (2001a, 2001b) and Sun *et al.* (2018). Its external institutional support and university entrepreneurial support – which obtained the highest reliability – were combined into one concept "institutional support" to suit the purposes of the current study. *Social context*, a 18-item scale, developed by Ferguson *et al.* (2016) was used (e.g. "Gain valuable experience that will help us attract and develop other partners"). It has reliability estimated at ($\alpha = 0.88$). *Cultural intelligence*, this was measured using a 20-item scale by Ang *et al.* (2007). The reliability (i.e. Cronbach's alpha) of this scale in this study was 0.92. *Self-efficacy*, this was measured using a four-item scale by Zhao *et al.* (2005). The reliability (i.e. Cronbach's alpha) of this scale in this study was 0.87. *Optimizing personality traits*, this was measured using a fifteen-item about social entrepreneurial intentions precursors were adopted from Hockerts (2017) model. It has reliability estimated ($\alpha = 0.80$). According to Zolfagharian and Iyer (2020), the scale of this variable consisted of four items, each of them was measured in a semantic differential scale according to a five-point scale ranging between 5 to 1 for each of the four items (fair/unfair; justified/unjustified; reasonable/unreasonable; legitimate/illegitimate). The reliability was good. *Easy access to venture capital*, this was measured using a four-item scale by Guo and Jiang (2013), for example, it is easy to find further investors or bank loans for the project. It has reliability estimated ($\alpha = 0.85$). *Entrepreneurial intentions*, this was measured using a

six-item scale by Liñán and Chen (2009). An example item reads, "I have the firm intention to start a firm someday." The reliability (i.e. Cronbach's alpha) of this scale in this study was 0.83.

Proposed decision matrix

The dataset was designed to include 202 immigrants. The criterion was chosen based on the results of the SEM which prepared the inputs for the MCDM and thus formed the 202 immigrants' alternatives and the outputs of the SEM criteria. Therefore, these data have been relied upon to give priority to immigrants' entrepreneurial intentions. In this regard, the DM has been proposed in Table 1.

The proposed DM is designed based on intersection criteria (i.e. V1, V2, V3, V4, V5 and V6) and immigrants (alternatives).

Development

To develop a dynamic immigrants' entrepreneurial intentions approach, two MCDM methods must be addressed, weighting and ranking. The weighting method was achieved through the utilization of AHP, while VIKOR was used for ranking (Albahri *et al.*, 2021).

Analytic hierarchy process weighting method for weighting criteria

This section presented the stages of AHP method for weighting criteria as the following (Mohaghar *et al.*, 2012).

Step 1: The hierarchy includes the DM and the conditions to be set out in each DM for establishing the relation between the criteria in DM of the immigrants' and their entrepreneurial intention prioritizing is carried out to derive the weights subjectively.

Step 2: The AHP constructs a pairwise matrix comparison using equation (1) to locate a weighting decision

$$A = \begin{pmatrix} X_{11} & \cdots & X_{1n} \\ \vdots & \ddots & \vdots \\ X_{n1} & \cdots & X_{nn} \end{pmatrix} \tag{1}$$

$$\text{Where } X_{ii} = 1, \ X_{ii} = \frac{1}{X_{ij}}$$

Alternatives	V1	V2	V3	V4	V5	V6
IM 1	V1/IM 1	V2/IM 1	V3/IM 1	V4/IM 1	V5/IM 1	V6/IM 1
IM 2	V1/IM 2	V2/IM 2	V3/IM 2	V4/IM 2	V5/IM 2	V6/IM 2
IM 3	V1/IM 3	V2/IM 3	V3/IM 3	V4/IM 3	V5/IM 3	V6/IM 3
–	–	–	–	–	–	–
–	–	–	–	–	–	–
IM 202	V1/IM202	V2/IM202	V3/IM202	V4/IM 202	V5/IM 202	V6/IM 202

Notes: where V = Variables; IM = Immigrants

Step 3: This step demonstrates the design of the peer-review questionnaire to the parameters for each judgment matrix of the immigrants' entrepreneurial intents prioritization and to the experts.

Step 4: In this stage, each element in matrix A (1) is normalized to build the normalised matrix A_{norm}, A_{norm} (aij) as follows:

$$a_{ij} = \frac{X_{ij}}{\sum_{i=1}^{n} X_{ij}}$$ (2)

$$A_{norm} = \begin{pmatrix} a_{11} & \cdots & a_{1n} \\ \vdots & \ddots & \vdots \\ a_{n1} & \cdots & a_{nn} \end{pmatrix}$$ (3)

where A (x_{ij}) is given by equation (2).

Step 5: This stage involves AHP pairwise analysis with the use of statistical equations, the translation of decisions and the assigning of weights for each prioritization DM.

$$W_i = \frac{\sum_{j=1}^{n} a_{ij}}{n} \ and \ \sum_{j=1}^{n} W_i = 1$$ (4)

Step 6: This step is used to check the composite reliability (CR) to the pairwise comparison matrix as follows.

$$CR = \frac{CI}{RI}$$ (5)

$$CI = \frac{\lambda \max - n}{n - 1}$$ (6)

$$RI = \frac{1.98 \ (n-1)}{n} CI$$ (7)

A pairwise comparison matrix with a corresponding CR of no more than 10% or 0.1 is acceptable; otherwise, it will be ignored.

Vlsekriterijumska Optimizcija I Kaompromisno Resenje method for prioritizing immigrants' entrepreneurial intentions

To start with the prioritizing of immigrants' entrepreneurial intentions, the VIKOR method is used considering. The VIKOR method has been differenced steps (Mohaghar *et al.*, 2012).

Step 1: Identify the best f^*i and worst fi values of all criteria within DM, i = 1; 2; . . .; n. If the ith function represents:

$$f_i^* = max_j \ f_{ij}, \ f_i^- = min_j \ f_{ij}$$ (8)

where i = 1; 2; . . .; n.

Step 2: AHP is adopted for the calculation of each evaluation criterion of each prioritization DM. A set of weights $w = w_1, w_2, w_3, \cdots, w_j, \cdots, w_n$ from the experts is accommodated in the DM; this set is equal to 1. The outcoming matrix could also be determined as demonstrated in the following equation:

$$WM = wi* \; \frac{f_i^* - fij}{f_i^* - f_i^-} \tag{9}$$

$$
\begin{bmatrix}
\dfrac{w_1 \left(f_i^* - f_{11}\right)}{f_i^* - f_i^-} & \cdots & \dfrac{w_i \left(f_i^* - f_{ij}\right)}{f_i^* - f_i^-} \\
\vdots & \ddots & \vdots \\
\dfrac{w_1 \left(f_i^* - f_{31}\right)}{f_i^* - f_i^-} & \cdots & \dfrac{w_i \left(f_i^* - f_{ij}\right)}{f_i^* - f_i^-}
\end{bmatrix} \tag{10}
$$

Step 3: In this step, the *Sj* and *Rj* values, *j = 1,2,3,…..,J, i = 1,2,3,….,n* can be calculated using the following equations:

$$Sj = \sum_{i=1}^{n} wi* \; \frac{f_i^* - f_{ij}}{f_i^* - f_i^-} \tag{11}$$

$$Rj = max_i \; wi* \; \frac{f_i^* - fij}{f_i^* - f_i^-} \tag{12}$$

Step 4: Determine the values of *Qj, j = (1,2,…J)* using the following equation:

$$Q_j = \frac{V \left(S_j - S^*\right)}{S^- - S^*} + \frac{(1 - V)\left(R_j - R^*\right)}{R^- - R^*} \tag{13}$$

where

$$S^* = min_j S_j, \; S^- = max_j S_j$$

$$R^* = min_j R_j, \; R^- = max_j R_j$$

v is introduced as the weight of the strategy of 'most criteria' (or 'the maximum group utility'); here, v = 0.5.

Step 5: Now the alternative set (i.e. immigrants' entrepreneurial intentions) can be prioritized. This process is accomplished by sorting the *Q*-values in ascending order.

Results and discussion

The result and discussion for immigrants' entrepreneurial intentions evaluation framework can be divided into two phases. The first phase is the SEM process, which discusses

reliability and validity as well the structural equation model results for the mediation model. Phase two discusses the MCDM solution based on the AHP and VIKOR methods for evaluation immigrants' entrepreneurial intentions and finally, the researcher presents the validation of the result.

Structural equation model results

To test the proposed hypotheses, a SEM method SmartPLS 3.3.3 was used (Ringle *et al.*, 2015).

The validity of convergent and discriminant were tested before proceeding with discovering the testing of the hypotheses. The factor loading (must exceed 0.7), average variance extracted (AVE) (should exceed 0.5), composite reliability (CR) and Cronbach's alpha (must be to exceed 0.7) were relied upon to test the convergent viability (Chen, 2010; Hair *et al.*, 2014). The results in Table 2 show that the factor load values achieved the specified value, except for the paragraphs (sc2 and sc17 of social context, ci4, ci15, ci16 and ci17 of cultural intelligence, and opt5 and opt9 of optimizing personality traits) that were excluded for their low loadings. It also appears that the values of AVE, CR and Cronbach's alpha were acceptable based on the cut-off values. Table 2 also shows model fit indicators. This is done through two categories of indicators: first, absolute fit indices: by checking the values of [Chi-square/df and root mean square error of approximation (RMSEA)] for the purpose of identifying compatibility general between the theoretical model and the data. The model is accepted when the value of (Chi-square/df) is less than (2), and when the value of RMSEA ranges between (0.05 to 0.8). Second, Incremental fit indices: by checking the values of [comparative fit index (CFI), Tucker-Lewis index and normed fit index] with the aim of comparing the tested hypothetical model with the null model. The theoretical model of the data is accepted if the values of the three indicators exceed (0.90) (Widaman and Thompson, 2003). Our results support the model fit.

As for the discriminant validity test, which refers to ensuring that a given concept scale differs from another concept in the same model. Heterotrait-Monotrait (HTMT) was used for this purpose so that all ratio values must be less than 0.85 (Klein, 2011). Table 3 shows that all values were less than 0.85, indicating that the data did not suffer from a discriminatory validity problem.

The second step for SEM in the PLS analysis is to evaluate the model and test the hypotheses. As the direct and indirect relationships will be tested through the mediator variables, in addition to testing the moderator variable in the effect of the mediator variables on the dependent variable. We will test the value of R^2 which indicates the extent to which the external variable affects the internal variable. Table 4 shows the results obtained, in addition to indicators of the model fit.

The data in the above table indicate that there is no direct effect between immigrant generation status and entrepreneurial intentions, while there was an important statistical indication of accepting all the assumptions related to the direct effects. As for the hypotheses of indirect influence, the results indicate the existence of a fully mediating role for the mediator six variables (institutional support, social context, cultural intelligence, self-efficacy, optimizing personality traits and hierarchy legitimacy) in the relationship between immigrant generation status and entrepreneurial intentions.

In addition, as a shown in Table 4 and Figure 3 there was an important role for easy access to venture capital in increasing the positive effect between the mediator six variables and entrepreneurial intentions. Figure 4 shows the complete model with the moderated variable, while Figure 5 represents without it.

Items	Factors loadings	AVE	CR	Cronbach's alpha
is1	0.850	0.682	0.782	0.792
is2	0.861			
is3	0.835			
is4	0.834			
is5	0.755			
is6	0.889			
is7	0.745			
is8	0.825			
sc1	0.844	0.667	0.825	0.855
sc3	0.816			
sc4	0.789			
sc5	0.798			
sc6	0.790			
sc7	0.841			
sc8	0.865			
sc9	0.840			
sc10	0.835			
sc11	0.797			
sc12	0.822			
sc13	0.802			
sc14	0.814			
sc15	0.780			
sc16	0.793			
sc18	0.840			
ci1	0.755	0.583	0.782	0.793
ci2	0.844			
ci3	0.760			
ci5	0.796			
ci6	0.832			
ci7	0.780			
ci8	0.861			
ci9	0.862			
ci10	0.767			
ci11	0.866			
ci12	0.798			
ci13	0.835			
ci14	0.824			
ci18	0.083			
ci19	0.830			
ci20	0.076			
se1	0.765	0.602	0.725	0.758
se2	0.714			
se3	0.889			
se4	0.724			
opt1	0.822	0.596	0.729	0.733
opt2	0.811			
opt3	0.802			
opt4	0.788			
opt6	0.801			
opt7	0.752			
opt8	0.721			
opt10	0.720			

Table 2.
Convergent validity
and model fit

(*continued*)

Items	Factors loadings	AVE	CR	Cronbach's alpha
opt11	0.782			
opt12	0.762			
opt13	0.822			
opt14	0.718			
opt15	0.725			
hl1	0.861	0.641	0.825	0.852
hl2	0.765			
hl3	0.820			
hl4	0.750			
ei1	0.814	0.660	0.842	0.895
RMSEA = 0.079; Chi-square/df = 1.85; NFI = 0.905; TLI = 0.907; CFI = 0.920				
ei2	0.788			
ei3	0.712			
ei4	0.882			
ei5	0.836			
ei6	0.831			

Table 2. **Notes:** RMSEA = 0.079; Chi-square/df = 1.85; NFI = 0.905; TLI = 0.907; CFI = 0.920

Variables	IS	SC	CI	SE	OPT	HL	EAVC	EI
IS								
SC	0.512							
CI	0.345	0.554						
SE	0.554	0.425	0.425					
OPT	0.601	0.325	0.441	0.398				
HL	0.451	0.235	0.365	0.321	0.501			
EAVC	0.539	0.452	0.514	0.605	0.491	0.230		
EI	0.341	0.298	0.422	0.341	0.332	0.322	0.355	

Table 3.
HTMT ratio

Notes: IS = Institutional support; SC = Social context; CI = Cultural intelligence; SE = Self-efficacy; OPT = Optimizing personality traits; HL = Hierarchy legitimacy; EAVC = Easy access to venture capital; EI = Entrepreneurial intentions

Weights determination using analytic hierarchy process

This section presents the criteria weights of the DM (i.e. Malaysia, Pakistan, Nigeria and Singapore) used to prioritize immigrants' entrepreneurial intentions using the AHP method. Three experts with experience in the field of entrepreneurship were asked to assess multiple criteria through comparison questions and were re-asked twice due to the presence of the consistency problem. Table 5 displays the results of the weights.

Table 4 shows the result of the weights of the entrepreneurship criteria for immigrants, based on three experts. Institutional support criteria got the highest weight for the first, second and third experts, while easy access to venture capital got the lowest weight. The consistency results indicate the weights extracted by experts have acceptable values because they have less than 0.1.

Prioritization for immigrants' entrepreneurial intentions using vlsekriterijumska optimizcija i kaompromisno resenje

To determine who should receive support from the host nation, each immigrant. As mentioned, the VIKOR method was used to prioritize immigrants' entrepreneurial intentions

Paths	β	S.E	t-value (p-value)	Lower limit: upper limit
IGS → EI	−0.082	0.048	−1.55 (0.062)	(0.017: −0.181)
IGS → IS	−0.181*	0.051	−2.02 (0.021)	(−0.149: −0.213)
IS → EI	0.414**	0.035	4.05 (0.000)	(0.401: 0.427)
IGS → SC	−0.129*	0.052	−2.21 (0.001)	(0.016: −0.274)
SC → EI	0.428**	0.053	5.02 (0.000)	(0.402: 0.454)
IGS → CI	−0.199**	0.048	−3.21 (0.005)	(−0.155: −0.243)
CI → EI	0.425**	0.058	6.02 (0.000)	(0.399: 0.451)
IGS → SE	−0.132*	0.041	−3.21 (0.009)	(−0.113: −0.151)
SE → EI	0.433**	0.045	5.55 (0.000)	(0.411: 0.455)
IGS → OPT	−0.111*	0.052	−2.81 (0.012)	(−0.081: −0.141)
OPT → EI	0.414**	0.057	5.85 (0.000)	(0.401: 0.427)
IGS → HL	−0.118*	0.049	−1.99 (0.049)	(−0.092: −0.144)
HL → EI	0.361**	0.032	3.98 (0.001)	(0.335: 0.387)
IGS → IS → EI	−0.075*	0.022	−2.01 (0.048)	(−0.062: −0.088)
IGS → SC → EI	−0.055*	0.019	−1.98 (0.047)	(−0.043: −0.067)
IGS → CI → EI	−0.085*	0.025	−2.04 (0.025)	(−0.072: −0.098)
IGS → SE → EI	−0.057*	0.021	−2.01 (0.039)	(−0.046: −0.068)
IGS → OPT → EI	−0.046*	0.022	−2.02 (0.038)	(−0.037: −0.055)
IGS → HL → EI	−0.043*	0.019	−2.11 (0.033)	(−0.034: −0.052)
EAVC → EI	0.322**	0.054	4.02 (0.002)	(0.302: 0.342)
IS*EAVC → EI	0.469**	0.049	6.21 (0.000)	(0.449: 0.489)
SC*EAVC → EI	0.465**	0.055	5.52 (0.000)	(0.442: 0.488)
CI*EAVC → EI	0.502**	0.056	6.02 (0.000)	(0.492: 0.512)
SE*EAVC → EI	0.479**	0.057	5.09 (0.000)	(0.459: 0.499)
OPT*EAVC → EI	0.501**	0.052	6.14 (0.000)	(0.489: 0.515)
HL*EAVC → EI	0.492**	0.052	5.45 (0.000)	(0.485: 0.499)

Notes: IGS = Immigrant generation status; IS = Institutional support; SC = Social context; CI = Cultural intelligence; SE = Self-efficacy; OPT = Optimizing personality traits; HL = Hierarchy legitimacy; EAVC = Easy access to venture capital; EI = Entrepreneurial intentions; EAVC = Easy access to venture capital, * = 0.05; ** = 0.01

Table 4.
Assessment of structural model

and the discussion was divided into two different decision-making contexts, namely, individual and group prioritization.

Individual vlsekriterijumska optimizcija i kaompromisno resenje prioritization for immigrants' entrepreneurial intentions

This section presents the individual decision-making results for four different countries (Malaysia, Pakistan, Nigeria and Singapore) based on VIKOR results using the AHP weights defined. Immigrants' entrepreneurial intentions are set out in Tables 6, 7, 8 and 9.

Table 5 shows the immigrants' entrepreneurial intentions for Malaysia are given priority according to the Q value in ascending order. Immigrants 12, 36 and 66 got the best rankings, while immigrants 41, 48 and 69 got the worst rankings for the first expert. However, the immigrants 12, 36 and 38 got the best rankings, but immigrants 41, 48 and 69 got the worst rankings for the second expert. Hence, the immigrants 12, 36 and 38 got the best rankings, but immigrants 34, 48 and 69 got the worst rankings for the third expert.

Table 7 shows the immigrants' entrepreneurial intentions for Pakistan are given priority according to the Q-value in ascending order. Immigrants 38, 29 and 8 got the best rankings, while immigrants 26, 23 and 21 got the worst rankings for the first expert. However, the immigrants 38, 29 and 11 got the best rankings, but immigrants 26, 23 and 21 got the worst
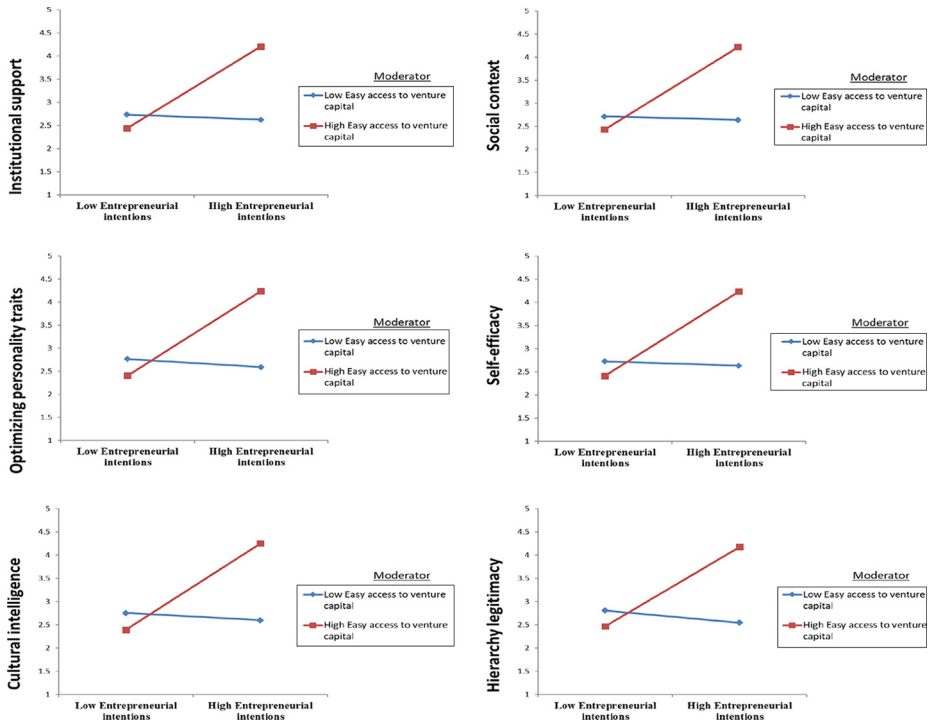
rankings for the second expert. Hence, the immigrants 38, 29 and 9 got the best rankings, while immigrants 26, 21 and 23 got the worst rankings for the third expert.

Table 7 shows the immigrants' entrepreneurial intentions for Nigeria are given priority according to the Q-value in ascending order. Immigrants 2, 13 and 7 got the best rankings, while immigrants 28, 9 and 6 got the worst rankings for the first expert. However, the immigrants 2, 13 and 23 got the best rankings, but immigrants 28, 9 and 6 got the worst rankings for the second and third expert.

Table 9 shows the immigrants' entrepreneurial intentions for Singapore are given priority according to the Q-value in ascending order. Immigrants 4, 25 and 36 got the best rankings, while immigrants 32, 10 and 29 got the worst rankings for the first, second and third expert.

In a nutshell, there is agreement among the participating experts regarding immigrants' entrepreneurial intentions in the four countries Malaysia, Pakistan, Nigeria and Singapore because their weights for these criteria were similar. While in Malaysia the ranking was matched by 15% among the experts, yet there was a difference of 85% between them regarding the ranking of immigrants (e.g. 1, 2, 3, 4). Also, in the ranking of immigrants in Pakistan, the ranking was matched by 18% among the experts, however, there was a difference of 82% between them regarding the ranking of immigrants (e.g. 3, 4, 5, 6). For immigrants in Nigeria, the ranking was matched by 12% among the experts, while there was an 88% difference between them regarding the ranking of migrants (e.g. 14, 15, 16, 17). Finally, for immigrants in Singapore, the ranking was matched by 20% among the experts, while there was an 80% difference between them regarding the ranking of migrants (e.g. 11,
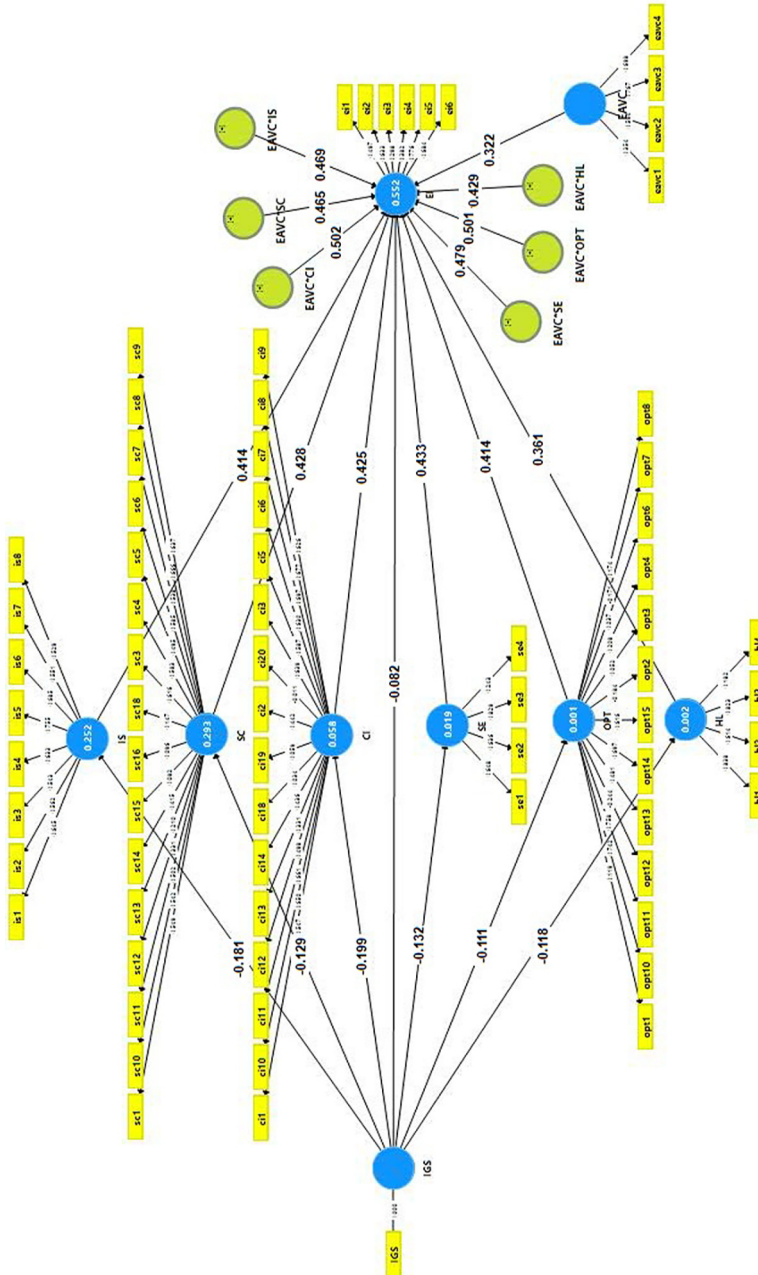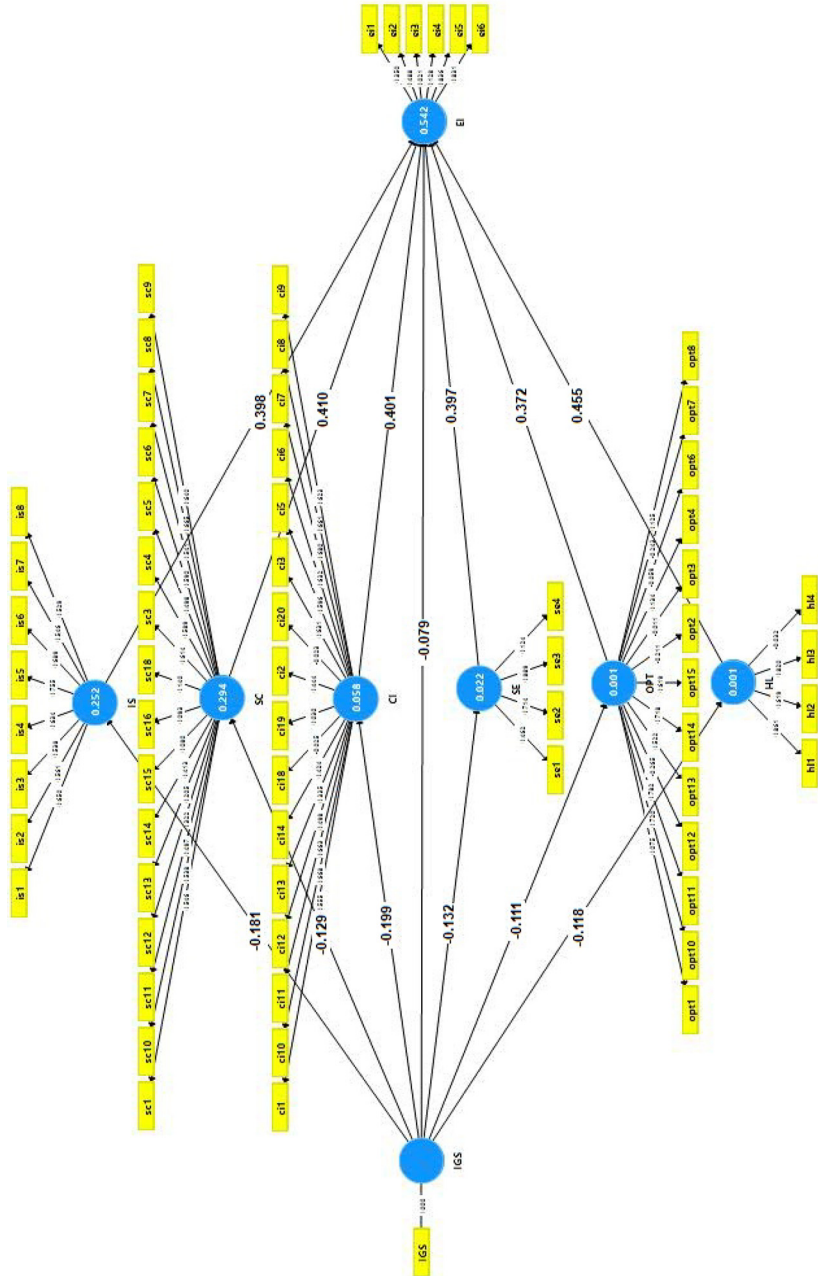
Figure 5.
Structural model
without moderated
variable

12, 13, 14). Thus, there is a difference between an order for each expert in arranging immigrants for the mentioned countries. Given the vitality of the immigrants' entrepreneurial intentions for states and its connection with the host nation's economies, the arrangement must be uniform for all immigrants to reach more decisive outcomes.

Group vlsekriterijumska optimizcija i kaompromisno resenje prioritization for immigrants' entrepreneurial intentions

According to the previous discussion, there is a discrepancy in the results of VIKOR individual priorities based on the preferences of the experts. Thus, the collective decision-making context is an effective solution to shed light on this difference and to obtain a unified regularity of immigrants for each of the mentioned countries. Immigrants' entrepreneurial intentions ranking results are presented based on VIKOR's group, internal and external. Due to the apparent differences between the weights of the criteria for the relevant experts, there is a fundamental need to collect the weights of the experts using a mathematical method that eliminates the differences. Table 10 shows the average weights for the criteria.

The arithmetic mean results show that the most important criterion for immigrants' entrepreneurial intentions is Institutional support as well. While the worst criterion is easy to access to venture capital. These results can be used for each criterion in the internal group by using the VIKOR method. In addition to the external configuration, Tables 11, 12, 13 and 14 show the results of the internal and external group according to VIKOR for the four countries.

As in the previous discussion, the immigrants in the mentioned countries achieved a mismatched order, at a rate ranging from 80% to 88% for the four countries, and therefore the group context is required. According to VIKOR internal and external group ranking for Malaysia, immigrants 12, 36 and 38, got the best order. However, immigrants 69, 48 and 41 in the internal and external group got the worst ranking.

According to VIKOR the internal and external group ranking for the Pakistan, immigrants 38, 29 and 9, got the best order. However, immigrants 26, 23 and 21 in the internal and external group got the worst ranking.

According to VIKOR the internal and external group ranking for the Nigeria, immigrants 2, 13 and 23, got the best order. Hence, immigrants 28, 9 and 6 in the internal and external group got the worst ranking.

According to VIKOR the internal and external group ranking for the Singapore, immigrants 4, 25 and 36, got the best order. In addition, immigrants 32, 10 and 29 in the internal and external group got the worst ranking. In the summary, priority is given to immigrants interested in entrepreneurship between nations and to the internal and external group using VIKOR. Thus, immigrants can be arranged accordingly after validation. The next section presents the validation results.

Criteria	Expert 1	CR	Expert 2	CR	Expert 3	CR
Institutional support	0.271	0.051	0.360	0.064	0.337	0.059
Social context	0.248		0.189		0.198	
Cultural intelligence	0.146		0.138		0.152	
Self-efficacy	0.138		0.151		0.093	
Optimizing personality traits	0.079		0.098		0.110	
Hierarchy legitimacy	0.060		0.061		0.112	
Easy access to venture capital	0.058		0.065		0.055	

Table 5.
Weights
determination using
AHP

	Expert 1						Expert 2						Expert 3				
	Malaysia						**Malaysia**						**Malaysia**				
ID	Q	Order	ID	Q	Order	ID	Q	Order	ID	Q	Order	ID	Q	Order		Q	Order
1	0.731	50	36	0.074	2	1	0.734	54	36	0.066	2	1	0.736	55	36	0.058	2
2	0.682	41	37	0.298	12	2	0.575	37	37	0.174	8	2	0.57	36	37	0.201	9
3	0.284	11	38	0.144	4	3	0.163	5	38	0.104	3	3	0.198	8	38	0.143	3
4	0.43	28	39	0.473	29	4	0.347	20	39	0.49	32	4	0.336	21	39	0.484	32
5	0.35	19	40	0.190	6	5	0.309	18	40	0.164	6	5	0.217	13	40	0.152	4
6	0.558	31	41	0.966	68	6	0.453	31	41	0.968	68	6	0.458	30	41	0.961	67
7	0.699	44	42	0.833	62	7	0.711	46	42	0.736	58	7	0.712	48	42	0.734	54
8	0.6	33	43	0.949	66	8	0.49	33	43	0.96	67	8	0.495	33	43	0.957	66
9	0.735	54	44	0.345	16	9	0.733	53	44	0.364	22	9	0.725	52	44	0.365	23
10	0.63	34	45	0.382	21	10	0.633	39	45	0.317	19	10	0.629	39	45	0.233	14
11	0.349	18	46	0.313	13	11	0.261	16	46	0.19	11	11	0.307	20	46	0.214	12
12	0	1	47	0.634	35	12	0	1	47	0.635	40	12	0	1	47	0.643	40
13	0.731	51	48	0.985	69	13	0.734	55	48	0.985	69	13	0.736	56	48	0.98	69
14	0.731	52	49	0.716	47	14	0.734	56	49	0.72	49	14	0.736	57	49	0.724	50
15	0.661	38	50	0.190	8	15	0.551	35	50	0.179	10	15	0.543	34	50	0.21	11
16	0.679	40	51	0.330	14	16	0.571	36	51	0.218	13	16	0.57	37	51	0.255	15
17	0.749	57	52	0.711	46	17	0.753	61	52	0.711	48	17	0.763	62	52	0.718	49
18	0.758	58	53	0.34	15	18	0.758	62	53	0.231	14	18	0.761	61	53	0.289	19
19	0.236	10	54	0.169	5	19	0.242	15	54	0.174	9	19	0.276	16	54	0.189	7
20	0.804	59	55	0.593	32	20	0.697	43	55	0.404	27	20	0.7	43	55	0.442	28
21	0.72	48	56	0.699	43	21	0.724	51	56	0.711	47	21	0.708	46	56	0.705	45
22	0.739	55	57	0.723	49	22	0.741	59	57	0.729	52	22	0.742	59	57	0.73	53
23	0.428	27	58	0.19	7	23	0.364	23	58	0.164	7	23	0.287	17	58	0.152	5
24	0.745	56	59	0.652	36	24	0.747	60	59	0.539	34	24	0.747	60	59	0.545	35
25	0.42	25	60	0.391	23	25	0.426	30	60	0.392	26	25	0.443	29	60	0.395	25
26	0.706	45	61	0.388	22	26	0.708	45	61	0.296	17	26	0.711	47	61	0.289	18
27	0.346	17	62	0.804	60	27	0.373	25	62	0.697	44	27	0.359	22	62	0.7	44
28	0.35	20	63	0.544	30	28	0.369	24	63	0.576	38	28	0.38	24	63	0.577	38
29	0.687	42	64	0.924	64	29	0.691	42	64	0.921	64	29	0.692	42	64	0.924	64
30	0.949	65	65	0.662	39	30	0.947	65	65	0.412	28	30	0.941	65	65	0.476	31
31	0.194	9	66	0.132	3	31	0.201	12	66	0.136	4	31	0.207	10	66	0.185	6
32	0.883	63	67	0.659	37	32	0.781	63	67	0.661	41	32	0.792	63	67	0.661	41
33	0.816	61	68	0.731	53	33	0.722	50	68	0.734	57	33	0.725	51	68	0.736	58
34	0.956	67	69	1	70	34	0.957	66	69	1	70	34	0.964	68	69	1	70
35	0.412	24	70	0.423	26	35	0.416	29	70	0.349	21	35	0.421	27	70	0.417	26

Table 6.
Individual VIKOR prioritization for Malaysia immigrants' entrepreneurial intentions

Framework validation

This section discusses the validation process for four countries to identify immigrant entrepreneurship priorities by using an objective approach (Mohammed *et al.*, 2019). To verify the validity of the results for determining the immigrants' priorities, the migrants were divided into four groups. Each group consists of several immigrants with different priorities. The last group should contain the largest number of immigrants compared to the other groups. However, validation results will not be affected by the number of groups. The mean was calculated for the row data of immigrants within each group to ensure that migrants were subject to a systematic ranking [equation (15)].

$$mean = \frac{1}{n}\sum_{i=1}^{n} x_i. \tag{15}$$

Expert 1

Pakistan

ID	Q	Order	ID	Q	Order	ID	Q	Order	ID	Q	Order	ID	Q	Order	ID	Q	Order
1	0.919	37	21	0.961	38	1	0.930	37	21	0.970	38	1	0.928	37	21	0.978	39
2	0.360	7	22	0.542	18	2	0.262	7	22	0.426	14	2	0.221	7	22	0.399	14
3	0.405	12	23	0.962	39	3	0.336	11	23	0.983	39	3	0.218	6	23	0.968	38
4	0.449	14	24	0.582	20	4	0.456	18	24	0.565	24	4	0.435	16	24	0.557	24
5	0.762	28	25	0.758	27	5	0.768	32	25	0.808	34	5	0.749	33	25	0.779	34
6	0.726	26	26	1.000	40	6	0.729	28	26	1.000	40	6	0.706	28	26	1.000	40
7	0.853	35	27	0.709	24	7	0.745	30	27	0.445	17	7	0.731	30	27	0.474	20
8	0.224	3	28	0.855	36	8	0.160	4	28	0.869	36	8	0.192	5	28	0.875	36
9	0.268	4	29	0.134	2	9	0.135	3	29	0.105	2	9	0.125	3	29	0.109	2
10	0.768	30	30	0.566	19	10	0.770	33	30	0.443	16	10	0.747	31	30	0.432	15
11	0.449	13	31	0.792	31	11	0.241	6	31	0.531	21	11	0.251	8	31	0.541	23
12	0.669	22	32	0.382	9	12	0.552	23	32	0.264	8	12	0.538	22	32	0.259	9
13	0.762	29	33	0.472	16	13	0.765	31	33	0.480	20	13	0.747	32	33	0.461	19
14	0.831	33	34	0.401	11	14	0.718	26	34	0.430	15	14	0.703	26	34	0.379	13
15	0.725	25	35	0.374	8	15	0.733	29	35	0.386	12	15	0.708	29	35	0.344	12
16	0.831	34	36	0.603	21	16	0.718	27	36	0.414	13	16	0.703	27	36	0.436	18
17	0.294	5	37	0.449	15	17	0.164	5	37	0.456	19	17	0.160	4	37	0.435	17
18	0.525	17	38	0.000	1	18	0.538	22	38	0.000	1	18	0.527	21	38	0.000	1
19	0.707	23	39	0.825	32	19	0.712	25	39	0.837	35	19	0.682	25	39	0.843	35
20	0.314	6	40	0.382	10	20	0.320	10	40	0.264	9	20	0.289	11	40	0.259	10

(Expert 1 · Expert 2 · Expert 3)

Table 7.
Individual VIKOR
prioritization for
Pakistan immigrants'
entrepreneurial
intentions

Expert 1

Nigeria

ID	Q	Order	ID	Q	Order	ID	Q	Order	ID	Q	Order	ID	Q	Order	ID	Q	Order
1	0.694	33	26	0.486	14	1	0.459	16	26	0.428	13	1	0.494	24	26	0.434	15
2	0.000	1	27	0.368	9	2	0.000	1	27	0.293	8	2	0.000	1	27	0.319	9
3	0.649	27	28	1.000	50	3	0.662	34	28	1.000	50	3	0.649	34	28	1.000	50
4	0.704	34	29	0.795	43	4	0.707	39	29	0.572	29	4	0.692	38	29	0.594	30
5	0.576	22	30	0.765	39	5	0.405	12	30	0.788	43	5	0.405	13	30	0.782	42
6	0.922	48	31	0.178	4	6	0.923	48	31	0.129	4	6	0.923	48	31	0.122	4
7	0.161	3	32	0.861	47	7	0.175	5	32	0.858	46	7	0.168	5	32	0.856	47
8	0.781	42	33	0.500	16	8	0.813	44	33	0.454	15	8	0.827	44	33	0.434	14
9	0.973	49	34	0.691	32	9	0.978	49	34	0.700	36	9	0.976	49	34	0.693	39
10	0.530	18	35	0.672	30	10	0.358	10	35	0.571	28	10	0.384	11	35	0.553	27
11	0.610	23	36	0.615	24	11	0.632	32	36	0.507	24	11	0.610	31	36	0.494	23
12	0.818	45	37	0.710	36	12	0.719	40	37	0.604	30	12	0.685	36	37	0.591	29
13	0.152	2	38	0.732	37	13	0.100	2	38	0.628	31	13	0.078	2	38	0.619	32
14	0.298	7	39	0.436	11	14	0.184	6	39	0.389	11	14	0.176	6	39	0.281	8
15	0.805	44	40	0.563	19	15	0.820	45	40	0.460	17	15	0.830	45	40	0.444	16
16	0.705	35	41	0.563	20	16	0.706	38	41	0.460	18	16	0.699	40	41	0.444	17
17	0.631	25	42	0.563	21	17	0.656	33	42	0.460	19	17	0.644	33	42	0.444	18
18	0.843	46	43	0.745	38	18	0.861	47	43	0.775	41	18	0.832	46	43	0.781	41
19	0.775	40	44	0.490	15	19	0.534	25	44	0.506	23	19	0.545	26	44	0.485	22
20	0.420	10	45	0.519	17	20	0.435	14	45	0.496	22	20	0.397	12	45	0.472	21
21	0.689	31	46	0.445	12	21	0.705	37	46	0.465	20	21	0.688	37	46	0.463	19
22	0.647	26	47	0.663	28	22	0.544	26	47	0.559	27	22	0.528	25	47	0.556	28
23	0.179	5	48	0.214	6	23	0.125	3	48	0.221	7	23	0.111	3	48	0.204	7
24	0.775	41	49	0.330	8	24	0.777	42	49	0.343	9	24	0.787	43	49	0.322	10
25	0.473	13	50	0.670	29	25	0.485	21	50	0.687	35	25	0.471	20	50	0.674	35

(Expert 1 · Expert 2 · Expert 3)

Table 8.
Individual VIKOR
prioritization for
Nigeria immigrants'
entrepreneurial
intentions

Table 9. Individual VIKOR prioritization for Singapore immigrants' entrepreneurial intentions

| | Expert 1 | | | | | | Expert 2 | | | | | | Expert 3 | | | | |
| | Singapore | | | | | | Singapore | | | | | | Singapore | | | | |
ID	Q	Order	ID	Q	Order	ID	Q	Order	ID	Q	Order	ID	Q	Order	Q	Order
1	0.865	39	22	0.732	25	1	0.888	39	22	0.494	15	1	0.864	38	22	0.527	15
2	0.711	22	23	0.858	37	2	0.707	26	23	0.866	37	2	0.721	29	23	0.881	39
3	0.830	33	24	0.708	21	3	0.600	19	24	0.469	14	3	0.630	20	24	0.505	14
4	0.000	1	25	0.000	2	4	0.000	1	25	0.000	2	4	0.000	1	25	0.000	2
5	0.335	8	26	0.665	20	5	0.347	8	26	0.675	24	5	0.327	8	26	0.663	23
6	0.806	29	27	0.723	23	6	0.714	27	27	0.723	29	6	0.721	30	27	0.709	27
7	0.595	12	28	0.590	11	7	0.422	11	28	0.415	10	7	0.449	12	28	0.416	10
8	0.640	17	29	0.947	40	8	0.676	25	29	0.943	40	8	0.662	22	29	0.945	40
9	0.163	4	30	0.164	5	9	0.124	4	30	0.178	5	9	0.115	4	30	0.172	5
10	0.952	41	31	0.798	28	10	0.957	41	31	0.827	32	10	0.945	41	31	0.844	32
11	0.569	10	32	1.000	42	11	0.593	18	32	1.000	42	11	0.578	17	32	1.000	42
12	0.601	13	33	0.541	9	12	0.450	13	33	0.366	9	12	0.431	11	33	0.394	9
13	0.639	16	34	0.625	15	13	0.667	21	34	0.644	20	13	0.687	25	34	0.622	19
14	0.653	19	35	0.839	34	14	0.670	23	35	0.735	30	14	0.667	24	35	0.701	26
15	0.826	32	36	0.155	3	15	0.864	36	36	0.103	3	15	0.855	37	36	0.080	3
16	0.272	6	37	0.303	7	16	0.266	7	37	0.187	6	16	0.302	7	37	0.179	6
17	0.840	35	38	0.822	31	17	0.856	34	38	0.835	33	17	0.851	35	38	0.846	33
18	0.840	36	39	0.725	24	18	0.856	35	39	0.721	28	18	0.851	36	39	0.716	28
19	0.616	14	40	0.647	18	19	0.445	12	40	0.669	22	19	0.452	13	40	0.659	21
20	0.815	30	41	0.863	38	20	0.586	17	41	0.878	38	20	0.610	18	41	0.849	34
21	0.751	26	42	0.793	27	21	0.751	31	42	0.547	16	21	0.745	31	42	0.559	16

Table 10. Arithmetic mean results

Criteria	Weights
Institutional support	0.323
Social context	0.212
Cultural intelligence	0.145
Self-efficacy	0.127
Optimizing personality traits	0.096
Hierarchy legitimacy	0.078
Easy access to venture capital	0.059

The first group needs to reach the best value, and this must be proven by measuring the mean. The first group should get the best average compared to the other three groups. However, the second group should have a better average than the third and fourth groups, or it should be equal to the third group. Finally, the results of the third group must be equal to or better than the fourth group. Thus, due to the lack of uniformity in the order in the internal and external groups, the validity of both groups has been confirmed, as Table 15 shows the validation results and for the internal and external groups.

Table 14 displays the validation results of the internal and external prioritization of immigrants' entrepreneurial intentions. Regarding the internal and external verification, the first group has a smaller average than the second, third and fourth groups. The second group also achieved a smaller average in comparison with the third and fourth groups. Finally, the third group achieved a smaller average than the fourth group. Therefore, the orders for internal and external data are valid and priorities for immigrants are systematically ranked.

				Malaysia							
		Internal						External			
ID	Q	Order	ID	Q	Order	ID	Q	Order	ID	Q	Order
1	0.734	54	36	0.065	2	1	0.734	51	36	0.066	2
2	0.574	38	37	0.219	11	2	0.609	38	37	0.224	11
3	0.209	10	38	0.128	3	3	0.215	10	38	0.130	3
4	0.356	21	39	0.481	31	4	0.371	24	39	0.482	30
5	0.288	16	40	0.162	5	5	0.292	16	40	0.169	5
6	0.455	29	41	0.965	68	6	0.490	31	41	0.965	68
7	0.707	46	42	0.737	58	7	0.707	44	42	0.768	62
8	0.494	32	43	0.956	66	8	0.528	33	43	0.956	66
9	0.731	53	44	0.358	22	9	0.731	50	44	0.358	20
10	0.631	39	45	0.303	18	10	0.631	39	45	0.311	18
11	0.302	17	46	0.233	12	11	0.306	17	46	0.239	12
12	0.000	1	47	0.637	40	12	0.000	1	47	0.637	40
13	0.734	55	48	0.983	69	13	0.734	52	48	0.983	69
14	0.734	56	49	0.720	50	14	0.734	53	49	0.720	48
15	0.550	35	50	0.192	8	15	0.585	36	50	0.193	8
16	0.572	37	51	0.254	14	16	0.607	37	51	0.268	14
17	0.755	61	52	0.713	48	17	0.755	60	52	0.713	46
18	0.759	62	53	0.274	15	18	0.759	61	53	0.287	15
19	0.252	13	54	0.178	7	19	0.251	13	54	0.177	7
20	0.702	43	55	0.469	30	20	0.734	55	55	0.480	29
21	0.717	49	56	0.705	45	21	0.717	47	56	0.705	43
22	0.741	59	57	0.728	52	22	0.741	57	57	0.727	49
23	0.352	20	58	0.162	6	23	0.359	22	58	0.169	6
24	0.747	60	59	0.544	34	24	0.746	58	59	0.579	35
25	0.430	28	60	0.393	26	25	0.430	28	60	0.393	25
26	0.708	47	61	0.309	19	26	0.708	45	61	0.324	19
27	0.360	23	62	0.702	44	27	0.359	21	62	0.734	56
28	0.367	24	63	0.566	36	28	0.366	23	63	0.566	34
29	0.690	42	64	0.923	64	29	0.690	42	64	0.923	64
30	0.946	65	65	0.505	33	30	0.946	65	65	0.517	32
31	0.201	9	66	0.151	4	31	0.201	9	66	0.151	4
32	0.787	63	67	0.660	41	32	0.819	63	67	0.660	41
33	0.723	51	68	0.734	57	33	0.754	59	68	0.734	54
34	0.959	67	69	1.000	70	34	0.959	67	69	1.000	70
35	0.417	27	70	0.393	25	35	0.416	27	70	0.396	26

Theoretical implications

Though the migration form less developed countries to developed ones and its related aspects have been the innate elements of human history and there have been numerous studies to these ends. However, in the recent years, due to increasing number of migrants from war effected and poor countries, subject has caught a significant attention from social science scholars. There has been debate among the scholars to explore and understand the various dimensions of migration. A voluminous amount of research is already available, however, due to emergent precedents of migration, there is always call for more studies (Glinka, 2018). One related and major research domain is immigrant entrepreneurship. Researchers have developed more interest in the field because immigrant entrepreneurship is considered as one major tool to address the ever-rising issue of immigrants. Immigrant entrepreneurship is relatively new domain of research, and it is continuously evolving (Atasü-Topcuoğlu, 2019).

| | Pakistan | | | | | | | | | | |
| | Internal | | | | | | External | | | | |
ID	Q	Order	ID	Q	Order	ID	Q	Order	ID	Q	Order
1	0.926	37	21	0.970	38	1	0.926	37	21	0.970	38
2	0.267	6	22	0.420	14	2	0.281	6	22	0.456	16
3	0.314	11	23	0.971	39	3	0.320	11	23	0.971	39
4	0.449	16	24	0.562	23	4	0.447	14	24	0.568	22
5	0.761	32	25	0.782	34	5	0.759	31	25	0.782	34
6	0.721	28	26	1.000	40	6	0.720	26	26	1.000	40
7	0.744	30	27	0.531	20	7	0.776	33	27	0.543	21
8	0.191	4	28	0.866	36	8	0.192	4	28	0.866	36
9	0.172	3	29	0.109	2	9	0.176	3	29	0.116	2
10	0.763	33	30	0.445	15	10	0.762	32	30	0.480	18
11	0.306	9	31	0.610	24	11	0.314	10	31	0.621	24
12	0.551	22	32	0.298	7	12	0.587	23	32	0.301	7
13	0.759	31	33	0.473	18	13	0.758	30	33	0.471	17
14	0.718	26	34	0.405	13	14	0.751	28	34	0.403	13
15	0.723	29	35	0.370	12	15	0.722	27	35	0.368	12
16	0.718	27	36	0.477	19	16	0.751	29	36	0.485	19
17	0.202	5	37	0.449	17	17	0.206	5	37	0.447	15
18	0.532	21	38	0.000	1	18	0.530	20	38	0.000	1
19	0.702	25	39	0.835	35	19	0.701	25	39	0.835	35
20	0.310	10	40	0.298	8	20	0.308	9	40	0.301	8

Table 12.
Group VIKOR prioritization for Pakistan immigrants' entrepreneurial intentions

| | Nigeria | | | | | | | | | | |
| | Internal | | | | | | External | | | | |
ID	Q	Order	ID	Q	Order	ID	Q	Order	ID	Q	Order
1	0.538	24	26	0.439	13	1	0.549	24	26	0.449	13
2	0.000	1	27	0.323	8	2	0.000	1	27	0.327	8
3	0.653	34	28	1.000	50	3	0.653	32	28	1.000	50
4	0.701	38	29	0.643	32	4	0.701	38	29	0.654	33
5	0.454	15	30	0.779	42	5	0.462	15	30	0.778	42
6	0.923	48	31	0.137	4	6	0.923	48	31	0.143	4
7	0.168	5	32	0.858	47	7	0.168	5	32	0.858	47
8	0.807	44	33	0.453	14	8	0.807	44	33	0.463	16
9	0.976	49	34	0.695	37	9	0.976	49	34	0.695	37
10	0.416	11	35	0.565	27	10	0.424	12	35	0.598	27
11	0.618	30	36	0.505	23	11	0.617	28	36	0.538	23
12	0.711	40	37	0.602	28	12	0.740	40	37	0.635	30
13	0.108	2	38	0.626	31	13	0.110	2	38	0.660	34
14	0.214	7	39	0.362	10	14	0.219	7	39	0.368	10
15	0.818	45	40	0.456	16	15	0.818	45	40	0.489	18
16	0.703	39	41	0.456	17	16	0.703	39	41	0.489	19
17	0.644	33	42	0.456	18	17	0.644	31	42	0.489	20
18	0.846	46	43	0.767	41	18	0.845	46	43	0.767	41
19	0.607	29	44	0.494	22	19	0.618	29	44	0.494	21
20	0.417	12	45	0.489	21	20	0.417	11	45	0.495	22
21	0.694	36	46	0.458	19	21	0.694	36	46	0.458	14
22	0.540	25	47	0.559	26	22	0.573	25	47	0.592	26
23	0.135	3	48	0.213	6	23	0.138	3	48	0.213	6
24	0.780	43	49	0.332	9	24	0.780	43	49	0.332	9
25	0.477	20	50	0.677	35	25	0.477	17	50	0.677	35

Table 13.
Group VIKOR prioritization for Nigeria immigrants' entrepreneurial intentions

| | | | | | | Singapore | | | | | |
| | | Internal | | | | | | External | | | |
ID	Q	Order	ID	Q	Order	ID	Q	Order	ID	Q	Order
1	0.873	39	22	0.573	15	1	0.872	39	22	0.584	16
2	0.713	26	23	0.869	38	2	0.713	26	23	0.869	38
3	0.676	25	24	0.550	14	3	0.686	25	24	0.561	14
4	0.000	1	25	0.000	2	4	0.000	1	25	0.000	2
5	0.337	8	26	0.668	24	5	0.337	8	26	0.668	23
6	0.718	27	27	0.718	28	6	0.747	29	27	0.718	27
7	0.481	11	28	0.465	10	7	0.489	11	28	0.474	10
8	0.660	21	29	0.945	40	8	0.660	20	29	0.945	40
9	0.132	4	30	0.172	5	9	0.134	4	30	0.172	5
10	0.951	41	31	0.823	32	10	0.951	41	31	0.823	32
11	0.580	16	32	1.000	42	11	0.580	15	32	1.000	42
12	0.482	12	33	0.425	9	12	0.494	12	33	0.434	9
13	0.665	23	34	0.631	18	13	0.664	22	34	0.630	17
14	0.664	22	35	0.729	30	14	0.663	21	35	0.758	31
15	0.849	34	36	0.110	3	15	0.848	34	36	0.113	3
16	0.279	7	37	0.218	6	16	0.280	7	37	0.223	6
17	0.849	35	38	0.835	33	17	0.849	35	38	0.835	33
18	0.849	36	39	0.721	29	18	0.849	36	39	0.721	28
19	0.496	13	40	0.658	19	19	0.504	13	40	0.658	19
20	0.660	20	41	0.863	37	20	0.670	24	41	0.863	37
21	0.749	31	42	0.622	17	21	0.749	30	42	0.633	18

Table 14. Group VIKOR prioritization for Singapore immigrants' entrepreneurial intentions

| Rank | | Internal | | | | External | | |
Group	Malaysia	Pakistan	Nigeria	Singapore	Malaysia	Pakistan	Nigeria	Singapore
Group 1	0.031	0.043	0.027	0.024	0.029	0.031	0.034	0.036
Group 2	0.062	0.066	0.066	0.074	0.041	0.056	0.054	0.055
Group 3	0.098	0.094	0.089	0.090	0.055	0.082	0.087	0.080
Group 4	0.123	0.111	0.103	0.106	0.228	0.124	0.150	0.134

Table 15. Validation results

The research in this area started to emerge in mid 20s and was limited to understand the dynamics of immigrant entrepreneurship in USA and Western countries being most popular destination of immigrants (Nazareno *et al.*, 2019). As then, there have been many studies in different context which further flourish the theoretical debate on immigrant entrepreneurship. In recent times immigrant entrepreneurship has become a dominant field of study in management science. It must be realized that that mainstream research in this area revolves around intercultural aspects of immigrant entrepreneurship. Immigrants start their businesses in a novel cultural, political and economic context, which requires specific skills and competencies to navigate simultaneously between their home and host country contexts (Baltaci, 2017; Collins, 2003). This poses significant challenges to immigrant entrepreneurship phenomenon and accordingly invites researchers to further investigate the phenomenon. Management science scholar have a conclusive judgment that given the growing and evolving nature of phenomenon and its dynamic nature, immigrant entrepreneurship offers a distinctive strand of research which deserves more attention from management science scholars. Many of the studies (Collins, 2003; Demirdag and Eraydin,

2020; Atasü-Topcuoğlu, 2019) on immigrant entrepreneurship have focused on the first generation of immigrant and a very little attention has been paid to study the subject in relation to the successive generation of immigrant entrepreneurs. Usually, immigrant entrepreneurs pass on their business to their next generations. This makes it mandatory to investigate the phenomenon from the perspective of succeeding generation. Accordingly, our study has taken this stance to investigate the entrepreneurial intentions in relation to generational status of immigrants. In this way, our study contributes to the existing literature on immigrant entrepreneurship by exploring the different moderating and mediating factors which influence the entrepreneurial intentions of immigrants' succeeding generation. Also, as stated above that many of the studies on immigrant entrepreneurship have been limited to study the phenomenon in USA and Western Contexts, our study is distinguished in a way that it investigates the phenomenon in Asian context. We also assume that the cognitive, social and psychological factors are vital in influencing the impact of generational status of immigrants on their entrepreneurial intentions to start new ventures (González-Pernía et al., 2018; Chung et al., 2020; Dheer and Lenartowicz, 2020).

Earlier studies suggest that the ranking of immigrants according to countries based on entrepreneurship has not received much attention. We claim our study among pioneering ones, which provides ranking and priorities for immigrant generations to start new ventures. The findings show that there is evidence for the tendency of migrants' succeeding generations to start new ventures. These results extend the theoretical framework about the predecessors of immigrant entrepreneurship (Dheer and Lenartowicz, 2020). This study is distinguished because of its unique contribution by adopting SEM and MCDM techniques in determining the factors that affect the immigrants' generation in their entrepreneurial intentions and the ranking of immigrants according to the host countries for achieving justice in the distribution of resources to immigrants. This study finds institutional support, social context, cultural intelligence, self-efficacy, optimizing personality traits and hierarchy legitimacy to represent vital factors for immigrants' generations entrepreneurial intentions. Thus, these findings enable the researchers to develop a perspective on immigrant entrepreneurship regarding immigrants' generations entrepreneurial intentions.

Practical implications

Over the past few years, the continuous inflow of immigrants from less developed countries to developing and developed countries has resulted into emergence of various social, economic and religious issues. These issues have been surfaced by number of reports and research studies. One of the most important issue arising out of immigrant's movement is the challenge of integration of immigrants into society and job market. This is especially true in the Western countries where religious issues have coupled with social and economic issues. Due to limited skills and language unfamiliarity, immigrants face discrimination and constraints to settlement in host countries. Studies suggest that it is not only the immigrants but their successive generation also face similar kinds of social, economic and religious issues. The desolation resulting from such difficult situation force immigrants to start their own businesses to gain social dignity and economic independence. However, in many instances starting their own business is not an easy task for these immigrants due to access constraints to social and financial capital. For example, immigrants normally do not get start-up capital through formal channels because they do not have credit history either in host country which is mandatory to obtain financial capital.

Under these circumstances, they have to rely on the financial support within their ethnic groups. Lesser institutional and government support further adds to the woes of immigrant entrepreneurs. Market integration is also another big challenge to immigrant

entrepreneurship. Immigrants have limited market networks with suppliers and consumers. Usually, immigrants have their business in those localities in host countries where ethnic minority resides, and they deal in those products which are popular among their ethnic groups and have lesser chances for penetration into host country market. This sufficiently restricts immigrant entrepreneurial success. Immigrants also hire the employees from their ethnic groups because they cannot afford to pay legal salaries and other benefits if they hire local employees. This also hurdles to access more customers from outside the ethnic groups. Also, the absence of immigrant entrepreneurship-related policies across many host countries is one major constraint toward immigrant entrepreneurship. These practical issues may discourage the immigrant entrepreneurship which will lead to more economic and social issues for the host countries. This is evident form many earlier studies that immigrants make significant contribution toward socio-economic development of the host countries. However, in this regard, our study has got three major practical implications.

First, the findings of this study may help governments and policy-makers to readdress entrepreneurial policies, especially in regard to immigrant entrepreneurship where they should have easy access to legal, financial and institutional support. This will encourage immigrants to start their own businesses instead of relying on host government support for their socio-economic needs. Second, immigrants' entrepreneurship can become instrumental to address the issue of unemployment at least at local levels. An entry of immigrants' following generations will lessen the burden on the local economies and can be helpful for achieving the social integration. Involvement of immigrants' generations into entrepreneurial activities can lead to better social and economic living. Third, immigrant entrepreneurship not only benefit the host countries but also contribute to the economies of home countries through remittances and better living of their families in home countries. Thus, encouragement of immigrants' entrepreneurship and their successive generation can strengthen the economic and political ties between host and home countries.

Conclusion

The challenges of prioritizing immigrants according to entrepreneurial intentions were addressed by using SEM-MCDM for testing the criteria of entrepreneurial intentions and prioritizing the immigrants' entrepreneurial intentions to address the issues and importance of multiple criteria, as well as the data variation. SEM has been used for assessment of measurements model and assessment of structural model, however, MCDM technique represents the proposed solution, by using AHP method with the VIKOR method to the weight of criteria and prioritization of immigrants. The proposed decision-making framework is shown based on three sequential phases, which are: an assessment of the structural model, proposal of DM and development. The findings of this study have the following two parts: first, the SEM results can prove critical factors when it comes to immigrants' entrepreneurs. This concept is the ability of host countries to achieve the maximum benefit of the human and cognitive capital of immigrants for developing industries, trade and the economy of the host countries. The controllable mechanisms (e.g. institutional support and the social context) in addition to the importance of providing facilities to obtain funds to start new ventures. The results obtained are important for academics as well, for focusing on the aspect of building and developing some personality traits such as self-efficacy and optimal personality traits that contribute to increasing the capabilities of migrant entrepreneurs toward entrepreneurial intentions. Second, the MCDM results can prove useful to academic researchers and industry practitioners for their understanding of entrepreneurial intentions development, identify the underlying content and aid incoherent development of the variables of this study in the entrepreneurial field.

The current study gives several suggestions for future development. First, the challenges of prioritizing immigrants according to entrepreneurial intentions were addressed using AHP method with VIKOR method. The proposed decision-making framework can be used with any future category of entrepreneurial intentions to benchmark the new immigrants. Second, other MCDM ranking methods (e.g. TOPSIS) can be combined with the BWM method and new optimization findings can be explored. Third, several fuzzy types such as intuitionistic and interval Type 2 hesitant, Neuromorphic, Pythagorean, Gaussian can use the weight methods for getting low consistency in the extension to compare the resulted weights. Finally, for the purpose of accuracy and reliability of the results we obtained, we suggest conducting future studies targeting more countries with the highest immigrants.

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