

How do environmental factors shape entrepreneurial intention? A review and future research

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Abstract

Entrepreneurial intention plays a critical role in the economic growth and development of countries. As a result, an increasing number of studies have examined different antecedents of entrepreneurial intention to understand how to foster entrepreneurial intention in a country. This research focuses on macro-environmental-related factors and endeavors to provide a more comprehensive understanding of the critical factors in these areas that can impact entrepreneurial intention. A total of 40 studies from high-ranked journals were systematically identified and analyzed in the field of entrepreneurship and management. This review sheds light on details of the key cultural, regional, and economic factors as well as governmental and political factors and highlights how they impact entrepreneurial intention. It also provides some suggestions for future research directions. While some systematic literature review papers have been conducted on entrepreneurial intention and its antecedents, environmental factors have only been identified broadly as key antecedents. This research systematically reviews the existing papers and unravels different aspects of these factors and explains how they impact entrepreneurial intention. In addition, it sheds light on related future research directions.

Keywords Entrepreneurial intention · Systematic literature review · Environmental factors

Introduction

Entrepreneurial intention, as a key predictor of entrepreneurial behavior (Al-Jubari et al., 2019; Fayolle & Liñán, 2014; Kautonen et al., 2015), has attracted surging attention (Kautonen et al., 2010; Kebaili et al., 2017; Kromidha et al., 2022; Liñán et al., 2016). Entrepreneurial behaviors are critical for a country as they can enhance wealth

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creation and contribute to economic growth (Frederick et al., 2016; Galindo-Martín et al., 2020; Litzky et al., 2020; Roy et al., 2017). Hence, many researchers since 1980s (Bird, 1988; Bird & Jelinek, 1989; Shapero & Sokol, 1982) have attempted to shed light on factors that encourage or hinder entrepreneurial intention (Dheer & Lenartowicz, 2018). This has led to the proliferation of research in this area, and as a result, systematization and categorization of studies have emerged to provide a better understanding of existing knowledge and future research directions (Fayolle & Liñán, 2014).

Liñán and Fayolle (2015), for example, carried out a systematic literature review of articles on entrepreneurial intention published from 2004 to 2013 to provide a "classification" of the key themes in the field. They revealed that the main themes are related to the entrepreneurial intention model, personal level variables, entrepreneurship education, entrepreneurial process, and contexts and institutions. Later, Donaldson (2019) extended the study of Liñán and Fayolle (2015) and examined how themes in the field evolved from 2014 to 2018. They complemented the previous classifications and highlighted new emerging themes such as career choice and corporate intent.

In this research, we aim to add to the existing understanding by providing a systematic literature review of not 'all' antecedents, but specific macro-environmental factors that impact entrepreneurial intention and have been studied from 1981 to 2021. Specifically, this research sheds light on the details of these environmental factors and explains how they shape individuals' entrepreneurial intentions. Prior studies have indicated that in analyzing the antecedents of entrepreneurial intention, two perspectives can be adopted: the supply side where the focus is on individuals, and the demand side where the attention is devoted to the external factors impacting entrepreneurial aspiration (Griffiths et al., 2009). The demand side pertains to the opportunities existing in the macroeconomic environment, which entrepreneurs can identify and capitalize on by accessing the necessary information (Congregado et al., 2008). Prior systematic reviews have corroborated that the majority of prior studies examining entrepreneurial intention have focused on the supply side and individuallevel attributes (Díaz-Casero et al., 2012; Trivedi, 2016). However, the different rates of entrepreneurial activities across different contexts emphasize the importance of environmental factors and call for further investigation (Bruton et al., 2010; Stenholm et al., 2013; Trivedi, 2017).

Context and institutional factors were pointed out as key themes in previous reviews (Donaldson, 2019; Liñán & Fayolle, 2015). However, prior studies have broadly referred to the environmental factors and comprehensive research of the details of these factors, how they impact entrepreneurial intention, and what is known or needs future investigation has not been conducted yet. In summary, this review aims to answer these research questions: What are the key macro-environmental factors and how do they influence entrepreneurial intention? What are the key future research directions in these areas?

This research offers several contributions. First, our study attempts to provide a synthesis of the literature and provide a better understanding of the key environmental factors impacting entrepreneurial intention. More importantly, this review maps the intellectual terrain of factors from 1982 to 2021 to advance this important

field through environmental factors, whilst also building on previous seminal studies (Donaldson, 2019; Liñán & Fayolle, 2015). Second, through a systematic review and analysis, this study highlights contradictory findings, unravels research gaps, and suggests a promising research agenda in the literature. It also develops frameworks that motivate other researchers to engage in the advancement of knowledge of entrepreneurial intention through an environmental lens with greater emphasis on the roles that these factors can play. Third, while research-based knowledge has been criticized for being underutilized, particularly by non-academics (Schmeisser, 2013), literature review papers have been recognized as a widely accepted tool that can better serve practitioners and policymakers (Tranfield et al., 2003). Thus, a rigorous systematic review, grounded in good quality journals and reliable studies, would be useful for the development of this field. Finally, by collecting, synthesizing, and presenting the existing knowledge of entrepreneurial intention, this study aims to refine and consolidate the existing body of knowledge to provide valuable insights for educators, investors, and policymakers towards making impactful decisions.

Methodology

Following the methodology proposed by Tranfield et al. (2003), a systematic literature review on entrepreneurial intention was carried out. Consistent with the processes adopted in prior systematic literature reviews (Rajwani & Liedong, 2015), a preliminary study on the topic of entrepreneurial intention was undertaken to get a general picture of the size, nature, and current state of the literature and thereby the value of undertaking a systematic literature review. Thereafter, criterion sampling (Patton, 1990) was used to identify a valid sample of articles on entrepreneurial intention in leading management and entrepreneurship journals. This study has employed two sampling criteria. First, following the suggestions of Short (2009), and practices in recent reviews (McMullen, 2019; Terjesen et al., 2016), articles published only in high-ranked or globally recognized leading journals, including the Financial Times (FT) 50 Journals were selected, to ensure the quality and scope of the review (Littlewood & Khan, 2018).

Second, articles published in these journals from 1982 until the end of July 2021 were reviewed to map the intellectual terrain. This temporal criterion (that is, since 1982) were chosen because a considerable body of literature has addressed the concept of entrepreneurial intention since the 1980s (Kautonen et al., 2015), specifically, since the publication of the seminal work of Shapero and Sokol (1982). The adoption of such a temporal criterion is consistent with prior reviews in the area of business and management (Korber & McNaughton, 2017; Terjesen et al., 2016). The broad timespan of our review (1982–2021) adds to the prior systematic literature reviews in the field that have focused only on a shorter time period (Donaldson, 2019; Fayolle & Liñán, 2014).

As this study was part of a larger research project, all papers on entrepreneurial intention were first identified and then narrowed down to the papers related to the environmental factors of entrepreneurial intention. Consistent with recent reviews (Korber & McNaughton, 2017; Shepherd & Suddaby, 2017; Terjesen et al., 2016),

multiple databases such as Scopus, Web of Science, and EBSCO Business Source Premier were searched. As intention is defined as "a person's readiness to perform a given behavior" (Kautonen et al., 2015, p. 3), it can be expressed by multiple terminologies in addition to the word "intention", such as "desire" or "willingness". Thus, the keywords entrep* desire*, entrep* willing*, in addition to entrep* intent* were used. Furthermore, as the entrepreneurial intention is defined simply as a desire to be self-employed (Souitaris et al., 2007) or "a desire to own or start a business" (Bae et al., 2014, p. 218), "self-employment" intent*, "self-employment" desire*, "self-employment" willing*, business "start-up" intent*, business "start-up" desire*, and business "start-up" willing* keywords were also used to capture all the articles on entrepreneurial intention. Furthermore, consistent with recent reviews (Foss & Saebi, 2017; Korber & McNaughton, 2017), the wildcard "*" was used to ensure that all possible combinations of the search words were included. For example, in the cases of "entrep*", "entrepreneur", "entrepreneurs", or "entrepreneurial", these were searched and identified.

After omitting repetitions (in multiple data sets), these criteria yielded 739 articles. Each article was carefully examined to ensure its appropriateness for inclusion in the review. Specifically, the following steps were employed. First, three authors independently read the titles and abstracts of all these articles. If they were not confident about the relevance of the paper, they continued reading the entire paper to confirm its suitability for inclusion in the review (Karami et al., 2020). This led to the elimination of 599 articles that mentioned the searched keywords but whose focus was not the entrepreneurial intention, or that were book reviews or case studies (Foss & Saebi, 2017). This left us with 140 relevant articles on entrepreneurial intention. Then, the selected papers were narrowed down to only those that focused on the role of macro-environmental factors. The excluded articles were double-checked to be sure not to exclude relevant ones. Finally, 40 articles were identified and selected for this review.

The analysis of the papers involved several steps. Thematic analysis was employed, which has been suggested for the analysis and identification of patterns within data (Braun & Clarke, 2006). First, authors read and reread the selected papers, noting down initial ideas, and, then, started coding (identifying themes). There are two approaches to coding: a priori and a posteriori classification of papers (Sinkovics et al., 2005). In the former strategy, the key themes (codes) are predetermined based on prior studies, and articles are allocated to these themes. In a posteriori approach, themes are allowed to emerge from the analysis, which was followed in this research. To reduce the subjectivity of theme identifications, three authors classified the papers independently and then any discrepancies were discussed and incorporated.

Macro-environmental factors

This section categorizes macro-environmental factors into three main groups: cultural, regional and economic, and governmental and political factors. Below, we elaborate on how the dimensions within each category can function as either motivators or hindrances in influencing entrepreneurial intention.

Cultural factors

Our analysis reveals that cultural factors can both motivate and hinder entrepreneurial intention. It was also noticed that the impact of culture on entrepreneurial intention may not be direct but through some mediators. In addition, some studies have focused on the role of culture as a moderator (Falck & Woessmann, 2013; Mitchell et al., 2000) or investigated it across different cultures as elaborated below.

Culture as a Motivating Factor. The positive impact of culture on entrepreneurial intention can be categorized into two broad groups. The first group of studies has highlighted the positive impact of culture in building a mental preparedness and perception of individuals to start a business (Kakouris, 2016; Krueger et al., 2013; Pidduck & Zhang, 2022; Vershinina et al., 2018). This is because an aggregate of psychological factors in a society can shape attitudes towards entrepreneurship (Davidsson, 1995; Obschonka et al., 2020). Researchers have also shown that in cultures where individuals are educated in starting a business and feel confident about creating a new venture (Levie & Autio, 2008; Urbano et al., 2019), the entrepreneurial intention will be higher (Ahmed et al., 2017; Vrontis et al., 2022). Griffiths et al. (2009) have pointed to other cultural aspects that impact entrepreneurial intention. For instance, in cultures where people actively seek opportunities, are capable of solving problems, have entrepreneurial motivation, and do not fear pursuing an entrepreneurial career, individuals are more likely to have an entrepreneurial intention (Griffiths et al., 2009).

The second group of studies highlights that culture can shape social norms and in turn the entrepreneurial intentions of individuals (Kibler et al., 2017; Liñán et al., 2011). Norms in a society can dictate whether starting a business is considered legitimate and accepted behaviour (Bruton et al., 2010; Liñán & Chen, 2009; Sedeh et al., 2021). In cultures where there are positive norms and values towards entrepreneurial activities, creative and innovative thinking is valued, and the pursuit of an entrepreneurial career is desirable (Fietze & Boyd, 2017; Krueger et al., 2000, 2013; Laspita et al., 2023). The positive impact of subjective norms on entrepreneurial intention has been corroborated through several theoretical perspectives including the theory of reasoned action (Ajzen & Fishbein, 2000), the theory of planned behavior (Ajzen, 1991), and social cognitive theory (Lent et al., 2002). Despite the widespread confirmation of this relationship, some studies (Krueger et al., 2000; Olarewaju et al., 2023; Santos et al., 2016) found no significant role of social norms or cultural capital (Aragon-Sanchez et al., 2017) in determining the entrepreneurial intention of individuals. This highlights the necessity of understanding the conditions under which this relationship may not work. The analysis of Schillo et al. (2016) also corroborates that individualist cultures benefit from characteristics that can positively impact entrepreneurial intention (Liñán et al., 2016). Similarly, Shneor et al. (2013) find that a culture characterized by low individualism, low power distance, high uncertainty avoidance, and high masculinity encourages individuals to engage in entrepreneurial activities.

Culture as a Hindering Factor. There are only a few studies in this area. Li et al. (2022) found a significant negative relationship between uncertainty avoidance and entrepreneurial intention. Ng and Clercq (2021) found normative diversity (that is, an

employee's belief about unsupportive societal norms in regard to initiative-taking) to have a significant negative relationship with entrepreneurial intention.

Indirect Impact of Cultural Factors. Some studies have considered the impact of culture on entrepreneurial intention through some mediators. Liñán and Chen (2009), for example, found that the impact of a cultural factor such as a subjective norm on entrepreneurial intention is through personality attitude and perceived behavioral control. The indirect impact of a subjective norm on entrepreneurial intention via personality attitude was also corroborated by Fretschner and Weber (2013). Similarly, Liñán et al. (2011) found that in cultures where entrepreneurial activity is valued positively by both social and closed environments (friends and family), norms, attitudes, and behavioral control increase, which positively impacts entrepreneurial intention.

Culture as a Moderator. It was noticed that in some of the studies, culture was not examined as an antecedent of entrepreneurial intention but as a moderator in a relationship. For example, Bae et al. (2014) carried out a meta-analysis of the impact of entrepreneurship education on entrepreneurial intention and found that their relationship is stronger in "high in-group collectivistic countries, low gender egalitarianism countries, and low uncertainty avoidance". Similarly, Siu and Lo (2013) examined the cultural contingency in the cognitive model of entrepreneurial intention and revealed that the impact of social norms on entrepreneurial intention is higher for those who place more value on their connectedness with others (higher interdependent self-construal). The findings of Shneor et al. (2013) also indicate that the impact of gender on entrepreneurial intention depends on the national culture.

Cultural individualism has been demonstrated to positively moderate the relationship between entrepreneurial self-efficacy and entrepreneurial intention. This is because in individualistic cultures, individuals are more self-centered and as a result, self-efficacy is a more powerful predictor of entrepreneurial intention (Schmutzler et al., 2019). Laspita et al. (2012) found that the transmission of entrepreneurial intention from parents to children or from grandparents (via parents) to grandchildren influences the intention of offspring. However, the strength of this effect is contingent upon cultural characteristics. Also, a country's uncertainty avoidance has been found to negatively moderate the effect of job satisfaction on entrepreneurial intention (Li et al., 2022). That is, a high level of uncertainty avoidance strengthens the effect of job satisfaction on entrepreneurial intention.

In another study, Alabduljader et al. (2020) found cultural context (USA vs. Kuwait) to positively moderate the influence of intuitive cognitive style on entrepreneurial intention among undergraduate students from the USA, but not from Kuwait. They also show that cultural context (USA vs. Kuwait) positively moderates the mediating role of personal attitude on entrepreneurial intention only in the U.S. sample (Alabduljader et al., 2020). Taken together, these findings highlight the key role of the cultural context in the study of entrepreneurial intention.

Cross-Cultural Studies. This review also identifies some studies that are carried out across cultures. For example, Liñán and Chen (2009) investigated the impact of a subjective norm through the theory of planned behavior constructs across different cultures and found that subjective norms are a better predictor of entrepreneurial intention in collectivist versus individualistic cultures. This could be because in collectivist cultures, the perceived social pressure might place more value on starting a

business (Ajzen, 1991). A study by Shinnar et al. (2012) on the role of perceived barriers on entrepreneurial intention and the moderating role of gender on this relationship illustrates that the perception of males and females regarding barriers is not uniform across cultures and hence their levels of entrepreneurial intentions are different. Similarly, Giacomin et al. (2016) investigated the relationship between entrepreneurial optimism and entrepreneurial intention, as well as overconfidence and entrepreneurial intention, and highlighted that family support moderates these relationships and that their impact is different across American, Indian, and Spanish cultures. Finally, in an examination across 19 countries, Sieger and Minola (2017) corroborated that the availability of financial support reduces entrepreneurial intention.

Figure 1 demonstrates the key cultural factors and their impact on entrepreneurial intention.

Regional and economic factors

Regional and Economic Factors as Motivating Factors. Before intending to start a business, individuals also evaluate regional and economic conditions and if they perceive them as munificent, they will start a business (Abebe & Alvarado, 2018; Miao et al., 2022; Nakara et al., 2020). Regional and economic factors can be classified into the pull and push factors. Davidsson (1995) points out several pull factors, including small firm density (they can be considered as role models), total population and population density, population growth (as potential customers and provision of resources), and a decline in the unemployment rate. The creation of new ventures requires the presence of skilled individuals, the availability of suppliers and customers, and the accessibility of high-quality universities (Begley et al., 2005; Schillo et al., 2016; Stenholm et al., 2013; Wurth et al., 2022). It has also been revealed that regions with

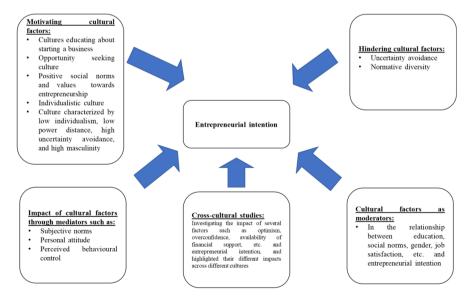


Fig. 1 The interplay of cultural factors and entrepreneurial intention

higher household incomes and higher wealth levels demonstrate higher purchasing power and can create more demand for a product and encourage an individual to start a business in a region (Bergmann et al., 2016; Kibler, 2013). Wealthier regions can also offer more financial support to potential entrepreneurs (e.g., by the supply of venture capital, seed money,...) (Brenner et al., 1991; Cetindamar et al., 2012; Xie et al., 2023). The possibility of obtaining financial resources then gives the flexibility to individuals to start a new venture (Begley et al., 2005; Xie et al., 2023). A regional start-up rate in knowledge-based industries and a high growth rate of regional knowledge production (Dohse & Walter, 2012; Tran et al., 2023) and resources (Chrisman, 1999) have also been found to encourage individuals to start a business. Despite these findings, a study by Meoli et al. (2020) found supportive environmental influences (GDP, employment, innovative start-ups) measured at the regional level did not have any significant influence on entrepreneurial intention, highlighting the importance of studying contingency factors.

Another group of regional and economic factors as antecedents of entrepreneurial intention are those that may "force" individuals to start a business. Some of these push factors include the level of unemployment and government support for regions that suffer from unemployment (Baluku et al., 2019; Davidsson, 1995). However, a recent study by Thompson and Kwong (2016) found no significant relationship between the unemployment rate in the local authority and entrepreneurial intention.

Regional Factors as Hindering Antecedents. There are also some regional and economic factors that can diminish entrepreneurial inclination. Griffiths et al. (2009), for example, state that when the GDP per capita in a region increases, the level of entrepreneurial intention decreases. They posit that in wealthier regions, individuals might have a variety of career choices and be less motivated to start a business (Brännback & Carsrud, 2008; Meoli et al., 2020). Similarly, people who are educated to a high level might benefit from a valuable professional network (university graduates,...), which can discourage them from starting a business in such a competitive environment. In addition, populated regions with a higher level of education might have a higher possibility of finding jobs and consequently be less willing to start businesses (Kibler, 2013; Meoli et al., 2020).

Regional internationalization can also reduce entrepreneurial intention (Elston & Weidinger, 2019). This could be due to a greater amount of necessity-driven entrepreneurship in less internationalized regions and a higher level of competition for resources, which can discourage individuals from being entrepreneurs in more internationalized regions (Elston & Weidinger, 2019). Regions with higher public sector employment are also found to be less motivating environments for individuals to pursue an entrepreneurial career. When individuals can find jobs, they might be less willing to start a business (Davidsson, 1995; Kibler, 2013; Meoli et al., 2020). The dominance of manufacturing companies with their high levels of knowledge and capital can also make the local environment and social acceptance less supportive of new businesses to start (Kibler, 2013).

Indirect Impact of Regional and Economic Factors. There are a few studies that have explored the impact of regional and economic factors on entrepreneurial intention through mediators. The study of Stuetzer et al. (2014), for example, revealed that the impact of regional characteristics (knowledge creation, economic context,

and entrepreneurial culture) on entrepreneurial intention is not direct but through opportunity perception. They argue that these regional characteristics do not directly impact individuals' intentions but enable them to better perceive funding opportunities, which then encourage them to start a business.

Regional and Economic Factors as Moderators. Combining the impact of cognition and regional characteristics, Kibler (2013) demonstrates that the impact of regional factors on entrepreneurial intention is not through influencing three cognitive factors, attitude, subjective norms, and perceived behavioral control. Instead, the economic conditions of a region can have a moderating effect on the relationship between beliefs and attitudes towards entrepreneurial aspiration (Kibler, 2013). Likewise, the economic conditions of a region can moderate the effects of personality traits, subjective norms, perceived behavioral control, and attitude towards entrepreneurship on entrepreneurial intentions (Munir et al., 2019). The level of entrepreneurship in a region has also been found to moderate the relationship between perceived age norms and entrepreneurial intention in the third age. It is argued that a higher level of entrepreneurship in a region may support individuals with new business ideas or higher social legitimacy, or even provide role models for starting a business (Kautonen et al., 2011). Bacq et al. (2017) illustrate that entrepreneurial munificence in terms of the perception of the abundance of resources positively moderates the relationship between self-efficacy and entrepreneurial intention.

Regional factors can also act as *negative moderators*. Population density and the number of well-educated people in a region can have a negative impact on the relationship between perceived behavioral control and entrepreneurial intention (Kibler, 2013). Urban environments are more competitive and make it more difficult for individuals to differentiate themselves from other businesses, which might hinder the formation of entrepreneurial aspirations (Kibler, 2013).

Cross Regional Studies. Some entrepreneurship scholars have also designed their research to unravel the impact of regional differences on entrepreneurial intention. For example, Walter and Dohse (2012) highlight that the impact of education on entrepreneurial intention is contingent on regional characteristics. According to them, a reflective mode of education, where students learn something through reflective observation, enhances entrepreneurial intention only in regions where the intensity of entrepreneurial activity is high. Vanevenhoven and Liguori (2013) examined entrepreneurship education across 70 countries and surprisingly found that the students from those universities that collaborate with other local, state, or federal agencies and receive financial support from them demonstrate lower entrepreneurial intention.

Figure 2 presents a summary of regional and economic factors and their interplay with entrepreneurial intention.

Governmental and political factors

Governmental and Political Factors as Motivating Factors. Interestingly, some researchers have shown that not necessarily all transactional impediments, such as difficulty in obtaining licenses, enforcing contracts, and registering property, lead to less entrepreneurial intention (Griffiths et al., 2009). These impediments have been found to actually act as positive stimulants towards people's intentions of engaging in

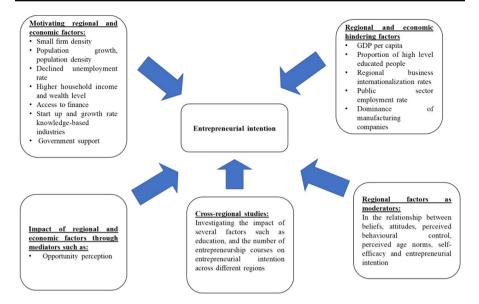


Fig. 2 The interplay of regional and economic factors and entrepreneurial intention

entrepreneurship (Griffiths et al., 2009). This might be because governmental regulations can increase entry barriers, and for those who can tackle these obstacles in a specific industry, this creates lucrative potential opportunities, which can motivate potential entrepreneurs to start a business.

Governmental and Political Factors as Hindering Antecedents. Levels of government corruption have been shown to have a negative impact on entrepreneurial intention (Griffiths et al., 2009; Wittberg et al., 2024). In a corrupted environment, resources are not properly allocated, and the government will have lower public revenues to support the economy (Haddoud et al., 2024; Sullivan & Shkolnikov, 2004).

Schillo et al. (2016) highlight that the relationship between rules and regulations in a country and the level of entrepreneurial intention is a significant negative curvilinear one. This suggests that regulations can support the entrepreneurial intention to some extent (up to a certain level), and above that (an optimal level) they will deter individuals from starting a business (Estrin et al., 2013). With country-level institutional variables, Schillo et al. (2016) highlighted a negative relationship between a country's conducive dimension and entrepreneurial intention. They posit that in countries with a strong innovation system, entrepreneurial willingness will be lower. This might be because individuals can commercialize their ideas through existing companies rather than by starting their own businesses (Stenholm et al., 2013).

Governmental and Political Factors as Moderators. Schillo et al. (2016) investigated the moderating impact of institutional factors on the relationship between entrepreneurial readiness and intention. They found that regulative and conducive institutions positively and significantly moderate the relationship between entrepreneurial readiness and entrepreneurial intention.

A summary of governmental and political-related factors is presented in Fig. 3.

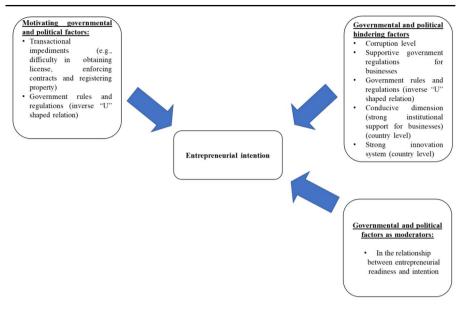


Fig. 3 The interplay of regional and economic factors and entrepreneurial intention

Discussion and future research directions

This research attempted to provide a better understanding of the macro external environmental factors and how they impact entrepreneurial intention. While prior systematic literature review papers on entrepreneurial intention had pointed out the importance of environmental factors (Liñán & Fayolle, 2015), more details about these factors and their impact were still missing (see Fig. 4). In this line, this research has endeavored to provide an overview of existing knowledge and suggest future research directions as detailed below.

Cultural factors: future research agenda

"Culture is defined as a set of shared values, beliefs, and expectations" (Hayton et al., 2002, p. 1). Detailing these elements of culture, the findings of this research illustrate that prior studies have mainly focused on *values* (e.g., collectivism, individualism, uncertainty avoidance,...) (see Fig. 1). Even with the *value* dimension, it is realized that most studies focused on Hofstede's cultural dimensions (Hofstede, 1984, 2001) and are mainly conducted in developed countries. This begs the question of how to understand values facilitating engagement in entrepreneurship by individuals in less-developed countries. Furthermore, considering that Hofstede's cultural dimensions do not provide a complete understanding of the relationship between culture and entrepreneurship (Alammari et al., 2019; Darley & Blankson, 2020), it raises an interesting question about why scholars have not consolidated this popular view with other cultural dimensions such as Gelfand's tightness–looseness model of culture. From this review, it is noticed that Schwartz's value theories (Schwartz, 1992, 2008)



*Additions of each systematic review paper compared to the previous review is identified by red.

Fig. 4 A summary of our findings and comparison with previous reviews

have also been less applied in studies of entrepreneurial intention (Hueso et al., 2020; Morales et al., 2019), which can be the focus of future studies.

Apart from the *value* dimension of culture, it is revealed that a few studies have investigated the *belief* aspect of culture, and this is mainly captured in the theory of planned behavior. However, since the focus of this review is not on beliefs emanating from individuals, we realized that none of the studies focused on how beliefs attributed to the external environment could influence the individual's desire to engage in entrepreneurship. This is a grey area worth studying, especially when the focus is on other cultures such as African cultural belief systems and entrepreneurial intention (García-Rodríguez et al., 2015; Ng & Clercq, 2021; Siu & Lo, 2013). Taking insights from Darley and Blankson (2020), it would therefore be fascinating for researchers to investigate whether there is a relationship between entrepreneurial intention and belief in godliness, paranormal activities, hierarchical social structure, familism, communal social orientation, and patriarchism.

From this review, with the exception of a few papers (Ng & Clercq, 2021; Siu & Lo, 2013), it is noted that most studies have focused on investigating the positive impact of culture on entrepreneurial intention, excluding the possibility that unsupportive societal norms could be detrimental to entrepreneurial intention (Ng & Clercq, 2021). Future studies can thus not only examine the impact of cultural factors, such as normative adversity, that might hinder entrepreneurial intention but also can examine the role of moderators in the relationship between these factors and entrepreneurial intention.

The findings of this research also demonstrate that there is a scarcity of studies examining factors mediating the relationship between culture and entrepreneurial intention. Some studies (Hueso et al., 2020; Liñán & Chen, 2009; Liñán et al., 2011) found elements of the theory of planned behavior to mediate the relationship between culture (e.g., individualistic culture, collectivist culture, egalitarian culture, uncertainty avoidance,...) and entrepreneurial intention. However, other cultural factors (cultures where individuals are highly educated, achievement-oriented,...) require further investigation. In addition, the analysis of this study has revealed that the majority of papers examining mediators have focused on the theory of planned behavior, which is psychological in nature; it is recommended that researchers develop this domain further by examining the mediating role of other variables, such as resilience, passion to work, self-efficacy, role models, in the relationship between culture and entrepreneurial intention.

Our analysis also reveals that some studies have focused on culture as a moderating factor in the relationship between entrepreneurship education (Bae et al., 2014), gender (Shneor et al., 2013), entrepreneurial self-efficacy, knowing a nascent entrepreneur (Schmutzler et al., 2019), job satisfaction (Li et al., 2022), intuitive cognitive style (Alabduljader et al., 2020), and interdependent self-construal (Siu & Lo, 2013) and the entrepreneurial intentions of the individual. However, these studies have mainly used value dimensions of culture as moderators. It would be novel and encompassing to provide an understanding of where other dimensions of culture (e.g., mastery and egalitarianism), conservation (conformity, tradition, and security) collectivistic values, and self-transcendence (universalism and benevolence) collectivistic values can play the role of moderators. More cross-country studies can also be useful to identify influential factors in each country and test the applicability of existing theories globally.

Regional and Economic factors: Future Research Agenda

Even though most of the studies focusing on regional and economic factors have focused on the impact of conducive pull factors on entrepreneurial intention (see Fig. 2) (Abebe & Alvarado, 2018; Nabi & Liñán, 2013; Nakara et al., 2020), there is still room for investigation of other pull factors. For instance, even though regional policies can play differing roles in different locations (Elston & Weidinger, 2019), the influence of various regional stakeholders (e.g., customers, suppliers, and investors) is not clear; this is disquieting considering that entrepreneurs tend to set up businesses closer to their place of abode (Kibler, 2013). Therefore, future studies could examine the role which proximity and density of key potential stakeholders can play in the entrepreneurial intention of individuals.

In addition, more efforts have been geared towards the industrial side of the supply dimension. Studies on the industrial dimension have focused on firm density and household income (Davidsson, 1995; Elston & Weidinger, 2019). In complementing findings from the industrial side, and providing a holistic understanding, it would be relevant for researchers to explore how other supply dimensions (that is, personality and psychological factors) impact entrepreneurial intention. This would respond to the calls to examine personality and psychological factors at the regional level (Ebert et al., 2019), and adds to prior studies on the impact of personality and psychological factors on entrepreneurship at the individual level of analysis (Ebert et al., 2019).

Our analysis also reveals that only a minority of studies have examined the push regional and economic factors. Future research focusing more on exploring and examining regional and economic push factors would thus add significant value to the entrepreneurship literature. For example, understanding whether worsening economic or regional conditions e.g., inflation rate, fluctuation in the exchange rate, sanctions, pandemics,...) can impact entrepreneurial intention and if so, establishing how they can lead to starting a successful business are crucial. Furthermore, as prior studies have provided less focus on the differences in the entrepreneurial intentions of individuals between developed and developing nations, and urban and rural areas, future studies should focus on these areas to advance our understanding.

Some prior studies examined regional factors hindering the entrepreneurial intentions of individuals. In the study conducted by Kibler (2013) highly educated people in a region were discouraged from engaging in entrepreneurship. However, apart from the fact that the significance of the composition of human capital in a region has not been fully understood (Mendonça & Grimpe, 2016), this study focused on just one aspect of human capital (education), therefore leaving other aspects (e.g., skills) unexplored. Further studies are required to examine the specific skills in a region that would hinder individuals from engaging in entrepreneurship. Investigation of other regional factors (e.g., regional policies) as well as negative economic factors (e.g., sanctions, high inflation rate, etc.), could be the focus of future studies.

This study also reveals that even though efforts have been made to understand entrepreneurial intention at the regional level, the majority of studies focused on its antecedents compared to the actual mechanisms that explained how these antecedents impacted entrepreneurial intention. It is only the study of Stuetzer et al. (2014) that found opportunity perception to mediate the relationship between regional characteristics and entrepreneurial intention. Researchers can use an individual-level factor (opportunity perception) and aggregated data at the regional level (regional characteristics) to investigate the effects on entrepreneurial intention.

The findings of this research also illustrate that there are studies (Bacq et al., 2017; Kautonen et al., 2011; Kibler, 2013) that have found regional characteristics play either a positive (economic conditions of a region and level of entrepreneurship in a region) or a negative moderating role (population density and number of well-educated people in a region) in the relationship between some cognitive elements and entrepreneurial intention. However, these studies are few and more attention should be focused on understanding this domain further. With the few studies conducted, it is revealed that prior studies on the antecedents have focused on only one aspect of the characteristics that individuals possess (the cognitive element), leaving other aspects (e.g., personality and motivation) unexplored. Therefore, more attention could be given towards exploring how regional factors could moderate the relationship between individual characteristics (with either personality or motivational elements) and entrepreneurial intention.

Finally, it is noticed some studies (Bae et al., 2014; Munir et al., 2019; Nabi & Liñán, 2013; Nowiński et al., 2019; Wegner et al., 2020) are conducted across regions or countries to shed light on how the impact of education on entrepreneurial intention or the impact of collaboration of universities with other entities varies across different regional characteristics. However, there is a scarcity of research in this area considering the number of regional characteristics and numerous antecedents of entrepreneur-

ial intention. Therefore, future scholars can investigate how the impact of various antecedents on entrepreneurial intention might vary across different regions.

Governmental and political factors: future research agenda

In comparison to other environmental factors, this review reveals that less attention has been paid to factors related to governmental and political variables. Specifically, as can be seen in Fig. 3, there are not any studies focusing on mediating factors that can transform the impact of governmental and political factors to entrepreneurial intention. Similarly, no study has focused on the comparison of different governmental and political factors and how they impact entrepreneurial intention across countries. In addition, there is only one study that has investigated the moderating impact of a governmental and political factor on the relationship between entrepreneurial readiness and intention (Schillo et al., 2016). All this evidence demonstrates the scarcity of research and the necessity of carrying out further studies in this domain.

Similarly, more studies can be conducted focusing on the pull, push, and hindering factors. For example, our review illustrates transactional impediments, such as difficulty in obtaining licenses, can encourage individuals to start a business (Griffiths et al., 2009). In this line, future studies could examine the impact of other impediments such as government bureaucracy and explore whether it motivates or discourages entrepreneurial intention. It would also be insightful to understand if this relationship is contingent upon regional characteristics or the level of development of a country. Future studies can also examine the moderating role of resilience in the relationship between transactional impediments or government bureaucracy and entrepreneurial intention. In addition, potential mediators that might transform the impact of governmental and political factors to entrepreneurial intention could be explored.

The government can also change rules and regulations in a country, which can result in the emergence or depletion of some opportunities. For instance, political decisions can impact the development or acceptance of a new technology, which can foster entrepreneurial intention. Likewise, governments can be critical in reducing tariffs, controlling trade, etc., which can play a role in entrepreneurial willingness. Extending research to understand the impact of each of these factors on entrepreneurial intention might be crucial as prior studies have demonstrated that all expected relationships may not be valid in relation to entrepreneurial intention. For example, Begley et al. (2005) found supportive government regulation to be negatively related to entrepreneurial intention. Their finding highlights the necessity of unravelling conditions where and when a positive initiative (government support) might encourage setting up a business. This area warrants further research; future studies could also examine possible moderators and/or mediators between government support and entrepreneurial intention.

In addition, further investigation of levels of corruption could be considered. Even though a study by Griffiths et al. (2009) found a negative relationship between levels of government corruption and entrepreneurial intention, the findings of this research illustrate that the type of corrupt transactions that could occur has not been examined yet. Future studies could thus explore the impact of specific forms of corruption (e.g., embezzlement, fraud, extortion, patronage, cronyism, and peddling) on entrepreneur-

ial intention. Moreover, prior studies did not examine factors that could moderate the relationship between levels of corruption and entrepreneurial intention. This is a relevant area to explore, especially considering that "…corruption itself is a form of destructive entrepreneurship as political corruption is entrepreneurial" (Acs & Lappi, 2021, p. 1295). Thus, examining the factors that could weaken the impact of levels of corruption on entrepreneurial intention could serve as a source of encouragement for individuals who are considering setting up a business.

As a recent cross-countries study by Mohamadi et al. (2017) revealed that the relationship between control of corruption and entrepreneurship is non-linear and moderated by the government's efficiency in controlling corruption, future research could also consider examining the non-linear relationship between government corruption and the entrepreneurial intentions of individuals.

Governments' actions can also be influential in creating political stability in a country, which can play a role in business start-up decisions. For example, how riots, protests, government crises, sanctions, and wars might impact entrepreneurial intention needs further investigation. While each instability might discourage entrepreneurial activities, there are some scholars who have indicated that these instabilities can create some opportunities for those who might be able to operate in such an environmental condition (Bullough et al., 2014). Therefore, more studies are required to confirm the impact of each of these instabilities on entrepreneurial desire.

A summary of the focus of the existing papers, research gaps, future research directions, and a sample of suggested research questions is presented in Appendix 1.

Conclusion

The early entrepreneurial intention studies have evolved with variations in how scholars use the external environment (Bird, 1988; Bird & Jelinek, 1989). This research aimed to identify, critically analyze, and provide a comprehensive understanding of the impact of all macro-environmental factors studied in the field of entrepreneurial intention. We also sought to highlight gaps in the literature, thereby assisting future scholars in making further contributions to this exciting field. Nevertheless, this study is not without limitations and may be subject to biases in data collection. However, we made efforts to mitigate this by collecting data from three reputable databases– Scopus, Web of Science, and EBSCO Business Source Premier. Additionally, three of the authors meticulously assessed the titles, abstracts, and full papers to ensure the accurate selection of relevant papers and avoid overlooking key contributions.

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Declarations

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