Contributions to Management Science

João Leitão
Vanessa Ratten
Vitor Braga *Editors*

# Latin American and Iberian Entrepreneurship

## New Perspectives on Culture, Traditions and Heritage

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# Contributions to Management Science

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Editors

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## New Perspectives on Culture, Traditions and Heritage

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João Leitão

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Vanessa Ratten

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# The Role of Entrepreneurship in Latin America and Iberia


**Vanessa Ratten, João Leitão, and Vitor Braga**

**Abstract** Entrepreneurship happens in a variety of contexts but is closely linked to the culture, cultural heritage, and history of a region. The aim of this chapter is to examine the role of entrepreneurship in Latin America and Iberia, thereby highlighting the unique way specific social and political conditions have affected entrepreneurial rates and proclivity within countries. The role of an entrepreneurial society is discussed with a specific focus on Latin America and Iberia. This highlights how country and regional factors influence entrepreneurial capacity. Suggestions for future research are also discussed.

## 1 Introduction

Entrepreneurship researchers have begun to search for new contexts that have not been studied before (Ratten, 2019). This means whilst there is still a substantial amount of research devoted to North America and Europe, there is more interest in Latin America and Iberia. Nicholls-Nixon et al. (2011:1179) state that 'Latin America represents 14% of the world's land mass, covering an area of about eight million square miles'. This means a substantial amount of industry is located in this region. Furthermore, there is a large amount of trade conducted between Latin America and Iberia (Puente et al., 2019). The large land mass of both regions means there are a variety of entrepreneurial firms in the region (Santos et al., 2021).

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Latin America is a geographic region that includes countries where Latin languages such as Portuguese and Spanish are spoken (Bianchi et al., 2019). Many of the countries in the region were previously under Spanish or Portuguese rule, so they maintain a cultural and historical connection with these countries (Motoki et al., 2021). Entrepreneurship has traditionally focused on individuals as entrepreneurs, the environment that supports entrepreneurship, and the determinants or factors influencing entrepreneurship (Sukaesih et al., 2022). This has led to mostly country-specific rather than region-specific studies (Naranjo Gómez et al., 2021). This is changing with more research being focused on context and process. This acknowledges entrepreneurship as a behaviour that can take time to develop depending on the situation (Ratten, 2022).

The concept of entrepreneurship represents change and innovation (Ratten et al., 2017). Entrepreneurs create new wealth in the economy through business ventures, thereby increasing the competitiveness of an area by providing improved standards of living and levels of productivity (Akyuwen et al., 2022). This increases the psychological and social wellbeing of a community. The broad concept of entrepreneurship can be used to improve the lives of individuals in countries and the economic growth of distinct regions, through the adoption of public policies targeted to technological change, innovation, knowledge-based entrepreneurship, and entrepreneurship education (Leitão & Baptista, 2009).

In this line of reasoning, the education and training of entrepreneurial competences are quite critical for ensuring the development of new ventures, not only ensuring transference of knowledge and technology from the science and technology system into the entrepreneurial communities but also exploring the intangible assets derived from cultural heritage, historical connections, as well as family and social relationships (Gianesini et al., 2018).

It is the purpose of this chapter to provide an overview of Latin American and Iberian entrepreneurship, thereby highlighting it as a distinguishable and vital field of inquiry. This chapter makes the connection between culture, cultural heritage, and entrepreneurship, in Latin America and Iberia. The chapter addresses the main themes of Latin American and Iberian entrepreneurship starting with why the field is important. It then outlines how the field is emerging and the fundamental issue of culture within entrepreneurship studies. The last part of the chapter states where the most promising areas of research are located. The chapter closes by stating what topics are the most relevant concerning Latin American and Iberian entrepreneurship.

## 2 Defining Latin American and Iberian Entrepreneurship

Scholars researching the field of Latin American and Iberian entrepreneurship face the question: What is Latin American and Iberian entrepreneurship? There is currently a lack of concise definition about this field. There is some geographic certainty in terms of the countries located in Latin America and Iberia, but the issue of how

and if it occurs outside this area is still debated (Acs & Amorós, 2008). This means there is some contention amongst those researching in the field about how to use the term Latin American and Iberian entrepreneurship particularly in terms of the diaspora and transnational entrepreneurs (Aguinis et al., 2020).

The terms 'Latin American' and 'Iberian' can be described in a simple way in terms of referring to those living in Latin American or Iberian countries or in a complex way by defining it as those who have a connection in some way to Latin America. The best way to define it is through a self-identification process. Latin languages are also referred to as romance languages and include Spanish, Portuguese, and French. The term Latin America is broader than other similar terms such as Hispanic or Ibero-America. It is also more used in society due to its linkage with culture and music. Latin America covers a large geographic area that includes most of South America and the Caribbean. It includes Mexico in North America as well as countries in Central America (Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, and Panama), in South America (Colombia, Venezuela, Ecuador, Peru, Bolivia, Brazil, Paraguay, Chile, Argentina, and Uruguay), and in the Caribbean (Cuba, Haiti, the Dominican Republic, and Puerto Rico). Iberia covers the countries located in the Iberian Peninsula, which embraces Portugal and Spain.

Over the past decade, there has been an acceleration of interest in emerging economies. Many countries in Latin America are classified as emerging economies and have received increased research interest. However, as a result there has been much attention focused on countries such as Brazil and little research on other Latin American countries. Brazil due to its large land mass and population has many universities, so there is a linkage between these research institutions and publications. Brazil is also considered as one of the fastest-growing emerging countries due to it being part of the BRIC Group (Brazil, Russia, India, and China). More research is needed on smaller but also fast-growing countries in Latin America such as Uruguay and Paraguay.

Nicholls-Nixon et al. (2011) highlight that Latin America accounts for 8% of the world economy, which is a substantial weighting. This means economic activity in the region influences other countries. In addition, countries in the region such as Mexico and Brazil are considered superpowers and strongly influence the economic condition of surrounding countries. Latin America and Iberia due to its history are different to other regions. It has undergone substantial economic and political change over the past century. It is also linked to economies in Europe and North America due to historical ties and a common cultural heritage. This means it is an interesting area to study, but despite its uniqueness it has received scant attention from entrepreneurship scholars.

## 3 Overview of the Book

This book contains chapters on Latin American and Iberian entrepreneurship. This chapter has examined the role that entrepreneurship plays in the geographic region encompassing Latin America and Iberia, thereby paving the way for the next chapters in the book. The second chapter titled 'Venture Capital and Technology Entrepreneurship in Latin America: A Comparative Approach' by Guillermo Andrés Zapata-Huamaní and Sara Fernández-López focuses on the technology environment in Latin America. This is a very timely topic as much discussion has been conducted on the growth of gazelle and unicorn companies in Latin America. The third chapter titled 'World Heritage Sites and Tourism Entrepreneurship in Latin America' by Vanessa Ratten focuses on the role that culture and heritage plays in Latin America, thereby providing a good overview of the main tourism sites in the Latin American region. The fourth chapter titled 'The Role of Douro River in the Emergence of Technological Entrepreneurship Initiatives' by Fernando Almeida, Oscar Silva, and Lino Dias highlights the role of regional tourism in Iberia. The chapter discusses a famous part of Iberia – its wine-growing area. The fifth chapter titled 'The Presence of Women in Private Family Firms' Corporate Governance and Innovation Outcomes' by Beatriz Hernández-Cuevas, María J. Martínez-Romero, and Rubén Martínez-Alonso discusses the role of women in Iberian entrepreneurship, thereby stressing the role of diversity and minority management in the Iberian context. The sixth chapter titled 'Implementation Intentions of Potential High-Impact Entrepreneurs Among University Students: An Applied Analysis to the Case of Panama' by Alfonso Expósito, Jose Fernández-Serrano, Maria Frende, and Guillermo Gómez analyses high-growth entrepreneurship in Latin America. By focusing on the country of Panama, the authors provide a very timely discussion about the role of entrepreneurship education in fostering economic growth. The seventh chapter titled 'World Heritage Sites in Portugal and Spain' by Vanessa Ratten focuses on the role of heritage in Portugal and Spain. The eighth chapter titled 'The Role of Different Types of Previous Experience in International Opportunity Recognition: Evidence from Spanish International Entrepreneurs' by Eduardo Teran-Yepez, David Jimenez-Castillo, and Manuel Sanchez-Perez discusses the way Spanish entrepreneurs enter and manage the international marketplace. The ninth chapter titled 'Intrapreneurship in Tennis: Tell Me Who You Are...and I Will Tell You What Your Intentions Are' by Alejandro Lara-Bocanegra, Jerónimo García-Fernandez, M. Rocío Bohórquez Gómez-Millán, and María de las Huertas González-Serrano focuses on the role of sport entrepreneurship in Iberia. The tenth chapter titled 'Strategy as a Tool for Management and Organizational Performance: Case Study in a Microenterprise in Araxá, MG' by Waldecy Carvalho Lima focuses on the use of entrepreneurial strategy within Latin American businesses.

## 4 Future Research Avenues

There are many areas of entrepreneurship research that can benefit from more attention regarding the Latin American and Iberian context. The main areas will now be discussed in terms of suggestions for future research. Agricultural or rural entrepreneurship is an area of importance for Latin American and Iberian countries. This is due to the large amount of farming that takes place within the area. Future research could examine the geographic differences regarding entrepreneurship. This could include focusing on different types of land conditions such as farms by the sea and those in the mountains. It would be useful to compare different countries with regard to the type of incentives they give farmers. Thus, countries in South and Central America could be compared in terms of climate and government conditions related to farming. This would provide useful insights into what incentives are or are not working regarding farm entrepreneurship.

More research is needed on comparing urban and rural entrepreneurship policies in Latin America. Much of the emphasis in recent entrepreneurship scholarship has been on urban forms of entrepreneurship such as high technology business ventures. This has meant there are many gaps in the literature regarding entrepreneurship in other contexts particularly in less developed regions.

In non-city areas there can be different types of entrepreneurship occurring such as informal entrepreneurship. This means more research is needed on how nontraditional types of entrepreneurship occur in Latin America. At the moment there is a distinction between formal types of entrepreneurship and undocumented forms of entrepreneurship that are typically paid in cash. Newer forms of entrepreneurship that have a hybrid nature and include cryptocurrencies or other currencies need to be studied in more depth. This would help to evaluate whether the transaction or mode of entrepreneurship has altered.

Latin America is an ethnically diverse region with many different cultures. This makes it an interesting area to study because of the variety of entrepreneurship existing in the region. More research attention should be placed on the different cultures in terms of their entrepreneurial orientation. Some cultures may be more interested in entrepreneurship because of economic gain, whilst other cultures are focused on community forms of entrepreneurship. In addition, there is a large diaspora of Latin American entrepreneurs existing outside of the geographic area. Therefore, new research is needed on understanding how these networks relate to entrepreneurship. Family and social networks might be facilitating certain types of entrepreneurship. This can include the funding of new business ventures. The type of products sold or developed by these new businesses should be investigated in more depth. This could include examining whether there is a cultural link to the product or if it is a general type of product.

There are many minority groups existing in Latin America and Iberia. This means it could be interesting to study different minorities such as women and Indigenous to analyse their entrepreneurial preferences. Minorities tend to refer to groups of people that are underrepresented in the community, so there are many different types of

groups that could be studied. There has been an increased emphasis on diversity and access to entrepreneurship, so this is an important area of inquiry.

Latin America is well known for its bureaucracy and corruption perception that exist in many areas of the economy. There is a large percentage of young entrepreneurs in Latin America that need to be studied in more depth. This is due to many being internet literate from a young age and having a specific orientation towards internet ventures. It would also be interesting to study whether age does or does not influence entrepreneurial ability. There is an ongoing debate about the role age plays in entrepreneurship so it would be useful to gain additional insights. This would help to determine if factors such as age, religion, culture, family structure, education, and entrepreneurial competences influence entrepreneurship.

The role of age on entrepreneurship can also be studied in terms of older entrepreneurs. As people's longevity increases, more older people are becoming entrepreneurs. In addition, there are many associated lifestyle reasons for becoming involved with entrepreneurship. Older entrepreneurship can be studied from a tourism and hospitality perspective. Potential research questions can include the following: Are older entrepreneurs more interested in hotel businesses? Is there a link between geographic position of a business and age?

There are many different types of entrepreneurs including habitual, portfolio, and gig. Habitual entrepreneurs are individuals who continually start a business. This means they are constantly engaged in the process of entrepreneurship. Some of these entrepreneurs can be considered as portfolio entrepreneurs as they have a number of different business ventures. Some are related to each other, whilst other businesses are in different sectors. Therefore, it would be interesting to study how Latin American and Iberian entrepreneurs build their portfolio and whether cultural connections play a role in their growth. There may be distinct cultural characteristics such as language or social contacts that facilitate portfolio entrepreneurship. Moreover, these entrepreneurs could be examined in terms of their size of business and whether it is local or international. This means there are many different avenues researchers can take regarding the type of business pursued by Latin American and Iberian entrepreneurs. The gig economy should be researched in more detail. This would enable more data to be obtained about how entrepreneurs are navigating new business structures.

## 5 Conclusion

This chapter has examined the topic of Latin American and Iberian entrepreneurship. This is a new and emerging field of entrepreneurship studies that requires more attention. Due to the unique cultural and historical conditions of both geographic areas, it provides a very interesting context to study entrepreneurship. In addition, in terms of practice, there is an abundance of entrepreneurial activity located within this region. Therefore, we hope that the following chapters in this book will spur more

interest in these areas and help to build new theory regarding Latin American and Iberian entrepreneurship.

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# Venture Capital and Technology Entrepreneurship in Latin America: A Comparative Approach


**Guillermo Andrés Zapata-Huamaní and Sara Fernández-López**

**Abstract** The purpose of this chapter is to investigate whether the venture capital (VC) availability influences the technology entrepreneurship (TE) in Latin America by adopting a comparative approach with high-income economies. By applying panel data methodology in a sample of 21 Latin American countries over the period 2006–2017, we find a positive effect of VC availability on the TE only in the sample of Latin American countries. This result contrasts with that obtained for the sample of high-income countries, where no significance is found. Based on the findings, we propose some policies to improve the entrepreneurial ecosystems of Latin American countries.

## 1 Introduction

The lack of access to finance is often cited as one of the main barriers to entrepreneurship (Mani & Bartzokas, 2002; Wonglimpiyarat, 2007a; Sampaio et al., 2018). Finance is thus recognised as one of the entrepreneurial ecosystem elements (Isenberg, 2011; Napier & Hansen, 2011; Kantis et al., 2014; Stam, 2015; Stam & van de Ven, 2021). Although there are different sources of finance, access to finance tends to reduce as the risk associated with entrepreneurial projects increases. Moreover, when the venture is innovative and technology-based, access to finance becomes even more difficult due to the uncertainty of its business outcomes (Pérez-Ruiz et al., 2013; Stein & Wagner, 2019). In such cases, it is also preferable that financing be provided by investors with entrepreneurial knowledge (Kerr & Nanda, 2009). For these types of ventures, the availability of venture capital (VC) as a nonconventional (non-bank) financing alternative becomes a contextual determinant of the new technology-based firms (NTBFs) (Stefani et al., 2019).

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Under the assumptions of the resource-based view of firm, the needs of entrepreneurship vary according to the context, so institutional differences across countries must be considered when establishing policies aimed at promoting entrepreneurship (Aceytuno & De Paz 2008; Chowdhury et al., 2019). The institutional environment conditions the availability and performance of VC, and ultimately of venture-backed companies (Chowdhury et al., 2019). The VC industry is in a nascent state in emerging economies compared to developed economies such as the USA or Europe (Dossani & Kenney, 2002; Baaziz, 2019; Koekemoer & Kachieng'a, 2002). Empirical studies that account for the virtuous effects of VC on technology entrepreneurship (TE) have focused on developed economies (Cetindamar & Kozanoglu, 2014). In Latin America, the few studies on the topic underline institutional weaknesses that condition such virtuous effects at a theoretical level (Bruton et al., 2009; Cumming et al., 2004), and similar results are found by the descriptive studies referred to the region (Stein & Wagner, 2019; Khoury et al., 2015). To date, there are no empirical studies that explore the relationship between VC availability and the level of TE in Latin America.

Using a sample of 21 Latin American countries, we investigate whether the VC availability influences the TE rates by adopting a comparative approach with high-income economies. Latin America has experienced significant economic growth in the early years of this century (CEPAL, 2014), which has allowed the emergence of leading entrepreneurship ecosystems (Kuschel et al., 2017). According to the Startup Global Report, 4 of the 20 most successful ecosystems were in cities in developing countries, including São Paulo in the 2015 edition and Santiago de Chile in the 2012 edition (Kuschel et al., 2017). Nevertheless, Latin America needs to develop more TE projects, which is key to the strategy of productive diversification and structural change in favour of a more sustainable economic model for emerging countries (Cetindamar, 2002; Abdurazzakov, 2016). Based on the assumption that the VC availability enables dynamic entrepreneurial ecosystems involving innovation and technology development processes, it is necessary to explore empirically the effect of VC on TE in emerging economies.

This chapter makes several contributions to the topic on VC and TE in the emerging countries, particularly in Latin America. Thus, it provides new empirical evidence on the effect of the VC availability on TE. To the best of our knowledge, no study has addressed this issue in emerging countries by applying an econometric approach. More specifically, we use a wide sample of 21 Latin American countries over a long period of time (2006–2017), which refers to a time of extraordinary economic growth of the region (CEPAL, 2014), becoming an interesting period of study. Finally, the obtained results allow the designing of public policies aimed at promoting the development of both a VC industry and entrepreneurship ecosystems that fitted the reality of the region.

This chapter unfolds as follows. In Sect. 2, we present the literature review. In Sect. 3, we describe the sample, variables and methodology used in the empirical analysis. In Sect. 4, we discuss the results of the descriptive and econometric analyses. The chapter concludes by discussing implications for policy practices

aimed at developing dynamic entrepreneurial systems in emerging countries, and particularly in Latin America.

## 2 Literature Review

### *2.1 Access to Finance and TE: Venture Capital*

The entrepreneurship ecosystem approach has been used in the study of the different contextual determinants of entrepreneurship. The different dimensions of the entrepreneurship ecosystem involve political, financial, cultural, educational, support, market and other factors (Isenberg, 2011; Napier & Hansen, 2011; Ayodeji, 2012; Kantis et al., 2014; Stam, 2015; Ratten, 2020; Stam & van de Ven, 2021). In particular, the supply and accessibility of finance constitute one of the main obstacles (Mani & Bartzokas, 2002; Wonglimpiyarat, 2007a; De Brito & Leitão, 2021), as well as stimuli, of the environment for entrepreneurship (Wonglimpiyarat, 2007b). In this respect, the literature shows that flexibility and ease of access to credit promotes new businesses (Álvarez & Urbano, 2011; Verheul et al., 2006). In contrast, financial constraints hinder the start-up of entrepreneurial initiatives (Kerr & Nanda, 2009).

New businesses must offer products or services that are innovative enough to generate a new market niche or differentiated enough to gain significant market share and at the same time obtain funding from a third party who must be convinced of the promise of value created. The paradox is that the more innovative and differentiated the product or service, the more difficult it is to convince a third party to finance a promise of value that is difficult to understand. This limits new technologies, which have potentially profitable projects but do not obtain financing due to credibility problems (Stein & Wagner, 2019).

Pérez-Ruiz et al. (2013) point out that one of the biggest problems of NTBFs is the lack of financing. Lack of credit and external capital is characteristic of early-stage technology ventures, when they seek seed capital to launch their business idea (Cetindamar, 2002). There are several reasons why conventional financial institutions (i.e. banking system) are reluctant to finance NTBFs (Ortín et al., 2008; Stefani et al., 2019). One reason behind their reluctance is the limited tangible fixed assets of NTBFs, which imply a limited collateral in case of default, a highly likely situation in the early stages of NTBFs (Verheul et al., 2006; Wonglimpiyarat, 2007a). Another reason is the uncertainty of innovative activities (Stefani et al., 2019), positively associated with high risks and consequently high uncertainty in economic outcomes (Ortín et al., 2008). Also, banks often have short-term profitability objectives that are not easily compatible with the time required by NTBFs to introduce new product/services into the market and reach profits (Wonglimpiyarat, 2007a; Coutu, 2014; Hyytinen et al., 2015). Therefore, the financial structure of NTBFs differs significantly from that of other firms (Kuschel et al., 2017).

Faced with financial constraints from the banking sector, NTBFs must seek other ("non-bank" or "nonconventional") alternatives that are more appropriate to their nature, in terms of both their innovation and the sector in which they operate (Koekemoer & Kachieng'a, 2002). In this sense, VC becomes an alternative of considerable interest (Stefani et al., 2019), as it is intended to finance new, high-risk firms (Wonglimpiyarat, 2007a; Stein & Wagner, 2019), helping to overcome the traditional barriers that capital markets impose on NTBFs (Di Gregorio & Shane, 2003). Consequently, NTBFs have historically been the main "consumers" of VC (Koekemoer & Kachieng'a, 2002). Moreover, due to the low investment directed at seed or very early-stage ventures (Wonglimpiyarat, 2009), VC appears to be the most appropriate form of external finance at this stage; as ventures progress to the next stages, the importance of VC declines as private equity and other forms of finance take centre stage (Wonglimpiyarat, 2009).

The presence of the VC not only implies access to finance but also entails participation in the equity and management of the new firm (Schwartz, 1994; Aceytuno & De Paz, 2008; Wonglimpiyarat, 2009; Stein & Wagner, 2019). Thus, a VC partner is often associated with other positive effects in NTBFs due to its active role both in strategic decision-making (Groh & Wallmeroth, 2016) and in the day-to-day running of the company, which can help to overcome the lack of managerial skills that often characterises the founding team (Rodríguez et al., 2013). Furthermore, the presence of venture capitalists implies that the firm has passed a very demanding filter, which acts as a positive signal to third parties (Rodríguez et al., 2013; Chung & Kang, 2018). This signal would improve the firm's image by reducing information asymmetries and moral hazard problems (Bonardo et al., 2011), thus facilitating its access to greater external resources (Stein & Wagner, 2019). Therefore, the advantages of VC lie not only in the funding it provides but also in the direct and indirect involvement in the design and execution of innovation projects (Mani & Bartzokas, 2002; Chung & Kang, 2018); that is, it also adds nonfinancial value (Groh & Wallmeroth, 2016).

## *2.2 Venture Capital in Emerging Economies*

Emerging economies present institutional contexts that differ from those of more developed economies (Bruton et al., 2009; Mingo, 2013). Particularly, they often have weaker regulatory environments (Groh & Wallmeroth, 2016) than developed economies. The regulatory quality of the institutional environment conditions the supply and accessibility of entrepreneurship financing (Sambharya & Musteen, 2014), insofar as it affects institutions such as banks (Bruton et al., 2009) and VC (Li & Zahra, 2012). Moreover, in emerging economies with incipient VC industry, the political system weaknesses (e.g. corruption and internal conflicts) have a higher negative effect on VC than in economies with well-established VC industry (Bonini & Alkan, 2012), since the investments are in early stages. Thus, Li and Zahra (2012) found that the higher the level of formal institutional development in the countries,

the higher the level of VC activity. However, the different cultural settings, such as uncertainty avoidance and collectivism, weaken this positive relationship.

As evidenced in the literature, VC availability has a positive relationship with entrepreneurship in developed economies (see Samila and Sorenson (2011) and Cole et al. (2016) for the US economy). This type of financing has been especially important for highly innovative start-ups in the USA and Europe (Cetindamar & Kozanoglu, 2014; Ayodeji, 2012). However, entrepreneurship financing in emerging economies relies mainly on bank loans, and VC is considered an underdeveloped instrument (Dossani & Kenney, 2002; Baaziz, 2019; Koekemoer & Kachieng'a, 2002). Even in emerging economies with rapid VC development driven by public policies, such as Korea, a different growth pattern of the VC industry is predicted than in the USA (Chung & Kang, 2018). Additionally, the restricted competition in banking and government credit controls may hinder entry in the nonfinancial sector (Sampaio et al., 2018). The study of VC in emerging economies has, therefore, its singularities, highlighting among them the continuous institutional changes (Lingelbach, 2015).

Thus, in emerging countries, interesting innovations and ideas are often financed by venture capital bidders from advanced industrialised countries abroad, to the detriment of domestic participation. This can be a constraint to business growth in emerging economies, so providing seed VC could help keep ideas in-country (Ayodeji, 2012). In this sense, government participation through public VC funds also tends to prevail in emerging countries, unlike in the USA where VC is led by the private sector (Wonglimpiyarat, 2009). Thus, in Thailand, public VC funds assist businesses in the start-up phase, while private VC funds only assist those with low-risk or high commercial potential (Wonglimpiyarat, 2007a). Public VC funds play the role of government in developing VC markets, acting as a catalyst to accelerate early-stage investments in NTBFs, never replacing conventional (private) equity financing but complementing it (Wonglimpiyarat, 2007a).

More specifically, studies focused on Latin America have highlighted the weaknesses of the VC industry (Bruton et al., 2009; Cumming et al., 2004) after analysing it from the perspective of institutional theory. Stein and Wagner (2019) make a detailed analysis of the profile of VC investments in Latin America under a comparative approach with other regions of the world. They conclude that the volume of VC financing in Latin America is much lower than in developed economies; however, it grew significantly in the first decade of this century—30% per year between 2005 and 2011—and, particularly, in Brazil, where it grew annually by 50% between 2005 and 2008 (Ramalho, 2010), and in Chile (Romaní et al., 2009). This growth is consistent with the increase in the share of VC investments into emerging markets (from 2.4% in 2000 to 20.8% in 2013) (Groh & Wallmeroth, 2016).

The largest amounts of VC invested in Latin American ventures come mainly from foreign investors (Stein & Wagner, 2019). Surprisingly, Khoury et al. (2015) found that high VC investments in Latin America are associated with ventures operating in countries with low regulatory quality. Both results coincide with the increase in international VC investment in weak institutionally countries, which, paradoxically, achieve good returns and contribute uniquely to new venture creation

in these contexts (Pezeshkan et al., 2020). Another feature of VC in Latin America is a lower presence in NTBFs compared to countries with similar income levels. In contrast, the average size of funded projects is larger than in other regions partly because the largest projects in Latin America do not operate in high-tech sectors. These characteristics evidence an underdeveloped and early-stage VC industry in the region (Stein & Wagner, 2019).

It follows from the above that studies for Latin America have been mostly descriptive, outlining the characteristics and evolution of the VC industry in the region. However, to date no study has explored the role of VC as a determinant of TE, as the literature has shown in developed economies.

## 3 Methodology

### *3.1 Data and Variables*

The data set was constructed from the Global Entrepreneurship Monitor (GEM) database aggregated by country. The period of analysis is from 2006 to 2017 (12 years). It contains 21 Latin American countries participating in the GEM project. This grouping makes it possible to reduce unobservable factors insofar as there are similarities in economic, social and entrepreneurial development in the region (Khoury et al., 2015). For comparison, the contrasting sample corresponds to high-income countries according to the World Bank classification. Both samples are unbalanced panels insofar as not all countries participated continuously in GEM project (see Table 4). Complementarily, we have used other international databases such as those of the International Labour Organization (ILO) and the World Bank (WB), as well as information from the Global Competitiveness Report (GCR). In so doing, further contextual determinants of entrepreneurship that are not reported in the GEM dataset can be incorporated in the empirical analyses in order to eliminate possible common method bias (Hörisch et al., 2017).

The dependent variable (*technology entrepreneurship*) was constructed from the Total early-stage Entrepreneurial Activity (TEA index) that measures the percentage of adult population (18–64 years old) that are either a nascent entrepreneur or an owner-manager of a business that is less than 42 months old. In this respect, *technology entrepreneurship* measures the percentage of TEA who reports operating in medium- or high-tech sectors according to the OECD classification.

The independent variable of interest is *VC availability*, obtained from the Global Competitiveness Report (GCR) indicators, which measures the level of ease/difficulty of innovative and risky ventures in obtaining VC financing according to the opinions of the national experts. Based on the arguments presented in the previous section, VC availability is expected to have a positive effect on TE.

The control variables used can be classified into two groups: those specifically linked to TE and those traditionally related to entrepreneurship in general. In the former we have considered *entrepreneurship using new technologies*, which has

been employed by Colovic and Lamotte (2015) and Laplume et al. (2014) to measure the level of novelty of technologies used in TE. *Innovative entrepreneurship* and *innovation capacity* variables are included as proxies of the innovative entrepreneurship and firms' capacity to innovate due to the expected positive association between innovation and TE (Colovic & Lamotte, 2015; Stein & Wagner, 2019). Also, *opportunity-driven entrepreneurship* is employed as a proxy of quality entrepreneurship in terms of innovation and job creation, aspects positively related to TE (Chowdhury et al., 2019; Kuschel et al., 2017). *University-business collaboration* is also included as a fundamental element in the Triple Helix model for the generation of NTBFs (Wonglimpiyarat, 2007a).

In the second group of control variables, we have used the most common ones in entrepreneurship studies. Thus, the *gross domestic product (GDP)* per capita is included since the country's level of economic development and the relative level of wealth influence VC investment and, therefore, the technological level of entrepreneurial initiatives (Khoury et al., 2015). The *population density* variable has been used under the assumption that the likelihood of innovation and TE is higher as population density increases (Audretsch et al., 2010; Stein & Wagner, 2019). Entrepreneurship tends to be highly service sector oriented, so the *services sector employment* variable has been incorporated expecting a positive relationship with TE (Verheul et al., 2002). The *unemployment* variable has also been considered due to the negative relationship it has shown in papers specifically analysing TE (Audretsch et al., 2010). The variable *input regulation* measures the number of days to start a business and is used as a proxy for the administrative ease/difficulty of starting a business (Djankov et al., 2002; Baaziz, 2019). Finally, the *political stability* variable is particularly relevant for emerging economies as a stable political environment is necessary for VC investors and entrepreneurs to make long-term commitments (Bonini & Alkan, 2012; Lingelbach, 2015; Kuschel et al., 2017; Ekanem et al., 2019).

Table 1 presents the description of the variables used in the study, as well as the expected relationships with TE.

## 3.2 Model Specification

In order to analyse the effect of VC availability on TE, we use a static panel data model. More specifically, we adopt a conventional random effects approach. The model specification is shown below:

$$\mathrm{TE}_{it} = \alpha + \beta_1 \mathrm{VC\ availability}_{it} + \beta_2 \mathrm{tech.contr.var.}_{.it} + \beta_i \mathrm{entrepr.contr.var.}_{.it} + \varepsilon_{it}$$

where $\mathrm{TE}_{it}$ is the *technology entrepreneurship* of country $i$ in year $t$; $\mathrm{VC\ availability}_{it}$ is the key independent variable; and tech. contr. var $._{it}$ and entrepr. contr. var $._{it}$ refer to the control variables associated with technology entrepreneurship and generic entrepreneurship, respectively.

**Table 1** Definition of the variables

| Variable/expected relationship | Description | Source |
|---|---|---|
| *Dependent variable* | | |
| Technology entrepreneurship | Percentage of entrepreneurial activity (TEA) who reports entrepreneurial activity in a technology sector (high or medium), according to the OECD classification | GEM |
| *Key independent variable* | | |
| VC availability (+) | Expert interview: in your country, how easy is it for entrepreneurs with innovative but risky projects to find venture capital? [1 = very difficult; 7 = very easy] (weighted average) | GCR |
| *Technology entrepreneurship control variables* | | |
| Entrepreneurship using new technologies (+) | Percentage of entrepreneurial activity (TEA) who uses new technologies (available from 1 to 5 years) or latest technology (available 1 year ago) | GEM |
| Innovative entrepreneurship (+) | Percentage of entrepreneurial activity (TEA) who reports that their products are new to *all* or *some* of their customers | GEM |
| Innovation capacity (+) | Expert interview: in your country, to what extent do firms have the capacity to innovate? [1 = not at all; 7 = to a great extent] (weighted average) | GCR |
| Opportunity-driven entrepreneurship (+) | Percentage of entrepreneurial activity (TEA) due to perceived opportunities | GEM |
| University-business collaboration (+) | Expert interview: in your country, to what extent do businesses and universities collaborate in research and development (R&D)? [1 = no cooperation at all; 7 = extensive cooperation] (weighted average) | GCR |
| *Entrepreneurship control variables* | | |
| GDP p/c (+) | Gross domestic product (GDP) per capita (US$ at constant 2005 prices) | WB |
| Population density (+) | Mid-year population divided by land area in square kilometres | WB |
| Services sector employment (+) | Employment in the service sector as a percentage of employment (employed persons). Services correspond to the G-T tabulation categories (ISIC, revision 4) | ILO |
| Input regulation (−) | Number of days required to start a new business | GCR |
| Political stability (−) | Perception of the likelihood that the government will be destabilised or overthrown by unconstitutional or violent means. Measured in units of a standard normal distribution ranging from approximately −2.5 to 2.5 | WB |
| Unemployment (−) | Percentage of unemployed in the total labour force | ILO |

As can be seen in Table 2, most variables have greater variation between countries (between variation) than over time (within variation). In this case, the fixed effects models would be least desirable because they use just within variation, which could lead to considerable efficiency losses (`Cameron & Trivedi, 2010).

**Table 2** Descriptive statistics and breakdown of variance

| Variable | | Mean | S.D. | Min | Max | Obs. |
|---|---|---|---|---|---|---|
| Technology entrepreneurship | Overall | 2.991 | 2.443 | 0.000 | 11.240 | $N = 150$ |
| | Between | | 1.637 | 0.000 | 5.785 | $n = 21$ |
| | Within | | 1.765 | −0.820 | 10.412 | $T$-bar = 7.14 |
| VC availability | Overall | 2.664 | 0.488 | 1.746 | 4.066 | $N = 225$ |
| | Between | | 0.449 | 1.813 | 3.710 | $n = 21$ |
| | Within | | 0.276 | 2.105 | 3.689 | $T$-bar = 10.71 |
| Entrepreneurship using new technologies | Overall | 4.849 | 2.971 | 0.000 | 13.350 | $N = 150$ |
| | Between | | 2.215 | 1.358 | 8.181 | $n = 21$ |
| | Within | | 1.973 | −1.567 | 10.684 | $T$-bar = 7.14 |
| Innovative entrepreneurship | Overall | 8.774 | 6.147 | 0.159 | 31.811 | $N = 150$ |
| | Between | | 4.448 | 0.681 | 16.684 | $n = 21$ |
| | Within | | 4.202 | −2.496 | 25.528 | $T$-bar = 7.14 |
| Innovation capacity | Overall | 3.271 | 0.592 | 1.992 | 4.907 | $N = 225$ |
| | Between | | 0.390 | 2.276 | 3.927 | $n = 21$ |
| | Within | | 0.493 | 2.446 | 4.503 | $T$-bar = 10.71 |
| Opportunity-driven entrepreneurship | Overall | 12.571 | 5.222 | 1.540 | 31.620 | $N = 150$ |
| | Between | | 4.681 | 2.800 | 24.527 | $n = 21$ |
| | Within | | 3.384 | 2.831 | 23.008 | $T$-bar = 7.14 |
| University-business collaboration | Overall | 3.439 | 0.531 | 2.100 | 4.509 | $N = 225$ |
| | Between | | 0.451 | 2.454 | 4.297 | $n = 21$ |
| | Within | | 0.363 | 2.549 | 4.344 | $T$-bar = 10.71 |
| GDP p/c | Overall | 9333.787 | 5848.962 | 1750.803 | 27,703.520 | $N = 249$ |
| | Between | | 5926.747 | 2098.007 | 27,089.720 | $n = 21$ |
| | Within | | 713.043 | 6366.676 | 11,698.300 | $T = 11.86$ |
| Population density | Overall | 134.525 | 162.487 | 3.239 | 665.658 | $N = 252$ |
| | Between | | 166.073 | 3.449 | 657.465 | $n = 21$ |
| | Within | | 5.503 | 101.108 | 155.247 | $T = 12$ |
| Services sector employment | Overall | 65.257 | 8.695 | 42.580 | 84.920 | $N = 209$ |
| | Between | | 8.771 | 47.457 | 82.147 | $n = 21$ |
| | Within | | 2.284 | 46.283 | 70.998 | $T$-bar = 9.95 |
| Input regulation | Overall | 50.086 | 86.727 | 3.000 | 694.000 | $N = 217$ |
| | Between | | 121.516 | 6.625 | 572.500 | $n = 21$ |
| | Within | | 32.565 | −314.414 | 171.586 | $T$-bar = 10.33 |
| Political stability | Overall | −0.087 | 0.644 | −1.902 | 1.278 | $N = 252$ |
| | Between | | 0.631 | −1.395 | 1.100 | $n = 21$ |

(continued)

**Table 2** (continued)

| Variable | | Mean | S.D. | Min | Max | Obs. |
|---|---|---|---|---|---|---|
| | Within | | 0.186 | −0.594 | 0.535 | $T = 12$ |
| Unemployment | Overall | 6.929 | 3.326 | 2.007 | 16.100 | $N = 252$ |
| | Between | | 3.176 | 2.648 | 13.127 | $n = 21$ |
| | Within | | 1.191 | 3.637 | 11.323 | $T = 12$ |

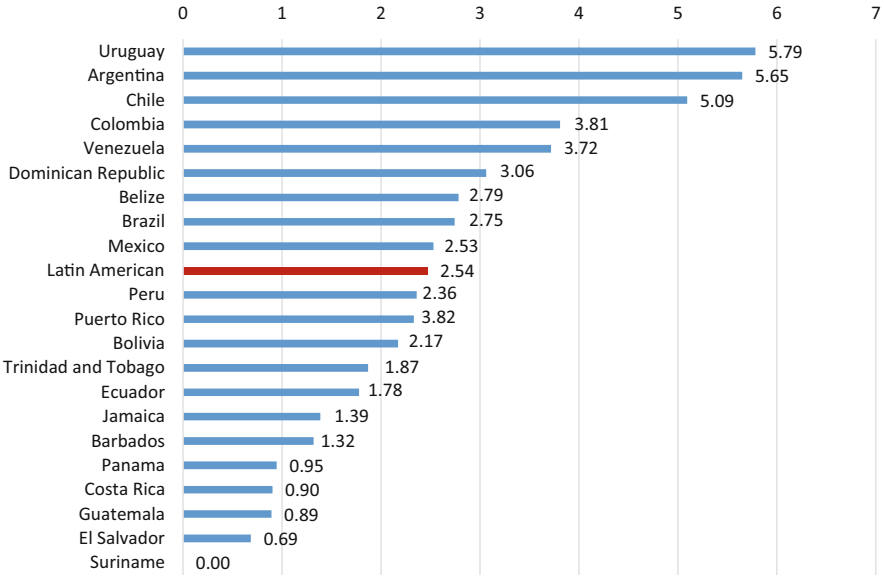


**Fig. 1** Average percentage of TE projects for the period 2006–2017 by country (%)

Therefore, we apply random effects models to our regressions since they use both within and between variation.

# 4 Empirical Results

## *4.1 Univariate Analysis*

Table 2 summarises the descriptive statistics of the dependent, independent and control variables for the sample of Latin American countries. As mentioned, the results show that between variance is higher than within variance for most of the variables, except for *technology entrepreneurship*, *innovation capacity* and *opportunity-driven entrepreneurship*.

Taking a closer look at the situation of TE in the Latin American region, Fig. 1 shows the average percentages of ventures in medium- or high-tech sectors for the

**Table 3** Percentage of ventures in medium- or high-tech sectors by country and year (%, 2006–2017)

| Country | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | Minigraph | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Argentina | 9.89 | 5.59 | 3 | 7.35 | 4.03 | 5.47 | 6.22 | 3.96 | 3.18 | 4.06 | 6.51 | 8.55 |  | 5.65 |
| Brazil | 4.56 | 5.89 | 3.3 | 1.35 | 5.99 | 1.35 | 2.35 | 2.68 | 1.4 | 1.80 | 1.19 | 1.10 |  | 2.75 |
| Chile | 4.39 | 7.46 | 2.79 | 5.37 | 4.32 | 6.04 | 5.76 | 4.76 | 3.23 | 4.79 | 6.24 | 5.98 |  | 5.09 |
| Colombia | 5.34 | 0.46 | 7.42 | 3.18 | 3.1 | 3.54 | 6.22 | 0 | 3.26 | 5.39 | 4.83 | 2.99 |  | 3.81 |
| Peru | 0.16 | 3.7 | 6.24 | 4.28 | 1.63 | 4.61 | 0.12 | 0.6 | 0.49 | 1.41 | 2.10 | 2.99 |  | 2.36 |
| Uruguay | 7.51 | 10.7 | 7.47 | 4.27 | 4.19 | 5.33 | 4.01 | 5.79 | 2.55 | 4.20 | 5.71 | 7.69 |  | 5.79 |
| Mexico | 4.38 | | 3.83 | | 1.17 | 3.05 | 5.27 | 0.48 | 0.25 | 3.22 | 2.70 | 0.97 |  | 2.53 |
| Ecuador | | | 5.83 | 0.83 | 1.93 | | 1.31 | 0.76 | 0.5 | 1.70 | 2.22 | 0.93 |  | 1.78 |
| Guatemala | | | | 2.37 | 0.62 | 0.22 | | 0.36 | 1.16 | 1.28 | 0.22 | 0.91 |  | 0.89 |
| Jamaica | 1.97 | | 1.17 | 1.62 | 1.91 | 0.63 | | 0 | 0.79 | | 3.02 | |  | 1.39 |
| Panama | | | | 0 | | 4.27 | 0.97 | 0 | 0.58 | 0.39 | 0.75 | 0.61 |  | 0.95 |
| Puerto Rico | | | | | | | | 2.9 | 0.91 | 3.14 | 1.99 | 2.73 |  | 2.33 |
| Barbados | | | | | | 1.01 | 0.48 | 0 | 2.51 | 2.59 | | |  | 1.32 |
| Trinidad and Tobago | | | | | 4.4 | 1.3 | 2.07 | 0 | 1.58 | | | |  | 1.87 |
| Bolivia | | | 4.76 | | 0.9 | | | | 0.86 | | | |  | 2.17 |
| Costa Rica | | | | | 0 | | 2.28 | | 0.43 | | | |  | 0.90 |
| Dominican Republic | | 3.68 | 5.17 | 0.34 | | | | | | | | |  | 3.06 |
| El Salvador | | | | | | | 1.39 | | 0 | | 0.67 | |  | 0.69 |
| Venezuela | | 7.23 | | 2.75 | | 1.18 | | | | | | |  | 3.72 |
| Belize | | | | | | | | | 1.41 | | 4.16 | |  | 2.79 |
| Suriname | | | | | | | | 0 | 0 | | | |  | 0 |

Notes: In the highest/lowest percentages of TE over the study period can be seen in the Minigraph column

period 2006–2017 by country. On average, the percentage of TE projects in Latin America is 2.47%. Uruguay (5.79%), Argentina (5.65%) and Chile (5.09%) lead this ranking of countries with average percentages of TE projects above 5%. They coincide with the region's economies that have witnessed a relatively high economic development. At the opposite extreme are El Salvador (0.69%), Guatemala (0.89%), Costa Rica (0.90%) and Panama (0.95%), with percentages of TE that do not exceed 1%, and which have in common belonging to the Central American subregion, even though they present important differences in economic development.

Table 3 shows the percentage of TE by country and year. We can observe that only 6 of the 20 sample countries have observations for all years of the study period, while the rest of the countries have a very irregular participation. For most countries, the peak of TE occurs in the early years (2006–2010), when some of them experienced an era of the "commodity lottery" (Cimoli & Porcile, 2013) which allowed them to achieve economic growth rates of over 4% for 6 consecutive years, a phenomenon unprecedented in the previous 40 years (CEPAL, 2014).

Although the correlation coefficients are low, there are significant correlations between some of the variables used in the analysis (Table 4). In order to test for potential multicollinearity problems, we applied the variance inflation factor (VIF)

**Table 4** Correlation matrix

| | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Technology entrepreneurship | | | | | | | | | | | | |
| 2. VC availability | 0.068 | | | | | | | | | | | |
| 3. Entrepreneurship using new technologies | 0.1411* | 0.3324*** | | | | | | | | | | |
| 4. Innovative entrepreneurship | 0.1001 | 0.2502*** | 0.6992*** | | | | | | | | | |
| 5. Innovation capacity | −0.1272 | 0.1915*** | −0.0512 | −0.1209 | | | | | | | | |
| 6. Opportunity-driven entrepreneurship | −0.1461* | 0.1608* | 0.5710*** | 0.6189*** | −0.0759 | | | | | | | |
| 7. University-business collaboration | −0.1271 | 0.1337** | −0.0598 | −0.103 | 0.3993*** | −0.1181 | | | | | | |
| 8. GDP p/c | 0.2360*** | 0.1658** | −0.2117*** | −0.2865*** | 0.09 | −0.2897*** | 0.4308*** | | | | | |
| 9. Population density | −0.1945** | 0.0112 | −0.2079** | −0.2025** | −0.008 | −0.1051 | 0.1880*** | 0.4679*** | | | | |
| 10. Services sector employment | 0.2473*** | −0.0159 | 0.066 | −0.0805 | 0.0184 | −0.007 | 0.2421*** | 0.6301*** | 0.3393*** | | | |
| 11. Input regulation | −0.0915 | −0.2515*** | −0.2144** | −0.1639* | −0.1588** | −0.1625* | −0.1590** | −0.001 | −0.2711*** | 0.0054 | | |
| 12. Political stability | 0.1218 | 0.0501 | −0.1938** | −0.2927*** | 0.2357*** | −0.2424*** | 0.2586*** | 0.4259*** | 0.4749*** | 0.4231*** | −0.0989 | |
| 13. Unemployment | 0.2314*** | −0.2154*** | −0.1083 | −0.1881** | 0.1458** | −0.3537*** | 0.3845*** | 0.3895*** | 0.3173*** | 0.4931*** | 0.0084 | 0.2904*** |

Notes: *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

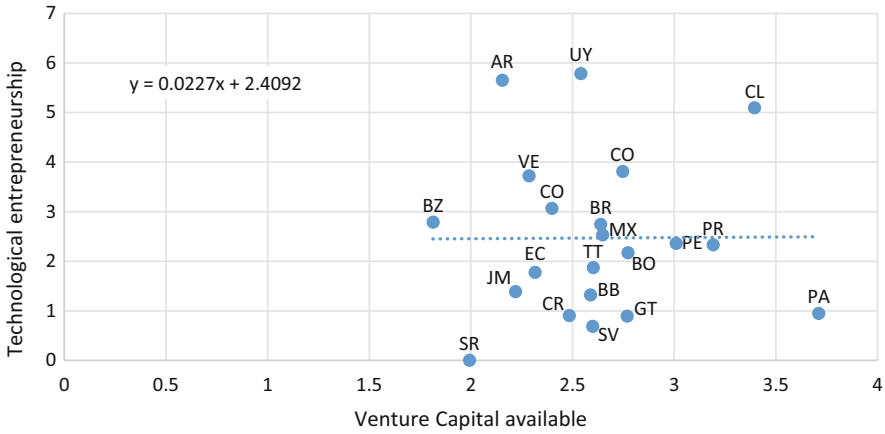


**Fig. 2** Correlation between the technology entrepreneurship and the availability of VC

tests, whose values were lower than 3, namely, they ranged between 1.18 and 2.52, which are considered to be an acceptable level (Hair et al., 1998).

Moreover, the correlation analysis between the *TE* and the *VC availability*, the variable of interest, shows a positive, albeit weak, correlation between the two variables (Fig. 2), with a low coefficient of determination ($R^2$).

## *4.2 Multivariate Analysis*

In order to explore the impact of *VC availability* on TE in Latin American countries, we apply panel data linear models with random effects estimators and robust standard errors. In addition, to control for the effects of other factors that influence entrepreneurship in both general and technology entrepreneurship, we employ both technology-related control variables and control variables commonly linked to entrepreneurship, especially in developing economies.

The estimates in Table 5 indicate that *VC availability* has a positive and significant influence on TE in Latin America. Thus, the results for the sample of Latin American countries are somehow consistent with the descriptive findings of the aforementioned studies referred to VC in emerging countries (Dossani & Kenney, 2002; Mani & Bartzokas, 2002; Wonglimpiyarat, 2007a; Stein & Wagner, 2019). The findings suggest that VC helps technology-based ventures to overcome the barriers of traditional capital markets (Di Gregorio & Shane, 2003).

This result contrasts with that obtained for the sample of high-income countries, where no significance is found, even though the expected result according to the literature reviewed should be positive and highly significant (see Samila and Sorenson (2011) and Cole et al. (2016)). One possible explanation is that an already ease access to VC, or other appropriate financing alternatives for NTBFs, makes the

**Table 5** Random effects regressions

| | Latin American countries | High-income countries |
|---|---|---|
| Dependent variable: technology entrepreneurship | | |
| *Key independent variable* | | |
| VC availability | 0.974* (0.522) | 0.030 (0.418) |
| *Technology entrepreneurship control variables* | | |
| Entrepreneurship using new technologies | 0.159* (0.088) | 0.229 (0.239) |
| Innovative entrepreneurship | 0.017 (0.041) | −0.233* (0.128) |
| Innovation capacity | −0.549 (0.359) | 0.763* (0.474) |
| Opportunity-driven entrepreneurship | −0.112** (0.053) | −0.008 (0.115) |
| University-business collaboration | −1.874*** (0.430) | 0.163 (0.476) |
| *Entrepreneurship control variables* | | |
| GDP p/c | 0.000*** (0.000) | 0.000 (0.000) |
| Population density | −0.005* (0.003) | −0.000* (0.000) |
| Services sector employment | −0.019 (0.041) | 0.054 (0.042) |
| Input regulation | −0.005* (0.003) | −0.045** (0.019) |
| Political stability | 0.202 (0.527) | 0.374 (0.615) |
| Unemployment | 0.215** (0.095) | 0.035 (0.057) |
| Constant | 7.499** (3.294) | −1.286 (3.614) |
| Observations | 128 | 328 |
| Countries | 21 | 49 |
| $R^2$ overall | 0.456 | 0.149 |

Standard errors in brackets; *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

VC availability a non-determining factor of TE in high-income economies. In contrast, in Latin American countries, the VC availability has a differential effect, as it might be the only source of funding for these highly risky and innovative initiatives in a region where capital markets are less developed.

With regard to the control variables, the results for both samples tend to coincide in the case of the variables commonly linked to general entrepreneurship. Thus, the variables population density, services sector employment, input regulation and political stability coincide in terms of significance or lack thereof. However, the variables income level (GDP p/c) and unemployment show positive significance exclusively for Latin America. In the first case, the direct relevance of income level on TE is reaffirmed. In the second case, the association found is contrary to what might be expected, since unemployment is commonly associated with necessity-driven entrepreneurship or low-quality entrepreneurship.

Concerning the technology-related control variables, opportunity-based entrepreneurship shows a negative effect on TE for Latin America, which, although contrary to expectations, is consistent insofar as it tends to be inversely related to unemployment. For the rest of the control variables in this second group and compared to high-income countries, the university-industry collaboration has a negative influence on TE in Latin America, in contrast to the variable entrepreneurship with new technologies, which has a direct and significant influence.

## 5 Conclusions

This chapter analyses the role of VC as a nonconventional (non-bank) financing alternative in the creation of NTBFs in the context of emerging economies, particularly in Latin American countries. Specifically, an empirical and comparative analysis is proposed with the purpose of exploring whether the effect of VC on TE differs between high-income and Latin American countries.

By applying panel data methodology in a sample of 21 Latin American countries over the period 2006–2017, we found a positive effect of VC availability on TE only in the sample of Latin American countries. This result contrasts with that obtained for the sample of high-income countries, where no significance is found. The ease of access to VC or other appropriate financing alternatives for NTBFs available in high-income countries could be behind this lack of significance. In contrast, VC financing could be the only source of funding for these highly risky and innovative initiatives in the Latin American countries, where capital markets are less developed.

Based on the literature review and the results obtained, we found that VC can have a greater positive effect on TE in Latin American countries than the literature attributes to it in developed economies. This finding speaks in favour of more research on this issue in emerging economies. The singularities of the VC industry in such economies require, consequently, that policies aimed at strengthening it should also be different from those implemented in developed economies (Cetindamar, 2002; Groh & Wallmeroth, 2016).

Additionally, given that VC is an element of the financial dimension of the entrepreneurial ecosystem, we insist on the need to develop models of entrepreneurial ecosystems adapted to the circumstances specific to emerging economies (Baaziz, 2019), where the VC industry evolves jointly and interconnectedly with other elements of the ecosystem.

One possible avenue is to encourage local VC investment in collaboration with foreign VCs. In this way, the local industry could more rapidly develop knowledge and skills already present in the VC industry operating in developed countries while adapting them to the peculiarities of local economies. Temporary and marginal tax incentives could also be established for VC investments linked to technological entrepreneurship. Also, rents from this type of ventures could not be taxed at high rates to avoid losing the capacity to produce innovation (Aghion et al., 2019). The region should also move forward in strengthening the institutional framework.

The present work is not without limitations, including the measurement of the key independent variable (VC availability), which is subjective in nature as it is based on the assessments of national experts. The factual limitation was the lack of access to specialised databases, usually privately available. Further work may benefit from considering the amounts of VC available or invested in entrepreneurial ecosystems.

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# World Heritage Sites and Tourism Entrepreneurship in Latin America


**Vanessa Ratten**

**Abstract** Latin America is a large geographic area comprising a diverse range of countries. This means there are many tourist places that have World Heritage listing. This chapter will explore the importance of tourism to Latin America by focusing on the role of entrepreneurship, thereby enabling an investigation into how heritage influences tourism popularity. This provides an interesting way to highlight the role culture and history play in the development of tourism initiatives.

## 1 Introduction

In the past decade, many countries in Latin America have become significant global players. Tanco et al. (2018, p. 412) state that in Latin America 'its total population accounts for more than 625 million people, while its total gross domestic product (GDP) totals around 5% of the Gross World Product'. There are 20 countries in Latin America: Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Costa Rica, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, the Dominican Republic, Uruguay and Venezuela (Tanco et al., 2018). There are other countries included in the definition of Latin America, and though not a country, Puerto Rico is included (Amorós & Cristi, 2008).

In entrepreneurship studies, there has not been much research on Latin America compared to other geographic regions (Gonzalez-Perez et al., 2016). This is starting to change as more researchers in Latin America publish their research and there is more interest in Latin American studies. Feldman (2014, p. 15) states 'Latin America stretches from Rio Grande to Antarctica, occupying more than 18 million square meters, with a population of more than one-half billion people'. Within the region there are enormous inequalities in terms of access to services. This presents a problem but also opportunity for entrepreneurs. There are many similarities amongst

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Latin American countries due to their economic conditions (Alvarez & Urbano, 2011). Some quality of life indicators such as literacy rates and life expectancy are low in Latin America compared to other regions (Amorós et al., 2016). Latin America is a diverse geographic area that contains a range of countries in terms of economic development (Felzensztein et al., 2015). Some countries in Latin America are more well known than others. This could be due to their population size and economic impact in the global business environment (Ratten, 2020a).Within the past two decades, the interest in Latin American tourism has increased due to more interest in culture and heritage. Handicrafts from Latin America are a popular tourist attraction but also a profitable economic activity with many products exported. Latin American crafts are embedded in communities that have a strong sense of history. Within the entrepreneurship and tourism literature, much has been written about the role of culture, but less is known about creative crafts and tourism. Crafts in Latin America are a new research topic that transcends the tourism, entrepreneurship and craft literature. Despite all the ways that craft activity influences entrepreneurship, there is very little written in the academic literature on craft activity and tourism development. Local communities in Latin America are involved in constructing the meaning of craft tourism in their regions (Amorós et al., 2012). The production of crafts is partially dependent on the maker but more so on the localism or regionalism of the craft product. This means there is a synergistic relationship between a region's history, tourism and the creative crafts that are made in the region.

This chapter focuses on the research gap of linking the development of World Heritage Sites to tourism in Latin America. The purpose of this chapter is to discuss why a strategic approach to tourism is required. This will mean adding to the existing literature on Latin American entrepreneurship but outlining a new direction (Chen et al., 2016). Table 1 shows the countries in Latin America in terms of motto and anthem. As can be seen in the table, many of the anthems have similar wording but are culturally significant in each country (Bas et al., 2008). This means it is important to consider cultural heritage when analysing the differences and similarities in each Latin American country (Bianchi et al., 2017).

## 2 Latin American Entrepreneurship

There is much to learn about entrepreneurship from the study of new contexts like Latin America (Ratten, 2020b). This is due to unknown knowledge coming to light that brings in new perspectives (Chandra & Chao, 2016). As some other regional contexts have been studied in detail, there is a need to look at new environments to see if existing theories hold true or need to be changed (Ratten & Jones, 2021). Latin America is a region of contradictions regarding entrepreneurship. Some entrepreneurship is necessity-based, whilst other forms are opportunity-based. Entrepreneurial behaviour also changes over time, so it needs to be continually re-evaluated (Ratten & Usmanij, 2021).

**Table 1** Countries in Latin America in terms of motto and anthem

| Country | Motto | Anthem |
|---|---|---|
| Argentina | En union y Libertad (In unity and freedom) | Himno Nacional Argentino (Argentine National Anthem) |
| Belize | Sub umbra floreo (Latin) (Under the shade I flourish) | Anthem Land of the free |
| Bolivia | La Union es la Fuerza (Unity is strength) | Himno Nacional de Bolivia |
| Brazil | Ordem e Progresso (Order and progress) | Hino Nacional Brasileiro (Brazilian National Anthem) |
| Chile | Por la razon o la fuerza (By reason or by force) | Himno nacional de Chile |
| Colombia | Libertad y orden (Freedom and order) | Himno Nacional de la Republica de Colombia (National Anthem of the Republic of Colombia) |
| Costa Rica | Pura vida (Live lie, enjoy life) | Himno nacional de Costa Rica (Costa Rican National Anthem) |
| Dominican Republic | Dios, patria, Libertad (God, homeland, freedom) | Quisqueyanos Valientes! (Valiant Quisqueyans!) |
| Ecuador | Dios, patria y Libertad (Spanish) ProDeo, Patria et Libertate (Latin) God, homeland and freedom | Salve, Oh Patria (Hail oh homeland) |
| El Salvador | Dios, union, Libertad (God, union, liberty) | Himno Nacional de El Salvador (National Anthem of El Salvador) |
| Guatemala | Libre crezca fecundo (Grow free and fertile) | Himno Nacional de Guatemala |
| Haiti | Liberte, egalite, fraternite (Liberty, equality, fraternity) | La Dessalinienne (The Dessalines Song) |
| Honduras | Libre, soberana e independiente (Free, sovereign and independent) | Himno nacional de Honduras |
| Mexico | La Patria es primero (The homeland is first) | Himno Nacional Mexicano (Mexican National Anthem) |
| Nicaragua | En dios contiamos (In god we trust) | Salve a ti, Nicaragua (Hail to thee, Nicaragua) |
| Panama | Pro Mundi Beneficio (for the benefit of the world) | Himno Istmeño (Isthmian Hymn) |
| Paraguay | Paz y justicia (Peace and justice) | Himno Nacional Paraguayo |
| Peru | Firme y feliz por la union (Firm and happy for the union) | Himno Nacional del Peru (National Anthem of Perú) |
| Uruguay | Libertad o muerto (Freedom or death) | Himno Nacional de Uruguay (National Anthem of Uruguay) |
| Venezuela | Dios y Federacion (God and federation) | Gloria al bravo Pueblo (Glory to the Brave People) |

Latin American entrepreneurship is capturing the imagination of researchers and practitioners. The region's diversity makes it an interesting area to study in terms of forms and types of entrepreneurial behaviour (Schäfer, 2021). Yet, whilst there is interest in this topic, there is still not yet a large body of literature on the topic. This makes it hard to compare and contrast Latin American entrepreneurship (Sepúlveda & Bonilla, 2014). There are many taken for granted assumptions regarding entrepreneurship that need to be tested in new contexts (Fernández-Serrano & Liñán, 2014).

There are many studies existing on Latin American entrepreneurship, but much of this is published in languages other than English (Godói-de-Sousa & Júnior, 2013). This makes the research hard to be cited by researchers in the mainstream entrepreneurship journals. In addition, the research on Latin American entrepreneurship can be circulating amongst a group of entrepreneurship scholars but not published in the more well-known journals. This makes it difficult for the research to gain momentum.

At the moment we know relatively little about the differences in entrepreneurial behaviour amongst Latin American countries (Leiva & Monge, 2014). We know there is a variety of entrepreneurship occurring, but we do not know much about how and why (Spigel, 2017). Moreover, the existing literature is country specific and tends not to compare and contrast different countries in Latin America (Puente et al., 2019). Table 2 presents the government type, president and date of independence of each country in Latin America.

## 3 World Heritage Sites and Tourism Entrepreneurship

World Heritage Sites are important to the economic development of countries in Latin America. For this reason, it is important to highlight the main World Heritage Sites in each country in order to determine their influence on growth rates. Each country in Latin America is discussed in terms of its background; then the main World Heritage Sites are stated. For more detailed information about each World Heritage Site please see https://whc.unesco.org/en/list/.

## 4 Argentina

Argentina is one of the world's largest countries by size. The country occupies a large land area on the southern part of South America. It has a large ocean shoreline but also has tall mountains. Its capital is Buenos Aires and its territory extends to parts of Antarctica. For centuries it was occupied by Spain until it received its independence. In 1982 Argentina invaded the Falklands Islands in order to claim it but was defeated by the British who still control the island.

**Table 2** The government type, president and date of independence of countries in Latin America (note: these are the general dates in which independence was recognised although there may also be some earlier and different dates based on when proclamations were made)

| Country | Government | President | Date of recognised independence |
|---|---|---|---|
| Argentina | Federal presidential constitutional republic | Alberto Fernández | From Spain—1816 |
| Belize | Unitary parliamentary constitutional monarchy | Johnny Briceño | From the United Kingdom—1964 |
| Bolivia | Unitary presidential constitutional republic | Luis Arce | From Spain—1847 |
| Brazil | Federal presidential constitutional republic | Jair Bolsonaro | From Portugal—1825 |
| Chile | Unitary presidential constitutional republic | Sebastián Piñera | From Spain—1844 |
| Colombia | Unitary presidential constitutional republic | Iván Duque Márquez | From Spain—1819 |
| Costa Rica | Unitary presidential constitutional republic | Carlos Alvarado | From Spain—1821 |
| Dominican Republic | Unitary presidential republic | Luis Abinader | From Spain—1844 From the United States—1924 |
| Ecuador | Unitary presidential constitutional republic | Guillermo Lasso | From Spain—1840 |
| El Salvador | Unitary presidential constitutional republic | Nayib Bukele | From Spain—1821 |
| Guatemala | Unitary presidential republic | Alejandro Giammattei | From Spain—1821 |
| Haiti | Unitary semi-presidential republic | Ariel Henry | From France—1825 |
| Honduras | Unitary presidential republic | Juan Orlando Hernández | From Spain—1821 |
| Mexico | Federal presidential constitutional republic | Andrés Manuel López Obrador | From Spain—1836 |
| Nicaragua | Unitary dominant party presidential constitutional republic | Daniel Ortega | 1821 |
| Panama | Unitary presidential constitutional republic | Laurentino Cortizo | From Spain—1821 |
| Paraguay | Unitary presidential republic | Mario Abdo Benítez | From Spain—1842 |
| Peru | Unitary presidential republic | Pedro Castillo | From Spain—1879 |
| Uruguay | Unitary presidential constitutional republic | Luis Lacalle Pou | From Brazil—1828 |
| Venezuela | Federal dominant party presidential constitutional republic | Nicolás Maduro | From Spain—1811 |

Argentina has a large agricultural industry most of which is in the Pampas region. The country has a high level of immigration in the early twentieth century from Europe. The country is divided into four main regions: the Andes, north, Pampas and Patagonia. The Andes region covers the land area from Bolivia to southern Patagonia. The northern region includes the lowland area around the Parana and Uruguay rivers. The Pampas is a central region, whilst Patagonia is the southern region of the country.

## 5 Belize

Belize is a small country in Central America. It was formally called British Honduras before it received its independence in 1981. It has retained its link to the United Kingdom through its membership in the Commonwealth group of countries, and the head of state is still the United Kingdom monarch although it has a Governor-General. Belize has a small population many of whom are immigrants. It has historically had a stable political system. It shares a border with Mexico and Guatemala. The country has a coastline on the Caribbean Sea but has mountains in the south of the country in the Maya Mountains. Belize barrier reef is the second largest reef in the world and a World Heritage Site. Much of the country is forested and parts of the country are uninhabited. The Cockscomb Basin Wildlife Sanctuary has the most concentrated number of jaguars in the world. The official language of the country is English due to it being a previous British colony unlike most of its neighbours where Spanish is the official language. Most of the population lie in urban areas with most locations in Belize City. The economy is based on timber, sugar and fruit exports.

The Belize Barrier Reef Reserve System is listed on the list of World Heritage Sites. It consists of the largest barrier reef in the northern hemisphere and includes a marine ecosystem. The area includes a number of protected areas such as the Bacalar Chico National Park and Marine Reserve, Blue Hole Natural Monument, Half Moon Caye Natural Monument, South Water Caye Marine Reserve, Glover's Reef Marine Reserve, Laughing Bird Caye National Park and Sapodilla Cayes Marine Reserve. The reefs in the area are considered pristine and include some of the best reefs in the region. There are three atolls in the area: Turneffe Island, Lighthouse Reef and Glover's Reef.

## 6 Bolivia

Bolivia is a country in the central part of South America that shares a border with Argentina, Brazil, Chile, Paraguay and Peru. The country is landlocked, so it has no direct sea access. Within the country is Lake Titicaca, which is the second largest lake in South America. Lake Titicaca holds the largest amount of fresh water in

South America. Much of the industry and cities are located in the highlands. Bolivia was once part of the Tiwanaku and Inca Empire. After the Spanish arrived, it became part of Peru before its independence. In 2009 a number of Indigenous languages were added to the official languages of the country.

Noel Kempff Mercado National Park is one of the largest parks in Bolivia. There are a large number of flora and fauna in the area that include many endangered species.

The city of Potosi was once one of the world's largest sites for extracting silver. It includes areas where the workers lived as well as aqueducts and artificial lakes. It is located in the Bolivian Andes and came into prominence for being a colonial era supplier of silver. Much of the silver mined in the area was sent to Spain. The site has preserved the whole industrial chain for mining silver. The mine was at capacity from 1580 when a Peruvian technique for mining silver based on hydraulic mills was implemented. Within the area are a number of churches and the Royal Mint (Casa de la Moneda) for making money. The complex includes reservoirs from which water is the source of power to grind the silver ore. The silver ore was then placed in kilns called guayras and then moulded into bars and stamped with the Royal Mint logo.

Fuerte de Samaipata is an archaeological site in the province of Florida. It contains remains of a centre that was once occupied by the Incas. It includes a number of buildings. The site has a strategic location as it was part of the highway for transport of silver from the mines. The historic city of Sucre was the first capital of Bolivia. It is located in central south Bolivia and was founded by the Spanish in 1538. It was the cultural centre of the region for a long time. It was named by the Spanish as Ciudad de la Plata de la Nueva Toledo (Silver Town of New Toledo) but renamed in 1839 after the independence leader Antonio José de Sucre. The town was designed around a checkerboard street pattern that was used to design other colonial era towns. The Casa de la Libertad (House of Freedom) is historically significant for being the place in which events leading to the independence of Bolivia from the Spanish took place in the country.

The Jesuit Missions of the Chiquitos were built between 1696 and 1760. They are located in eastern Bolivia in Chiquitos territory. The six missions that remain are San Francisco Javier, Concepción, Santa Ana, San Miguel, San Rafael and San José. The churches provide a good example of Christian religion's architecture.

The Qhapaq Ñan Andean road system is in Peru but also passes through a number of other countries. The road system comprises a number of roads that were constructed by the Incas.

Tiwanaku was the spiritual and political centre of the Tiwanaku culture. It is located in the Southern Andes and is situated near Lake Titicaca in the province of Ingavi. The pyramid of Akapana is a pyramid in Tiwanaku that was originally surrounded by a temple. There are stone carvings on the walls and it is surrounded by a canal.

## 7 Brazil

Brazil occupies half of the landmass of South America and is by size one of the largest countries in the world. It shares borders with many countries in South America including Argentina, Bolivia, Colombia, Guyana and Uruguay. Most of the Amazon River is in Brazil and it starts from the Peruvian Andes and meanders to the Atlantic Ocean. There are a great deal of variety of plants and animals in the Amazon. This includes piranhas, catfish and turtles. It is one of the world's most active economies and one of the most populous countries. There are large social and economic inequalities in Brazil between the rich and poor. It was previously a Portuguese colony and most people still speak Portuguese. São Paulo is one of the most populous cities in the world. There has been a rapid urbanisation trend with most people living in cities. The middle class mostly live in apartments and the poor in favelas (shanty towns).

Brazil has 23 World Heritage Sites that comprise different cultural and natural heritage. Brasília is the capital of Brazil and is an example of modernist urbanisms. It was created in 1956 to modernise the capital and to bring the administrative and public centres together in one area. It was designed by the urban planner Lucio Costa and architect Oscar Niemeyer. The buildings are innovative and represent a new approach to modern living.

The Paraty and Ilha Grande—Culture and Biodiversity is a property in the Serra do Mar. It comprises six parts—Serra da Bocaina National Park, Cairuçu Environmental Protection Area, Ilha Grande State Park, Praia do Sul Biological Reserve, Paraty historical centre and the Morro da Vila Velha. It includes the coastal town of Paraty and a mountain range. There are endangered animals in the area including the white-lipped peccary. Paraty was the place where gold was shipped to Europe in the late seventeenth century. Much of the colonial architecture of the town still exists. The port has historical significance due to it being the end point of the Caminho do Ouro (Gold Route) of South America and also being a port from which African slaves were sent to work in the mines. The archaeological remains of Defensor Perpétuo Fort are located in the Morro da Vila Velha.

Pantanal Conservation Area is a region located in western central Brazil. It includes the Pantanal area, which is a large freshwater wetland ecosystem. It includes the Amolar mountain range as well as the river headwaters of the Cuiaba and Paraguay rivers.

The Iguaçu National Park is located in southern Brazil and is next to the Iguazú National Park in Argentina. Within the park are the waterfall systems of the Iguacu River and a sub-tropical rainforest. The animals in the area include the black-fronted piping guan and the bush dog.

The Discovery Coast Atlantic Forest Reserve is located in the northeast of Brazil. It includes rainforests and coastal shrubland vegetation. There is a high level of biodiversity in the region including a large proportion of the world's flora. Cerrado Protected Areas: Chapada dos Veadeiros and Emas National Parks are located in

central Brazil. The parks include the Cerrado biome which is a diverse ecosystem. It has geological significance in terms of its soil conditions.

The sanctuary of Bom Jesus do Congonhas was built in the eighteenth century. It includes an outdoor stairway and a number of chapels. It is designed in the Baroque style. It is located south of Belo Horizonte in Minas Gerais. The São Francisco Square in the town of São Cristóvão is located in the northeast of Brazil. It is a quadrilateral open space that is surrounded by buildings. It was built during the period of Spanish and Portuguese unification, so it merges architecture from both countries. It has a colonial town design that was built to suit the local conditions.

Serra da Capivara National Park is located in the northeast of Brazil. It contains a number of cave paintings indicating the existence of one of the oldest human communities in South America. The park is in the Piauí state and was established in 1979. There are more than 300 archaeological sites in the region.

Sítio Roberto Burle Marx is a site that was developed by the landscape architect Roberto Burle Marx. It is a landscape laboratory encompassing buildings and plants and drawing on modernist ideas. It includes a number of native Brazilian plants along with a forest and swamp. It is a tropical garden and is located in the west of Rio de Janeiro.

Valongo Wharf Archaeological Site is located in Rio de Janeiro. It is the former harbour area that had an old stone wharf. Enslaved Africans arrived in South America at this wharf. It was built in 1811 on Jornal do Comércio Square in the wharf area of Rio de Janeiro.

The Atlantic Forest South-East Reserves are one of the largest areas of Atlantic Forest in Brazil. It is located in the states of São Paulo and Parana. The area includes wetlands, dunes, mountains and forests.

The Historic Centre of Salvador de Bahia is notable for being the first capital of Brazil from 1549 to 1763. The city has preserved many buildings in the old town including brightly coloured houses and Renaissance buildings. The city was the first capital in the Portuguese colonisation of South America. It is located on a small peninsula in the northeast of Brazil and blends European, African and Indigenous cultures. The city was the centre of the slave trade and sugar industry.

The Historic Centre of São Luís is a historic town located in the northwest of São Luís Island. The centre is a good example of a Portuguese colonial town that was founded by the French and occupied by the Dutch before becoming part of the Portuguese colonies. Parts of the town were designed by Portugal's chief engineer in Brazil following the takeover of the French fort. The city has traditional Portuguese architecture including traditional Portuguese azulejo tiles to decorate the buildings.

The Historic Centre of the Town of Diamantina is a colonial village that depicts the eighteenth-century architecture. It is located on the side of a steep valley in northeast Minas Gerais. Many of the buildings are in wood and adopted Portuguese architecture to the environmental climate of Brazil.

The Historic Centre of the Town of Goiás is built along the Rio Vermelho river. The town is built between two sets of hills with the areas on the right bank including a church and on the left bank including the foundry and barracks. The town is located in central South America in the interior region.

The Historic Centre of the Town of Olinda represents a town founded in 1535 on Brazil's northeast coast. It served as a centre of the sugarcane industry and significantly contributed to the Brazilian economy. The town was rebuilt by the Portuguese after it was burned by the Dutch. It includes about 20 baroque churches and public buildings. The town has a tropical forest landscape.

The Historic Town of Ouro Preto was the centre of the gold trade. It is located north of Rio de Janeiro along the Vila Rica (Rich Valley). The town is in a remote area but still contains Portuguese colonial rule buildings.

The Ruins of São Miguel das Missões in Brazil are the remains of a Jesuit mission. They were built in the seventeenth and eighteenth centuries in the land originally occupied by the Guarani Indigenous people.

The Pampulha Modern Ensemble was designed around an artificial lake. It was created in 1940 to fuse landscape design with innovation. It was designed to reflect the Brazilian climate. The Brazilian Atlantic Islands: Fernando de Noronha and Atol das Rocas Reserves are off the coast of Brazil. The islands have a large population of tropical seabirds. The islands were formed by a submerged mountain chain. There is an atoll in the area called the Atol das Rocas Biological Reserve. There are many marine species in the area including sea turtles such as the hawksbill and green turtle. There is a bay called Dolphin Bay (Baia dos Golfinhos) that has a resident dolphin population.

The site of Rio de Janeiro including the Carioca landscapes from the mountain and the sea is an area of high cultural heritage. The area includes the Corcovado mountain with the statue of Christ, which is one of the most well-known symbols of Brazil. The city of Rio de Janeiro is located on a narrow strip of land between the mountains and sea. The development of the city has been influenced by its culture and history.

Central Amazon Conservation Complex is located in the Amazon basin. It is the largest protected area in the Amazon forest. It is the largest protected area in the Amazon forest and is located at the centre of the Negro and Solimões rivers. The area includes the Anavilhanas archipelago that has the most electric fish in the world. It also has the giant Arapaima which is the largest freshwater fish found in South America.

## 8 Chile

Chile is a long and narrow country located on the western coast of South America. Its capital is Santiago and it shares borders with Bolivia and Argentina. It has a range of climates from hot to cold. Most of the population lives in the central part of the country where there is a mild climate. The primary economic activities of the country are based on the export of natural resources such as copper and iron as well as agricultural production.

Chile has seven World Heritage Sites: the Churches of Chiloé, the Historic Quarter of the Seaport of Valparaiso, Humberstone and Santa Laura Saltpeter

Works, Qhapaq Ñan Andean road system, Rapa Nui National Park, settlement and artificial mummification of the Chinchorro culture in the Arica and Parinacota Region and Sewell Mining Town. The Churches of Chiloé are an example of a religious building built using wooden architecture. They are located in the Chiloé archipelago off the coast of Chile and were built in the seventeenth century by the Jesuits. There are approximately 70 churches and they combine European and Indigenous culture. The Jesuit priests arrived in 1608 and made religious tourism of the archipelago. The churches have traditional colours and religious images as part of their interior decoration. The churches have a tower façade and vaulted ceilings. The location of the churches on hills enabled them to be seen from far locations.

The colonial city of Valparaíso is a good example of nineteenth-century architecture. The Historic Quarter of the Seaport City of Valparaíso is located on the central Pacific coast. The city was a merchant port and a place of commercial trade. The geography of its location means there are coastal plains and steep hills. There are a distinct naval heritage in the area and a number of expressions of intangible heritage in the form of commercial trade history.

The Humberstone and Santa Laura Saltpeter Works are the remains of buildings in which people lived and worked. They are located in Pampas, which is one of the driest areas of the world. Saltpetre was processed in the area that produced the fertiliser sodium nitrate. The saltpetre produced great wealth for Chile as it was used to transform agricultural land in other parts of the world. In the area people lived in company towns that were interconnected by a railway system.

The Qhapaq Ñan Andean road system is an elaborate road network constructed by the Incas. It runs through a range of environments including rainforests, deserts and mountains. The road was built for trade reasons and is considered an engineering achievement due to its difficult terrain. The road is based on four main routes that originate from Cusco.

Rapa Nui is the Indigenous name for Easter Island. During the tenth to sixteenth centuries, a society of Polynesian origin created large stone figures called moai, which are still in existence. Easter Island is one of the most remote places in the world and is located off the coast of Chile. On the island there are approximately 900 statues. The moai are carved from hard basalt and range in height from 2 to 20 m.

The settlement and artificial mummification of the Chinchorro culture is located in the Arica and Parinacota region of Chile. The area presents archaeological evidence of cemeteries that contained artificially mummified bodies. The spirituality of the Chinchorro culture is evident in the mortuary practices.

Sewell Mining Town is located in the Andes and was built by the Braden Copper Company in 1905. The town housed miners from the world's largest underground copper mine (El Teniente). The town is located on steep terrain and includes a number of buildings. It represents a town created to process natural resources that has since been abandoned. The town has high inclines that produce an interior circulation system of stairs and paths. As a result, the town is known as the Ciudad

de las Escaleras (City of Stairs). The buildings in the area are built to suit the mountainous terrain.

## 9 Colombia

Colombia has nine World Heritage Sites that have cultural and natural significance to the global community. The Coffee Cultural Landscape of Colombia represents the tradition of coffee growing in the country. Colombia is well known for its coffee production, so this site encompasses the farming landscape associated with coffee production. The landscape is situated in the Cordillera de los Andes in the western area of the country. The coffee fields include the tradition of growing coffee in small plots in the high-altitude terrain. The coffee fields are in the high forest area and include urban settlements. The coffee farms are located on steep mountain ranges that influence the architectural typology. The distinctive small farm production system is evident in the area with coffee farming passed down generations. In the urban centres, the houses have sliding roofs and the walls are built with bamboo.

The historic centre of Santa Cruz de Mompox is located on the Magdalena River, which is the country's main waterway. The buildings in the city are mostly used for the same original purpose. The city was founded in 1540 and provides a good example of a Spanish colonial city. Mompox due to its position on the river was of high logistical importance enabling goods to travel through the city to other locations. The main street is located along the river bank with walls built to protect it from flooding. Mompox played a key role in the Spanish colonisation of other parts of South America. Many of the houses in the city retain their original features such as balconies and decorated interiors. The houses in the city from the seventeenth century share a common room or open space.

The Qhapaq Ñan Andean road system is a network of roads in Colombia. They were originally constructed by the Incas to provide a way to communicate and to trade with others. The roads run through a range of environments including desserts, valleys and mountains. The network includes accommodation, religious and storage sites. There are four main routes in the network which originate from Cusco. The roads linked towns but were built in difficult geographic terrains.

San Agustín Archaeological Park is an area containing religious monuments and sculptures in Colombia. They were made between the first and eighth centuries and provide examples of Andean arts and culture. The park is located in the Southwestern Andes and includes three separate properties: San Agustín, Alto de los Idolos and Alto de Las Piedras.

The National Archaeological Park of Tierradentro includes monumental statues of human figurines. They represent people with upper limbs placed on their chests. There are large underground tombs of Tierradentro culture. The park is located in the southwest of Colombia and covers a number of kilometres. The shaft tombs with a side chamber are carved into the rock. Inside the tombs are red, black and white painted designs. The male figurines have banded head-dresses and other adornments.

The female figurines have turbans and skirts. The largest concentration of underground tombs with side chambers in America is found in Colombia.

The Port, Fortresses and Group of Monuments in Cartagena are situated in a bay in the Caribbean Sea. The city is divided into three neighbourhoods: San Pedro, San Diego and Gethsemani. The city had a strategic location with large military fortification. The Port of Cartagena was the starting place for many expeditions. The port's natural passes had forts.

Los Katios National Park is located in northwest Colombia and is one of the largest parks in the country. In the park there are lowland and highland forests and wetlands. There are a number of birdlife and animals in the park including the Central American tiger and American crocodile. Many of the plants in the park are native to the Chocó-Darién region.

The Malpelo Fauna and Flora Sanctuary is located off the coast of Colombia on Malpelo Island. The area includes a marine park that has a great deal of biodiversity. The deep waters of the marine park include a number of fish species. Within the park is the underwater Malpelo Ridge including caves and tunnels. The Chiribiquete National Park is the largest nature park in Colombia. The area includes tabletop mountains and sandstone plateaus. There are a number of cave paintings in the area. The park is in south central Colombia in the Amazon Rainforest. There are a number of animals in the park including the brown woolly monkey and howler monkey.

## 10 Costa Rica

Costa Rica has four World Heritage Sites: Pre-Columbian Chiefdom Settlements with Stone Spheres of the Diquis, Area de Conservación Guanacaste, Cocos Island National Park and Talamanca Range-La Amistad Reserves/La Amistad National Park. The Pre-Columbian Chiefdom Settlements with Stone Spheres of the Diquis contain a collection of stone spheres. The spheres have been deliberately placed in the areas but were undiscovered for a long time due to them being buried under forest canopy. They are located in the Diquis Delta in southern Costa Rica. In the area there are a number of burial sites and artificial mounds.

The Area de Conservación Guanacaste is a land area with forest and rare plant species. It is located in the northwest of Costa Rica and comprises a diverse ecosystem. There are wetlands, water reserves and a coastal marine environment. This includes a number of uninhabited islands. Within the park are animals such as the jaguar. The birds in the area include the military macaw and great green macaw. The area is known for its marine and terrestrial ecosystem that is characterised by a tropical biological diversity.

The Cocos Island National Park is located off the coast of Costa Rica. It has a tropical rainforest and is famous for its marine ecosystem that is popular with divers. The island is called 'Isla del Coco' but also known as Treasure Island. It is in a remote location and is part of the tropical pacific marine corridor. The island includes a range of environments including beaches, cliffs, rivers and waterfalls.

The Talamanca Range-La Amistad Reserves/La Amistad National Park is located along the border of Costa Rica and Panama. Most of the area is covered by tropical rainforests and a mountain range. The Talamanca mountains have the highest elevation in south Central America. It contains a number of archaeological sites that indicate humans have inhabited the area for a long time. In the park there are a number of different forest types including cloud forest and rainforest.

## 11 The Dominican Republic

The Dominican Republic is in the Caribbean and shares the island of Hispaniola with Haiti. The capital is Santo Domingo, which is located on the southern coast of the island. The country has a turbulent past in terms of political upheaval. The country has a strategic position being near a major sea route between the Caribbean Sea and the Panama Canal.

The Colonial City of Santo Domingo is the only official World Heritage Site in the Dominican Republic. After Christopher Columbus arrived on the island in 1492, the town was established in 1498. It is located on the south coast of Hispaniola Island and based on a grid pattern. It was the headquarters from which other expeditions to South America were launched. The city comprises 32 streets that are spread over 116 blocks. Many of the buildings are still intact and retain most of its original characteristics. There are Gothic buildings with brick and stone walls. The first Leyes de Indias (Laws of the Indies) were first proclaimed in this city, and the monk Brother Antonio Montesino launched his appeal for native rights in this city.

## 12 Ecuador

Ecuador is a country in South America which is bordered by the Pacific Ocean in the west. It is located next to Colombia and Peru. It was once part of the Inca Empire in South America. It exports a number of agricultural products including cocoa beans. Its capital city is Quito but much of its commerce is in Guayaquil. The country includes part of the Amazon jungle as well as the Galapagos Islands. The country includes the coastal, highland and eastern regions. Ecuador has five sites on the World Heritage Site list: the city of Quito, the Historic Centre of Santa Ana de los Ríos de Cuenca, Qhapaq Ñan Andean road system, Galapagos Islands and Sangay National Park.

## 13 El Salvador

El Salvador is one of the smallest countries in Central America. It is located on the Pacific Ocean next to Honduras and Nicaragua. It has had a lot of political turmoil including a civil war. There are a number of still active volcanoes in the country including Izalco volcano.

In El Salvador there is one World Heritage listed site: the Joya de Ceren Archaeological Site. It is the remains of a farming community that was buried under the rubble of the Laguna Caldera volcano. It is located at the Canton Joya de Cerén and was discovered in 1976. The remains have preserved a village and buildings. This includes a religious building and storehouses. The organic materials such as sleeping mats and garden tools remain intact. Numerous vegetation such as maize plants and fruit trees were found in this region.

## 14 Guatemala

Guatemala is a country in Central America. It is located next to Belize, Honduras and Mexico. After its independence from Spain, there were a number of military regimes that controlled the country. It has a small bay called Amatique Bay on the Caribbean Sea. There are volcanoes in the country as well as high mountain ranges.

In Guatemala there are three World Heritage Sites: Antigua Guatemala, Archaeological Park and Ruins of Quirigua and Tikal National Park. Antigua was founded in 1527 but destroyed in 1773 by an earthquake. The remains of the city are still intact. After the 1773 earthquake, the capital was relocated to Guatemala City. From the sixteenth century when it was founded as Santiago de Guatemala until the eighteenth century when the capital moved, it was the economic and political centre of Guatemala. The city structure is based on a grid pattern and many of the remaining buildings depict colonial architecture. Some of the buildings are in the Baroque style with ornamentation on the interior and exterior.

The Archaeological Park and Ruins of Quirigua include a number of eighth-century monuments. There are 17 monuments made by the Mayan civilisation in the area. The park is on 34 ha of land. Quirigua was an important state during the reign of Cauac Sky but then entered into a period of decline. Located in the park is the Great Plaza, Ceremonial Plaza and the Plaza of the Temple. These were made in stone and some of the surrounding monuments contain hieroglyphic texts that describe different events. The writing on the monuments provides an understanding of Mayan history and way of life.

Tikal National Park contains the remains of buildings from the Mayan civilisation. It is located in the Petén province in a large forested region. The park contains both natural and cultural heritage. The Maya Forest region comprises palm forests and wetlands. There are a number of wildlife in the area including birds and cats. There is also a number of plant and tree species in the area.

## 15 Haiti

Haiti is a country in the Caribbean Sea that shares half an island with the Dominican Republic. It also includes a number of small islands. It was a French colony until it received its independence in 1804. Most of the country is mountainous and most of the mountains are made from limestone. The sea surrounding the country has coral reefs. The country has had a number of earthquakes and it has a tropical climate.

Haiti has one World Heritage listed site: the National History Park—Citadel, Sans Souci, Ramiers. The Palace of Sans Souci is amongst the first buildings constructed by independent people from Haiti. This means the buildings are symbols of liberty and freedom. The Citadelle Henry was constructed as a fortress and comprises four buildings around a central courtyard. It can shelter a number of people and is designed to be impregnable.

## 16 Honduras

Honduras is a country on the Caribbean Sea located next to Guatemala, El Salvador and Nicaragua. Much of the population lives on the mountainous interior region of the country. It has a number of natural parks including La Tigra National Park.

Honduras has two World Heritage Sites—the Maya Site of Copán and the Río Plátano Biosphere Reserve. The Maya Site of Copán was discovered in 1570 by Diego García de Palacio and has a special historical association with the Mayan culture. It was once the political centre of the Copán valley before it was abandoned. The site was also the cultural centre of the larger Maya area. The city comprises a number of ruins including the Ceremonial Plaza and the Hieroglyphic Stairway Plaza. The plazas contain a number of sculptured monoliths. The Hieroglyphic Stairway Plaza contains more than 1800 individualised glyphs with Mayan inscriptions. The text inscribed on the stairway is the longest known inscription in the region and has a high cultural value.

The Río Plátano Biosphere Reserve is a tropical rainforest. It is located on the Mosquitia region of Northeast Honduras. The reserve includes the entire watershed of the Río Plátano from the mountains to the river-mouth meaning it is the largest protected area in the country. Within the reserve there is a highly diverse ecosystem including mountains, forest and wetlands. The endangered animals in the reserve include the giant anteater, white-tipped peccary and the Guiana crested eagle. The lagoons are home to major bird colonies.

## 17 Mexico

Mexico has the second largest economy in South America. In 1519 the Spanish army landed in Veracruz and began colonising the country. In 1824 Mexico became a republic. In 1846–1848 there was the Mexican-American war that resulted in

Mexico selling to the United States areas including California, Nevada, New Mexico, Arizona and Utah.

There are 35 places included on the World Heritage list for Mexico. The Agave Landscape and Ancient Industrial Facilities of Tequila is part of the country's heritage. The Agave Landscape and Ancient Industrial Facilities of Tequila is located in the Valles region of Mexico. It is near the Tequila Volcano and the area contains blue agave, which has long been used to make tequila. There are large fields of agave, which looks like pineapples. The agave culture is part of Mexican history and culture. There are distilleries where agave is distilled.

The Whale Sanctuary of El Vizcaino is located in the Baja California peninsula. It is on the Pacific coast and comprises two coastal lagoons—Laguna Ojo de Liebre and Laguna San Ignacio. Most of the area is within the El Vizcaino Biosphere Reserve, which is Mexico's largest protected area. There is a breeding ground for the North Pacific grey whale whose numbers are recovering since being at near extinction levels. Other animals in the area include blue whale, California sea lion and marine turtle. Bird species in the area include osprey and brant goose, which populate much of the wetlands. There are numerous fish in the area due to the lagoons.

The pre-Hispanic city of Teotihuacan is located northeast of Mexico City. It was built between the first and seventh centuries and is considered a holy city. It was once one of the largest cities in South America. The most famous buildings in the area are the Temple of Quetzalcoatl. The city was abandoned from 650. The Aztec name of Teotihuacan translates to the place where gods were created.

The Historic Fortified Town of Campeche is a harbour town in Mexico. It has a system of fortifications including city walls that were designed to keep the city safe from pirate attacks. It was founded in the sixteenth century by Spanish explorers. It is located on the Gulf of Mexico and was an important seaport. A defensive wall comprising eight bastions was built to protect the city.

The Historic Monuments Zone of Tlacotalpan in the state of Veracruz was founded in the sixteenth century. It is a river port city close to the Gulf of Mexico. The original urban structure has been preserved that includes wide streets. The grid pattern of the city means there are a large number of blocks. The houses have bright exteriors, interior courtyards and tiled roofs.

The Archipiélago de Revillagigedo is located in the eastern Pacific Ocean in Mexico. It is part of a submerged mountain range and comprises four islands: San Benedicto, Socorro, Roca Partida and Clarion. The islands are the peaks of submerged volcanoes and are in a remote location. There are a range of marine animals in the area including humpback whales and turtles.

The Historic Town of Guanajuato and Adjacent Mines are located in the central part of Mexico. It was founded by the Spanish in the early sixteenth century and has Baroque style buildings. The churches of La Compañía and La Valenciana are designed in the Baroque style. The town was the leading centre for silver in the eighth century.

Luis Barragán House and Studio is located in the suburbs of Mexico City. It was built in 1948 as the living and working place of the renowned Mexican architect. It

includes two upper storeys and a garden. The house has a modern design and is made from concrete.

The protective town of San Miguel and the Sanctuary of Jesús Nazareno de Atotonilco are located in Guanajuato region in Mexico. It was a fortified town that was established to protect a trade route. Many of the buildings in the town are designed in the Mexican Baroque style. The Sanctuary of Jesús Nazareno de Atotonilco is a church building that was designed in the Baroque style. In its interior there are a number of oil paintings by Rodriguez Juarez.

The Rock Paintings of the Sierra de San Francisco are located in the Lower California Sud Municipality in Mexico. There are a number of rock paintings made by people in the site. They are located in the Sierra de San Francisco a mountain range which is difficult to get to. This protected the paintings from outside influences and showcases the local culture. The paintings are well preserved due to the dry climate in the area. The pictures depict humans and animals such as sheep, turkey, vultures and whales. The paintings are on the cave walls and very large. They are thought to be paintings of shamans who conducted rituals in the area.

The pre-Hispanic town of Uxmal is located in Yucatan. It was a Mayan town that was founded in 700 AD. One of the buildings was called the Pyramid of the Soothsayer by the Spaniards and includes many sculptures of Chaac the god of rain. It is located south of Merida in the southwestern part of Yucatan. There are reservoirs that were built to store rain water. It was abandoned in the tenth century. The Prehistoric Caves of Yagul and Mitla in the Central Valley of Oaxaca contain a number of rock shelters. The area contains evidence of the shift of people in the area from nomadic tribes to farmers.

The Pre-Hispanic City and National Park of Palenque is located in the state of Chiapas in Mexico. The city of Palenque was at its peak between 500 and 700 AD. It represents Mayan culture and includes well-preserved remains. There are more than 1000 buildings in the area, but only a small percentage has been explored. The city had a planned layout that includes residential areas. The style of architecture from this city is called Palencano architecture. It is notable for its buildings that have been built with a sense of harmony. This includes vaulted roofed residential buildings. There are relief sculptures on the walls of the temples based on Mayan mythology. The city was abandoned in the ninth century. The remains of the city were then covered with vegetation.

The Pre-Hispanic City of Chichen-Itza is located on the Yucatan Peninsula. It is considered as one of the most important Mayan centres in Mexico. The most famous buildings in the area include the Warriors' Temple and El Caracol, which is a circular observatory that has a spiral staircase. It is estimated that many of the churches and temples were constructed between the sixth and tenth centuries. It is suggested that the King of Tula (Ce Acatl Topiltzin Quetzalcoatl or Kukulkan) took the city in 967 AD. After the thirteenth century, no major buildings were constructed in the city as the city declined in usage. The city was abandoned in the fifteenth century and then rediscovered through excavation in 1841.

Tehuacan-Cuicatlan Valley is part of the Mesoamerica region. It contains a number of cacti as well as forests. There are archaeological remains in the area

indicating a long period of human inhabitation. It is located in central southern Mexico and comprises three main areas: Zapotitlán-Cuicatlán, San Juan Raya and Purron. Many of the plants in the area are only found in the Tehuacán-Cuicatlán Valley. There is a large forest of cacti in the area.The site of Ancient Maya City and Protected Tropical Forests of Calakmul, Campeche, is located in southern Mexico. It includes the remains of the Maya city Calakmul that has well-preserved structures. It is within the Yucatan Peninsula and is part of a biosphere reserve.

The remains of the city are covered by tropical forests. The city was the centre of the region before it was abandoned. The area has one of the largest concentrations of tropical forest in the world. The Monarch Butterfly Biosphere Reserve is located in northwest Mexico. Every year a large number of butterflies cluster in the area. The butterflies have a migration pattern that leads them to fly to North America and then return to the area.

Sian Ka'an is located on the east coast of the Yucatan Peninsula. It is a forest area that includes mangroves and marshes. It is a stretch of coastline that was named Sian Ka'an (origin of the sky). The area includes the Mesoamerican barrier reef and lagoons.

## 18 Nicaragua

Nicaragua is the largest country in Central America. Most of the economic activity is in the western part of the country. It was colonised by the British and Spanish before gaining its independence. Lake Nicaragua is one of the largest lakes in the country.

Nicaragua has two World Heritage Sites: León Cathedral and the Ruins of León Viejo. León Cathedral was constructed from 1747 to the early nineteenth century. The cathedral has a high level of natural light, which is unusual for a cathedral. Within the cathedral there are a number of artworks. The Ruins of León Viejo provide examples of colonial heritage. They are located near the town of Puerto Momotombo. The ruins include the La Merced Church, the Cathedral of Santa Maria de la Gracia and other buildings. The buildings are based on European planning and architectural designs.

## 19 Panama

Panama has five World Heritage Sites: two cultural sites—the Archaeological Site of Panama Viejo and Historic District of Panama and the Fortifications on the Caribbean Side of Panama: Portobelo-San Lorenzo—and three natural sites, Coiba National Park and its Special Zone of Marine Protection, Darien National Park and Talamanca Range-La Amistad Reserves/La Amistad National Park. Talamanca Range-La Amistad Reserves/La Amistad National Park is located on the border of Panama and Costa Rica. Four different Indian tribes reside in the park. There are a

number of mountains in the area that include a diverse biological environment. The mountains are nonvolcanic and on the high altitudes is Isthmus Paramo a tropical alpine grassland. The mountains have a spiritual value for Indigenous people.

Darien National Park is the home of two Indian tribes. It is located in Southeast Panama and is one of the largest protected areas in Panama. The park shares a border with Los Katios National Park. It includes one of the largest amounts of lowland rainforest in Central America. There are a number of endangered animals in the park including the Central American tapir and brown-headed spider monkey. There are a range of bird species in the park including the Harpy Eagle.

Coiba National Park and its Special Zone of Marine Protection is located off the southwest coast of Panama. It includes Coiba Island as well as many other smaller islands in the area. The area includes forest mountains as well as a marine reserve. The marine environment includes a number of different fish species. The Fortifications on the Caribbean Side of Panama: Portobelo-San Lorenzo include remains of fortifications and defence buildings. They were built to protect the trade occurring in the region. The remains represent examples of buildings built between the seventeenth and eighteenth centuries. The first fortifications were built in 1590 to protect the harbour. The forts were part of a large defensive system in South America to protect commercial trade. Portobelo was one of the main Caribbean ports that controlled trade in South America.

The Archaeological Site of Panama Viejo and Historic District of Panama provides a well-preserved example of a European settlement. Panama Viejo was founded in 1519 as a planned town. The remains of the original settlement are still visible in the protected site. After a pirate attack in 1671, it was relocated. In 1967 it moved to a location southeast of the original settlement and is known as Casco Antiguo or the Historic District of Panama.

## 20 Paraguay

There is one place in Paraguay on the World Heritage list: the Jesuit Missions of La Santisima Trinidad de Parana and Jesus de Tavarangue. These missions are from the seventeenth and eighteenth centuries made by the Jesuits. The remains are part of missions established by the Society of Jesus (Jesuits) in South America. The mission buildings were part of settlements and showcase Baroque architecture in their designs. The goal of the Jesuits was to Christianise the Indigenous population of South America. The remains of 30 missions are located in the Rio de la Plata area. Each mission is separated from the other missions and has a church, houses and other related buildings. The missions are ruins, but some remains of the buildings are still visible that show the structure of the original layout. This includes streets, gardens and cemeteries.

## 21 Peru

Peru has 13 World Heritage Sites. The Chan Chan Archaeological Zone represents the remains of the city Chan Chan, which is in the Moche river valley. It was one of the largest cities in pre-Colombian American times in the fifteenth century. The remains include temples and dwellings that are representative of the Chimú Kingdom. Chankillo Archaeoastronomical Complex is located in the Casma Valley in north-central Peru. It is a prehistoric site dating from 250 to 200 BC that comprises a number of constructions in the desert which act as calendrical instruments that use the sun to define dates and time. It includes the fortified temple, which is a hilltop complex, and a number of towers. It represents the astronomical practices that existed at the time.

The historical centre of the city of Arequipa is located near volcanoes with many buildings built from volcanic rock. It was founded in 1540 and includes original blocks based on the original Spanish layout.

The Lines and Geoglyphs of Nasca and Palpa are located south of Lima. The lines are on the surface of the ground but have an unknown origin. They include pictures of imaginary beings and figures that are several kilometres in length. They are located in an archaeological site in the basin river of Rio Grande de Nasca.

The Sacred City of Caral-Supe is located in a desert area of Peru. It is one of the oldest centres in South America. It includes six pyramid structures as well as monumental stones. There is a quipu, which is a knot system used to record information in the area. Huascáran National Park is located in one of the world's highest tropical mountain ranges. It is located in the Cordillera Blanca (White Mountains).

The city of Cuzco is located in the Peruvian Andes. After Spain conquered the country, additional churches and palaces were built in the city. It was the capital of the Tawantinsuyu Empire which controlled a large proportion of the South American Andes in the fifteenth and sixteenth centuries. It provides a rich cultural heritage and testimony of the Inca civilisation.

The Historic Centre of Lima is located in the Rimac valley. It was founded in 1535 and known as the 'Ciudad de los Reyes' (City of Kings). Lima played a key role in the Spanish colonisation of South America. Within the city San Marcos University was built in 1551. As a result of earthquakes affecting the city, a number of buildings were stabilised with new material. Many of the buildings have patios and balconies representative of Hispano-American architecture.

Rio Abiseo National Park is an area known for its flora and fauna. The yellow-tailed woolly monkey is only found in this region. It is located in the Andes in north-central Peru. It includes forest reserves as well as archaeological sites. The archaeological sites include ceremonial structures, roads and burial sites. In the park is the Huallaga river system, which runs into the Amazon River.

The Historic Sanctuary of Machu Picchu is located in a mountain forest. It was built in the fifteenth century but abandoned when the country became a Spanish colony. In 1911 it was rediscovered. The area includes buildings on a steep ridge.

Manu National Park is a tropical forest in Southwestern Peru. Indigenous people have lived in the area for centuries. The 'Lost City of the Incas' is said to be located in the park. Notable animals in the park include the giant otter and Andean mountain cat. There are tropical and lowland forests in the area.

Chavin archaeological site is located in the Peruvian Andes. It is in the province of Huari and was a religious centre. In the area there are a network of drains and vents. There are also quarried stone buildings and plazas.

## 22 Uruguay

Uruguay has three World Heritage Sites: the Fray Bentos Industrial Landscape, Historic Quarter of the City of Colonia del Sacramento and the work of engineer Eladio Dieste: the Church of Atlántida. The Fray Bentos Industrial Landscape is located near the town of Fray Bentos. It was an industrial complex built in 1859 to process meat in terms of sourcing and packing. The site represents how meat was stored and then processed to sell. The complex includes equipment and buildings used to process meat.

The Historic Quarter of the City of Colonia del Sacramento is a well-preserved city in Uruguay. It was founded in 1680 on the Rio de la Plata by the Portuguese. The city was used by the Portuguese to resist invasion as it is in a strategic location. The city does not have the common checkerboard grid that was used in other cities. Many of the buildings in the area are single storey and have tiled roofs. The work of engineer Eladio Dieste: the Church of Atlántida is located in Estación Atlántida near Montevideo. The modernist church includes exposed brick and a cylindrical bell tower. The church is in a semirural area and tries to use resources in a sustainable way.

## 23 Venezuela

Venezuela is located in the northern area of South America, which is near the Caribbean. The capital of the country is Caracas. Lake Maracaibo which is the largest lake in South America is located in the country as well as Angel Falls, which is the world's highest waterfall. Much of the economy is based on petroleum.

In Venezuela there are three World Heritage Sites: Ciudad Universitaria de Caracas, Coro and its Port and Canaima National Park. The Ciudad Universitaria de Caracas was built between 1940 and 1960 and provides a good example of the modern architecture movement. There are a number of buildings in the complex and a botanical garden. There are specific buildings that are notable for their architecture, and these include the covered plaza and the Olympic stadium.

Coro and its Port includes more than 600 historical buildings. It was one of the first colonial towns in South America and was founded in 1527. The town still has its

original layout and blends different architectural styles including local traditions, Dutch and Spanish. Coro was originally the first capital of the Venezuela Province in South America. It is the second oldest city in Venezuela and is of historical significance as it retains its colonial architecture. The port of La Vela in Coro was the first South American town to receive its independence from Spain making it a significant historical town. Some of the buildings in the city were constructed using traditional bamboo, mud and timber.

Canaima National Park is located in southeast Venezuela. Most of the park is covered by table mountain (tepui) formations, which are a unique geological formation. The tallest tepui is Mount Roraima and is known as a good climbing spot. Auyán-tepui is a popular tepui known for its steep inclines and cave systems. Within the park is the world's highest waterfall called the Angel (Salto Angel) Falls. Angel Falls has the tallest uninterrupted waterfall and cascading falls. The park is located along the borders of Guyana and Brazil and is the sixth largest park in the world.

## 24 Conclusion

Entrepreneurship research needs to focus more on Latin America in order to test existing theories that are based on other geographic regions. This will enable information to be obtained on how cultural conditions in Latin America affect entrepreneurship. Much of the existing entrepreneurship research makes assumptions about the generalisability of research. Not all research can be generalised as some of it is specific to a country. This means researchers need to be careful when comparing and contrasting ideapreneurship research. Some assumptions are explicitly stated, but many assumptions are of an implicit nature.

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# The Role of Douro River in the Emergence of Technological Entrepreneurship Initiatives


**Fernando Almeida, Oscar Silva, and Lino Dias**

**Abstract** Technology has been transforming the tourism industry and placing greater emphasis on offering differentiating and immersive tourist experiences. Tourists have assumed the position of content generators who interact with the regions and communities they visit, rather than mere passive visitors. This chapter explores the role of new technological advances (e.g., artificial intelligence, augmented reality, Internet of Things, big data) in the development of enriching experiences, having as a central element the positioning of the Douro River as a unique heritage element that is important to know and explore. The chapter explores a set of entrepreneurial initiatives in the Douro River that use technology to provide enriching experiences to its visitors in areas as distinct as river tourism, creative tourism, enotourism, or museology.

## 1 Introduction

The tourism sector has undergone evolutions over time driven by factors related to technological advances but also affected by other elements related to geography, economy, and society. As Mormina (2019) recognizes, technology is not static and offers multiplicative and indirect factors in other dimensions of our daily lives such as transportation or family and work relationships. Currently, we are aware of these advances when we look at our lifestyle and the services that we have become accustomed to having over time, and that has allowed us to gain new dynamics

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and images and adapt progressively to our personal tastes. All these achievements have only become possible due to new technologies. In this sense, recognizing tourism as an important economic activity for any country as well as for the world economy, it is not indifferent to technological advances, using them to improve its activity.

The experience economy has aroused the interest of several researchers in the tourism field, which gave rise to the concept of tourist experience. Park and Santos (2017) refer that the tourist experience combines the actions of tourists with a set of memories and emotions related to the places visited. Knobloch et al. (2017) add that the tourist experience differentiates a tourist service by representing the added value desired by the consumer, incorporating emotion, making the act of consumption memorable, and differentiating products from the competition. The European Commission considers that strategically it is essential that destination managers understand the dynamics of the tourism experience and the clusters linked to tourism and leisure activities (Weston et al., 2019).

Consumers seek to be involved and immersed in the experience they are enjoying, rather than being passive consumers of mass products. This view is confirmed by Godovykh and Tasci (2020) and Morgan et al. (2009) when they highlight that the tourism industry is considered as a business that sells experiences. In the framework proposed by Pine and Gilmore (1999), the tourism experience is seen as integrating multidimensional dimensions linked as education, entertainment, aesthetics, and escape. Another approach is proposed by Leo (2009), in which a pyramid model of experience is advocated to understand this phenomenon and in which the criteria of significance (e.g., individuality, authenticity, history, etc.) and levels of tourist experience (e.g., motivational, intellectual, emotional, etc.) stand out.

Tourists have become increasingly demanding and seek new experiences that contribute to personal enrichment. The tourist has at his disposal a diverse range of options and has greater bargaining power. Furthermore, he/she has also become not just a mere visitor, but a content generator that he/she shares with other travelers. Eletxigerra et al. (2021) note that tourists are receptive to engaging in creative choices, co-creation, and personal involvement activities. These factors have motivated the development of new strategies in marketing, in which tourist experiences are seen as consumer experiences (Jensen & Prebensen, 2015; Yachin, 2018). It becomes evident that the adoption of new technologies has contributed to benefitting and enhancing tourism experiences. These technologies have enabled strategic differentiation and increased competitive advantage for organizations, through the possibility of empowering the tourist to actively participate in the co-creation of their experience and the personalization of the tourism offer (Buhalis & Sinarta, 2019). Technology can be integrated at all stages of travel, from the stage before traveling to the return home. It enables the dissemination of tourist information about destinations which contributes to increasing cultural knowledge of a region through dynamic means of learning (Van Nuenen & Scarles, 2021).

This chapter aims to explore the role of new technologies such as big data, artificial intelligence, and augmented reality in the emergence of new technological

entrepreneurial initiatives, in which the Douro River is a central element in the dynamic construction of these initiatives. The region crossed by the Douro River is a diversified region in physical and socio-economic terms, making available to the tourist who visits it a series of resources and tourism products with high potential, which include the unique landscape, nature, security, tranquility, and wine, among others. As such, having a region with this wealth, there has been a development of efforts toward greater dissemination and promotion of it, by local and national entities. The technology-based entrepreneurial initiatives allow to complement this scenario and offer a unique, differentiated, and more immersive tourist experience.

This chapter is organized as follows: In the first phase, a literature review is made about the role of the Douro River in the promotion of tourism activity and the role of the adoption of emerging technologies in tourism. Next, the role of Tourism 4.0 is explored as an enabling element in the emergence of new entrepreneurial activities. After that, a set of entrepreneurial initiatives that have emerged in recent years around the Douro River are presented. Finally, the main conclusions of the study are listed and some research points are indicated as future work.

## 2 Background

### *2.1 The Role of Douro River in Promoting Tourism*

Rivers are like paths that "form a system that become, "often networks of land communication routes" and thus enter into the basic social and economic complex of history" (Teles, 2012, p. 90). In fact, the Douro is one of the largest international rivers of the Iberian Peninsula, with a total length stipulated of 938 km, running most of its course in Spain, and 200 km in Portugal. The Alto Douro Wine Region consists of 13 municipalities and 72 settlements distributed by Baixo Corgo, Cima Corgo, and Douro Superior. Recognized by UNESCO as a World Heritage Site, the "Alto Douro Wine Region" and the "Historic Centre of Porto" assume themselves as a world tourist destination of excellence (heritage, nature, culture, accommodation, sports, food, and wine). The meandering of the river interconnects territories, cities, towns, landscapes, and spaces, in a natural, sociocultural, and economic dynamic between two nations, several peoples, and towns. Until the late nineteenth century, the Douro River was a determinant route of excellence for the transport of Port wine, and the only means of communication with the interior regions of the Douro. With the advent of road and rail transport mechanization, the connections with the Douro and Alto Douro regions multiplied and were slowly "replacing" the river connections.

The tourism sector, for its part, seeks to anchor the preservation and memory of the Douro River, the Douro, and Alto Douro region, through a nonsystemic process, but organized and planned, so these brands and sub-brands are properly planned in order to maintain a segmented demand for the destination (Pimentel, 2006). The image of tourist destinations, and the dynamics as they are presented and

communicated to consumers, nowadays, depends heavily on a symbolic resource, as Bourdieu reminds us "as they establish social relations among themselves, men perform not only the exchange of goods, but also of meanings, of symbols" (Bourdieu, 2007, p. 102).

In the specific case of the Alto Douro Wine Region, the image brought many eligible inputs for the so-called social marketing, in order to try the cohabitation and integration of visitors and native populations, being this impactful for the formation of the image around the various wine areas, the Douro River and the landscape as a whole. The effectiveness of a brand, such as that of a tourist destination, has a complex and difficult realization, considering the sum of a series of influences and experiences that are fundamental in the conception of the tourist image and the perception of the tourist destination by the floating population. Given the multiplicity of elements that make up the Douro River, Douro and the Alto Douro Wine Region, it is important to reflect on the composite of existing resources, and that will be subject to intervention, enhancement, promotion, and marketing by the various operators/tourism agents. Subsequently, they can be marketed or promoted as sub-brands of the region (nature, history, climate, culture, gastronomy, crafts, wine, sport), and to the water resources made available by the Douro River, within a whole that we call Douro and Alto Douro Region.

## *2.2 Emergent Technologies in Tourism*

Emerging technologies have enabled cities to become more accessible and attractive to residents and visitors alike, as they contribute to the development of interactive services that connect local organizations, enabling people to quickly access services and data. Policymakers at the national, regional, and municipal levels have been working to improve the quality of life for people and to make the services that are provided by cities more efficient. The progress that has been made in information technology has enabled the development of smart cities. Winkowska et al. (2019) consider that smart cities are those that optimize the use of resources to better serve citizens, in which dimensions such as mobility, energy, or any service necessary for people's lives are included. Furthermore, the development of smart cities encourages the formation of smart regions and smart destinations (Coca-Stefaniak, 2021). This vision assumes that the incorporation of technology into the destination environment can contribute to the enrichment of tourism experiences and improvement of destination competitiveness.

Technologies provide powerful tools that can provide major competitive advantages in promoting and strengthening the strategies and operations of the tourism industry. The dynamic growth that the industry has experienced because of the systemic adoption of new technologies has brought about profound changes in the structure and operation of the travel and tourism industry. In studies by Mandic and Pranicevic (2019) and Szpilko (2017), these changes are evident in the way organizations communicate with their customers (e.g., individual and institutional) and in

the way they manage their distribution system. It is also apparent that supply and demand perspectives have driven the use of new technologies in the travel and tourism industry. On one side, each tourist is different, carrying a unique set of experiences, motivations, and disappointments. On the other hand, these tourists have become sophisticated and more demanding due to their experience. In Malik et al. (2017), it is recognized that tourists have become technologically and linguistically more evolved and can adapt and function in multicultural environments.

The success of a tourist destination is determined by the ability to gather, interpret, and use information effectively considering the potential of the tourist market and the satisfaction of tourists (Kerdpitak & Heuer, 2016). This is intended to increase the performance of tourist destinations with a view to increasing the satisfaction of the tourist experience. A smart tourism destination is expected to be able to leverage the potential of new technologies by providing experiences for visitors and competitiveness for destinations and tour operators. Boes et al. (2016) highlight that a smart tourism destination must equate four concepts: (a) human capital; (b) social capital; (c) leadership; and (d) innovation. Furthermore, a smart tourism destination should call for the collaboration of civil society, business, and researchers in developing innovative tourism projects (Corte et al., 2017).

Several emerging technologies with high potential in the tourism market are identified in the market. In Ghaderi et al. (2019), it is highlighted the role that smartphones have played in various tourism activities, such as booking flights and hotels, but also as a means of exploring a tourist destination. Artificial intelligence is another technological area with high potential that proposes that machines simulate human problem-solving ability. Artificial intelligence has been conquering a protagonist role in several links of the tourism chain, in different stages of the consumer's journey. Before the trip, in the inspiration and research phase, it can be used for personalization of service offerings, in addition to virtual assistants that clarify doubts and help in decision-making (Samala et al., 2020). Augmented reality is another technology that has gained importance in tourism by combining real and virtual elements, allowing travelers to explore destinations, hotels, and favorite attractions in real time (Cranmer et al., 2020). In Trunfio et al. (2021), the role of augmented reality for the survival of interpretation centers and museums in the face of visitors' expectations is highlighted. The Internet of Things (IoT) is another technology with strong application in tourism. The technology allows devices to be controlled or monitored remotely and perform actions automatically (Kumar et al., 2019). IoT can enable more automation, more personalization which will contribute to a better tourist experience (Gretzel et al., 2015). Finally, knowing the tastes and customs of the tourist has always been a vital aspect for travel agencies and hotel companies. However, nowadays big data can be used to offer a more personalized experience and propose destinations and routes more suitable for each tourist (Yallop & Seraphin, 2020).

All these technologies have contributed to the emergence of Tourism 4.0 that accompanies the fourth industrial revolution (Korze, 2019). In the Tourism 4.0 paradigm, solutions are implemented based on a diverse and complementary set of technologies such as artificial intelligence, cloud computing, augmented reality, or

big data, in addition to the valorization of the concepts of collaborative economy and the massive use of the Internet and social networks (García-Haro et al., 2021; Madakam & Tripathi, 2021). These technologies have been used to meet customer demand, streamline processes, optimize resources, and offer better experiences. Tourism 4.0 only exists because a new type of tourist is emerging that is increasingly demanding and values differentiating experiences. Stankov and Gretzel (2020) refer that the main characteristic of this new traveler profile is immediacy, because the traveler brings a smartphone connected to the Internet, which allows him to discover, meet, compare, evaluate, and share all his experiences.

## 3 Entrepreneurship in the Context of Tourism 4.0

The entrepreneurial initiatives that have emerged in recent years have to meet on the one hand the challenges posed by the new profile of the tourist, the alignment with the national objectives of promoting tourism, and the specific challenges of a differentiated tourism offer associated with the Douro River.

A characteristic associated with tourism in the twenty-first century is the diversity of preferences, interests, and tastes. Sharma and Nayak (2019) mention that tourists seek experiences associated with the culture and lifestyles of other people where memories replace physical goals. The importance of feeling emerges in detriment of simply seeing and knowing. Tourists with very distinct profiles emerge. Pencarelli et al. (2021) highlight the increasing presence of young tourists with high education and who request applications for mobile devices, while Liew et al. (2021) emphasize the growth of senior tourism that requires complementary components to tourism products. Furthermore, the consequences of COVID-19 are striking. We live in a world of unpredictable uncertainties, conditioning destinations and generating anxiety about ensuring safety and health care (Almeida & Silva, 2020; Assaf et al., 2021).

The Tourism 4.0 program promoted by Turismo de Portugal aims to enhance Portugal as a global hub of innovation in tourism, promoting an ecosystem of technological and business cooperation (TdP, 2021). The objectives of this program establish the following: (a) fostering entrepreneurship, as a vehicle for innovation and creation of new companies; (b) transferring knowledge to companies; (c) leading the innovation process, anticipating future changes in tourism; and (d) training companies and human resources for innovation. Figure 1 presents a conceptual map of the Tourism 4.0 program considering its multidimensional areas of intervention. Two dimensions are highlighted regarding the ecosystem of technological and business cooperation and support and incentive vehicles. In boosting the ecosystem, the aim is to promote cooperation for the development and subsequent implementation of innovative digital solutions in the tourism sector. The internationalization looks to enhance the notoriety of the program abroad and promote the country and its companies abroad. For the emergence of startups, it is important to promote a favorable ecosystem for entrepreneurship in tourism and ensure the alignment of

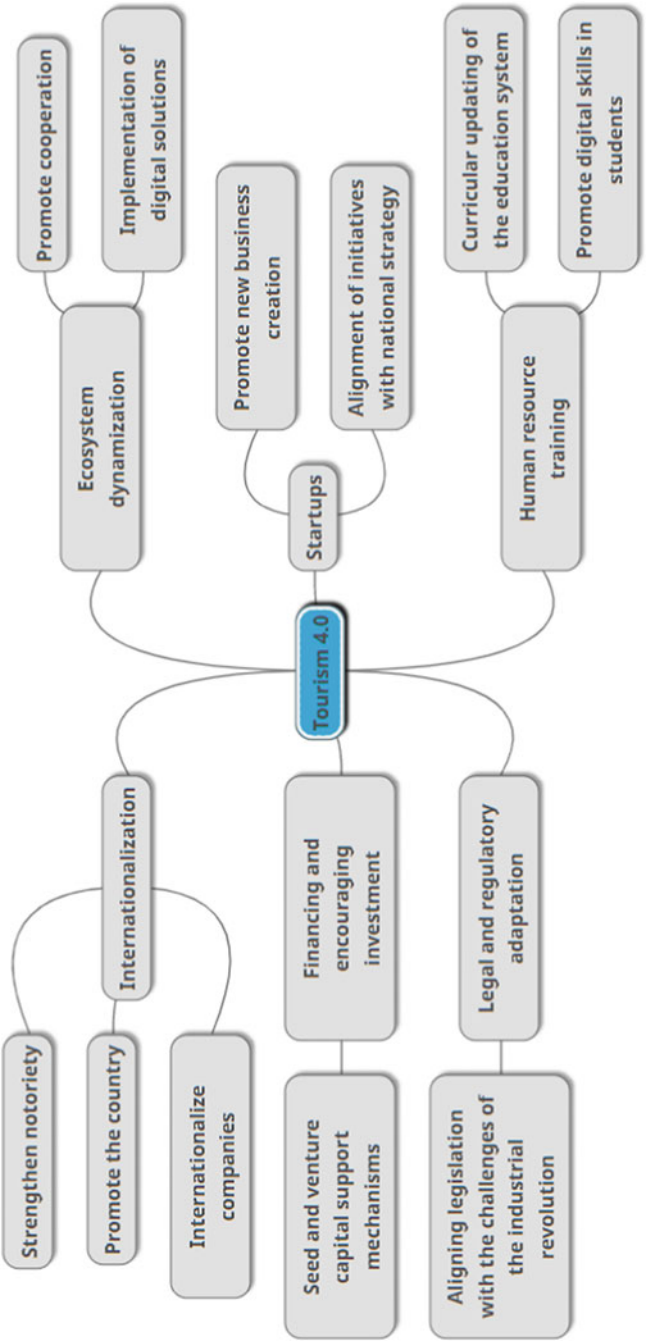


**Fig. 1** Cognitive map of Tourism 4.0 in Portugal

initiatives with the national strategy for the emergence of new startups. In financing and investment incentives, we seek to develop financing mechanisms for projects in the digital realm, in order to accelerate investment and adoption by tourism players. The training and empowerment of human resources seek to provide the national education system with the necessary curricular updates for digital transformation, as well as to promote the digital skills of students and tourism professionals. Finally, legal and regulatory adaptation is important to ensure legal and normal adaptability to meet the challenges of the new digital revolution.

The Tourism 4.0 program also suggests directions for the development of products and services based on new technologies such as virtual and augmented reality, cloud computing, Internet of Things, wearable systems, and big data. These guidelines are also highlighted in recent literature on the topic. In Atembe (2016), the relevance of developing integrated products and systems with emotional intelligence that are inclusive and accessible to all is highlighted, including those that make use of wearable systems to communicate and interact with the tourist. IoT is also pertinent for connecting physical systems to online platforms for communication and strategic marketing (Wang et al., 2020). Virtual reality and augmented reality allow combining video, sound, and text for the promotion of immersive tourist experiences (Liang & Elliot, 2021). Finally, service co-creation and analysis of service access, personalization, and segmentation can be achieved through real-time systems using big data and cloud data storage (Belias et al., 2021).

## 4 Entrepreneurship Initiatives in the Douro River

The Douro is more than just a river and has been a driver of economic activity and sociocultural development of the regions it crosses (Domingues, 2018; Gouveia et al., 2017). Throughout its history, it has assumed a central role in the life of the region, through the essential transportation of Douro wine and people. The river, formerly characterized by difficult navigation, became, with the construction of several dams along its course, completely navigable and safe, which has allowed its use for tourism through countless cruises that travel along it daily. As Funck (2010) points out, river cruises have become relevant elements for the tourism sector, which through different routes allow the dissemination of a place, beyond its slopes. The Douro region has a set of differentiating and varied tourism resources that must be valued and enhanced. The river offers strong scenic attractions complemented by natural and man-made landscapes. The history and architectural heritage are diversified. Allied to this factor are the safety, silence, mild climate, and rich gastronomy as recognized in Gomes (2021). We find along its banks World Heritage such as the Douro Valley, Côa Valley, and the Historic Centre of Porto (WHC, 2014, 2016). The use of the Douro River navigation has enabled the emergence of applied research projects in which several players from academia, science, and business collaborate for the proposal of new tourism solutions.

The tourism products that along the Douro River can be offered are very diverse. In Nunes (2020), four anchor projects are identified in the promotion of tourism in the region: (a) nature tourism; (b) cultural and landscape touring; (c) gastronomy and wines; and (d) nautical tourism. In nature tourism, the aim is to get to know the natural environment, to be sensitive to the environment, to contemplate the landscape, and to rest and relax. However, nature tourism also offers the opportunity to practice very specific sports and activities associated with adventure. In cultural and landscape touring, one tries to get to know and admire the built and immaterial heritage. This can be achieved individually or incorporated into thematic circuits. Gastronomy and wine tours recognize the richness of the gastronomic heritage and unique sensory experiences. Finally, the river routes on the Douro River allow one to contemplate unique landscapes. However, the attractiveness potential of the region is much broader. As Nunes (2020) recognizes, complementary products such as religious tourism, health and wellness, and business are also emerging.

The DouroTur project launched in 2017 by UTAD is a central element to meet a set of tourism promotion initiatives based on the Douro River. The project aimed to bridge the gap between the Douro's potential and its development. Its goal is to stimulate the local economy through tourism, under a systemic and holistic perspective. It is intended to explore tourism in the Douro River in several aspects, from visitors, operators, entrepreneurs, and the resident population. The project is based on four thematic lines (DouroTur, 2021): (a) Line I, analysis of tourism supply, products, experiences offered, and social tourism agents in the Douro; (b) Line II, image and tourist reports of the Douro; (c) Line III, tourism demand and effects of tourism in the Douro; and (d) Line IV, digital marketing and new technologies for tourism development in the Douro. Table 1 seeks to synthesize the sectoral objectives of each of the thematic lines. The objectives defined for each thematic line show that tourism promotion should look at the tourism perspective but also at the economic and sociocultural impacts of tourism activity. This vision is in line with the values established by Kirafova (2019) and Streimikiene et al. (2021), in which the tourism offer should be sustainable through the compatibility between the desires of tourists and those of the receiving regions, not only ensuring the protection of the environment but also stimulating the development of the activity in line with the local society involved.

The role of technology has been explored by municipalities in the promotion of the tourism offer in the Douro River on a static and little interactive perspective. Municipal websites tend to offer information about their resources but not about concrete tourism products accessible to the potential visitor. Added to this situation is the difficulty of a marketing strategy that allows the creation of travel narratives to attract and seduce visitors and tourists to the potentialities of the Douro River. To make the experience more immersive, the Instituto dos Vinhos do Douro e do Porto (IVDP) has restructured and redesigned its website. The new design offers a virtual tourism experience in which 360° virtual reality tours are now possible. Figure 2 shows an image of the virtual visit to the IVDP, in which this visit is accompanied by an audio description of the history of the building and the importance of the Douro River and its adjacent regions for the economic and social development of the

**Table 1** Strategic goals of DouroTur

| Thematic line | Goals |
|---|---|
| Line I | Characterization of tourism supply in the Douro |
| | Identify differentiating tourism products |
| | Enhance tourist experiences in the Douro |
| | Explore the role of sustainable tourism in the Douro |
| Line II | Analysis of the tourist image considering public and private players |
| | Identify forms of tourist communication |
| | Explore the tourist positioning as a geostrategic element |
| | Explore the sentimental image of visitors about the destination |
| Line III | Identify economic and social profile of visitors |
| | Evaluate the destination and experience by visitors |
| | Assess the perceptions of the local population before tourism activities |
| | Explore the social, economic, and environmental effects of tourism in the Douro region |
| Line IV | Assess the level of use of digital marketing tools and new technologies |
| | Explore the potential for receptivity of innovative technologies |
| | Strategies for adoption of digital marketing tools by players in the Douro |
| | Development of interactive digital platforms and prototypes |

**Fig. 2** Virtual tour of IVDP

region. Another possibility is the incorporation of tourism platforms that allow the planning of customized routes and the adoption of global geo-referencing of the contents to allow navigation by map and proximity. This is achieved by exploiting big data in which tourism preferences are recorded and analyzed (Ardito et al., 2019).

Gamification is a strategy adopted in Nunes (2020) to promote the region of Peso da Régua which is one of the icons of attractiveness in the Douro River. Peso da Régua lies on the banks of the Douro River, where the famous Port wines are produced. Peso da Régua is recognized as the perfect destination for those who appreciate good wines and the wine culture, in which many renowned estates spread among the terraces and mountains offer visits to their cellars with tasting. The adoption of gamification allows according to Welbers et al. (2019) to exploit game mechanics and dynamics to engage people, solve problems, and enhance learning by motivating actions and behaviors in nongame environments. Game dynamics are used to leverage the region's heritage. This approach brings together innovation with new technologies, knowledge, story sharing, and people. This is intended to promote the region's gastronomy and handicrafts and to arouse the desire of tourists to visit the region. The game also allows historical characters to be incorporated into the narrative, in which legends, stories, and traditions can be included. Still, in the same region, we find the Douro Museum that was distinguished in 2019 with one of the national awards in the category of management and multimedia application (Museu do Douro, 2019). This is an example in which technology is used by the museum in the development of a multimedia application for self-guided multilingual visits. In this application, permanent exhibitions and the spaces of the historic building are presented. The World of Discoveries theme park is another element where technology stands out. It is located in the urban environment near the mouth of Porto where the river meets the sea. Augmented reality is used for the exaltation of the history and memory of the Portuguese discoveries, in an interactive perspective, where the historical narrative is presented in various ways, from staging to interactive visualization of objects and paintings, complemented by a journey through the Portuguese discoveries. On the other bank of the Douro River, on the Gaia side, we find the World of Wine (WOW), which is an innovative cultural and museum space. Several experiences can be performed, based on the technological dimension with IoT and augmented reality, based on the themes of wine, chocolate, handicraft, and gastronomy. In total, the WOW offers seven spaces as shown in Fig. 3 such as the wines experience, Porto region across the ages, planet cork, the chocolate story, the bridge collection, Porto fashion and fabric museum, and pink palace.

Tourism apps from many different types of stores for Android and iOS have become very popular with the community. They can help from choosing a destination to booking hotels and car rentals and defining an itinerary. The I Love Douro app (Fig. 4) allows visitors to explore the Douro region considering its points of interest and provides directions to tour itineraries. The Passaporte Douro app also seeks to promote tourism in the area by allowing visitors to access interactive stores of the region's municipalities. In total, it gathers information about 76 points of interest, as well as promotional videos. The Porto Travel Guide app provides information on the history, culture, and gastronomy of the city of Porto. Inevitably the Douro River is a key element in this region by highlighting the sights that are located on the riverside of Porto.

The Douro River is also an element that has prompted the appearance of initiatives framed in the typology of creative tourism. Chang et al. (2014) note that


**Fig. 3** Distribution of WOW museums across space

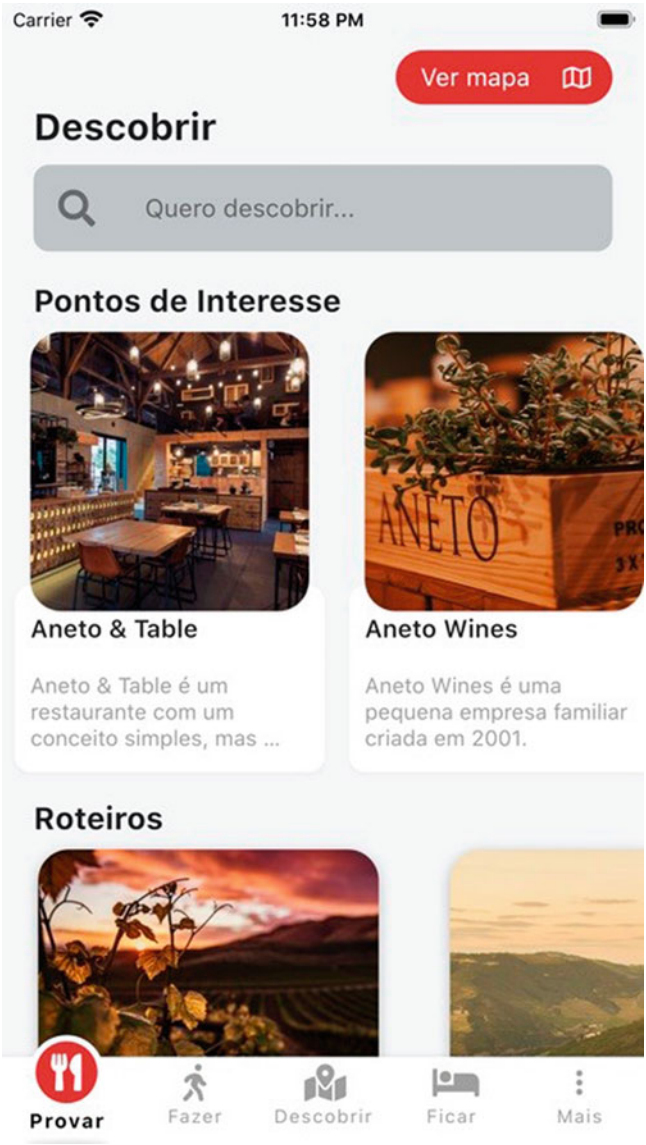


**Fig. 4** App I Love Douro

creative tourism offers tourists the opportunity to develop their creative potential by actively participating in experiences to learn about the destination. Thus, for a destination to be considered creative, it needs to offer authentic experiences that contribute to the visitor's personal development. Travel is increasingly seen as an opportunity to develop personal experiences, of self-learning from a discovery of the world, and, therefore, creative tourism must have as a premise the creation of

experiences that allow an active and enriching participation based on the involvement of the tourist in its production. An example is the proposal by Douro-Wellcome in which the visitor participates in the Shepherd's Paths, the Bread Paths, being a smuggler and jumping the border from Portugal to Spain, among others (Lusa, 2018). Mobile devices can be used in this experience as a form of photographic record and as a guide to the location of each tourist and to know the history of each place.

## 5 Conclusions and Future Research Directions

Tourism in the northern region of Portugal is of great importance in increasing the country's competitiveness, generating new jobs, and increasing social cohesion. Moreover, the current pandemic crisis that we are going through shows the need to follow a more technological, safer, and sustainable market. Tourists have become more demanding and tourist destinations more competitive. Nowadays tourists before visiting a place do research about what they would like to see and visit, namely, through friends, books, or the Internet. Time for vacations is also increasingly scarce. In this sense, tourists try to define routes that allow them to visit the places that interest them most. Also, in the context of each place they visit, they seek to know the history of their places and learn about their sociocultural background.

Undoubtedly technologies are part of our daily life. Also, in tourism, new technologies have emerged and have been used by local agents to promote their region. Smartphones have revolutionized the way tourists interact with each place they visit. These devices have the potential to significantly influence the tourist experience, altering tourists' behavior and emotional states, addressing a wide variety of information needs. The instantaneous information support of smartphones allows tourists to solve problems more effectively, share experiences, and store memories. Other technologies have also emerged such as artificial intelligence, IoT, virtual and augmented reality, and big data that have allowed these experiences to be transformed and made richer, more interactive, and personalized.

Tourists also seek transformative experiences, through contact with local people, sustainability projects, social contribution, or promotion of the local economy. The aim is to provide an environment of mutual aid and exchange of knowledge and learning, values, and ideas. Digital technologies shape the traveler's experience and are transforming tourism, providing more personalized experiences. The demand for authenticity, to know the places they visit, has made tourism agents along the Douro River seek to complement their tourism offer with more immersive technologies that allow the tourist to feel like part of a history that is being progressively built. Museums tend to offer virtual visits and augmented reality experiences, and municipalities and tourist regions have launched new apps to promote their heritage and offer personalized itineraries based on IoT and big data.

This study has some limitations that it is important to highlight. Firstly, the survey was not systematic in seeking to characterize all the solutions proposed and

involving the Douro River, but to give some indications of how technology can be combined with traditional approaches to disseminating tourist information. In this sense, and as future work, there is a need to make this exhaustive survey of these initiatives. As a complement to this work, it would also be desirable to explore the impact of these projects from multiple perspectives. On the one hand, it would be interesting to explore the role of new technologies in the construction of differentiating tourist experiences. On the other hand, it would also be relevant to explore how technology can be used to enhance the positive effects and mitigate the negative effects on society, economy, and environment.

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# The Presence of Women in Private Family Firms' Corporate Governance and Innovation Outcomes


**Beatriz Hernández-Cuevas, María J. Martínez-Romero, and Rubén Martínez-Alonso**

**Abstract** Despite the increase in the number of studies analysing innovation in family firms over the last decade, there are still a number of critical issues that are far from being resolved. One of these issues is related to the influence of women's presence in corporate governance structures on firms' innovation outcomes. In light of this, the aim of the present chapter is to investigate whether the inclusion of women in private family firms' corporate governance structures, namely, in the general shareholders' meeting, the top management team and board of directors, influences firms' innovation. By applying regression analyses to a sample of 339 Spanish private family firms, the findings reveal that the presence of women in general shareholders' meetings and in top management teams has a negative and significant effect on innovation.

## 1 Introduction

Innovation is the engine that drives businesses (Casado-Belmonte et al., 2021; Diéguez-Soto, Manzaneque, & Rojo-Ramírez, 2016). Innovation is widely recognized as the mechanism through which firms are able to make continuous breakthroughs that help them survive, grow faster and be more efficient and ultimately more profitable than non-innovators (Atalay et al., 2013; Martínez-Alonso et al., 2020b). Due to today's increasingly changing and competitive environment, shorter product cycles and the potential for imitation, firms must innovate constantly to gain more sustainable competitive advantages (Gomes et al., 2011; Kotlar et al., 2014).

Family firms, defined as businesses 'governed and/or managed with the intention to shape and pursue the vision of the business held by a dominant coalition controlled by members of the same family or a small number of families in a manner that is potentially sustainable across generations of the family or families' (Chua et al., 1999, p. 25), constitute the backbone of most of the world's economies

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(De Massis et al., 2018; Family Firm Institute, 2018). In addition to their global economic attractiveness, there is also growing interest in recognizing that family firms possess certain peculiarities that make them rather unusual compared to the rest of firms when it comes to innovation (Calabrò et al., 2019; Casado-Belmonte et al., 2021). One of these peculiarities concerns the complex but unique alignment of ownership, management and control that occurs in the governance systems of family firms (Goel et al., 2014). Accordingly, and because of the multiplicity of pursued goals and the evolving role of the family in the business, family firms need specific governance structures (Nordqvist et al., 2014). Notably, the various forms in which the family participates in the governing bodies of such firms have made them an advantageous environment for gaining competitive advantages that favour innovation (De Massis et al., 2016; Li & Daspit, 2016; Matzler et al., 2015).

Among the most common and influential corporate governance bodies within family firms are the general shareholders' meeting, the top management team and the board of directors (Nordqvist et al., 2014; Suess-Reyes, 2014). The general shareholders' meeting is a governance body that deals with legal issues, such as the designation of the CEO and directors, and is usually held once a year (Nordqvist et al., 2014). The top management team is a key body composed of the CEO and other executives and is primarily responsible for adopting the firm's general decisions, establishing the goals to be achieved and designing the means to achieve them (Ruiz-Jiménez & Fuentes-Fuentes, 2016). Finally, the board of directors is a governance body whose main functions are exercising control, reviewing and evaluating the ideas of the top management team, assessing the CEO's performance or safeguarding the interests of the shareholders (Suess-Reyes, 2014).

On the other hand, the incorporation of women into the labour market, and in particular into positions of certain responsibility, is becoming more and more prominent in today's business world (Informa, 2021). All firms around the world are increasingly trying to be equitable when hiring employees (Schwab et al., 2020). Indeed, gender diversity, at all corporate levels, has been introduced as a major priority in the strategic agenda of most firms worldwide (Mariño-Garrido & Martínez-Romero, 2020). Accordingly, academic and professional interest in exploring the incorporation of women into corporate governance structures is rising on a large scale (Deloitte., 2017; Hernández-Ortiz et al., 2020), with particular emphasis on examining how women's presence in general shareholders' meetings, top management teams and/or board of directors influences firm outcomes (Amin et al., 2021; Fenoy-Castaño et al., 2021; Wu et al., 2021).

Despite the importance attached to the incorporation of women to corporate governance structures (Nájera-Vázquez & Martínez-Romero, 2020), its effects on private family firms' innovation outcomes are almost non-existent to date (Casado-Belmonte et al., 2021; Scholes et al., 2021). Consequently, understanding how gender diversity influences innovation within family firms has become a crucial issue, as women's presence in corporate governance bodies brings certain advantages, such as greater creativity or problem-solving skills, which are key to successful innovation. With this in mind, this chapter aims to analyse the potential effects of women's presence in three corporate family firms' governance bodies (general

shareholders' meeting, top management team and board of directors) on innovation. To analyse the relationships between women's presence in the different family firms' corporate governance structures and innovation, qualitative data from a survey provided by the Spanish Institute of Family Firms and the Spanish Network of Family Business Chairs, as well as economic-financial data from the Iberian Balance Sheet Analysis System, were used. Based on this information, a final sample of 339 Spanish private family firms was constituted. The obtained results reveal that the presence of women in general shareholders' meetings and in top management teams has a negative effect on private family firms' innovation outcomes.

The present study offers several contributions. To the best of the authors' knowledge, this is the first study analysing the influence of women's presence in three different corporate governance structures, i.e. general shareholders' meetings, top management teams and board of directors, on firms' innovation outcomes. Moreover, this is one of the few studies investigating gender diversity and innovation issues, by focusing exclusively on private family firms. Finally, this study contributes to the research avenue on the consequences of integrating women in the workforce and, specifically, at the highest firm levels.

The chapter is organized as follows. First, a literature review is carried out, and three hypotheses are established. This is followed by the methodology section and a discussion of the obtained results. Finally, the conclusions section includes contributions, practical implications as well as some limitations and future research directions.

## 2 Literature Review and Hypotheses

### *2.1 Presence of Women in Family Firms' Corporate Governance Structures*

Family firms have become the lifeblood of the Spanish economy (IEF and Red de Cátedras de Empresa Familiar, 2015; López-Delgado & Diéguez-Soto, 2020). Family firms suffer from several limitations, such as the lack of division of power among the owners, or the lack of objective criteria when choosing the successors of the firm. According to a study conducted by the Spanish Institute of Family Firms and the Spanish Network of Family Business Chairs, the continuity of the family CEO is consensual in only 32.5% of the surveyed firms (IEF and Red de Cátedras de Empresa Familiar, 2018). The data show that no objective criteria are applied in the election of management positions in 54.2% of the respondents, resulting in a high concentration of family members in the firm management (Gómez-Mejía et al., 2007; IEF and Red de Cátedras de Empresa Familiar, 2018). In most cases, the governance and management structures of family firms are not sufficiently professionalized, as family succession makes the division of decision-making powers almost non-existent.

With regard to women's presence in governance bodies, it can be stated that in Spanish family firms, 28.8% of the managers are women (IEF and Red de Cátedras de Empresa Familiar, 2018). Moreover, 21% of the CEOs are women. On average, 31.9% of family firms' boards of directors include, at least, a woman. In this vein, there is an overlap between women's presence in top management positions and in boards, as recent studies reveal that the majority of firms with more than 40% female managers have women in their boards (Informa, 2021). Finally, with respect to general shareholders' meetings, the body par excellence for the representation of ownership, the presence of women is similar to that of management bodies. Special mention requires the fact that the highest proportion of women is found in family-related bodies, i.e. in family governance mechanisms (Miller et al., 2013; Suess-Reyes, 2014), such as the family council and family assembly. In general terms, the Spanish data are in line with the worldwide trend (Corporate Women Directors International, 2019).

Nowadays, including women in the firms' workforce, and specifically in management and governance positions, is becoming an issue of utmost importance. Gender diversity, at all business levels, is a priority on the strategic agenda of most listed and unlisted firms (Mariño-Garrido & Martínez-Romero, 2020). Moreover, United Nations has established gender equality as a sustainable development goal to achieve gender parity and empower all women and girls (United Nations, 2021). Therefore, firms all around the world are trying to be equitable when recruiting employees (Schwab et al., 2020).

Women's presence in firms is associated with numerous advantages, such as a wider variety of perspectives (Hillman et al., 2002), more flexibility and motivation for team building (Bianchi-Martini et al., 2012), greater creativity and more new ideas and insights (Miller & Triana, 2009), effective problem-solving and enhanced capability (Galia & Zenou, 2012).

More specifically, concerning the women participation in corporate governance structures, it can be stated that women lead to a better business environment, from an organizational, management and financial perspective (Fenoy-Castaño et al., 2021). Women in governance structures promote more effective global relationships, positively affecting firms and improving their reputation (Robinson & Dechant, 1997; Zyglidopoulos, 2003). Moreover, women tend to be more risk-averse, being more cautious about new strategies and demonstrating more restrained decision-making behaviour (Byrnes et al., 1999; Eckel & Grossman, 2008; Mínguez-Vera & Martin, 2011). In contrast, men tend to be more self-confident and more reckless (Huang & Kisgen, 2013; Loukil & Yousfi, 2016). The latter aspect has a direct influence on the lower presence of women in corporate governance structures. However, there is general consensus that women's involvement in corporate governance offers new perspectives, experiences, knowledge and activities that positively affect business development (Hillman et al., 2002).

With regard to women owners, and their presence in general shareholders' meetings, female shareholders have been found to exert a different role than men, as they are influenced by different individual, organizational and resource-related aspects (Harveston et al., 1997). However, other authors failed to find significant

differences between firms owned by women and firms owned by men regarding strategic processes (Cadieux et al., 2002). Special mention requires the study of Dumas (1998), who revealed that although women did not generally have substantial ownership, they have a strong presence in the firms.

Concerning women participation in TMTs, it is argued that they bring a different kind of social and human capital to the firm (Adler & Kwon, 2002; Bass, 2019; Miller & Triana, 2009). Women usually exhibit leadership styles characterized by knowledge sharing, common values, good communications and high levels of inclusion (Eagly & Carli, 2003; Powell et al., 2008; Scott & Brown, 2006). Moreover, women in management promote the 'out-of-the-box thinking' that leads to increase entrepreneurial activities (Hunter et al., 2012; Lyngsie & Foss, 2017).

Finally, about women's presence in boards of directors, it can be stated that female directors present higher levels of sensitivity and take care of other people's welfare (Nielsen & Huse, 2010), improve monitoring (Ben Rejeb et al., 2020), reconcile the interests of managers and shareholders (Lakhal et al., 2015) and enhance board deliberations of complex issues (Huse & Solberg, 2006).

## 2.2 *Presence of Women in Family Firms' Corporate Governance Structures and Innovation*

Up to now, extant literature on the effects of the presence of women in corporate governance structures is not conclusive (Maseda et al., 2021). Some studies indicate a positive relationship between gender diversity and firm outcomes, while others indicate a negative or even nonsignificant relationship (Miller & Triana, 2009; Roberson et al., 2017).

When focusing specifically on firms' innovation outcomes, gender diversity literature has not yet found a consensus on how women's presence in corporate governance structures influences innovation-related activities. In the following paragraphs, we review the main existing contributions in this field (see Table 1 for a summary of these studies).

Miller and Triana (2009) studied the mediating role of innovation in the relationship between board diversity and firm performance and found a positive relationship between board gender diversity and innovation. Similarly, Torchia et al. (2011) examined the link between gender diversity and organizational innovation and discovered that only when women constitute a 'critical mass' within the board, i.e. if there are at least three female directors, their effects on innovation are positive. Bianchi-Martini et al. (2012) investigated the relationship between board diversity and investments in innovation and found that presence of women on boards did not influence such investments. Galia and Zenou (2012) studied the effect of board gender diversity on four types of innovations: product, process, marketing and organizational. Results showed that female presence in the board has a positive effect on marketing innovation and a negative impact on product innovation.

**Table 1** Literature review on the influence of women's presence in corporate governance structures on innovation

| Authors | Year | Sample | Type of firm | Innovation variable | Key findings |
|---|---|---|---|---|---|
| Miller, T.; Triana, M.C. | 2009 | 432 US firms (2002–2005) | Listed | R & D intensity | Board gender diversity has a positive effect on innovation |
| Torchia, M.; Calabrò, A.; Huse, M. | 2011 | 317 Norwegian firms (2005–2006) | Both listed and private | Organizational innovation | When there are at least three women on the board, their effects on innovation are positive |
| Bianchi-Martini, S.; Corvino, A.; Rigolini, A. | 2012 | 69 Italian firms (2006–2010) | Listed | Investments in innovation | No relationship was found between the presence of women in the board of directors and innovation |
| Galia, F.; Zenou, E. | 2012 | 176 French firms (2008) | Both listed and private | Product, process, marketing and organizational innovations | Board gender diversity has a positive effect on marketing innovation, a negative impact on product innovation and no influence on process and organizational innovations |
| Ruiz-Jiménez, J.M.; Fuentes-Fuentes, M.M. | 2016 | 205 Spanish SMEs (2010) | Private | Product and process innovations | Gender diversity in the top management team enhances the effect of management capabilities on the implementation of product and process innovations |
| Chen, J.; Leung, W.S.; Evans, K.P. | 2018 | 1224 firms (1998–2006) | Listed | R & D and patents | Female board representation is associated with greater investment in innovation and a higher number of patents and citations for a given R & D expenditure |
| Nadeem, M.; Bahadar, S.; Gull, A.A.; Iqbal, U. | 2020 | 10,334 observations from US firms (2002–2018) | Listed | Product and process innovations | Board gender diversity is positively associated with environmental innovation |
| Hernández-Lara, A.B; | 2020 | | Listed | R & D and patents | The proportion of women on boards |

(continued)

**Table 1** (continued)

| Authors | Year | Sample | Type of firm | Innovation variable | Key findings |
|---|---|---|---|---|---|
| Gonzales-Bustos, J.P. | | 86 Spanish firms (2003–2017) | | | has a positive influence on innovation, and such influence becomes negative if the female directors belong to the family that controls the firm |
| Bannò, M.; Coller, G.; D'Allura, G.M. | 2021 | 755 Italian firms (2018) | Both listed and private | Patents | The presence of female family members in board of directors has a negative impact on innovation, and such impact is mitigated when there are at least three women on the board and/or they are president or vice president |
| Ain, Q.U.; Yuan, X.; Javaid, H.M. | 2021 | 12,948 observations from Chinese firms (2008–2017) | Listed | Patent applications, invention patent applications, utility model patent applications and design patent applications | Board gender diversity has a positive effect on corporate innovation |
| Hernández-Lara, A.B.; Gonzales-Bustos, J.P.; Alarcón-Alarcón, A. | 2021 | 67 Spanish firms (2003–2019) | Listed | R & D ratio | Gender diversity on corporate boards has a positive impact on R & D, and this positive impact is smaller if female directors have family ties to male directors |
| Wu, J.; Richard, O.C.; Triana, M.C.; Zhang, X. | 2021 | 328 Chinese firms (2008–2013); 245 UK firms (2008–2015) | Listed | R & D intensity | A high gender diversity in both the top management team and the board of directors (TMT-BOD gender diversity) has a positive impact on organizational innovation |

Moreover, no association of board gender diversity with process and organizational innovations was found. Ruiz-Jiménez and Fuentes-Fuentes (2016) showed that managerial capabilities are more influential in both product and process innovation

when the top management team is more balanced in number of men and women. Chen et al. (2018) revealed that female board representation is related to higher innovation success, elucidating that firms with female board representation are likely to make more investments in innovation and obtain more patents and citations for a given amount of R & D expenditures. Nadeem et al. (2020) found that board gender diversity positively affects environmental innovation and that this effect is more pronounced in less profitable firms and in environmentally sensitive sectors. Hernández-Lara and Gonzales-Bustos (2020) examined the influence of women on boards on innovation, comparing family and nonfamily firms. Results showed that the proportion of women on boards exerts a positive influence on R & D and patents, but when these directors belong to the family that controls the firm, their influence is negative. Bannò et al. (2021) explored the impact of female directors on innovation in family firms and found that the female presence on the board has a negative effect on innovation. Furthermore, Bannò and colleagues also demonstrated that the above negative effect is mitigated when there are at least three women on the board and/or they are president or vice president. Ain et al. (2021) found that gender diversity on boards positively influences corporate innovation, proxied by innovation outputs such as patent applications, invention patent applications, utility model patent applications and design patent applications. Results also supported the notion that a 'critical mass' of female directors in the board is related to more innovation. In the same vein, Hernández-Lara et al. (2021) showed a positive relationship between board gender diversity and R & D. Nevertheless, these authors also found that such positive effect is lower if female directors have family ties to male board members. Wu et al. (2021) analysed the impact of women's presence in both the top management team and the board of directors on organizational innovation and found that innovation is greater when gender diversity is high in both governance bodies simultaneously. The prior studies reveal mixed and controversial findings concerning the impact of women's presence in corporate governance structures on firms' innovation (Nadeem et al., 2020; Torchia et al., 2011). Accordingly, and due to the importance of this research trend, more investigation is required, as reflected in recent calls for researching on the topic (Bannò et al., 2021; Hernández-Lara & Gonzales-Bustos, 2020).

The review of the above articles has also provided us with the opportunity to identify potential reasons that might help explain the similar and different results that have arisen around the relationship between gender diversity in corporate governance structures and innovation. First, as shown in Table 1, studies on this topic tend to use primarily samples of listed firms. Given that information on board membership is available in listed firms, most of these studies have focused on analysing gender diversity in boards on innovation in quoted companies, revealing an overall positive trend. In contrast, little is known about how women's presence in top management teams and general shareholders' meetings influences innovation. With regard to private firms, much less is known concerning how female participation in corporate governance bodies affects innovation. Second, innovation is a complex and multidimensional phenomenon (Martínez-Alonso et al., 2020a). As can be seen in Table 1, the impact of gender diversity in governance bodies has been

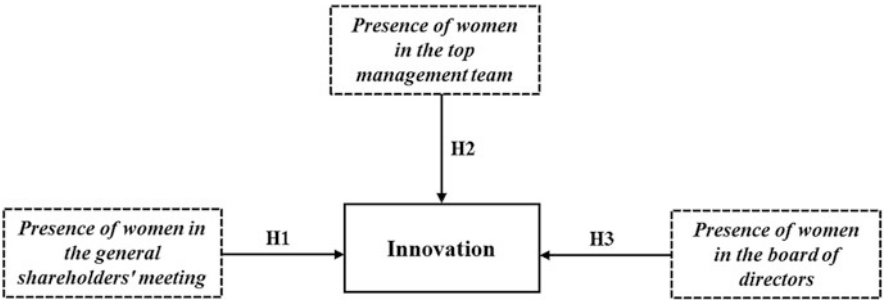


**Fig. 1** Conceptual model and hypotheses

analysed under a variety of innovation forms, which explains the wide diversity of results. Finally, the topic under study has been largely overlooked in the family firm field, with very few studies analysing the gender diversity-innovation relationship. This aspect is of great importance, as previous literature indicates that family firms have a special linkage between their management, ownership and governance structures (Berent-Braun et al., 2018; Chrisman et al., 2005), due to the family involvement within the firm, which makes them completely different from nonfamily firms when it comes to innovation (Calabrò et al., 2019; Casado-Belmonte et al., 2021). Hence, although there are arguments for and against the effect of women's presence in corporate governance on firms' innovation (Bannò et al., 2021; Hernández-Lara et al., 2021), little is known about how female presence in upper levels influences innovation within family firms.

Based on the literature review and above argumentation, we propose the following hypotheses:

**H1** The presence of women in general shareholders' meetings exerts an effect on innovation in private family firms.

**H2** The presence of women in top management teams exerts an effect on innovation in private family firms.

**H3** The presence of women in boards of directors exerts an effect on innovation in private family firms.

The conceptual model with the suggested hypotheses is shown in Fig. 1.

## 3 Data and Methods

### *3.1 Sampling and Data Collection*

The primary source of data for this chapter comes from a wider cross-sectional survey conducted during 2016 by the Spanish Institute of Family Firms and the Spanish Network of Family Business Chairs. This survey explores general business

characteristics, as well as corporate governance, innovation, internationalization and training issues in Spanish private firms. The information was collected by NEXO through telephone interviews and/or e-mails. The final response rate was 11.93%, with a sampling error of ±3.08, and $p = q = 50\%$. The survey was answered by CEOs, executives and managers, because their positions guarantee in-depth firm knowledge (Meroño-Cerdán et al., 2017). In addition, firm-level information is drawn from the database Iberian Balance Sheet Analysis System (SABI) managed by Bureau Van Dijk, a secondary data source containing accounting and financial data of the analysed firms. By combining the two mentioned sources of information, an initial sample of 925 Spanish private firms was obtained. A restriction was applied to such sample to select only family firms. The criterion imposed on the data was that the percentage of family ownership was higher than 50% and that at least one family member was a regular member of the firm's corporate governance bodies (Chua et al., 1999; Graves & Thomas, 2004). Moreover, the sample firms were required to have at least one of the following corporate governance bodies: general shareholders' meeting, top management team and/or board of directors. Hence, after applying these criteria and eliminating cases with missing values for the main variables, our analyses are based on a final sample of 339 Spanish private family firms. Additionally, by utilizing two different sources of data, i.e. the SABI database and the survey, common method bias concerns are reduced (Podsakoff et al., 2003).

## *3.2 Measurement*

### 3.2.1 Dependent Variable

The dependent variable of this study, namely, innovation, is measured in terms of product innovation. Product innovation occurs when a firm introduces completely new products or products with significant modifications, new functions or variations in their design, presentation, materials or composition (Martínez-Alonso et al., 2019; Nieto & Santamaría, 2010). Therefore, in line with previous literature (e.g. Ayllón & Radicic, 2019; Un et al., 2010), *product innovation* is measured as a dichotomous variable that takes the value 1 when the firm obtains product innovation and 0, otherwise. The reasons why we focus on product and not on other types of innovation, such as patents or processes, are as follows. First, patents may potentially underestimate firms' innovativeness (Martínez-Alonso et al., 2020b), not only because many firms are generally reluctant to apply for patents for fear that their new ideas will be appropriated (Deng et al., 2013) but also because they cannot afford the long time needed to go through the patenting process (Kalantaridis & Pheby, 1999). Second, product innovation, compared to other types of innovation, such as marketing, organizational or process innovation, poses unique challenges for family firms (De Massis et al., 2015).

### 3.2.2 Independent Variables

We have three independent variables that capture the share of women's participation in the family firm's governing bodies (Nájera-Vázquez & Martínez-Romero, 2020): (1) the *presence of women in the general shareholders' meeting*, measured as the ratio of the number of women shareholders to the total number of shareholders; (2) the *presence of women in the top management team*, calculated as the division of the number of women managers by the number of total managers; and (3) the *presence of women in the board of directors*, measured as the ratio of the number of women board members to the total number of board members.

### 3.2.3 Control Variables

In addition to the dependent and independent variables, we include several control variables to ensure adequate model specification and to consider possible alternative explanations. First, we control for *firm age*, calculated as the natural log of the number of years since the firm's foundation, as younger firms are expected to be more involved in developing and implementing product innovations than more mature firms (Steeger & Hoffmann, 2016; Tsao & Lien, 2013). Second, we control by *firm size*, measured as the natural log of total assets, since larger firms tend to have greater potential to exploit economies of scale in production, finance and R & D than smaller firms (Deng et al., 2013; Sánchez-Famoso et al., 2017). Third, we control by *firm performance*, calculated as the ratio of earnings before interest, taxes, depreciation and amortization to invested capital (Rojo-Ramírez, 2019), given that it potentially influences the attitude of corporate governance bodies towards innovation (Ashwin et al., 2015; Bendig et al., 2020). We also control for two types of innovation, namely, *process innovation* and *marketing innovation* (Estrada & Dong, 2020). On the one hand, process innovation is a dummy variable that takes the value 1 if the firm has implemented any significant change in production or delivery procedures, and 0 otherwise. On the other hand, marketing innovation is a dummy variable that is operationalized as 1 if the firm has introduced new marketing methods, like changes in product design, packaging, placement, promotion or price, and 0 otherwise. Moreover, since family CEOs appear to be more reluctant to innovate than their nonfamily counterparts (Kraiczy et al., 2015), we control for the presence of *family CEO* by using a dummy variable that takes the value 1 when the CEO is a family member, and 0 otherwise (Sánchez-Famoso et al., 2019). Finally, given that business sectors may have distinct levels of propensity to innovate, we also control for potential industry effects by including two dummy variables (*manu and cons)* that allow three important business lines to be distinguished: manufacturing, construction and other sectors of the economy.

### 3.3 Modelling

To estimate the models and check our hypotheses with product innovation as the dependent variable, we utilize binary logistic regression analysis (Kleiner-Schäfer & Liefner, 2021). Since product innovation has a dichotomous nature, ordinary least-squares regressions are not appropriate as they would give rise to unbiased estimators (Greene, 2000). Therefore, this statistical technique will make it possible to comply with the proposed goal of analysing the influence of women's presence in corporate governance bodies on the likelihood of achieving product innovation.

## 4 Data Analysis and Results

This section presents the results of the empirical study. Table 2 presents the descriptive statistics (mean, standard deviation, minimum and maximum) of the analysed variables. The sample firms are on average 39.31 years old, with a minimum age of 2 years and a maximum age of 1017. Therefore, these firms have a fairly high average age, which is a common characteristic of family firms. The average size of the firms in the sample, in terms of total assets, is 5615.49 euros and ranges from 48.87 to 252,926.58 euros. On the other hand, the general shareholders' meeting stands out as the governance structure with the highest presence of women, with an average value of almost 40.95%, followed by the board of directors with a women representation of 35.23% and by the top management team, with a 31.42% women's presence.

**Table 2** Descriptive statistics of the variables

| Variables | Mean | SD | Minimum | Maximum |
|---|---|---|---|---|
| Product innovation | 0.64 | 0.48 | 0.00 | 1.00 |
| Firm age | 39.31 | 77.33 | 2.00 | 1017.00 |
| Firm size | 5615.49 | 18,193.43 | 48.87 | 252,926.58 |
| Firm performance | 11.00 | 16.00 | −153.00 | 105.00 |
| Process innovation | 0.51 | 0.50 | 0.00 | 1.00 |
| Marketing innovation | 0.57 | 0.50 | 0.00 | 1.00 |
| Family CEO | 0.91 | 0.29 | 0.00 | 1.00 |
| Manufacturing | 0.22 | 0.42 | 0.00 | 1.00 |
| Construction | 0.13 | 0.33 | 0.00 | 1.00 |
| Presence of women in the general shareholder's meeting | 40.95 | 93.56 | 0.00 | 100.00 |
| Presence of women in the top management team | 31.42 | 58.67 | 0.00 | 100.00 |
| Presence of women in the board of directors | 35.23 | 59.77 | 0.00 | 100.00 |

*Notes*: *n*, 339; SD, standard deviation

Table 3 reports the Pearson pairwise correlation matrix, which shows the significant (univariate) effects of the characteristics that are considered to influence product innovation. Firm size, firm performance, process innovation and marketing innovation are positively correlated with product innovation. Construction is negatively correlated with the dependent variable. On the other hand, while the presence of women in the general shareholders' meeting is negatively correlated with product innovation, the presence of women in the top management team and in the board of directors shows no correlation with the dependent variable. Furthermore, the correlations between explanatory variables included in the same model were not higher than 0.34, which is below the 0.80 threshold above which multicollinearity problems may arise (Gujarati & Porter, 2008).

Table 4 presents the results for the effects of the presence of women in the general shareholders' meeting (Model 1), in the top management team (Model 2) and in the board of directors (Model 3) on product innovation within family firms. Model 0 only includes the control variables. This model provides a baseline against which to compare the rest of the models that also include the corporate governance variables. Model 0 shows that firm performance has a positive and significant influence on product innovation ($\beta = 1.690$; $p < 0.01$), implying that firms with higher performance levels can afford to take the risks associated with product innovation activities. Both process innovation ($\beta = 1.221$; $p < 0.01$) and marketing innovation ($\beta = 1.134$; $p < 0.01$) are positively and significantly related to product innovation. Moreover, the Cox and Snell $R^2$ is 16%, the Nagelkerke $R^2$ is 23%, and the model is significant ($p < 0.01$).

In Models 1–3, which are also significant ($p < 0.01$), both the Cox and Snell $R^2$ and the Nagelkerke $R^2$ increase with the inclusion of those variables capturing the presence of women in corporate governance bodies. Model 1 reveals that family CEO ($\beta = 1.598$; $p < 0.05$) exerts a positive and significant impact on the dependent variable, suggesting that family firms are more likely to develop product innovations when they have a family CEO. Model 1 also shows that the presence of women in the general shareholders' meeting ($\beta = -0.004$; $p < 0.10$) has a negative and significant effect on the dependent variable. Hence, hypothesis 1 is strongly supported.

In line with Model 1, Models 2 and 3 show that firm performance ($\beta = 2.466$ and $p < 0.01$ and $\beta = 2.187$ and $p < 0.05$, respectively) positively affect product innovation, although in Model 3 the effect is less significant in comparison to previous models. Thus, the relationship between firm performance and product innovation is very remarkable within the analysed models. Models 2 ($\beta = 1.293$; $p < 0.01$) and 3 ($\beta = 1.252$; $p < 0.01$) also reveal a positive and significant effect of process innovation with respect to product innovation, so it could be argued that these types of innovations are closely related. Similarly, Model 2 ($\beta = 0.935$; $p < 0.01$) and Model 3 ($\beta = 1.448$; $p < 0.01$) show that marketing innovation is positively and significantly related to the dependent variable. On the other hand, the positive effect of family CEO is corroborated in Model 3 ($\beta = 0.748$; $p < 0.010$), so that the presence of family CEO positively affects product innovation. Concerning the variables of major interest in our study, the presence of women in the top

**Table 3** Pearson pairwise correlation matrix

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Product innovation | 1.000 | | | | | | | | | | | |
| 2. Firm age | −0.013 | 1.000 | | | | | | | | | | |
| 3. Firm size | 0.103*** | 0.186*** | 1.000 | | | | | | | | | |
| 4. Firm performance | 0.126*** | −0.096*** | −0.012 | 1.000 | | | | | | | | |
| 5. Process innovation | 0.340*** | 0.069** | 0.160*** | 0.077** | 1.000 | | | | | | | |
| 6. Marketing innovation | 0.322*** | 0.023 | 0.095*** | 0.005 | 0.290*** | 1.000 | | | | | | |
| 7. Family CEO | −0.034 | 0.021 | −0.104*** | 0.053 | 0.039 | −0.002 | 1.000 | | | | | |
| 8. Manufacturing | 0.032 | 0.133*** | 0.128*** | 0.051 | 0.181*** | 0.017 | 0.035 | 1.000 | | | | |
| 9. Construction | −0.126*** | −0.071** | −0.034 | −0.087** | 0.158*** | 0.089*** | 0.036 | −0.205*** | 1.000 | | | |
| 10. Presence of women in the general shareholder's meeting | −0.121* | 0.073 | 0.014 | 0.021 | −0.033 | −0.019 | 0.040 | −0.035 | −0.042 | 1.000 | | |
| 11. Presence of women in the top management team | −0.048 | −0.029 | 0.002 | 0.072 | 0.040 | 0.075 | 0.037 | −0.018 | −0.053 | 0.955*** | 1.000 | |
| 12. Presence of women in the board of directors | −0.049 | −0.036 | 0.005 | 0.066 | 0.029 | 0.044 | 0.064 | −0.026 | −0.053 | 0.975*** | 0.955*** | 1.000 |

Notes: $n$, 339; *$p < 0.10$; **$p < 0.05$; ***$p < 0.01$

**Table 4** Binary logistic regression analysis results

| Variables | Hypotheses | Model 0 | Model 1 | Model 2 | Model 3 |
|---|---|---|---|---|---|
| Intercept | | 0.821 (0.704) | −0.671 (1.498) | 0.054 (1.154) | 1.200 (1.210) |
| Firm age[a] | | −0.137 (0.120) | 0.007 (0.277) | −0.137 (0.183) | 0.042 (0.212) |
| Firm size[a] | | 0.095 (0.069) | 0.221* (0.135) | 0.148 (0.105) | 0.039 (0.104) |
| Firm performance | | 1.690*** (0.543) | 3.703*** (1.371) | 2.466*** (0.936) | 2.187** (1.103) |
| Process innovation | | 1.221*** (0.168) | 1.200*** (0.354) | 1.293*** (0.274) | 1.252*** (0.286) |
| Marketing innovation | | 1.134*** (0.160) | 1.562*** (0.348) | 0.935*** (0.264) | 1.448*** (0.282) |
| Family CEO | | 0.363 (0.283) | 1.598** (0.691) | 0.229 (0.392) | 0.748* (0.433) |
| Manufacturing | | 0.204 (0.203) | 0.373 (0.409) | 0.524* (0.311) | −0.234 (0.357) |
| Construction | | 0.423* (0.232) | 0.505* (0.566) | 0.578 (0.415) | 0.371 (0.429) |
| Presence of women in the general shareholders' meeting | ***H1*** | | −0.004* (0.002) | | |
| Presence of women in the top management team | ***H2*** | | | −0.004* (0.002) | |
| Presence of women in board of directors | ***H3*** | | | | −0.003 (0.001) |
| Model *LR* $x^2$ | | 76.636*** | 67.413*** | 71.700*** | 60.346*** |
| Cox and Snell $R^2$ | | 0.163 | 0.255 | 0.202 | 0.183 |
| Nagelkerke $R^2$ | | 0.231 | 0.359 | 0.284 | 0.250 |

*Note*. *N*, 339; dependent variable, product innovation
*$p < 0.10$; **$p < 0.05$; ***$p < 0.01$
[a]Natural logarithm used in regression analysis
[b]Other sectors of the economy represent the suppressed category

management team ($\beta = -0.004$; $p < 0.10$) is negatively and significantly related to product innovation, while the presence of women on the board of directors ($\beta = -0.003$; n.s.) shows no effect on the dependent variable. Hence, the results support hypothesis 2 and reject hypothesis 3.

## 5 Discussion and Conclusions

Family firms have played a crucial role in the incorporation of women into the workplace, mainly because of family ties, relationships and values (Hernández-Lara & Gonzales-Bustos, 2020; Loukil & Yousfi, 2016). Family firms are the most

representative type of business both nationally and internationally, constituting the backbone of most of the world's economies (Martínez-Alonso et al., 2020b). In Spain, family firms represent more than 88.8% of the business community, generate 60% of gross added value and account for 70% of private employment (IEF and Red de Cátedras de Empresa Familiar, 2015, 2018). In addition, family firms have demonstrated a strong commitment to the environment and employment during economic crises (IEF and Red de Cátedras de Empresa Familiar, 2018). Therefore, given that most of the Spanish economy is sustained by family firms, it is extremely interesting to focus on their contribution to R & D activities, as there are still important shortcomings in their specific innovation capabilities (Calabrò et al., 2019; Casado-Belmonte et al., 2021).

Today, more and more women are entering the labour market (Mariño-Garrido & Martínez-Romero, 2020). However, the incidence of women's presence in businesses' outcomes still remains inconclusive (Fenoy-Castaño et al., 2021; Maseda et al., 2021). Several studies have shown that the inclusion of women in firms, specifically within corporate governance structures, can bring important competitive advantages due to, among other reasons, the richness of different experiences and points of view (Daily & Dalton, 2003; Hillman et al., 2002), more flexibility and creativity (Bianchi-Martini et al., 2012; Miller & Triana, 2009) and a higher quality working environment (Bilimoria & Huse, 1997). In contrast, other authors argue that gender diversity does not seem to influence firms' strategic decisions, and consequently their outcomes, or may even have a negative impact on their performance (Galia & Zenou, 2012; Sabatier, 2015). Indeed, despite the adoption of important initiatives and increased legislation promoting the inclusion of women in corporate governance structures, the numbers still fall short of what is needed (Hernández-Lara et al., 2021; Martín-Ugedo & Minguez-Vera, 2014).

In light of this contextual reality, we analyse how the presence of women in different corporate governance structures (general shareholders' meeting, top management team and board of directors) affects innovation within family firms. To test the proposed hypotheses, we construct a database based on a survey provided by the Spanish Institute of Family Firms and the Spanish Network of Family Business Chairs, and economic-financial data from the SABI database. Finally, we tested the hypotheses using a final sample of 339 Spanish private family firms.

The results obtained from hypotheses 1 and 2 showed that the presence of women in the general shareholders' meeting and in the top management team has a negative and significant effect on product innovation. Thus, it becomes clear that women's attitude tends to be more risk-averse, so they are more likely to protect the firm from any change that could entail potential losses or adversity for the normal development of the business (Fenoy-Castaño et al., 2021; Kulik & Metz, 2017). On the other hand, the impact of the presence of women in the board of directors (hypothesis 3) was also negative, although not significant. In this sense, it could be argued that there are benefits derived from gender diversity within corporate governance, but sometimes these different views can break the firm balance (Sheridan et al., 2011).

Moreover, it is worthy to highlight that the distinct types of innovations analysed (product, process and marketing) show a high and significant correlation with firm

performance, which is of great interest for business strategies, as prior research emphasizes (Cruz-Cázares et al., 2013; Martínez-Alonso et al., 2019). These findings are also corroborated with the positive effect of firm performance on product innovation showed in all regression models.

Furthermore, the presence of family CEO has been found to be associated with a higher likelihood of obtaining product innovation. According to Model 1 and Model 3, there is a positive impact of family CEO on product innovation when women are involved on the general shareholders' meeting and on the board of directors, respectively. Accordingly, it is interesting to know which factors of the family CEO favour the adoption of innovation strategies. It is also worth noting that in many cases, the choice of successors is not objective (IEF and Red de Cátedras de Empresa Familiar, 2018). The configuration of corporate governance bodies remains one of the main challenges in family firms, as it can be directly related to greater firm profitability (Gómez-Mejía et al., 2007). It is quite common to find businesses whose CEOs' levels of education increase directly in relation to firms' size, due to the new requirements and challenges they face. For example, the implementation of successful business strategies is more frequent when there is previous university education, which encourages business diversification and innovation (Diéguez-Soto, Duréndez, et al., 2016). The entry into new markets and businesses, as well as the definition of medium- and long-term firm goals, is related to greater business innovation and an increase in the profitability of the family firm (IEF and Red de Cátedras de Empresa Familiar, 2018). Therefore, CEO training is one of the variables that determines business development (Lyngsie & Foss, 2017).

## *5.1 Contributions*

This study makes important contributions to the literature. To the best of the authors' knowledge, this is one of the first studies analysing how the presence of women in *different* corporate governance structures influences the level of innovations undertaken in family firms. Up to now, most studies have focused on women's presence in boards (e.g. Miller & Triana, 2009), some studies have put their attention on the presence of women in top management teams (e.g. Ruiz-Jiménez & Fuentes-Fuentes, 2016), and no article is centred on women's presence in shareholders' meeting with regard to firm innovation. Our study advances prior research by investigating the effect of women's presence in three corporate governance structures, i.e. board of directors, top management team and shareholders' meeting, on firms' innovation outcomes.

Second, our study deals with private firms, while prior research is mainly focused on large public firms due to the better accessibility to their data (e.g. Hernández-Lara et al., 2021; Wu et al., 2021), so the results obtained to date are far from clear and remain controversial. Indeed, it is quite difficult to access to reliable (governance) data of private firms (Carney et al., 2015; López-Delgado & Diéguez-Soto, 2015). With this study, we contribute to advance the knowledge of gender diversity on

private firms (Lyngsie & Foss, 2017). Moreover, not only do we focus on private firms, but in family firms, which account for the vast majority of businesses around the world (La Porta et al., 1999). Therefore, we also answer the call for further research on women's presence in family businesses (Beltrán-Gomez et al., 2019; Maseda et al., 2021).

Third, our study contributes to expanded prior research by centring its attention on the Spanish context. Since the mid-2000s, there has been a strong legislative movement in Spain to integrate women in the workforce and at the highest firm levels (Hernández-Lara et al., 2021). With this legislation, the women's representation in Spanish firms is increasing, and thus, analysing their impact on firms' outcomes has acquire special relevance (Palá-Laguna & Esteban-Salvador, 2016).

## *5.2 Practical Implications*

This study also raises some practical and social implications. Although our results reveal a negative effect of the presence of women in general shareholders' meetings and in top management teams on innovation, other branches of research show that women have a positive influence on the firm due to their stable and low-variability decisions. Hence, the role that gender plays in relevant strategic decisions is highlighted. Our results promote the reorganization of corporate governance structures or even encourage the study of the benefits of gender diversity in other business strategies such as diversification or internationalization. We thus hope that these findings can inspire a new path for the visibility of women within (family) firms and increase the number of women with important roles in upper-level positions. Furthermore, this study also aims to contribute to the Sustainable Development Goal 5 set by the United Nations, which seeks to promote gender equality and empower both women and girls. In doing so, this study aims to underline the importance of building a more inclusive corporate world in which men and women have equal opportunities to access the highest levels of business and any other type of organization. Finally, this study also offers some implications for policymakers to implement policies and laws that promote gender diversity in the different corporate governance bodies of a firm to better harness the potential benefits that gender-balanced governance bodies bring to business operations.

## *5.3 Limitations and Future Research Directions*

This study suffers from some limitations. First, we have only estimated the presence of women in three family firms' corporate governance structures, without taking into account female participation in the rest of family firms' governance bodies, such as family councils or family meetings. Therefore, future research is encouraged to analyse the effects of the presence of women in other corporate governance bodies

(Suess-Reyes, 2014). Second, measuring the presence of women is sometimes difficult due to their low representation in businesses, so the results may be biased. In the particular case of this study, the sample has been limited to Spanish family firms, so that the obtained results may vary depending on the country, geographical area or type of business analysed. Therefore, it would be interesting to conduct similar research using different samples, such as family firms from other countries or even listed family firms. This could lead to different results on the effects of the presence of women in firms' innovation outcomes, which could be of great interest.

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# Implementation Intentions of Potential High-Impact Entrepreneurs Among University Students: An Applied Analysis to the Case of Panama


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**Abstract** Entrepreneurship constitutes a crucial factor for social and economic growth. Since the 1980s, many researchers have therefore studied the various stages that make up the business creation process, ranging from the potential to the consolidated phase. Recently, certain so-called high-growth ventures have attracted attention due to their greater impact on the creation of employment and wealth. The university community, thanks to their high level of human capital, presents an ideal group for their study as possible generators of high-impact entrepreneurship. On the other hand, potential entrepreneurs are the source that nurtures future business creation, hence the need to ascertain the factors that drive the entrepreneurial intentions of these students. The models for the predictive power of intention applied to entrepreneurship are limited and not all intentions are converted into actions. Hence, the specialised literature has sought other indicators closer to the final behaviour, such as the intention of implementation. In this way, the present study takes elements from the analysis framework of the Theory of Planned Behaviour (Ajzen Organizational Behavior and Human Decision Processes 50(2): 179–211, 1991) when explaining the possible antecedents of the intention to implement (Gollwitzer European Review of Social Psychology 4(1): 141–185, 1993; Gollwitzer American Psychologist 54(7): 493–503, 1999). A system of structural equations is applied to a sample of university students from GUESSS (Global University Entrepreneurial Spirit Students' Survey) Panama 2018. The results indicate not only a high causality between the attitude and the perceived control over the

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intention to implement, but also the indirect effect that the subjective norm exerts on these results.

## 1 Introduction

Entrepreneurship constitutes one of the main drivers of industrial dynamism and of development and economic growth (Carlsson et al., 2013; Fernández-Serrano and Romero 2014). This is a multidisciplinary concept, whose progress has been made from different approaches and from various disciplines, such as Economics, Business Administration, and Psychology (Carlsson et al., 2013). Entrepreneurship is a process that encompasses the intention of promptly becoming an entrepreneur (potential entrepreneur), the effective start-up of the company (nascent and new entrepreneur), and its development and survival (mature entrepreneur) (Baron & Shane, 2008; Liñán & Fayole, 2015).

Based on this process, the generation of entrepreneurial intentions among the population would be the first step prior to the subsequent creation and birth of companies within a territory. A high percentage is necessary of potential entrepreneurs, that is, of people who have declared their intention to start a new company, as a previous step to the effective creation thereof. As an extensive review of the scientific literature on entrepreneurship, the work of Liñán and Fayole (2015) highlights that the study on entrepreneurial intention is one of the sub-fields that attracts the most attention among the academic and research community, since it involves the study of personal variables, the entrepreneurship education, and the socio-institutional context, which constitute key elements in this type of study.

Moreover, not all ventures are the same. According to Daunfeldt et al. (2014) and Moreno and Coad (2015), certain ventures exert a greater impact than others in terms of job creation and wealth generation. Thus, a variety of concepts arise, such as high-growth entrepreneurship, high-impact entrepreneurship, dynamic entrepreneurship, gazelle companies, and even unicorns (Acs, 2010; Casillas & Castro, 2017; Könnölä et al., 2017; Moreno & Coad, 2015; Tejeiro, 2018). Regardless of their name, high-impact entrepreneurs are characterised by a high motivation for opportunity, by their growth intentions, by their introduction of innovation, by their orientation towards international markets (Giotopoulos et al., 2017), and by their close commitment to the client, thereby creating as much value as possible (Hermans et al., 2015). Likewise, high-impact entrepreneurship is characterised by a high level of human capital.

In this way, the population with higher education provides the key factor because these people have many of the characteristics (such as motivation, human capital, and creativity) required for the creation and maintenance of this type of high-quality entrepreneurship (Millán et al., 2014). Furthermore, the University, in its role as the provider of a specific context of rules, expectations, and norms of behaviour, tends to contribute towards the formation of a positive attitude towards the entrepreneurial phenomenon in general (Vanevenhoven, 2013). This holds true since entrepreneurs

do not develop in isolation but are the result of their activities and social interactions (Isenberg, 2014). In fact, according to Miller (2015) and Stam (2015), entrepreneurial ecosystems developed in universities are a fundamental factor in fostering gazelle entrepreneurs.

On the other hand, the specialised literature finds considerable gaps between business intentions and subsequent actions (Van Gelderen et al., 2018), and hence many people state that they intend to start their own business but do little to put these intentions into effect in actions (Sesabo, 2017; Popescu et al., 2016; Van Gelderen et al., 2015). Consequently, it is necessary to continue researching both the factors that affect the intentions themselves and the configuration of new intentions closer to the final behaviour under study. In this respect, the concept 'intention of implementation', emerged at the end of the 1980s, has the potential to answer these questions, and has been drawing the attention of researchers in recent years since it can be considered a closer indicator than the objective or generic intention when determining the specific behaviour.

For this reason, the present study aims to determine and analyse the factors that can explain the emergence of the implementation intentions in the group of university students in a territory, specifically Panama, by taking the proposed variables of Azjen's model of intentions (attitude, perceived control, and subjective norm) as their antecedent. The sample comes from the Global University Entrepreneurial Spirit Student's Survey (GUESSS) Panama 2018 with a total of 3564 university students surveyed.

After this introduction, Sect. 2 analyses the models of intentions and the concept of intention to implement within the entrepreneurial process, while Sect. 3 is dedicated to the database and methodology. The results of the study are developed in Sect. 4. Finally, Sect. 5 is dedicated to the conclusions.

## 2 Theoretical Framework

The first section of this paper briefly analyses the planned behaviour model and its links with entrepreneurship to later examine the implementation intentions. The section closes with the statement of the model and the statement of the hypotheses.

### *2.1 Implementation Intentions in the Entrepreneurial Process*

The act of undertaking is not constituted by the specific action of the formalisation of a new company, but there is an extension of actions that takes place before and after such an act. In Carton et al. (1998) and Baron (2002), it is stated that the entrepreneurial process begins as soon as the person identifies an opportunity or need that is

not being satisfied in the market, and subsequently expresses an intention to exploit it. This entrepreneurial intention is the characteristic feature in this initial phase of any entrepreneurship process. In operational terms, the Global Entrepreneurship Monitor (Reynolds et al., 2002), refers to any person who intends to start a business within the next 3 years as being a potential entrepreneur.

In a specific way, intention can be defined as the state of mind in which the individual's attention is focused on the fulfilment of an objective and that has a notable influence on the actions that the person must take to achieve said established objective (in this case, the creation of a company) (Prodan & Drnovsek, 2010; Fishbein & Ajzen, 1975, 1980, 2010; Kolvereid, 1996; Kolvereid & Moen, 1997).

Studies on entrepreneurship intention have been developed in two directions. The first is specific to the field of entrepreneurship and is linked to the analysis of certain traits and characteristics of the person who wants to start a business (Bird, 1988; Shapero & Sokol, 1982). These studies propose variables, such as the locus of internal control, the need for results, the ability to take risk, and the condition of business awareness, as characteristic features that motivate a person to develop their entrepreneurship.

The second direction of study is developed from the social psychological perspective and analyses the mental processes derived from certain attitudes and beliefs that generate effective action. This involves analysing the cognitive and perceptual aspects of the individuals themselves that explain why some people go from intention to action, while others remain inactive.

Social psychology has shown that the intention of a person to perform any real behaviour is the main predictor of said behaviour or action (Campbell, 1963; Wicker, 1969; De Luco, 2014; Douglas & Shepherd, 2002; Fishbein & Ajzen, 2010; Krueger Jr et al., 2000; Souitaris et al., 2007). Without prior intention, action becomes more difficult to achieve.

This psychological approach has been applied to entrepreneurial intention in the last three decades, using a whole series of determinants that affect it either directly or indirectly (Liñán & Fayole, 2015). Thus, several theories based on cognitive elements with their respective models have identified the factors that affect the intention that precedes the entrepreneurial action. This is the case of the Business Events Model (Shapero & Sokol, 1982), the Context of intentionality (Bird, 1988), the Expected Benefits Maximization Model (Douglas & Shepherd, 2000) and the Theory of Planned Behaviour (Ajzen, 1991), among others. The Theory of Planned Behaviour (TPB) is one of the most used models for the prediction of intentions and behaviours.

The TPB considers 'intent' in terms of the determination to engage in certain behaviour. These intentions are internalised to accommodate elements that stimulate the behaviour and become indicators of how much people are willing to try something, and/or how much effort they plan to put in to perform a behaviour.

The TPB establishes three cognitive antecedents of intention (Ajzen, 1985, 1987, 1991; Ajzen & Madden, 1986):

- First, *personal attitude*. Attitude reflects the degree to which an individual makes a positive or negative personal evaluation of a certain behaviour (Ajzen, 2001, 2002; Autio et al., 2001; Baron, 2004; Kolvereid, 1996). A more favourable attitude towards the behaviour makes the intention to carry it out more likely to be generated by the individual.
- Second, studies have also considered a cultural or regulatory rationale (Fishbein & Ajzen, 1980; Boyd and Wyersman, 1991; Fernández-Serrano et al., 2018). This is what is known as the *subjective norm* (Baughn et al., 2006; Block et al., 2015; DeMartino & Barbato, 2002; Liñán & Chen, 2009; Spencer & Gómez, 2004), which measures social pressure exerted by the groups close to an individual to either carry out or not carry out the expected behaviour. If individuals perceive that the relevant people around them approve a behaviour, they are more likely to intend to do so.
- Third and last, the model adds *perceived behavioural control* or the perception of the ease or difficulty of performing a specific behaviour (Ajzen, 2002). This control provides the perception of having the ability to control a behaviour or action (Boyd & Vozikis, 1994; Markman et al., 2005; Moriano et al., 2006). According to Rotter (1966), the perceived control differs from the concept of locus of control, because the locus of control is an expectation that generally remains stable in the face of situations and forms of action, while the perceived behavioural control varies according to situations and actions. Consequently, individuals may believe that their results are determined by their behaviour (internal control), but they may also believe that their chances of achieving their goals are very low. Bandura et al. (1977) and Bandura (1982) show that people's behaviour is highly influenced by confidence in their ability to do so effectively, that is, by its perceived behavioural control (Ajzen, 1991; Gurel et al., 2010; Iakovleva et al., 2011; Mauer et al., 2017; Sánchez, 2009). In this respect, perceived behavioural control provides the feeling of power (of knowing how to do it) and it is configured as a concept very similar to self-efficacy (Bandura, 1977, 1982; Bandura et al., 1977, 1980; Chen et al., 1998; McGee et al., 2009).

As mentioned above, researchers have been applying this theory of planned behaviour to the phenomenon of entrepreneurship for three decades (Bird, 1988; Jakopec et al., 2013; Karimi et al., 2016; Shapero & Sokol, 1982; Shapero, 1984; Shaver & Scott, 1992). The creation of a company implies a deliberate and planned intentional behaviour on the part of an individual (Bird, 1988; De Morante & Pamela, 2018). To arrive at the expected behaviour, it is normal for an individual to experience certain difficulties in the process. However, they can resolve any type of conflict or obstacle, by putting their entrepreneurial intention into practice (Gollwitzer 1993).

Various studies, such as those by Fitzsimmons and Douglas (2011), Krueger Jr et al. (2000), and Schlaegel and Koenig (2014), among many others, have demonstrated the positive impact of the three cognitive backgrounds on entrepreneurial intentions. The perceptions that an individual has about their desire and viability to create a company (personal attitude), as well as the relevant and motivating context that reinforces said perceptions (subjective norms), determine entrepreneurial

behaviour and the action of effectively creating the company. In addition, the personal behaviour control reflects people's beliefs regarding their control over becoming an entrepreneur and the ability to overcome possible external limitations in the process (Ramos López et al., 2018).

Despite the notable academic impact of this group of cognitive theories in the prediction of behaviours, the debate remained open in the late 1990s. Indeed, at the end of the twentieth century, Gollwitzer (1999) showed that there is a weak intention-behaviour relationship at the aggregated level and hence the correlations between intentions and behaviour are modest, and intent accounts for only 20% to 30% of the variation in behaviour. Recent studies continue to reveal considerable gaps between business intentions and subsequent actions and seek to strengthen the empirical relationship between the two (Van Gelderen et al., 2018; Gielnik et al., 2013; Kautonen et al., 2013, 2015; Obschonka et al., 2014; Rauch & Hulsink, 2015; Reuel Johnmark et al., 2016; Van Gelderen et al., 2015, 2018.

These gaps are largely because of the fact that people do not always act on their intentions (Van Gelderen et al., 2018*;* Sheeran & Orbell, 1998*;* Sheeran, 2002). In other words, forming an intention does not guarantee its realisation, especially when at least one of the following elements remains undefined: the action, the objective, the time, and/or the context (Rutter et al., 2006).

In this vein, the gaps between intention and action raise doubts regarding the relevance of research that focuses only on entrepreneurial intentions, since a high proportion of people who express an intention to start an activity from the beginning do not follow through with specific actions (Van Gelderen et al., 2018). It is necessary to continue analysing not only the additional factors that help determine which intentions turn into actions, or why, when, and how only certain people discover and exploit opportunities to create goods and services, but also the possibility of including other variables closer to the final behaviour in these intention models. In this respect, this study considers the intention to implement as a variable closer to the creation of a company. This intention to implementation is the object of analysis in the following subsection.

## *2.2 Implementation Intention as an Entrepreneurial Predictor*

Although the advances in the explanation of entrepreneurial behaviour under cognitive variables are evident, it is convenient to specify whether any intention is really the closest determinant of behaviour for improvement in the prediction of the models. In this respect, a concept emerged in the late 1980s that had the potential to answer these questions and that has continued to draw the attention of researchers in recent years: the intention of implementation. The origin of this concept is based on the action phase model of Heckhausen and Gollwitzer (1987), expanded in

Gollwitzer's Action Phase Theory (Gollwitzer, 1993, 1999; Gollwitzer & Brandstätter, 1997; Gollwitzer & Oettingen, 2015; Gollwitzer & Sheeran, 2006).

According to Brandstätter et al. (2001) and Gollwitzer (1993, 1999), there is an objective intention and an implementation intention. Target intentions specify what people want to do within a certain period. On the other hand, implementation intentions (or action plans) describe the when, where, and how of future action. When individuals develop clear scenarios of the circumstances under which they wish to perform the reference action, the intentions are more likely to be translated into actions (Gollwitzer, 1993). In other words, the first type of intention links people with their objectives and sets the commitment to pursue them, as in the case of having the intention of achieving a certain condition or result. The second refers to the actions that are planned to be carried out to achieve said result. In intention models, when people set a goal based on their attitude, subjective norm, and personal behaviour control, they are in a phase of motivation; however, when they plan how they are going to put their intentions into practice to achieve the behaviour, they enter a second-phase implementation (Gollwitzer and Brandstätter 1997). Thus, people who plan their actions and anticipate difficulties obtain better results in the business process than those who do not (Adam & Fayolle, 2016). Goal intentions alone are frequently insufficient to produce actions, bearing in mind that people have more desires or goals than they can accomplish (Kautonen et al., 2015).

Action planning is an extension of intention because it includes situational parameters, such as when and where to perform the action, and, consequently, it also includes a pre-programmed action: how. People tend not to forget their intentions so easily when the situational parameters of action have been precisely established (Gollwitzer & Sheeran, 2006; Sheeran, 2002). Gollwitzer (1999) states that, to resolve a conflict, specific implementation intentions can be established, such as initiating the expected action in a period. Implementation intentions commit a person to goal-oriented behaviour once the specified and ideal situational context is determined. Ultimately, an implementation intention establishes a specific plan that helps promote an efficient initiation and execution of the activity aimed at achieving the objectives (Gollwitzer, 1993). Ziegelmann et al. (2007) found that participants in their study who specified implementation intentions were more likely to achieve their goal, compared to those who were equally motivated to do so but failed to specify their implementation intentions. In line with the above, several entrepreneurship researchers, such as Carraro and Gaudreau (2013), Gollwitzer and Brandstätter (1997), Hou et al. (2017), Orbell et al. (1997) and Van Gelderen et al. (2018), are incorporating these ideas to improve intent models.

Adam and Fayolle (2016) apply the intention of implementation in an entrepreneurial context and observe that people who plan their actions and anticipate difficulties obtain better results in the entrepreneurial process than those who fail to do so. Hou et al. (2017), with a sample of 610 Chinese university students, show that the realisation of a business implementation plan among university students has a positive influence on their business behaviour. Similarly, Van Gelderen et al. (2018) showed that when an execution intention is formed with respect to where and when the action is completed, there is a greater probability of acting on the

intention than when the execution intention is not formed. All these documents support that implementation intentions facilitate the transition from business intent to action (Carraro & Gaudreau, 2013; Gollwitzer & Oettingen, 2015; Kautonen et al., 2015). In other words, forming an implementation intent increases the likelihood of turning the intent into action.

On the other hand, there are studies that consider that the intention of the implementation moderates the effect of the intention of the objective or of the undertaking on the execution of the entrepreneurial action. At the same time, this mediation is greater in cases where there is a *high* level of intention of the undertaking to achieve the business gestation activity (Van Gelderen et al., 2018). Either way, implementation intentions can be effective because they stimulate commitment to action (Fayolle & Liñán, 2014; Fayolle et al., 2014).

## *2.3 Implementation Intention Model and Hypothesis*

The literature review above shows that any behaviour must have a certain level of planning and can be predicted by the intention to adopt this behaviour from the beginning (Ajzen, 1991; Blanchard et al., 2002). Other research confirms that the intention to implement increases the probability of performing the behaviour towards a certain action (Ziegelmann et al., 2007), in other words, that a greater intention to implement is positively associated with the performance of business creation behaviours. Hence the importance of ascertaining the determining factors thereof (Fig. 1).

Under these approaches, the present study proposes a model for the implementation intention, whose antecedents are considered to be the very predictors of a

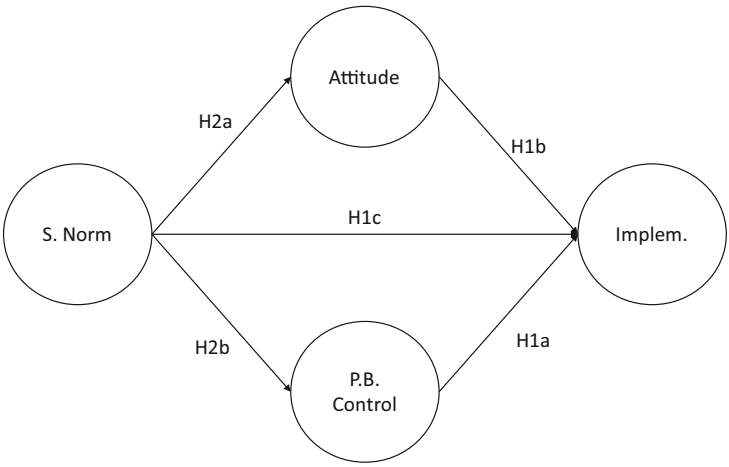


**Fig. 1** Investigation model

model of objective intentions, that is, the personal attitude, the subjective norm, and the personal behaviour control. The specialised literature discussed above allows us to consider that these three cognitive antecedents positively influence the intentions of individuals, including those of implementation. The central hypothesis of our study becomes the following:

*H1: A higher level of perceived behavioural control (H1a), attitude (H1b), and the subjective norm (H1c) are positively associated with a greater intention to implement by the individuals.*

Likewise, the subjective norm is considered to possibly have a direct effect by reinforcing attitude and perceived control. Therefore, the attitude and the perceived control exert a mediating effect of the norm on the intention of implementation (Liñán & Chen, 2009). The hypothesis is as follows:

*H2: The subjective norm exerts an indirect effect on the intention to implement through the cognitive components, and therefore, the attitude (H2a) and the perceived behavioural control (H2b) mediate the effect of the subjective norm on the intention to implement.*

## 3 Data and Methodology

### *3.1 Data Collection, Sample*

The data for this study comes from GUESSS project, which is the most important collaborative research observatory in the world with 54 countries and more than 3100 universities involved (www.guesssurvey.org). One of the fundamental objectives of the GUESSS project is to analyse the career choice intentions of university students once they finish their studies. To this end, they are asked about their plans, distinguishing between once their degree is completed and a somewhat longer time horizon of approximately 5 years after graduation.

In this analysis, the data from the latest survey available for Panama in 2018 (Frende et al., 2019) has been used. The universities that agreed to participate were the following: University of Panama (UP), Technological University of Panama (UTP), Specialized University of the Americas (UDELAS), Universidad Latina de Panamá (ULAT), Universidad del Istmo (U. del Istmo), Quality Leadership University (QLU), and Universidad Católica Santa María La Antigua (USMA). To determine the size of the population, each of the participating universities was asked for the number of students enrolled as of September 2018. The result of this collaboration was a total sample of 3564 students. The majority of the participants are undergraduates (76%), although graduate students (24%), of which 0.3% were PhD students, also participated. The average age of the students is 23 years old, which is very similar to that of the international sample (24 years), and 59% of the participants are women.

In this way, potential high-impact entrepreneurs are considered to be those university students who have expressed their intention to implement their intentions

in the coming years. The reasons for considering university students as future high-impact entrepreneurs are based on several arguments. First, the entrepreneurship of young university students is considered necessary for economic development, since their entrepreneurship is generally based on knowledge and technology. Second, the creative talent inherent in young people is crucial for the development of high-impact ventures. Third, universities can provide these candidates with the skills and knowledge necessary to become an entrepreneur. Fourth, because there is evidence that the level of training is closely related to the quality of the business fabric (Audretsch & Keilbach, 2008; Santos et al., 2016; Liñán and Rodríguez Cohard 2015; Liñán et al., 2011).

## *3.2 Methodology, Study and Measurement Variables*

This study applies the modelling of structural equations of partial least squares (PLS-SEM) (Barclay et al., 1995) using the software SmartPLS 3.2.8 (Ringle et al., 2015). The PLS technique can be used for both explanatory (confirmatory) and predictive (exploratory) research (Henseler et al., 2016; Henseler, 2018). In our case, the interest lies in analysing the causal relationships between our cognitive latent variables and the intention to implement. All the variables used in this analysis can be considered constructs or latent variables from the GUESSS methodology and questionnaire itself. Specifically, our model is composed of constructs of a reflective nature, that is, the indicators represent manifestations of the latent variable. The causal relationship runs from the latent variable to the indicators, and a change therein is reflected in all its indicators (Bollen, 1989). The selected variables and their measurement scale are outlined below.

### 3.2.1 Implementation Intention (Dependent Variable)

The variable to be explained or predicted in the model is that of the intention of implementation. In this case, based on the studies by Van Gelderen et al. (2018) and Ziegelmann et al. (2007), students were asked to measure this variable on a Likert-7 scale by indicating their level of agreement or disagreement (1: highly disagree; 7: highly agree) regarding three items: (I1) I have already planned what my first step will be to start a business; (I2) I have already planned when I will take my first step to start a business; (I3) I have already planned where to dock in my first step to start my business.

### 3.2.2 Independent Variables

For the attitude towards entrepreneurship, the GUESSS takes one of the most widely used measures in the academic environment, such as that proposed by Liñán and

Chen (2009), which is used in this research to guarantee its high levels of reliability and validity (Iakovleva et al., 2011; Liñán et al., 2011; Sánchez-Báez et al., 2018). The tool uses a Likert-7 scale with five items: (A1) Being an entrepreneur implies more advantages than disadvantages for me; (A2) A career as an entrepreneur is attractive to me; (A3) If I had the opportunity and the resources, I would become an entrepreneur; (A4) Being an entrepreneur would imply great satisfactions for me; (A5) Among the various options, I would prefer to become an entrepreneur.

For the subjective norm, the approaches of the proposal made by Liñán and Chen (2009) are followed, which is validated within the specialised literature (Armitage & Conner, 2001). Specifically, and on a Likert-7 scale, students are asked how they think their closest environment would react if they chose an entrepreneurial career (1: very negatively; 7: very positively): (N1) Family; (N2) Friends; (N3) Companions.

Finally, to control perceived behaviour, the GUESSS uses a scale widely used in the configuration of entrepreneurial aspirations: that of Chen et al. (1998). In total there are seven items measured on a Likert scale 1–7 that strives to collect the level of competence in: (C1) Identification of new business opportunities; (C2) Creation of new products and services; (C3) Management of innovation within a company; (C4) Being a leader and communicator; (C5) The creation of a network of professional contacts; (C6) The commercialisation of a new idea or development; (C7) The successful management of a business.

## 4 Results

A PLS model is analysed and interpreted in two stages: first, the evaluation of the reliability and validity of the measurement model and, second, the evaluation of the structural model (hypotheses raised) (Hair et al., 2019, 2020). This sequence ensures that construct measurements are valid and reliable before attempting to draw conclusions regarding relationships between constructs (Barclay et al., 1995).

### *4.1 Measurement Model*

The measurement model shows the relationships between the constructs (latent variables) and the indicators (observable variables). The results, under a reflective measurement model, are listed in Table 1.

Regarding reliability, in latent constructs with reflective measurements, the loading of each indicator should first be examined. These loadings can be interpreted in the same way as the loadings in a principal component analysis (Carmines & Zeller, 1979). The individual item reliability is considered adequate when an item has a factor loading that is greater than 0.7 in its construction. As Table 1 shows, the results obtained are acceptable in our model: all loadings are above this threshold.

**Table 1** Measurement model

| | Loadings | Weights | AVE | Compositereliability | R-Squared | Cronbach'sAlpha |
|---|---|---|---|---|---|---|
| I1 | 0.90 | 0.36 | 0.85 | 0.95 | | 0.87 |
| I2 | 0.94 | 0.37 | | | | |
| I3 | 0.92 | 0.35 | | | | |
| A1 | 0.70 | 0.22 | 0.66 | 0.91 | | 0.91 |
| A2 | 0.86 | 0.28 | | | | |
| A3 | 0.79 | 0.22 | | | | |
| A4 | 0.87 | 0.26 | | | | |
| A5 | 0.84 | 0.25 | | | | |
| C1 | 0.81 | 0.19 | 0.69 | 0.94 | | 0.92 |
| C2 | 0.83 | 0.18 | | | | |
| C3 | 0.85 | 0.17 | | | | |
| C4 | 0.78 | 0.15 | | | | |
| C5 | 0.84 | 0.18 | | | | |
| C6 | 0.86 | 0.17 | | | | |
| C7 | 0.84 | 0.17 | | | | |
| N1 | 0.83 | 0.46 | 0.69 | 0.87 | | |
| N2 | 0.87 | 0.37 | | | | 0.78 |
| N3 | 0.80 | 0.38 | | | | |

Second, the reliability of the construct analyses the internal consistency for a given block of indicators. This is assessed using composite reliability (Werts et al., 1974). The guidelines given by Nunnally (1978) state that 0.7 can be used as a common benchmark for reliability. In our analysis, all latent constructs comply with this benchmark since they have internal consistency measures that exceed 0.7. The mean variance extracted (AVE) evaluates the amount of variance that a construct captures from its indicators in relation to the amount due to measurement error (Fornell & Larcker, 1981). It is recommended that the AVE is greater than 0.5. In this case, more than 50% of the variance in each indicator is explained by the construct. The latent variables in this model meet this condition.

As stated earlier, discriminant validity (Fornell & Larcker, 1981) indicates the extent to which a given construct is different from other latent variables. To assess discriminant validity, the AVE must be greater than the shared variance between the latent construct and other latent constructs in the model (i.e. the squared correlation between two constructs) (Barclay et al., 1995). Finally, all the variables reach discriminant validity. This is achieved by applying the Fornell and Larcker (1981) criterion and the strictest Heterotrait-Monotrait (HTMT) relationship of 0.85 (Henseler et al., 2016; Henseler & Schuberth, 2020) (Table 2).

These results allow the measurement model to be supported and to proceed to the analysis of the relationship between the constructs collected in the structural model.

**Table 2** Discriminant validity

| Fornell-Larcker criterion | AC | PBC | IMp | Ns | Heterotrait-Monotrait | AC | PBC | IMp | Ns |
|---|---|---|---|---|---|---|---|---|---|
| ATTITUDE | 0.81 | | | | ATTITUDE | | | | |
| CONTROL | 0.51 | 0.83 | | | CONTROL | 0.56 | | | |
| IMPLEMENTATION | 0.43 | 0.56 | 0.92 | | IMPLEMENTATION | 0.48 | 0.61 | | |
| S. NORM | 0.39 | 0.32 | 0.23 | 0.83 | S. NORM | 0.46 | 0.37 | 0.26 | |

Fornell—Larcker criterion: Diagonal elements (bold) are the square root of the variance shared between the constructs and their measures (average variance extracted). Of-diagonal elements are the correlations between constructs. For discriminant validity, diagonal elements should be larger than of-diagonal elements

## 4.2 Structural Model

The results of our structural model are shown in Fig. 2 and Table 3.

As can be observed in Fig. 2, the effect of attitude and perceived control on the intention to implement are significant and the expected sign is positive (0.19 and 0.47, respectively). Therefore, Hypotheses H1a and H1b can be confirmed. The direct effect of perceived control on implementation is notable, with a coefficient that

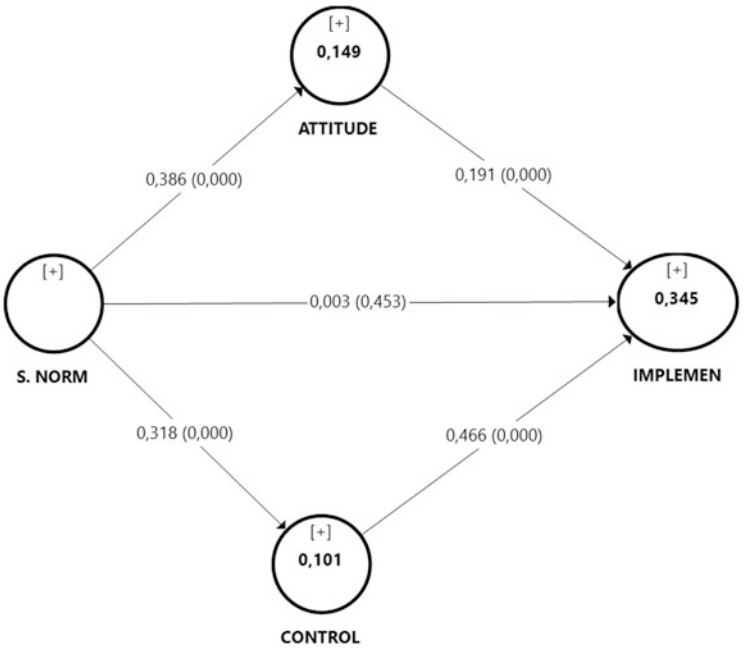


**Fig. 2** Intentions model for implementation

**Table 3** Direct and indirect effects

| | Path coefficient | P-values | Supported |
|---|---|---|---|
| *Direct effects* | | | |
| ATTITUDE - > IMPLEMENTATION | 0.19 | 0.00 | Yes |
| CONTROL - > IMPLEMENTATION | 0.47 | 0.00 | Yes |
| S. NORM - > ATTITUDE | 0.39 | 0.00 | Yes |
| S. NORM - > CONTROL | 0.32 | 0.00 | Yes |
| S. NORM - > IMPLEMENTATION | 0.00 | 0.45 | No |
| *Total effect* | | | |
| S. NORM - > IMPLEMENTATION | 0.22 | 0.00 | Yes |
| *Indirect effects* | | | |
| S. NORM - > CONTROL - > IMPLEMENTATION | 0.15 | 0.00 | Yes |
| S. NORM - > ATTITUDE - > IMPLEMENTATION | 0.07 | 0.00 | Yes |

doubles that of attitude. For its part, the direct effect of the subjective norm on the implementation intention is not significant. The effect of the subjective norm on the implementation intention remains non-existent, and hence Hypothesis H1c is not fulfilled.

However, subjective norm does have an indirect effect through the other two variables on implementation. As can be observed in Table 2, both perceived control (path of 0.15) and attitude (path of 0.07) act as mediators between the subjective norm and the intention to implement. In particular, the effect exerted through perceived control stands out yet again. The subjective norm affects perceived control and, through it, intentions. Therefore, the total effect of the subjective norm on the intention to implement is significant and positive (path 0.22), which leads to the confirmation of Hypothesis H2 of this analysis.

## 5 Conclusions, Limitations and Future Lines of Research

From this research, several notable conclusions can be drawn in the field of entrepreneurship and, specifically, to the initial phases of an entrepreneurial process. This research work focuses on the group of university students with the aim of analysing an antecedent closer to entrepreneurial behaviour, such as the intention to implement. This group is essential because it represents the future pool of high-impact ventures, and therefore ascertaining the elements that can promote the creation of potential entrepreneurs is essential for any economy. Specifically, we have applied the model to the GUESSS 2018 sample from Panama. The proposed model applies an intention model from Ajzen (1991) where the objective intention is replaced by the intention to implement, since this variable is a more precise indicator of future behaviour.

Two major conclusions can be drawn from the results of this study. The first is the possibility of substituting the objective intention for the intention of implementation in the intention models, since various studies have shown that it is a predictive and direct variable for action. According to Gollwitzer (1999), planning is a fundamental element to move from goal intention to behaviour. In this work, only a limited number of studies on implementation intent have been encountered to date. Therefore, we propose that the debate on the intention of implementation and business action should be studied in greater depth and breadth to understand its meaning in different cultures, ages, socio-economic levels, and between genders. We believe that the importance of planning in the business creation process is a determining factor in promoting the entrepreneurship sector.

Likewise, a clear link is observed between the perceived control and the attitude with the intention to implement. In particular, the effect of perceived control is the strongest of the proposed variables. In this respect, it seems clear that university education plays a fundamental role in the collective when it comes to strengthening this perceived control, which has a positive impact when generating potential entrepreneurs.

On the other hand, the role of the subjective norm is not direct. In our model, the direct effect is non-existent. In this respect, having the support of one's close environment does not seem to be a determining factor when it comes to generating intentions to plan a company. This result is not surprising if one bears in mind that there are models of intentions where the subjective norm does not even predict goal intention (Liñán & Chen, 2009). However, our study has allowed us to contrast that the effect is either produced indirectly or mediated through the other cognitive variables of the intentions model. Hence, the subjective norm can act differently depending on which stage the individual is in the entrepreneurship process. On the one hand, in the potential phase, the fundamental requirement is that the potential entrepreneur is capable of materialising the company. In this phase, the function of the subjective norm is to reinforce the cognitive aspects to boost the potential entrepreneur, in our case, attitude and perceived control. It is, therefore, the indirect effect that has turned out to be significant and with the expected sign in our model. In the subsequent phase, where one moves from intention to action, access to resources constitutes a basic limitation in the launch phase (Welsh et al., 2011). In this way, the subjective norm would reflect the existence of contact networks that are accessible and can provide the necessary resources for the effective creation of a company. Nevertheless, additional information is needed to confirm these results, as are longitudinal studies, which are scarce in this field. Future research should advance in the analysis of the role of implementation in this type of intention model, as well as in the separation of possible direct and indirect effects of cognitive variables.

Our study also has implications for economic policy. In correspondence with the results of the research model, the necessary proposal arises to promote an entrepreneurial University where favourable conditions are established for the intention of implementing high-impact ventures. Universities should provide a facilitating and motivating environment for the development of future entrepreneurs.

Finally, this study is not without its limitations. In this respect, the study is carried out based on recent information from the GUESSS survey applied in 2018, therefore offering a static analysis. Although it is not a longitudinal study, it enables the comparison and confirmation of results from data generated at different times and, probably, under different conditions. Nevertheless, longitudinal studies are much needed in this field of research. It is also important to bear in mind that the results of the study do not discriminate between students from different universities with their own characteristics, different courses, and/or specialties, nor do they differentiate between the various levels of advancement therein. Further research should take these differential factors into consideration.

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# World Heritage Sites in Portugal and Spain


**Vanessa Ratten**

**Abstract** Portugal and Spain are countries in southern Europe that share a geographic border. They are amongst the oldest countries in the world and share a rich cultural history. The aim of this chapter is to discuss the world heritage sites in both countries, thereby providing a useful overview about the role tourism plays in a countries economic and cultural development. Each of the main world heritage sites are stated for each country together with an overview of the major milestones in each country's history. This enables a holistic overview of the importance of heritage in the protection of cultural tourism places in Portugal and Spain.

## 1 Portugal

Portugal is a country in southern Europe that shares a border with Spain (Santos et al., 2019). It has a long coastline, and its territory includes the islands of Madeira and the Azores. The Estrela mountains are the highest point of Portugal (Santos et al., 2017). The country has a long history with the Romans and Moors occupying the country for specific time periods. Portugal founded a vast overseas empire and colonized many countries (Santos, Oliveira, et al., 2021). In the 1970s a revolution altered the country by making it a democratic republic. The country traditionally was reliant on textiles and livestock, but this has since changed to a focus on tourism and the services industry (Santos, Marques, et al., 2021).

There are 17 properties on the World Heritage List in Portugal. The central zone of the town of Angra do Heroismo is in the Azores. It had a strategic position during the fifteenth to nineteenth century for ships sailing from Europe to the Americas and Africa. It is located on the island of Terceira in the Portuguese autonomous region. The port of Angra was a stopping place for many ships who sailed from Europe. There is a defensive system built in the town including the forts of Sao Sebastio and

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Sao Joao Baptista. There are a number of churches in Angra including Espirito Santo and Miscericordia.

The Alto Douro wine region is in the north of Portugal close to the city of Porto (Tavares et al., 2021). Wine has been produced in the area for 2000 years making it one of the oldest wine growing areas. Many of the vineyards are located on the banks of the Douro River. The mountain landscape including the vineyards are is part of the region's cultural heritage. The vineyards are on steep slopes on the mountains. Port Wine is produced in the area since 1856.

The convent of Christ in Tomar was designed as a monument. It is located in the city of Tomar at the top of a hill. The walls of the castle of Tomar surround the convent. The convent belonged to the Templars and was constructed over a number of centuries. The cultural landscape of Sintra refers to the town of Sintra located near Lisbon. It includes both cultural and natural sites. There is a natural landscape in the area that includes a forested mountain. The Royal Palace is located in the city and includes tiled (azulejos) decorations. The Pena Palace is located on a mountain and is designed in a romantic style. The Palace of Monserrate is designed in a neo-Gothicism style.

The Garrison border town of Elvas and its fortifications is located near the Portuguese/Spanish border. It includes the largest bulwarked dry ditch system in the world. The fortification of the town began from 1640 when Portugal regained its independence. It originally guarded the border crossing between Lisbon and Madrid. The Amoreira aqueduct built in the sixteenth century supplied water to the region.

The historical centre of Evora is known for its whitewashed houses decorated with tiles (azulejos). It is the capital of the Alentejo province. It has some sixteenth century houses including the house of Garcia de Resende. Many of the houses have wrought iron balconies and tile roofs.

The historic centre of Guimarães is located in the Minho region of Northern Portugal. It is a well-preserved example of a modern town built based on Portuguese architecture. The town is where the Portuguese Dukes declared Portugal an independent country. It was the first capital of Portugal.

The historic centre of Oporto, Luiz I bridge and the monastery of Serra do Pilar are in the north of Portugal. The city of Porto is built at the entrance to the Douro River. The name Porto comes from the Roman name Portus or port. There has been a long history of human habitation in the area. The São Bento railway station is known for its tiled interior.

The landscape of the Pico Island vineyard culture is famous because of its volcanic stone. It is located on Pico Island, the second largest island in the Azores. There are long walls of volcanic stone used to protect areas from seawater and wind. There are nine volcanic islands in the Azores. The island has a large area of land for grape growing.

The monastery of Santa Maria d Alcobaca was founded by King Alfonso in the twelfth century. It is located north of Lisbon in central Portugal. The monastery is linked to the history of the Portuguese monarchy. Alcobaca was given to the Cistercians on the understanding they would cultivate the land. The monastery is based on the Gothic Cistercian style.

The monastery of Batalha was built to celebrate the victory of the Portuguese in the battle of Aljubarrota. It is located in Leiria and has a Gothic style. The church was completed in 1416 and holds the tombs of Dom Joao, his wife Queen Philippa of Lancaster and their sons. Prince Henry the navigator was one of their sons and is famous for his global expeditions.

The University of Coimbra-Alta and Sofia is one of the oldest universities in the world. It is situated on a hill overlooking the city, which has developed around the university. It was originally established as an academy in the thirteenth century then transitioned to a university. There are a number of sixteenth and seventeenth century buildings in the university including the Joanine library and the Royal Palace of Alcacova. The university was a model for the architectural design of other universities especially in the Lusophone world.

The Laurisilva of Madeira is a forest area on the island of Madeira. It includes the largest area of laurel forest in the world. It is located in the Parque Natural da Madeira (Madeira National Park). Laurel forest or laurisilva is now only found in Madeira, the Azores and the Canary Islands. The forest plays an important biological role in the island. Most of the property is thought to be original forest and never been felled. This makes some trees very old. There are water channels called levadas in the forest. They carry water from the forest to other places in the island.

The royal building of Mafra-Palace, Basilica, Convent, Cerco Garden and hunting park is located northwest of Lisbon, the capital of Portugal. King Joao in 1711 built the Royal Mafra building that includes Italian and Roman baroque architecture. The royal Mafra building includes a palace, convent and a garden. The basilica includes 58 statues by Roman and Italian artists. There is a library containing a large number of books on the property. The Cerco Garden includes a range of plants and a central lake. The hunting park was built in 1747 to serve the needs of the king.

The sanctuary of Bom Jesus do Monte is located in Braga. It is on the slopes of Mount Espinho which overlooks the city. The Bom Jesus ensemble is located on the western slope of the mountain. It includes a number of chapels and a stairway of the five senses.

## 2 Spain

Spain is a country in southern Europe that occupies most of Iberia. It has a diverse landscape including mountains, forests and cities. Specific regions such as the Basque country, Andalusia and Catalonia are associated with specific cultural traditions. This has meant there are many different customs and cuisines in the country. The country was ruled by the Romans and Moors for a period of time. The Roma people have contributed to artistic endeavours such as flamenco dancing. The Moors left a legacy on architecture in terms of buildings. The Romans built many roads and monuments.

Spain has a long history, but the following dates are the most important in terms of understanding the importance of culture on the tourism industry. In 1492 The

**Table 1** Islands in Spain

| Island | Island community | Capital |
|---|---|---|
| Mallorca | Balearic Islands | Palma |
| Formentera | Balearic Islands | Formentera |
| Menorca | Balearic Islands | Mahon |
| Ibiza | Balearic Islands | Ibiza |
| Tenerife | Canary Islands | Santa Cruz de Tenerife |
| Gran Canaria | Canary Islands | Las Palmas de gran Canaria |
| Lanzarote | Canary Islands | Arrecite |
| Fuerteventura | Canary Islands | Puerto del Rosario |
| La Palma | Canary Islands | Santa Cruz de la Palma |
| La Gomera | Canary Islands | San Sebastian |
| El Hierro | Canary Islands | Valverde |

Emirate of Granada is defeated ending 800 years of Islamic rule. This meant a change in the way buildings were built and a refocus on Christianity. Moreover, in 1492 ships from Spain reached America, which resulted in much wealth from the area being shipped back to Spain. This resulted in Spain being one of the wealthiest countries in the world. However, with most countries in South America gaining their independence and the Spanish-American War, this eroded Spain's strength in the global market. In 1807–1814 France occupied Spain and this demonstrates the intertwined history between both countries. The Spanish civil war (1936–1939) severely affected the growth rate of the country. This resulted in a lasting political legacy as well. In 1939 General Francisco Franco leader of the Nationalist party wins the civil war. As a result, he ruled Spain for a long period of time. Following his death, elected governments have ruled the country. In 1968 Spanish Guinea gains independence and changes its name to Equatorial Guinea. This coincided with other previous Spanish colonies emphasising their independence whilst retaining their cultural connections to Spain. In 1977 the first free elections held, which resulted in the country having democratically elected government officials. In 1986 Spain joins the European Economic Community, which becomes the European Union. This resulted in greater economic cohesion amongst European countries. In 2002 the peseta currency was replaced with the Euro. In 2014 King Juan Carlos abdicates and his son becomes the new King of Spain. Thus, the history of Spain is important in understanding the role that tourism plays in the country's development. In addition, it is important to consider the geographic features of Spain that make it unique. Table 1 below states the islands in Spain and their capital cities.

Santiago de Compostela is a pilgrimage site in North-west Spain. It is known as one of the most religious sites in the world. It was destroyed by the Muslims then rebuilt in the eleventh century. Within the city is the tomb of St James. The town is located in Galicia and many smaller towns were built on the pilgrimage route to the town. Many of the buildings are in a Baroque, Gothic or Renaissance style.

The old town of Segovia and aqueduct is in Segovia the central part of Spain. The aqueduct was constructed by the Romans and is well preserved. It has two tiers of

arches and is 813 metres in length. Burgos cathedral began being built in the thirteenth century and was completed in the fifteenth century. It is located in the north of Spain in the province of Burgos. The cathedral is designed in the Gothic style. The cathedral has a cupola with starred vaulting. Within the cathedral are the tombs of royal members of the house of Castile.

The caliphate city of Medina Azahara is in southern Spain. It was built in the tenth century but then abandoned. The remains include roads, buildings, and bridges. The mining sites of Almaden are located in the centre of Spain. They are the locations where mercury has been mined. The site includes the buildings and associated structures related to mining. Mercury is a rare resource, so it is only found in certain locations. The mines at Almaden have evolved based on new mining techniques. Mercury is difficult to mine so it has to be handled with care. It is important though in terms of making other products.

The archaeological ensemble of Tarraro is located in the northeast of Spain. The town was a major city in Roman Spain and is now called Tarragona. The archaeological remains are in the Catalonia region and is one of the oldest roman settlements in Spain. It was a major trading centre and played a role in the development of other Spanish cities. The remains include church buildings and theatre structures. There is a defensive wall around the city that helped protect it. The buildings were made from high quality material and indicate a high level of architectural sophistication.

La Lonja de la Seda de Valencia is in Valencia. It comprises a group of buildings that were used to trade silk. The buildings are in the Gothic style. Aranjez cultural landscape is in the central region of Spain. It includes the natural landscape in terms of forests as well as buildings. There are rivers in the area including the Tagus and Jarama River. There are tree-lined avenues as well as ornamental gardens. The water landscape includes a number of dams, ponds, and rivers.

The Antequera Dolmens site is located in the south of Spain in Andalusia. It includes three megalithic monuments – the Menga Dolmen, Viera Dolmen, and the Tholos of El Romeral. They were built using stone blocks during the Bronze Age. There are also two natural monuments, the La Pena de los Enamorados and El Torcel mountain ranges.

The property of the Alhambra, Generalife and Albayzin is in Granada, southern Spain. They form part of the remaining buildings of Arabic character in the region. The Alhambra residence was built during the thirteenth and fourteenth century. Alhambra and Albayan are on two adjacent hills in Granada. Alhambra is a Hispano-Muslim medieval city. It includes Moorish town planning as well as Christian buildings.

The archaeological site of Atapuerca contains fossils from one of the earliest known humans in Europe. It is located near the city of Burgos in the north of Spain. The archaeological ensemble of Merida is in the province of Badajoz. It was once part of the colony of August Emerita. There are well preserved remnants of past buildings in the city including a bridge and water supply system. The city was created as a model of Rome and previously functioned as the capital of the Roman Empire in Spain. In the city there are remains of a dike and wastewater system indicating the high level of engineering prowess for this time. There are religious

buildings including the temple of Marte and entertainment buildings including an amphitheatre.

The cultural landscape of the Serra de Tramuntana is on the island of Mallorca off the east coast of Spain. It comprises a mountain range, agricultural terraces, water works and farms. It provides a good example of how the land has been utilised for farming purposes. The landscape is Mediterranean in style and utilises management technology from Muslim and Christian cultures.

The cave of Altamira and paleolithic cave art of northern Spain is in Cantabria. Within the caves are numerous paintings that are well preserved. The cathedral, Alcazar and Archivo de Indias is located in Seville. Within the complex is the tomb of Christopher Columbus, the famous explorer. The area includes examples of Islamic culture. The cathedral was built in 1403 in the Gothic style and is the largest Gothic building in Europe. The bell tower of the cathedral is called the Giralda. The Alcazar was built in the tenth century to house the Moslem governor and includes extensive gardens. The Archivo de Indias building was built in 1585 and contains documents related to the discovery of Latin America. Seville was important in the sixteenth century as the capital of the Indies route in terms of facilitating trade with new colonies in Latin America.

The Catalan Romanesque churches of the Vall de Boi are in the province of Lleida in northern Spain. They are located in a mountainous area of Spain so are in a rural setting. There are a number of Romanesque churches in the region, which are part of the Catalan Pyrenees. The churches were built in the eleventh century in relatively remote areas at the time. The churches in the area include Santa Maria de Cardet, Sant Joan de Boi, and Santa Eulalia d'Erill-la-Vall. Within the churches is the largest concentration of Romanesque art in Europe. This makes the churches notable for their location but also cultural significance in terms of their collection of artworks. The churches were built in a short period of time but in a way that incorporates the natural environment. This makes them unique in terms of their location and style.

The historic walled town of Cuenca is located in Castile-La-Mancha in the central-eastern part of Spain. Cuenca is a medieval fortified city that was built by the Moors. The buildings in the city include Spain's first Gothic cathedral. It has casas colgadas (hanging houses).

The historic city of Toledo is located in central Spain. The historic centre of Cordoba is in the south of Spain. When it was conquered by the Moors a number of mosques and palaces were built. The great Mosque of Cordoba was changed to a cathedral in the thirteenth century. The city was founded by the Romans in the second century.

## 3 Conclusion

This chapter has discussed the world heritage sites that exist in Portugal and Spain. This is an important way to understand the culture and traditions in each country. Both Portugal and Spain are neighbouring countries and share the land on the Iberian Peninsula. Thus, it is useful to understand the role that world heritage sites play in the development of tourism initiatives in these countries.

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# The Role of Different Types of Previous Experience in International Opportunity Recognition: Evidence from Spanish International Entrepreneurs

**Eduardo Terán-Yépez, David Jiménez-Castillo, and Manuel Sánchez-Pérez**

**Abstract** Delving into the factors that influence international opportunity recognition (IOR) processes (active search and serendipitous discovery) is a topic of current relevance in the literature on international entrepreneurship (IE). Despite the previous experience of entrepreneurs is considered to play a key role in the IE process, much remains to be explored to understand how this experience can shape the way entrepreneurs identify international opportunities. This study examines whether three different types of previous experience (i.e., *international business experience, international living experience,* and *past negative entrepreneurial experience*) of Spanish entrepreneurs are related to how they identify foreign market opportunities. To answer this question, a quantitative analysis of data from 172 Spanish international entrepreneurs was applied to compare if possessing each of these types of experience versus not possessing them can lead to the recognition of an international opportunity through active search or serendipitous discovery. The findings demonstrate that Spanish entrepreneurs with international experience (either international business or living experience) and those with past negative entrepreneurial experience in the domestic market are more likely to identify IOs through active search. The results also show that Spanish entrepreneurs without international business experience and those without past negative entrepreneurial experience in the domestic market are more likely to discover IOs serendipitously. Surprisingly, having international living experience or not having it does not make any difference in the serendipitous discovery of international opportunities. These findings contribute new evidence to the debate of IOR determinants, which have relevant implications for understanding international entrepreneurs' search behavior in the Spanish context.

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## 1 Introduction

Prior studies have shown that previous experience actively supports international entrepreneurship (IE) in the Iberian context. For example, the international experience of Spanish international entrepreneurs determines their international activities and orientation (Lafuente et al., 2019; Zolfaghari & Rialp-Criado, 2018), the speed of internationalization (Baier-Fuentes et al., 2018), their attention towards information (Santos-Álvarez & García-Merino, 2012), or their motivational orientation (promotion versus prevention orientation) (Santos & García, 2011). Furthermore, reports on entrepreneurship, such as the Spanish General Entrepreneurship Monitor (GEM) report (2020), also highlight the relevance of previous experience in the emergence of entrepreneurial initiatives and international orientation in Spain. These works also suggest that prior experience of Spanish international entrepreneurs facilitates the identification and exploitation of international opportunities (IOs), a key element in the international entrepreneurial process.

Entrepreneurs can recognize IOs through an active (systematic, deliberate) search (Ciravegna et al., 2014; Tuomisalo, 2019) or through serendipitous (accidental, fortuitous) encounters (Hilmersson et al., 2021a; Kiss et al., 2020). Identifying an opportunity in the international market in one way or another may entail differences during its evaluation, development, and exploitation. For instance, Ciravegna et al. (2014) found that IOs recognized through active search are exploited more quickly than those identified serendipitously. Thus, discovering IOs through systematic search could lead to faster internationalization than those identified accidentally (De Clercq et al., 2012). In contrast, previous evidence also suggests that serendipitous encounters may lead to the recognition of more novel and disruptive IOs (Hilmersson & Papaioannou, 2015), which may lead to greater desirability to exploit them (Williams & Wood, 2015). Then, a question arises as to which factors can determine that international entrepreneurs identify an IO actively or accidentally. In this regard, the understanding of these antecedents remains inadequate (Terán-Yépez et al., 2021). Based on previous literature suggesting that previous experience may be a factor that helps to explain IOR processes (active and serendipitous international opportunity recognition (IOR)) (Hilmersson & Papaioannou, 2015) and considering the relevance of previous experience in understanding IE in Spain (Spanish General Entrepreneurship Monitor, 2020), we suggest that the previous experience of Spanish entrepreneurs can explain how they identify international entrepreneurial opportunities.

International experience can be viewed from different points of view. For some researchers, international experience is having experience in export and internationalization positions (Hilmersson et al., 2021a; Nordman & Melén, 2008). For other researchers, international experience is experience living (studying or working) in a country other than the origin (Li, 2020; Takeuchi & Chen, 2013). Nevertheless, although different, both can be recognized as international experiences (Domurath & Patzelt, 2019; Kraus et al., 2017; Wach & Głodowska, 2021), and therefore both should be taken into account to understand better how each can affect the recognition

of IOs. Differences in the amount and nature (quality) of entrepreneurs' experience may result in different IOR-related behaviors. Indeed, academics highlight that literature has focused on explaining how international experience impacts IOR but has failed to explain how the lack of it impacts IOR because inexperience is rarely investigated (Domurath & Patzelt, 2019; Jones & Casulli, 2014). Moreover, previous experience is generally considered to impact IOR positively, but the prevalence of such findings might be due to the oversampling of studying the impact of positive (successful) experience on IOR (Faroque et al., 2021; Lindstrand et al., 2011). Such reflections point to the need to examine the impact of different types of international experience/inexperience and past negative entrepreneurial experience in IOR.

Accordingly, this study explores how three different types of previous experiences (i.e., *international business experience*, *international living experience*, and *past negative entrepreneurial experience*) of Spanish international entrepreneurs are related to the way they recognize foreign market opportunities, that is, active versus serendipitous IOR. To achieve this goal, this research will apply an empirical analysis over a sample of 172 Spanish international entrepreneurs. By doing so, this study is one of the first (if not the first) to examine the role of different kinds of previous experience to explain the IOR processes. Previous studies that have partially studied this relationship have based their evidence mostly on case studies, and thus the findings are limited to a relatively small sample of cases (e.g., Chandra et al., 2009; Hilmersson & Papaioannou, 2015; Nordman & Melén, 2008). From the quantitative approach of the present study, the results provide stronger and broader empirical evidence to this research stream. Furthermore, our results allow for a better understanding of Spanish IE. The findings provide several theoretical and managerial implications as they add new evidence to the debate of IOR determinants, which are relevant to understanding Spanish international entrepreneurs' search behavior.

## 2 Literature Review and Hypotheses Development

### *2.1 Entrepreneurs' Prior International Business Experience*

International business experience is referred to as having previous work experience in business activity on international markets (Wach & Głodowska, 2021). In this sense, a distinction can be made between novice and expert international entrepreneurs. The literature defines expert entrepreneurs as those that have relatively extensive experience working in export and internationalization positions prior to identifying an opportunity in the international market, while novice entrepreneurs are those who have little or no experience prior to the discovery of an IO (Baron & Ensley, 2006; Domurath & Patzelt, 2019).

Previous studies have revealed that entrepreneurs' repeated exposure and familiarity with the international environment may develop international orientation and initiate a new internationalization process through planned strategies (Ciravegna et al., 2014; Wach & Głodowska, 2021). As entrepreneurs gain feedback and

experience from their direct experiences in previous export and internationalization processes, they expand their organizational and methodical processes for future internationalization (Filatotchev et al., 2009; Hilmersson et al., 2021b). Such experiential learning helps entrepreneurs develop a clear and precise strategy from the outset about which markets and customers to focus on in future international expansion (Nordman & Melén, 2008). Therefore, having international business experience should help entrepreneurs in their active search for new international business opportunities. These approaches are consistent with human capital theory, which states that experience enables individuals to gain skills and knowledge that constitute a source of competitive advantage (Becker, 1975).

In this vein, prior research suggests that entrepreneurs' with previous international business experience should be better equipped to identify IOs by conducting deliberate search activities such as scanning international markets (Chandra et al., 2009; Nordman & Melén, 2008), analyzing foreign business networks (e.g., international customers and suppliers) (Oyson & Whittaker, 2015; Zaefarian et al., 2016), and by examining and questioning international competitors (Bai et al., 2018). Thus, drawing on their international business experience, expert entrepreneurs should be more likely to recognize IOs through an active search than novice entrepreneurs.

On the contrary, IE scholars have become aware that IOR by novice entrepreneurs is almost always preceded by some kind of fortuitous encounter rather than a deliberate search (Chandra et al., 2009; Oyson & Whittaker, 2015). In this regard, previous evidence shows that these entrepreneurs are more likely to have identified IOs unexpectedly during ongoing business activities (Nordman & Melén, 2008), through social networks (e.g., local customers, family, and acquaintances) (Oyson & Whittaker, 2015; Zaefarian et al., 2016) or during holidays (Tabares et al., 2021). Literature suggests that this lack of proactivity for recognizing IOs may be due to the lack of previous international business experience (Nordman & Melén, 2008), as entrepreneurs without such kind of international experience are usually risk-averse and long-term oriented towards foreign markets. Because of this nature, they are not normally predisposed to an active search process to identify opportunities in the international market (Galan & Torsein, 2021; Kontinen & Ojala, 2011). That is, the lack of international business experience will likely limit the proactive behavior of entrepreneurs. In addition, this scarcity could also result in these entrepreneurs not having a clear strategy or established objectives for which markets and customers to target. For example, the lack of or the little direct familiarity and experience with export and internationalization activities would substantially hinder the acquisition of information about foreign customer needs or the knowledge of foreign regulations.

In the Spanish context, recent evidence suggests similar patterns to those described above. Indeed, it is argued that Spanish expert international entrepreneurs possess higher skills to identify opportunities (Ruiz-Jiménez et al., 2021) and a greater entrepreneurial activity (Vaillant & Lafuente, 2018). These results are complemented by Lafuente et al. (2019), who found that the international orientation of Spanish expert entrepreneurs is higher than that of novices. On the other hand, literature on Spanish novice international entrepreneurs argues that they search for

less information about foreign markets as they see those as unfamiliar (Santos-Álvarez & García-Merino, 2012), making it difficult for them to identify IOs through a systematic search. Following these arguments, we expect that the higher the Spanish entrepreneur's international business experience level, the higher the IOs recognized through deliberate search. In comparison, the lower the Spanish entrepreneur's international business experience level, the higher the IOs recognized through fortuitous discovery. Formally stated:

*Hypothesis 1: Spanish entrepreneurs with international business experience (experts) are more likely to recognize an IO through active search than Spanish entrepreneurs without international business experience (novices).*

*Hypothesis 2: Spanish entrepreneurs without international business experience (novices) are more likely to recognize an IO through serendipitous discovery than Spanish entrepreneurs with international business experience (experts).*

## *2.2 Entrepreneurs' International Living Experience*

International living experience is referred to the time spent abroad, working, or studying (Gruenhagen et al., 2020). From this definition, a distinction can be made between local and returnee international entrepreneurs. Previous evidence links returnees' international living experience as important and useful for IE and internationalization processes (Bai et al., 2017). Indeed, some academics suggest that returnees' international experience is conducive to initiating the internationalization process (Filatotchev et al., 2009).

Although the role that local versus returnee entrepreneurs may have in IE has not been considered in the Spanish context, we propose it is a relevant factor to explore. Just as the process of internationalization of Spanish companies accelerated since a decade and a half under the pressure of circumstances (Colli et al., 2012), these conditions also generated a large number of Spaniards to migrate (to study and work abroad) in the wake of the 2008 crisis, and many of them have returned in recent years (Ministry of Labor and Social Economy, 2021). Indeed, since 2018, Spaniards returning are more than those leaving; specifically, more than 340,000 Spaniards have returned between 2015 and 2020 (Ministry of Labor and Social Economy, 2021). Likewise, the Strategy for the Internationalization of the Spanish Economy 2017–2027, elaborated by the Ministry of Industry, Commerce and Tourism (2016), promulgates that emphasis will be placed on developing human capital for business internationalization through plans to attract repatriation of talent.

It is known by the news and reports from different media and organizations that more and more Spaniards living abroad wish to return to their country to undertake international new ventures (INVs) (Navas, 2021) and also that Spanish firms are demanding profiles with international living experience to face internationalization processes (Gil, 2021). That is, returnees seem to be relevant to establishing INVs and the internationalization of Spanish firms. This leads us to consider it relevant to

analyze the role that being a returnee plays in identifying IOs. Comparative studies on the role of returnee versus local international entrepreneurs in other contexts (e.g., China, Italy, Mexico, and Poland) have shown that this is a topic of increasing relevance for understanding the IE process (cf. Bai et al., 2017; Gruenhagen et al., 2020; Piantoni et al., 2012). These studies suggest viewing international living experience as specific human capital of entrepreneurs since such experiences abroad can increase their orientation, commitment, and cognitive abilities to recognize opportunities in the international market (Bai et al., 2017; Ma et al., 2018; Zhou et al., 2016).

It should also be noted that this international living experience can generate (individual) social capital, which has been recognized as a resource that extends the range of IO seeking (Bai et al., 2016, 2018). Indeed, recent evidence suggests that exposure to social networks abroad allows returnee entrepreneurs to access a wider range of information and more easily anticipate possible problems, customer needs, and market deficiencies which should help them identify new IOs (Li, 2020). It is expectable that as a consequence of the time spent overseas and the activities undertaken there while working or studying, returnee entrepreneurs have developed a global mindset that allows them to see the world as one big marketplace and to motivate them to operate in international markets (Bai et al., 2017; Hu et al., 2019). In this vein, Filatotchev et al. (2009) stated that the presence of a returnee entrepreneur increases a firm's export orientation. Drawing on returnees' human and social capital in terms of international living experience, scholars have demonstrated that firms founded or managed by them possess higher general knowledge potential, international market knowledge, absorptive capacity, and international performance than firms led by local entrepreneurs (Bai et al., 2017; Filatotchev et al., 2009; Ma et al., 2018).

The few previous papers addressing the relationship between international living experience and IOR show inconclusive results. On the one hand, Piantoni et al. (2012), through a case study of six Italian international entrepreneurs, found that the internationalization of companies led by entrepreneurs who have studied or worked abroad is characterized by a deliberate IOR. On the other hand, the internationalization of firms managed by entrepreneurs who have neither of these two types of experience is characterized by a passive internationalization strategy where serendipitous encounters seem to play a major role. On the other hand, Kraus et al. (2017) over a sample of 117 international entrepreneurs located in the German-speaking area (Germany, Austria, Switzerland, and Liechtenstein), showed that having studied abroad does have a positive impact on IOR, but that having worked abroad is not an important source for IOR.

Even if the evidence on the role of returnee entrepreneurs in Spain is nil, we draw on the arguments mentioned above and the statements of Bai et al. (2016, 2018) and Filatotchev et al. (2009), who argue that returnee entrepreneurs with any kind of international living experience (working or studying) are expected to be adopters and promoters of a proactive internationalization strategy, to postulate that Spanish returnee entrepreneurs are likely to be involved in a proactive search for IOR. On the other hand, although recent works have shown that there is hardly any research

on the role of returnee versus local entrepreneurs in the identification of serendipitous IOs (Bai et al., 2018) and based primarily on the results of Piantoni et al. (2012), we propose that Spanish local international entrepreneurs are more characterized by identifying IOs through fortuitous encounters than returnees. Hence, we propose the following hypotheses:

*Hypothesis 3: Spanish entrepreneurs with international living experience (returnees) are more likely to recognize an IO through active search than Spanish entrepreneurs without international living experience (locals).*

*Hypothesis 4: Spanish entrepreneurs without international living experience (locals) are more likely to recognize an IO through serendipitous discovery than Spanish entrepreneurs with international living experience (returnees).*

## 2.3 Entrepreneurs' Past Negative Entrepreneurial Experience

Past negative entrepreneurial experience is referred to as having a failure experience (e.g., closure/sale/bankruptcy) in the domestic market of a business whose performance was too low to the entrepreneur's expectations (Lafuente et al., 2019; Vaillant & Lafuente, 2018). When analyzing the impact of the past negative entrepreneurial experience on re-entry into entrepreneurial activity, we must refer to these entrepreneurs as resilient serial entrepreneurs and consider that a distinction can be made between this type of entrepreneurs and those who have not had a negative entrepreneurial experience (Klimas et al., 2021).

Recently, the premise that international experience (international business or international living experience) is the only or at least the main experiential factor suitable for understanding international orientation and venture internationalization is being discussed and challenged. In this regard, recent work suggests that the influence of non-international-related experience on this process has been overlooked (Domurath & Patzelt, 2019; Lafuente et al., 2021). This research stream has found relatively opposing evidence. While Domurath and Patzelt (2019) argue that domestic entrepreneurial experience leads to a lower intensity of international sales, Lafuente et al. (2021) stated that domestic entrepreneurial experience positively influences the number of export markets. Transferring these results to our context, considering the link between IOR and the development and results of the export activity, it is logical to think that Domurath and Patzelt's (2019) findings suggest that domestic entrepreneurial experience would diminish IOR, while the results of Lafuente et al. (2021) suggest the opposite, i.e., that domestic entrepreneurial experience would encourage IOR. However, neither study considers the nature (quality) of the domestic experience, that is, whether the entrepreneurial experience was positive or negative, nor does it directly study whether the domestic experience influences the IOR process. Therefore, we can claim an open research gap about how domestic negative entrepreneurial experience influences IOR exists.

Of course, not all entrepreneurs who have suffered a failure in the domestic market later succeed in going international (Lafuente et al., 2019), nevertheless, it is necessary to understand how these entrepreneurs have identified IOs after their domestic negative entrepreneurial experiences.

Studying this phenomenon is of particular relevance since recent literature has cataloged domestic negative entrepreneurial experience as a generative learning process that enhances propensity towards international markets (Klimas et al., 2021). In fact, in the study by Lafuente et al. (2019), which was conducted on a sample of Spanish entrepreneurs, it was shown that resilient serial entrepreneurs with domestic negative entrepreneurial experience have a higher international orientation than entrepreneurs who do not have this type of experience. These authors suggest that the domestic negative entrepreneurial experience of resilient serial entrepreneurs increases their readiness for potential IOR and thus influences their decision to internationalize. Furthermore, the generative learning process of these entrepreneurs pushes them to explore new alternatives with greater international openness, and therefore they should be able to exploit more IOs. For example, if resilient serial entrepreneurs think that their business idea failed domestically due to insufficient demand, they might consider proactively looking for an international market that may yield better returns and thus meets his/her expectations.

On the contrary, we consider that if an entrepreneur has not experienced a negative entrepreneurial experience in the domestic market (it could be seen as a positive experience), s/he will not need to look to the international market as the firm will "do well" and the international market may be seen as uncertain and different from the domestic market (Domurath & Patzelt, 2019). As indicated by Lafuente et al. (2019), these entrepreneurs may view the international market with a vision of "it is better not to fail than to succeed," which will lead to a lower international orientation. This rationale is also consistent with Domurath and Patzelt's (2019) theoretical arguments that entrepreneurs' domestic experience will slow down the internationalization process and with their findings that higher domestic entrepreneurial experience leads to lower international sales intensity.

This discussion leads us to theorize that Spanish entrepreneurs who have suffered a failure experience in the local market will actively seek a business opportunity in the international market. The generative learning from its failure at the domestic level can contribute to the decision to look for new alternatives and take the risk towards looking for opportunities internationally (i.e., see the international market as an alternative to the local market). Conversely, entrepreneurs who have not suffered a failure at the local level would be less prone to expand their activity abroad and, thus, they would tend to discover IOs not deliberately (i.e., there is no purpose in identifying IOs) but fortuitously.

*Hypothesis 5: Spanish resilient serial entrepreneurs are more likely to recognize an IO through active search than Spanish entrepreneurs without negative entrepreneurial experience.*

*Hypothesis 6: Spanish entrepreneurs without negative entrepreneurial experience are more likely to recognize an IO through serendipitous discovery than Spanish resilient serial entrepreneurs.*

# 3 Methodology

## *3.1 Sampling and Data Collection*

This study focuses on international entrepreneurs located in Andalusia, a southern Spanish region. We used a regional sample to mitigate the influence of environmental elements and uncontrolled external interference (Elston & Weidinger, 2019). Andalusia was found as a particularly appropriate context since it is the second-largest exporting Spanish region (Spanish Institute for Foreign Trade, 2020), the one that has experienced a large growth of companies that have started exporting in recent years (Andalusian Agency of Foreign Promotion, 2021), and that has recently aroused great interest in the study of entrepreneurial and internationalization activity at the individual and company level (Cardenete & Garcia-Tapial, 2019; Moral-Pajares et al., 2015).

We created our own purposeful-based database based on the following fourth sampling criteria to reach a suitable match between the theoretical constructs and the empirical reality. As the first sampling criterion and following suggestions of prior entrepreneurship literature (e.g., Gielnik et al., 2015; Murnieks et al., 2020), we used multiple sources (i.e., Andalusian Agency of Foreign Promotion, Andalusian export company associations, and Andalusian business incubators) to create the database. This way, we include a range of different international entrepreneurs and therefore have a wider reach. Second, while it is recommended to analyze the IOR retrospectively, Hilmersson and Papaioannou (2015) suggest not to study cases of entrepreneurs who have discovered IOs more than 7 years ago. In this vein, we followed the approaches of Gielnik et al. (2015) and Hilmersson et al. (2021a) to mitigate recall bias for retrospective data. Thus, we established as sample criteria that we would only consider entrepreneurs who are currently pursuing (developing) an IO (i.e., focusing on the last IO recognized). Third, following previous literature (e.g., Hilmersson & Papaioannou, 2015; Oyson & Whittaker, 2015), our third sampling criterion was to focus only on international entrepreneurs working on an MSME (fewer than 250 employees). Indeed, more than 90% of international entrepreneurs in our sample work in companies with fewer than 100 employees. In this way, we ensure that the international entrepreneur plays a relevant role in identifying IOs. Finally, to further ensure the respondent's suitability, we have also included in the questionnaire two questions to ascertain the respondent's degree of knowledgeability on the topics included therein.

We developed a survey in English for the data collection, which was later translated into Spanish and reviewed by five international entrepreneurs and six academicians to ensure content validity. From the comments of this expert's panel, it

**Table 1** Sample description ($N = 172$)

| | *N* | % |
|---|---|---|
| *Gender* | | |
| Female | 70 | 40.7% |
| Male | 102 | 59.3% |
| Total | 172 | 100.0% |
| *Age* | | |
| 21–30 | 20 | 11.6% |
| 31–40 | 57 | 33.1% |
| 41–50 | 64 | 37.2% |
| >50 | 31 | 18.1% |
| Total | 172 | 100.0% |
| *Education* | | |
| High school or less | 6 | 3.5% |
| Vocational training | 6 | 3.5% |
| Bachelor's degree | 83 | 48.3% |
| Master's degree | 77 | 44.7% |
| Total | 172 | 100.0% |
| *Role* | | |
| Founder/Co-founder CEO | 87 | 50.6% |
| Export Manager | 43 | 25.0% |
| Chief Marketing Officer | 42 | 24.4% |
| Total | 172 | 100.0% |

was necessary to make minor context adjustments that did not affect the nature of the original items. Then, the questionnaire was sent to 997 international entrepreneurs, from which we received 172 valid surveys (17.3% effective response rate). Our sample was composed of 102 (59.3%) males and 70 females (40.7%) with an average of 42 years old. 48.3% of the sample have completed a bachelor's degree, and 44.7% have a master's degree. Table 1 shows a broader characterization of the sample used for this study.

## *3.2 Measures*

To capture *active search* for IOs, we built on a combination of items taken from previous scales elaborated by Kuckertz et al. (2017) and Hilmersson et al. (2021a), and after suitable context adjustments, we used six items, which are in line with the former conceptualization. The six items capture the attempt to actively seek relevant information about the foreign market, the deliberate effort to seek opportunities in the international market, and the investment of resources and time for this purpose. To measure *serendipitous discovery* for IOs, we found inspiration in Hilmersson et al. (2021a), Lorenz et al. (2018), and Nicolaou et al. (2009), and after appropriate

adjustments to our context, we used five items that are consistent with the prior conceptualization. The five items capture the fortuitous emergence of an IO, the sensitivity to discover an IO without looking for it, and the lack of intentionality to identify an IO. As mentioned in the previous section, it is advisable to study the IOR retrospectively. Therefore, to measure these two constructs, respondents were asked to think about their last recognized IO. The participants could provide answers on a seven-point Likert-type scale ranging from 1 = totally disagree to 7 = totally agree.

*International business experience* was measured by asking entrepreneurs the number of years they had been involved in export and internationalization-related activities before identifying the IO (Ciravegna et al., 2014). All those entrepreneurs with at least 1 year of previous experience were considered experts (n = 100), while the rest were considered novices (n = 72) (Vaillant & Lafuente, 2018).

*International living experience* was captured by asking entrepreneurs whether they had any international life experience (work or studying outside the home country) for more than 3 months before identifying the IO. This number of months was applied as a cut-off, as it is a measure traditionally used to differentiate international living experience from tourist visits (Takeuchi & Chen, 2013). In this study, those entrepreneurs who fulfill this criterion were considered returnees ($n = 84$), while the rest were considered locals ($n = 88$).

Finally, *past negative entrepreneurial experience* was captured by asking entrepreneurs whether they have had ($n = 73$) or not ($n = 99$) any negative entrepreneurial experience before identifying the IO (e.g., closure/sale/failure of a business whose performance was too low to the entrepreneur's expectations) (Lafuente et al., 2019). Appendix I contains the complete list of variables and items used for this study.

### *3.3 Data Analysis*

IBM SPSS (v22.0) (IBM Corp., 2013) and JASP (v0.11) (Love et al., 2019) statistical software were used to quantitatively analyze the data using independent-samples *t*-test for hypotheses 1–6. Independent samples *t*-test is appropriate for our study's objectives since it allows us to compare if the means of two independent groups are statistically different and therefore to evidence if the associated population means are significantly different. In the case of our study, since equal variances cannot be assumed (Levene's test), we have applied Welch's *t*-test. Although the data was not normally distributed, a means comparison of non-Gaussian data is still justified for large sample sizes (Fagerland, 2012), and a non-parametric test (Mann-Whitney) was used to confirm the significance of findings.

# 4 Results

## 4.1 Active and Serendipitous IOR

Before testing the hypotheses and given that the scales we have used to measure active and serendipitous IOR have reflective items, we assessed the scales' internal reliability and convergent validity through well-established traditional indicators. As Table 2 shows, both scales have loadings above 0.707 (Carmines & Zeller, 1979), and Cronbach's Alpha and Composite Reliability (CR) values between 0.70 and 0.95 (Nunnally & Bernstein, 1994), which are the critical values to be considered. Moreover, the average variance extracted (AVE) values exceed the minimum cut-off level of 0.50 (Fornell & Larcker, 1981). Thus, reliability and convergent validity can be regarded as established.

We have also examined discriminant validity. To ensure discriminant validity, we followed Farrell's (2010) suggestions. We first conducted an exploratory factor analysis (EFA) to analyze cross-loadings. We confirmed that the items we have chosen to measure active and serendipitous IOR load on their respective factors, suggesting that IOR consists of two different factors. For both scales, communalities are above 0.66, and the correlation between the two is negative [−0.473]. As the second step, we conducted a confirmatory factor analysis (CFA). The absolute [$\chi^2 = 112.262$, df = 43, $p = < 0.001$; SRMR = 0.05; RMSEA = 0.07] and relative goodness-of-fit indices [CFI = 0.95; NFI = 0.92; NNFI = 0.93] indicated an acceptable fit for the data. We also compared this measurement model with a single-factor solution, which showed a significantly poorer fit with the data [410.080 $\Delta\chi^2$ increase with additional 1 df, $p < 0.001$; CFI = 0.62; NNFI = 0.52; RMSEA = 0.25]. Finally, we calculate and compare the average shared variance (ASV) between the two constructs with the AVE of each of them. As the AVE of each construct is greater than its ASV [0.224], discriminant validity is supported.

**Table 2** Reliability and validity of active and serendipitous IOR scales

| Items | Loadings | CR | α Cronbach | AVE |
|---|---|---|---|---|
| *Active international opportunity recognition (AIOR)* | | | | |
| AIOR1 | 0.771*** | 0.933 | 0.914 | 0.700 |
| AIOR2 | 0.848*** | | | |
| AIOR3 | 0.780*** | | | |
| AIOR4 | 0.871*** | | | |
| AIOR5 | 0.862*** | | | |
| AIOR6 | 0.883*** | | | |
| *Serendipitous international opportunity recognition (SIOR)* | | | | |
| SIOR1 | 0.873*** | 0.928 | 0.903 | 0.720 |
| SIOR2 | 0.825*** | | | |
| SIOR3 | 0.786*** | | | |
| SIOR4 | 0.882*** | | | |
| SIOR5 | 0.876*** | | | |

*p-value*: ***: $p < 0.001$

Therefore, our scales attain construct reliability, convergent validity, and discriminant validity, and therefore we can continue with the hypotheses testing.

## 4.2 Hypotheses Testing

As Table 3 shows, there are significant differences between Spanish novice and Spanish expert international entrepreneurs in terms of both active [$t(144) = -2.065$; $p = 0.020^{*}$] and serendipitous IOR [$t(163) = 3.366$; $p = 0.000^{***}$]. In the case of systematic IOR, the results show that experts are more prone to this type of identification, while in the case of fortuitous IOR, it is evidenced that novices are more likely to discover IOs in this way. Thus, Hypotheses 1 and 2 are supported. Examining the results of testing Hypothesis 3, it shows a statistically significant difference between Spanish returnee and Spanish local international entrepreneurs related to active IOR [$t(169) = 2.199$; $p = 0.015^{*}$]. That is, returnees are more likely to recognize an IO through deliberate search. Thus, Hypothesis 3 is supported. Examining the results obtained after testing Hypothesis 4, we found no significant differences between Spanish local and returnee international entrepreneurs in discovering IOs serendipitously [$t(169) = -0.451$; $p = 0.326$]. Therefore, Hypothesis 4 is not supported. Finally, differences between entrepreneurs that have had a past negative entrepreneurial experience in the domestic market and those that have not experienced this negative situation can be observed for both active [$t(167) = 3.001$; $p = 0.002^{**}$] and serendipitous [$t(154) = -2.906$; $p = 0.002^{**}$] IOR. In terms of active IOR, resilient serial entrepreneurs are more prone to this type of recognition, while in the case of accidental IOR, entrepreneurs with no prior entrepreneurial experience are more likely to discover an IO in this way. Thus, Hypotheses 5 and 6 are supported.

**Table 3** Descriptive statistics and independent *t*-Tests (Welch's *t* -test)

| Hypothesis | Experience | Mean (SD) | *t*-value | *p*-value | *p* | Supported |
|---|---|---|---|---|---|---|
| H1 – AIOR | Novices | 4.183 (1.570) | −2.065 | 0.020 | * | Yes |
| | Experts | 4.666 (1.433) | | | | |
| H2 – SIOR | Novices | 4.772 (1.378) | 3.366 | 0.000 | *** | Yes |
| | Experts | 4.010 (1.578) | | | | |
| H3 – AIOR | Returnees | 4.719 (1.418) | 2.199 | 0.015 | * | Yes |
| | Locals | 4.220 (1.555) | | | | |
| H4 – SIOR | Returnees | 4.275 (1.451) | −0.451 | 0.326 | n.s. | No |
| | Locals | 4.381 (1.627) | | | | |
| H5 – AIOR | PNE | 4.846 (1.323) | 3.001 | 0.002 | ** | Yes |
| | No PNE | 4.182 (1.576) | | | | |
| H6 – SIOR | PNE | 3.940 (1.511) | −2.906 | 0.002 | ** | Yes |
| | No PNE | 4.616 (1.505) | | | | |

*PNE* Past negative entrepreneurial experience
*p*-value: ***: $p < 0.001$; **: $p < 0.01$; *: $p < 0.05$

## 5 Discussion

This study examines how two different types of international experience/inexperience and past negative entrepreneurial experience impact IOR processes. It is inspired by recent calls for further research on how previous experience influences active and serendipitous IOR (e.g., Hilmersson et al., 2021a; Terán-Yépez et al., 2021), as well as by studies that have argued that IE literature has failed to elucidate how the lack of experience affects IOR (e.g., Domurath & Patzelt, 2019; Jones & Casulli, 2014) and others that have stated that IE literature also fails by studying only previous positive experience (disregarding negative experience) (e.g., Faroque et al., 2021; Lindstrand et al., 2011). Building on previous evidence on the key role that experience plays in the Spanish IE process (Baier-Fuentes et al., 2018; Lafuente et al., 2019; Zolfaghari & Rialp-Criado, 2018) and based on data from 172 international entrepreneurs located in Andalusia, we analyze how *international business experience*, *international living experience*, and *past negative entrepreneurial experience* can explain active and serendipitous IOR.

The findings revealed that Spanish international entrepreneurs considered experts, returnees and with past negative entrepreneurial experience are more likely to identify IOs through systematic search. In addition, we have found that Spanish entrepreneurs who are novices and have no previous negative experience are more likely to discover IOs fortuitously. Unexpectedly, being a returnee or a local international entrepreneur does not make a difference in the accidental discovery of opportunities. By exploring these three different types of previous experience, we contribute to closing the aforementioned research gaps.

We would like to discuss that our finding regarding the two different facets of IOR contrasts the results obtained by Kraus et al. (2017). These authors point out that IOR does not consist of two different factors since their factor analysis suggests the existence of a single factor. From our point of view, the results of Kraus et al. (2017) may be largely due to the measurement model employed since they intended to measure active IOR with three items and serendipitous IOR with only one item. In their study, these authors concluded that in the German-speaking area, entrepreneurs recognize IOs through a combination of accidental discovery and systemic search. Based on our results, we argue that, in the Spanish context, entrepreneurs would be more prone to recognize IOs through one of the two processes. We are not saying that these are two opposite poles, but that they can be placed in a spectrum that varies depending on the person's situation (e.g., his or her previous experience) and, therefore, that an entrepreneur will be more prone to one or the other. In this vein, our findings espouse the views of scholars who have suggested the existence of two different approaches to IOR and, thus, to disentangle the IOR for a better understanding of this phenomenon (Ciravegna et al., 2014; Hilmersson & Papaioannou, 2015; Piantoni et al., 2012; Terán-Yépez et al., 2021).

Concerning *international business experience*, we found that experts are more likely to recognize IOs through systematic search than Spanish novice international entrepreneurs and, on the contrary, novices are more likely to discover IOs through

serendipitous encounters than experts. In general, our results are in line with previous qualitative studies (Chandra et al., 2009; Hilmersson & Papaioannou, 2015; Nordman & Melén, 2008) that have suggested that international business experience is a relevant determinant of active IOR and the lack of it leads on the contrary to a fortuitous discovery of IOs. In this regard, our findings support the views that international entrepreneurs who actively searched for an IO are likely to have had more experience in export and internationalization positions (Ciravegna et al., 2014). In this context, the Spanish expert international entrepreneurs in this study took advantage of this type of experience to regularly analyze the international market through organized/methodical processes to identify a foreign market opportunity. In contrast, the Spanish novice international entrepreneurs are likely to identify opportunities during unexpected situations or through conversations with others, which are factors recognized by the literature as drivers of serendipitous discovery of IOs (Oyson & Whittaker, 2015; Tabares et al., 2021; Zaefarian et al., 2016).

As for *international living experience*, the findings suggest that entrepreneurs who have lived (studied or worked) outside Spain (their home country) will be more likely than those who have not experienced this situation to identify IOs through a systematic search, but conversely show that having lived abroad or always lived in the home country does not make either group more likely to discover IOs fortuitously. On the one hand, the results align with the assumptions of previous works that returnee entrepreneurs should be seen as promoters of a proactive internationalization strategy (Bai et al., 2016, 2018; Filatotchev et al., 2009). Specifically, the findings support the finding of the qualitative study of Piantoni et al. (2012), who suggest that *international living experience* of the entrepreneur make firm internationalization characterized by a conscious and deliberate search for IOs. On the other hand, the results do not support Piantoni et al.'s (2012) vision that individuals with no experience studying or working abroad will often be more likely to discover serendipitous IOs than returnees. Moreover, our findings also partially contradict the results of Kraus et al. (2017), who suggest that *international living experience* favors the identification of IOs through a combination of serendipitous discovery and systematic search. Instead, we demonstrate that *international living experience* in the Spanish context leads mostly to an active search for opportunities in the foreign market.

Finally, about *past negative entrepreneurial experience*, the findings suggest that Spanish resilient serial entrepreneurs will be more likely to actively seek a business opportunity in the international market than Spanish entrepreneurs who have not failed in the local market. On the other hand, Spanish entrepreneurs who have not failed in the local market will be more likely to discover a business opportunity in the international market serendipitously than their counterparts. In this sense, we extend previous evidence that advocates that past negative entrepreneurial experience increases the international orientation of Spanish entrepreneurs (Klimas et al., 2021; Lafuente et al., 2019). Our findings suggest that resilient serial entrepreneurs transform such international orientation into an active search for opportunities in the international market. On the contrary, not having a negative experience in the

domestic market generates a more passive than an active orientation towards the foreign market. In this sense, by demonstrating that domestic negative entrepreneurial experience influences IOR (enhancing rather than diminishing it), our study emphasizes the relevance of considering the non-international-related experience and specifically past negative experiences to explore why some entrepreneurs identify IOs through active search and why others do so through serendipitous encounters.

## *5.1 Theoretical Contributions*

This research makes several theoretical contributions. First, it answers recent calls for further research on the antecedents at the individual level of IOR processes (e.g., Tabares et al., 2021; Terán-Yépez et al., 2021). In this vein, we offer a better explanation of the internal factors that influence the entrepreneurs to recognize IOs and shed more light on the relevance of the individual in this process. Second, unlike most studies that have studied the role of previous experience on IOR processes through a qualitative research methodology (e.g., Chandra et al., 2009; Hilmersson & Papaioannou, 2015; Nordman & Melén, 2008), this study undertook quantitative research. Indeed, even if Ciravegna et al. (2014) used a quantitative technique to conclude that the greater the international experience, the greater the systematic search for IOs, these authors did not study the identification of fortuitous opportunities in their study. Therefore, our findings add evidence to previous research, which is limited to a relatively small sample of cases or has not studied the complete picture of IOR.

Third, this study analyzed the relationship between two types of international experience (i.e., international business experience and international living experience) and the IOR processes. Previous studies have contemplated only one of them, and indeed most of them have studied what happens in the presence of experience but not inexperience. Therefore, we offer a more comprehensive picture of the role of international experience on IOR by examining both types of experience (experience in working in export and internationalization activities or experience working/studying abroad) and the lack of them. Fourth, we provide initial insights on the role of PNE in the IOR processes. Previous studies have emphasized the role of positive experience in the domestic market for IOR but have not considered the role that *past negative entrepreneurial experience* in the domestic market has on IOR (Domurath & Patzelt, 2019). Fifth, to the best of our knowledge, this is the first study that explores the relationship between previous experience and IOR in the Spanish context. Indeed, while Spanish expert and novice entrepreneurs have relatively been studied, the literature on returnee (and local) entrepreneurs and entrepreneurs with *past negative entrepreneurial experience* is incipient, and therefore, there are issues yet to be addressed. Thus, we have added relevant knowledge to the Spanish IE literature by providing new insights on the internal factors of Spanish

entrepreneurs that should be considered when researching this field and relevant to understanding the Spanish IE process.

Sixth, and about the fifth implication, we provide a better understanding of the IE process in Spain by demonstrating that entrepreneurs tend to identify an IO in one way or another. This is of particular relevance since, as mentioned in the introduction of this study, identifying an opportunity in the international market deliberately or accidentally entails a different evaluation, development, and exploitation. In general, previous literature suggests that actively identified IOs are better evaluated, more rapidly developed, and more widely exploited than those discovered serendipitously (cf. Ciravegna et al., 2014; De Clercq et al., 2012). In this sense, we can claim that our results suggest that a greater international experience of Spanish entrepreneurs or to have a negative experience in the domestic market could not only make these individuals more likely to seek an IO actively but could also lead the IOs identified to have faster and more successful exploitation and internationalization rates, as suggested in related literature (cf. Baier-Fuentes et al., 2018).

Finally, the scales we have developed by combining previous scales seem promising in opening up several interesting avenues for further research. Several articles have highlighted the difficulty of measuring IOR processes (Angelsberger et al., 2017; Delgado-García et al., 2015), and quantitative studies addressing this issue are scarce. In this study, we have overcome the limitations that Kraus et al. (2017) found in their measurement model. Indeed, these authors pointed out that using a different measurement model (that possesses the two facets, active and serendipitous IOR) could lead to different results and provide a better explanation of the IOR process.

## *5.2 Managerial Contributions*

This research also holds relevant managerial implications. First, as international experience provides Spanish entrepreneurs with relevant human and social capital to carry out a proactive IOR strategy, they should try to gain as much international experience as possible. Both Spanish workers who hold positions in an international business context and Spanish students and workers who emigrate to live in another country should be able to take full advantage of these activities to benefit from this knowledge. Second, Spanish firms (especially micro and small ones because they habitually have scarce financial and human capital in their early stages) that wish to expand into the international market or become international from their inception (Born Global firms) could turn to expert and returnee entrepreneurs to proactively recognize opportunities in foreign markets. Third, Spanish entrepreneurs who are unable to access *international business experience* should not be discouraged. They should know that staying alert is especially important, as they may identify an international business opportunity in one of their day-to-day activities, in unexpected conversations, or even while on vacation. In short, without the imperative need to have a proactive attitude towards international markets. Fourth, Spanish entrepreneurs who have suffered a domestic failure can still learn from that *negative*

*entrepreneurial experience* to actively pursue a business opportunity in the international market. On that note, these entrepreneurs should follow a proactive strategy to be able to recognize this opportunity.

## *5.3 Limitations and Future Research*

This research has some limitations that need to be highlighted, which opens up future research lines. First, the findings are based on a sample of international entrepreneurs from one region of Spain. Although this approach is beneficial in mitigating the influence of environmental elements and uncontrolled external interferences and thus increases the understanding of the behavior of individuals in a specific area, this approach reduces the scope for further generalization of results. In this sense, it would be beneficial for other scholars to extend this empirical research to other contexts within Spain and other countries. Second, although we have followed the suggestions of previous studies to measure the international living experience, we believe that a limitation of our work has been to measure the international working experience and the international studying experience with a single item that includes both aspects. Future studies measuring these items separately would allow studying both situations and giving a better explanation of the relevance of each of them. Finally, even if we took measures to mitigate recall bias in retrospective data, asking respondents about an event that occurred in the past may lead to loss of information due to memory failure. Future studies could attempt to address this limitation by analyzing entrepreneurs at the time they identify an IO.

Finally, four new avenues of research emerge from our findings. First, by focusing on the role of previous domestic negative entrepreneurial experience in IOR, we acknowledge that other experience related-factors (non-international experience-related factors) can affect IOR process. Therefore, future studies should delve into the role of domestic negative entrepreneurial experience in the IOR process and explore other types of previous experience that could influence this process. Indeed, our results suggest that future work using domestic entrepreneurial experience should disaggregate by the nature of such experience to better understand its impact on the IE process. Second, the fact that we have developed a measurement scale for IOR based on two facets (active search and serendipitous discovery) opens the door to applying this scale in future studies to delve into the antecedents and outcomes of this processes since current measurement models do not allow this type of analysis to be performed.

Third, our results highlight the relevance of previous experience to understand IE in Spain and underscore its relevance throughout the entire IE process. Future studies on IE in Spain (especially those focused on the entrepreneur) should explore the impact of previous experience on other aspects or IE stages (e.g., international opportunity evaluation, international opportunity exploitation) and incorporate previous experience as a factor that can moderate certain relationships for a better understanding of Spanish IE. Fourth, the fact that our results fail to support

Hypothesis 4 suggests that further research is needed to understand the fundamental reasons why Spanish returnees and locals are equally likely to identify IOs serendipitously. For example, it would be interesting to analyze whether the amount of international living experience at some point in time causes these two groups to differ.

## 6 Conclusion

In sum, this study was motivated by the lack of evidence in determining the role of prior international experience/inexperience (both international business and international living experience) and domestic negative entrepreneurial experience in recognizing international opportunities. Our findings reveal that such types of experience/inexperience explain international opportunity recognition processes and, thus, are relevant for understanding international entrepreneurship in Spain. Expert, returnee, and resilient serial entrepreneurs are more likely to identify IOs through systematic search. In contrast, novice entrepreneurs and those without past negative entrepreneurial experience in the domestic market are more likely to discover IOs fortuitously. Unexpectedly, neither local nor returnee Spanish entrepreneurs are more prone to discover international opportunities serendipitously.

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## Appendix : Questionnaire Items

| Construct/items | |
|---|---|
| Please indicate your level of agreement with each of the following statements regarding the identification of the business opportunity that you are currently pursuing (developing) in the international market.<br>*Active international opportunity recognition (AIOR) (Adapted from* Kuckertz et al., 2017 *and* Hilmersson et al., 2021a*)* | |
| AIOR1 | I researched international markets to identify the business opportunity through an organized/methodical process |
| AIOR2 | I intentionally searched for foreign customer needs for which I have developed a solution subsequently |
| AIOR3 | In the search for the international opportunity, I took my time |
| AIOR4 | I examined and questioned existing solutions (own and/or competitors') in a purposeful way to generate the new international business idea |
| AIOR5 | I looked for information to generate new ideas for products or services focused on the international market |
| AIOR6 | I regularly analyzed the international environment to find the business opportunity |

(continued)

| Construct/items | |
|---|---|
| *Serendipitous international opportunity recognition (SIOR) (Adapted from* Hilmersson et al., 2021a, Lorenz et al., 2018 *and* Nicolaou et al., 2009*)* | |
| SIOR1 | I had a "state of alert" or special sensitivity to detect the opportunity in the international market |
| SIOR2 | It is difficult to explain how I came up with the international business idea; it just came to me spontaneously |
| SIOR3 | I got the international business idea from conversations with other people |
| SIOR4 | I had the intuition to identify the opportunity in the international market |
| SIOR5 | Although it was not my intention, I identified the opportunity to initiate a new business in the international market |
| *International business experience (IBE) (Adapted from* Ciravegna et al., 2014*)* | |
| IBE | How many years have you been involved in export and internationalization activities prior to identifying the international opportunity you are currently pursuing? |
| *International living experience (ILE) (Adapted from Takeuchi & Chen,* 2013*)* | |
| ILE | Did you have any international life experience (working or studying outside the home country) for more than 3 months prior to identifying the international opportunity you are currently pursuing? |
| *Past negative entrepreneurial experience (PNE) (Adapted from Lafuente et al.,* 2019*)* | |
| PNE | Did you have any negative entrepreneurial experience in the domestic market prior to identifying the international opportunity you are currently pursuing? (e.g., closure/sale/failure of a business whose performance was too low to your expectations) |

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# Intrapreneurship in Tennis: Tell Me Who You Are... and I Will Tell You What Your Intentions Are


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**Abstract** Intrapreneurship in sport has a positive effect on the performance and competitiveness of organisations. Intrapreneurs are able to discover new opportunities and exploit them by making use of innovation and risk-taking. However, studies on the antecedents of intrapreneurship intentions of employees in sports organisations are practically non-existent at present. Thus, the aim of this study is to find out the combination of conditions that generate high and low intrapreneurial intentions in employees of tennis centres. For the data collection, a questionnaire composed of previously validated scales was used. The data were analysed using Qualitative Comparative Analysis (QCA) methodology. The results showed four solutions for high intrapreneurship intentions that were able to explain 57% of the cases. The most explanatory solution was the combination of high levels of education*occupying a position of lower responsibility*low levels of satisfaction with recognition*high levels of satisfaction with relationships*high levels of satisfaction with promotion possibilities (consistency: 0.86; coverage: 0.35). In addition, the conditions being older, satisfaction with promotion possibilities and occupying positions of less responsibility were present in three of the four solutions. In contrast, for low levels of intrapreneurship intentions, three solutions were found that were able to explain 57% of the cases. The most explanatory solution was the combination of younger age*lower responsibility*high levels of relationship satisfaction (consistency: 0.84; coverage: 0.54). The results of this study present important practical implications for facilitating intrapreneurship within tennis centres and improving their competitiveness in the sports industry.

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## 1 Introduction

Sports entrepreneurship is a discipline that is beginning to be very present for governments and public bodies, as well as for the scientific community (Ratten & Tajeddini, 2019). Moreover, the sports industry is one of the most globalised in the world, which requires its managers to continuously generate ideas that allow them to remain competitive in a changing, growing and diversified market (Ratten, 2012; Ratten & Ferreira, 2017). Thus, a sub-theme of entrepreneurship, intrapreneurship, is beginning to grow in importance and relevance in research and organisational practice (Blanka, 2019). At a generic level, in recent years there has been a boom in the number of works linked to intrapreneurship (Baena-Luna & García-Río, 2021). However, intrapreneurship is less developed in the sports domain, there being only a few publications in this regard (González-Serrano et al., 2018; González-Serrano et al., 2019; Lara-Bocanegra et al., 2021).

Due to the COVID-19 pandemic, intrapreneurship, thanks to its characteristics, could be a more than feasible solution for organisations to cope with the upcoming situation, as intrapreneurs play a major role in innovation and competitive advantage (Blanka, 2019). Likewise, González-Serrano et al. (2019) stated that intrapreneurship presented a positive effect on the performance and competitiveness of organisations both in the short and the long term. In this sense, intrapreneurs are able to find early signals of new opportunities and threats, taking advantage of the underlying opportunities, and transforming threats into opportunities to anticipate market needs (Garzón, 2005).

To reduce the existing gap between the research and professional spheres (Ratten & Tajeddini, 2019), and due to the importance of these subjects, it is necessary to carry out an analysis of the cultural variables or precursors of intrapreneurial intention. In addition, it is important for both researchers and organisations that aim to promote intrapreneurship to gain a deeper understanding of the factors that influence it (Blanka, 2019). In this sense, there are some studies that have highlighted gender as a possible precursor, as well as age, responsibility in the organisation and employee satisfaction (Battilana, 2006; González-Serrano et al., 2018, 2019; Howard-Grenville, 2007; Kraus et al., 2019; Meyerson & Scully, 1995). However, all these studies were conducted with workers from other sectors or with university students of Sports Science. Therefore, this study aims to analyse the precursors of high and low intrapreneurial intentions of employees of tennis sports organisations, taking into account different variables.

Thus, the paper is structured in five blocks. The first is the introduction, where the theoretical framework and the current situation from which this research emanates will be addressed. The second block presents the methodology used, describing the sample of participants and the data collection and analysis procedure. The third section sets out the results of the research. The fourth section contains the discussion, while the fifth section considers the conclusions reached as a result of this research.

## *1.1 Intrapreneurship and Characteristics*

Intrapreneurship is linked to employees acting as entrepreneurs within companies, seeking the benefit of the companies (Pinchot, 1985). For Blackburn et al. (2014), this concept relates to employee initiatives within the boundaries of organisations to develop new projects. Traditionally, intrapreneurship has been presented as a way of capturing the creativity, sense of purpose and excitement of entrepreneurship, with less risk and greater resources (Corbett, 2018; Pinchot & Pellman, 1999). Moreover, because they are motivated, proactive and action-oriented employees, they take responsibility for turning an idea into a profitable business reality for their organisation, being able to create new prototypes, test ideas with potential customers, learn what works and what does not, redesign products, and overcome any barriers that stand in their way (Pinchot & Soltanifar, 2021). Along the same lines, González-Serrano (2019) presented intrapreneurs as subjects with highly accentuated characteristics, such as taking initiatives, recognising opportunities, generating novel elements and some degree of risk-taking. Several authors have attempted to synthesise the main characteristics of these subjects (Calabuig & González-Serrano, 2017; Garzón, 2005; González-Serrano et al., 2018; Krauss et al., 2005; Moriano et al., 2009):

- Entrepreneurship and priority for the internal project.
- Creative and innovative vision, imagination.
- Need to act, high need for achievement.
- Dedication, constancy, persistence, tenacity and desire for autonomy.
- Ability to organise and work in self-directed teams.
- Holistic view of market needs.
- Proactive and risk tolerant leadership.
- No financial responsibility.
- Must report to and seek support from superiors.
- Achievement orientation, risk-taking, autonomy and personal initiative.

The literature demonstrates that these characteristics must be supported by immediate superiors, providing confidence, freedom and resources to the subjects so that intra-entrepreneurial behaviours can emerge (Gupta et al., 2004; Hornsby et al., 2002; Kuratko et al., 2005; Ling et al., 2008; Ribeiro & Comeche, 2007; Wakkee et al., 2008). At the same time, the type of leadership exercised by the top level of the organisations stands out, since if middle and senior management encourage creativity and entrepreneurship within the company, intrapreneurs will be able to develop, and feel valued and stimulated towards intrapreneurship (Moriano et al., 2014). Identification with the organisation also has a positive influence on intrapreneurial behaviour (Moriano et al., 2009, 2014). In this sense, the employee who feels ownership of the successes and failures of the organisation is fully committed to it and will act as an intrapreneur for it (Moriano et al., 2009, 2014).

In relation to intrapreneurial behaviour, the literature links it to various interrelated concepts such as risk-taking, innovativeness, proactivity, autonomy and achievement orientation (Antoncic & Hisrich, 2001; Covin & Slevin, 1991; Krauss et al., 2005; Lumpkin & Dess, 1996). Among all these concepts, the most widely used and considered fundamental are innovation and risk-taking (González-Serrano et al., 2018, 2019; Moriano et al., 2009; Stull & Singh, 2005). For this reason, these are the concepts that will be addressed in this paper, presenting innovation as the ability to develop new ideas and implement them, while risk-taking will be considered as the tendency to situations that can bring huge benefits to the organisation in the case of success and important consequences in the case of worker error or failure of the idea (Amabile, 1997; Brockhaus, 1980; Morris & Kuratko, 2002).

## *1.2 Intrapreneurship Intentions*

According to Lara-Bocanegra et al. (2021), intrapreneurship in sport is a concept that is little developed and approached in a very diverse way, presenting studies from different perspectives and themes (e.g. intrapreneurial intention, validation instruments, etc.). However, despite the importance that intrapreneurship has acquired for organisations (Moriano et al., 2009), current studies tend to be closely linked to the intrapreneurial intentions of university students (González-Serrano et al., 2018; González-Serrano et al., 2019; Sajadi et al., 2017) and rarely to the entrepreneurial orientation of organisations (Escamilla-Fajardo et al., 2019, 2020; Nakhaei et al., 2013; Seifari & Amoozadeh, 2014). Thus, there are no studies focusing on the intrapreneurship intentions of employees in sports organisations, making it very difficult to understand their profile and trends. As Razavi and Ab-Aziz (2017) argue, little research has been done on intrapreneurial intentions, which are an important predictor of intrapreneurial behaviour.

The literature states that intrapreneurial intention is a person's desire to be an intrapreneur, developing as an employee who innovates and participates in the development of new goods or services within the boundaries of the organisation (Martiarena, 2013). For Wu (2009), it refers to the intention to carry out entrepreneurial actions in an existing organisation. Thus, understanding the development of intra-entrepreneurial intention can lead to a better understanding of intra-entrepreneurial behaviour (Fitzsimmons & Douglas, 2011).

With regard to the main socio-demographic variables linked to the intention to become an intrapreneur, gender is one of the most studied variables, with female students in Sports Science being the ones who have a greater inclination towards intrapreneurship (González-Serrano et al., 2018). Another variable that has also been studied is age, a predictor of the intention to intrapreneurship in university students of Sports Sciences for some authors (González-Serrano et al., 2018), and irrelevant in other fields of study (Douglas & Fitzsimmons, 2013). For Bosma et al. (2012), subjects with intrapreneurial intentions are younger than 35 years old, while for Parker (2011) younger (due to their lack of resources) and older subjects (due to their

lack of motivation to create a company, but to innovate within an existing organisation) present a greater probability of intrapreneurship. In this sense, Guerrero and Peña-Legazkue (2013) stress the importance of acquired experience in intrapreneurship. Experience is acquired with the passage of time, knowledge of the market and exposure to different stimuli, fostering decision-making and stimulating it. Therefore, the following proposition is presented:

**Proposition 1** Being older is a causal condition for high levels of intrapreneurship intentions.

On the other hand, the educational or training level developed by the subject is also considered since high levels of training increase the probability of intrapreneurship (Urbano & Turró, 2013). In this line, several authors indicate that higher levels of education lead to a higher level of cognitive complexity, which is related to the ability to cope with uncertain and changing environments, making decisions to stimulate renewal and change in an organisation (Camelo-Ordaz et al., 2012; Ginsberg, 1990; Thompson et al., 2010). Therefore, the following proposition is presented:

**Proposition 2** Having a higher educational or training level is a causal condition for high levels of intrapreneurship intentions.

In another sense, it is also stated in the literature that occupying a position of responsibility and employee satisfaction influence the appearance of intra-entrepreneurial behaviour. Several authors indicate that intra-entrepreneurial behaviours emerge in lower-middle level workers motivated to occupy a higher position in the organisation's organisational chart, and having a sense of dissatisfaction. They feel driven to create something new to boost their careers (Battilana, 2006; Howard-Grenville, 2007; Kraus et al., 2019; Meyerson & Scully, 1995). Intra-entrepreneurial behaviour therefore occurs bottom-up in the organisation (Amo, 2010), employees are in charge of transmitting their ideas/proposals to the top of the organisation. Likewise, high horizontal participation and proposals emanating from employees to middle management are positively related to intra-entrepreneurial behaviours (Amo, 2010; Rigtering & Weitzel, 2013). For some authors, middle managers are as inherent agents of intra-entrepreneurship and therefore intra-entrepreneurs (Kuratko et al., 2005). In this sense, middle managers have a dual role, as they act as a stimulus for the promotion of ideas from operational level employees and as facilitators of these ideas, as they will be the ones in charge of presenting them to top management and raising funds to carry them out. However, all this would not be possible without the support of management, as high resource availability and a clear management commitment to intrapreneurship act as precursors to this behaviour (Menzel et al., 2007; Rigtering & Weitzel, 2013). Therefore, the following proposition is presented:

**Proposition 3** Holding positions of lower responsibility is a causal condition for high levels of entrepreneurial intentions.

Regarding job satisfaction, it has traditionally been indicated that intrapreneurs leave organisations with low levels of job satisfaction, but Johnson and Wu (2012)

indicated the opposite, finding that intrapreneurs left organisations with high levels of job satisfaction. The contradictory results led other authors to argue that the employee's relationship with managers had an influence on the self-efficacy and intrapreneurial behaviour of the organisation's employees (Rigtering & Weitzel, 2013; Wakkee et al., 2008), which is an important basis for job satisfaction. In addition, the literature shows that various factors, such as fostering the level of autonomy, and delegating authority and responsibility, increase job satisfaction (Kuratko et al., 2005). Likewise, improving employee job satisfaction involves improving employee relationships and their perceived quality (Bernal-González et al., 2015; Rodríguez et al., 2011). Therefore, the following propositions are presented:

**Proposition 4** Possessing high levels of satisfaction with management-employee relationships is a causal condition for high levels of entrepreneurial intentions.

**Proposition 5** Having high levels of satisfaction with promotion possibilities is a causal condition for high levels of entrepreneurial intentions.

Therefore, it is necessary to develop a study within the framework of sports organisations on the variables that act as predictors of intrapreneurial intention in these organisations, focusing mainly on age, educational level, responsibility in the company and employee satisfaction.

## *1.3 Tennis Centres and COVID-19*

Although the impact of COVID-19 has been a determining factor in the evolution of sporting practice indicators in Spain, according to the data provided by the survey on sporting habits in Spain 2020 of the Ministry of Education, Science and Sport (MECD, 2021), sporting practice shows an annual rate of 59.6%, which represents an increase of 6.1 percentage points compared to 2015. With regard to the place where sport is practised, the data indicate that sport is practised outdoors 47.1% of the time, indoors 23.1% of the time and 29.8% of the time in both environments indistinctly. Furthermore, 45.3% of those who practise sport use specific facilities for this purpose, which represents a decrease of 13.5 percentage points compared to the previous edition of the survey (MECD, 2021).

The number of tennis players has decreased by around 50% compared to the 2015 survey (MECD, 2021). Moreover, if we add to this the decrease in the number of federation licences that tennis has experienced in recent pre-pandemic years (Gómez-Chacón et al., 2018), due to some extent to the emergence of other racket and paddle sports (e.g. paddle tennis), we could concur that there is a clear need for greater attention from the scientific community to provide solutions and/or clarify what is happening. As discussed above, intrapreneurs could identify and exploit new opportunities for their organisations that would reverse the aforementioned figures. Moreover, as they indicate that students of sport have a higher entrepreneurial

tendency than their peers in other fields (Holienka et al., 2018) due to the similarities between entrepreneurship and sport, they are a potential resource to re-launch this particular sector and that the knowledge created can be extended to the rest of the sport ecosystem.

For all the above reasons, the main objective of this study is to analyse the precursors of high and low intrapreneurial intentions of employees of sports organisations (in this case tennis centres/organisations), taking into account the differences in terms of age, educational level, responsibility in the organisation and satisfaction of the subjects.

## 2 Method

This section describes the study sample, the instrument, the procedure and the statistical analyses used to analyse the data from this study.

## 3 Participants

The sample consisted of 51 tennis centre workers. Of these, 94.10% were men, while 5.90% were women. The mean age was 29.67 (SD = 9.98) years. Regarding the level of education, 21.60% of them had ESO (Compulsory Secondary Education), 43.10% had secondary education or vocational training, 23.50% had university studies, and the remaining 11.80% had a master's degree. Regarding the position held, 74.50% held positions of little responsibility (sports technician, sports monitor, receptionist, customer service...), 13.70% were coordinators or responsible for an area (medium responsibility), and 11.80% were managers or directors of these centres (high responsibility).

## 4 Instrument

A questionnaire composed of different previously validated scales was used as a measuring instrument. Specifically, the following scales were used:

– Intrapreneurial Intentions Scale: this scale was developed by Stull and Singh (2005) and adapted and validated in Spanish in Sports Science students by González-Serrano et al. (2019). It is composed of seven items that measure the intention of workers to develop entrepreneurial behaviours within the entity in which they work. Specifically, it measures two dimensions, risk-taking and the innovativeness of employees. The Cronbach's alpha of the scale with the sample of this work was 0.94.

– Job satisfaction scale: this is the Overall Job Satisfaction scale (Warr et al., 1979), used in the field of sport by different authors (Gálvez-Ruiz et al., 2017; Grimaldi-Puyana et al., 2018). The scale is composed of 15 items and measures employees' satisfaction with different aspects and behaviours of the entity where they work. Specifically, three items were selected from this scale, relating to intrinsic factors connected with: (1) relations between management and workers in your company, (2) your chances of promotion and (3) recognition you get for a job well done.

To measure these items, a seven-point Likert scale was used, where one means strongly disagree and seven means strongly agree. Finally, a series of questions on socio-demographic data such as gender, age, level of education, and position held were added.

## 5 Procedure

To collect the sample, several meetings were held with the Andalusian Tennis Federation, informing them of the work to be carried out and the repercussions it could have for the entire tennis ecosystem. This organisation proceeded to send three mass mailings of the questionnaire (which was administered online) to the whole database of clubs and coaches in the autonomous community. In this way, the eight provinces of Andalusia were covered and a sample closer to the reality of the group was obtained.

The anonymity of the data was guaranteed at all times, and the participants read and accepted the terms of an informed consent before proceeding to fill in the form on the Google Forms platform. The sample was collected between 01/09/2021 and 30/11/2021.

## 6 Data Analysis

The data obtained from the questionnaires were analysed using the Qualitative Comparative Analysis (QCA) methodology. This is a growing methodology in the field of entrepreneurship (Kraus et al., 2018). QCA is based on configurational theory, which implies that antecedent conditions within a configuration operate interdependently on each other, rather than discretely (Douglas et al., 2020). Moreover, conditions combine in an indifferent, and sometimes contradictory, way to achieve the same outcome (equifinality), presenting different paths (Ragin, 2008).

To analyse the data, we first removed all the missing cases and then proceeded to transform the raw data responses into fuzzy set responses. To do this, in the case of the intrapreneurship intentions construct, since the scale was composed of different items, these were multiplied to increase the variability. In the other cases, as only one

item was used to measure them, it was not necessary to perform this procedure. All the constructs were then recalibrated with values between 0 and 1.

In the case of variables with more than two values (continuous variables), it was necessary to consider three thresholds. The first (0) refers to an observation with this value being completely outside the set (low levels), the second (0.50) represents a midpoint, neither inside nor outside the set (intermediate levels), and the third value (1), considers the observation to be completely inside the set (high levels). Woodside (2013) recommends that the three thresholds should be the 10th, 50th and 90th percentiles. Therefore, we recalibrated the variables intrapreneurship intentions, age, and level of satisfaction with management-worker relationships in their company, their chances of promotion and the recognition they got for a job well done using the three thresholds: tenth percentile (low levels), 50th percentile (intermediate levels) and 90th percentile (high levels). In the case of the categorical variables (educational level and the position held in the company), these were recalibrated manually considering the different levels. As for the level of education, having secondary education was recoded at 0.25, having secondary education or vocational training at 0.50, while having university or higher education was recoded at 0.75. With regard to the position held, the value of 0.25 was used to recode those positions with little responsibility (sports technician, sports monitor, receptionist, customer service...), 0.50 for positions with medium responsibility (coordinators or heads of an area), and 0.75 for positions with high responsibility (managers or directors).

After calibration, tests of necessary and sufficient conditions were carried out. These analyses were conducted to assess the effect of different conditions (constructs) on high and low levels of intrapreneurship intentions. A condition is considered necessary when it must always be present or absent for the existence of a specific outcome. Ragin (2008) suggests that to be a necessary condition consistency must be above 0.90. On the other hand, a condition is considered to be sufficient when the combination of conditions can lead to a specific outcome. However, this specific outcome can also be achieved by other combinations of conditions. To calculate sufficient conditions, fsQCA uses two stages (Sereikhuoch & Woodside, 2012). In the first stage, a truth table algorithm converts the fuzzy set membership scores into a truth table. The solutions must then be sorted by their raw consistency in descending order. The consistency threshold should be selected by observing when there is a large break in the consistency values in the truth table (Schneider et al., 2010).

In the second stage, the fsQCA presents three possible solutions: complex, parsimonious and intermediate. The raw coverage of each configuration is an analogue of the coefficient of determination (R2) in regression analysis (Douglas et al., 2020), thus indicating the proportion of cases in the sample that share a given configuration. As Fiss (2011, p. 403) points out, '... central conditions are those that are part of both parsimonious and intermediate solutions, and peripheral conditions are those that are eliminated in the parsimonious solution and thus only appear in the intermediate solution'. A careful analysis of parsimonious and intermediate solutions allows conclusions to be drawn about the causal essentiality of specific

combinations of causal conditions (Fiss, 2011). Therefore, central and peripheral conditions are presented in this study.

In addition, the notation used by Ragin and Fiss (2008) and Fiss (2011) was used to present the results. Black circles indicate the presence of a condition, white circles indicate the absence of a condition, and the size of the circles represents whether the conditions are central (large circles) or peripheral (small circles). All these analyses were conducted with the statistical package SPSS (Statistical Package for the Social Sciences, Version 21) and the fsQCA programme.

## 7 Results

Table 1 presents the descriptive statistics of the variables and the calibration values used to convert them into fuzzy set conditions. Once these constructs were coded, the first step was to check whether any causal conditions were necessary for high or low levels (~) of intrapreneurship intentions. The second step was to check for sufficient conditions. When performing the analysis of sufficient conditions in the truth table, a threshold was set based on the break in the distribution of consistency scores (Schneider et al., 2010). A minimum consistency threshold of 0.75 is recommended (Ragin, 2008).

### *7.1 Necessary Conditions*

In Table 2, the results of the analysis of necessary conditions for high levels of intrapreneurship intentions are presented. However, no necessary conditions were found, since the consistency values were below 0.90. Therefore, they did not exceed the minimum threshold recommended by Ragin (2008).

**Table 1** Socio-demographic data

| | | Age | Recognition | Relationships | Promotion |
|---|---|---|---|---|---|
| Mean | | 29.67 | 5.49 | 5.94 | 5.00 |
| Standard deviation | | 9.979 | 1.617 | 1.392 | 1.990 |
| Minimum | | 18 | 1 | 3 | 1 |
| Maximum | | 52 | 7 | 7 | 7 |
| Percentiles | 10 | 19.00 | 3.00 | 3.00 | 1.00 |
| | 50 | 27.00 | 6.00 | 6.00 | 6.00 |
| | 90 | 46.60 | 7.00 | 7.00 | 7.00 |

*Note*: Recognition-Satisfaction with the recognition they get for a job well done; Relationships-Satisfaction with management-worker relations in their company; Promotion-Satisfaction with promotion possibilities

**Table 2** Necessary conditions for Intrapreneurship Intentions (II) and ~ Intrapreneurship Intentions

| | Intrapreneurial intentions | | ~ Intrapreneurial intentions | |
|---|---|---|---|---|
| | Consistency | Coverage | Consistency | Coverage |
| Educational level | 0.67 | 0.57 | 0.69 | 0.72 |
| ~ Educational level | 0.68 | 0.64 | 0.59 | 0.69 |
| Age | 0.66 | 0.63 | 0.53 | 0.63 |
| ~ Age | 0.60 | 0.51 | 0.60 | 0.72 |
| Position | 0.24 | 0.58 | 0.19 | 0.56 |
| ~ Position | 0.82 | 0.45 | 0.86 | 0.59 |
| Recognition | 0.64 | 0.56 | 0.66 | 0.71 |
| ~ Recognition | 0.67 | 0.61 | 0.59 | 0.67 |
| Relationships | 0.70 | 0.50 | 0.76 | 0.67 |
| ~ Relationships | 0.54 | 0.64 | 0.44 | 0.65 |
| Promotion | 0.66 | 0.62 | 0.59 | 0.68 |
| ~ Promotion | 0.66 | 0.56 | 0.67 | 0.71 |

*Note:* Recognition-Satisfaction with the recognition they get for a job well done; Relationships-Satisfaction with management-worker relations in their company; Promotion-Satisfaction with promotion possibilities

## *7.2 Sufficient Conditions*

For the intermediate solution, it was considered that the presence of all conditions except the position of responsibility held (presence or absence) would lead to high levels of intrapreneurship intentions. The frequency cut-off in the truth table was set to 1, and the consistency cut-off was set to 0.81. The intermediate solution consisted of five causal configurations (combinations of conditions) that were able to explain 57% of the high cases of intrapreneurship intentions (consistency: 0.82; raw coverage: 0.57).

The most explanatory solution was the combination of high levels of education, occupying a position of lower responsibility, having low levels of satisfaction with the recognition they get for a job well done, and having high levels of satisfaction with management-employee relations and promotion possibilities (consistency: 0.86; coverage: 0.35). The second most explanatory solution was the combination of low levels of education, older age, being in a position of less responsibility and having high levels of satisfaction with management-worker relations (consistency: 0.85; coverage: 0.34). The third most explanatory solution was the combination of high levels of education, older age, low levels of satisfaction with management-worker relations and high levels of satisfaction with promotion possibilities (consistency: 0.88; coverage: 0.25). The fourth most explanatory solution was older age, being in a position of lower responsibility, high levels of satisfaction with the recognition they get for a job well done, and the possibilities for promotion, and low levels of satisfaction with management-worker relations (consistency: 0.93; coverage: 0.18). Finally, the least explanatory solution was the combination of

**Table 3** Intermediate solution of sufficiency analysis for II and ~ II

| | II<br>Cut-off consistency: 0.81 | | | | | ~ II<br>Cut-off consistency: 0.9 | | |
|---|---|---|---|---|---|---|---|---|
| Cut-off frequency: 1 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 |
| Educational level | ● | ○ | ● | | ● | | | ○ |
| Age | | ● | ● | ● | ● | ○ | | ○ |
| Position | ○ | ○ | | ○ | ● | ○ | ○ | ○ |
| Recognition | ○ | | | ● | | | ● | ○ |
| Relationships | ● | ● | ○ | ○ | ○ | ● | | |
| Promotion | ● | | ● | ● | | | ○ | ● |
| Consistency | 0.86 | 0.85 | 0.88 | 0.93 | 0.86 | 0.84 | 0.89 | 0.93 |
| Raw coverage | 0.35 | 0.34 | 0.25 | 0.18 | 0.12 | 0.52 | 0.38 | 0.21 |
| Unique coverage | 0.13 | 0.12 | 0.01 | 0.01 | 0.01 | 0.17 | 0.06 | 0.01 |
| **Total solution consistency** | 0.82 | | | | | 0.81 | | |
| **Total solution coverage** | 0.57 | | | | | 0.58 | | |

*Note*: ● = presence of the condition, ○ = absence of the condition; almost all sufficient conditions had adequate raw coverage between 0.12 and. 52. Recognition-Satisfaction with the recognition they get for a job well done; Relationships-Satisfaction with management-worker relations in their company; Promotion-Satisfaction with promotion possibilities. Expected vector for II: 1.1.1–0.1.1.1 (0: absence; 1: presence); Expected vector for ~ II: 0.0.1–0.0.0.0 using Fiss' (2011) format

high levels of education, older age, occupying a position of greater responsibility and low levels of satisfaction with management-worker relations (consistency: 0.86; coverage: 0.12). These solutions were able to explain 35%, 34%, 25%, 18% and 12%, respectively, of the cases of high intrapreneurship intentions (see Table 3).

Subsequently, the sufficiency analysis was conducted for low levels of intrapreneurship intentions. For the intermediate solution, it was considered that the absence of all conditions except the occupied position of responsibility (presence or absence) would lead to low levels of intrapreneurship intentions. The frequency cut-off of the truth table was also set to 1, and the consistency cut-off to 0.81.

Specifically, in this case, three solutions were obtained that were able to explain 58% of the cases of low intrapreneurship intentions (consistency: 0.81; coverage: 0.58). The most explanatory solution was the combination of younger age, lower positions of responsibility and high levels of satisfaction with management-worker relations (consistency: 0.84; coverage: 0.54). The second most explanatory solution was the combination of being in positions of lesser responsibility and having high levels of satisfaction with the recognition they get for a job well done and low levels of satisfaction with promotion possibilities (consistency: 0.89; coverage: 0.38). Finally, the least explanatory solution was the combination of low levels of educational attainment, younger age, holding positions of lesser responsibility, and low levels of satisfaction with the recognition they get for a job well done and high levels of satisfaction with promotion possibilities (consistency: 0.93; coverage: 0.21). These solutions were able to explain 54%, 38% and 21% of the cases of low entrepreneurial intentions, respectively.

## 8 Discussion

Intrapreneurship has gained importance in recent years due to the benefits it brings to the performance and competitiveness of organisations (Baena-Luna & García-Río, 2021; Blanka, 2019; González-Serrano et al., 2018, 2019; Lara-Bocanegra et al., 2021). Therefore, due to the competitiveness of the sports industry, it is of vital importance to know the factors that can help foster the entrepreneurial intentions of sports organisations, in this case, of tennis club workers. Developing sports policies to foster intrapreneurship within these organisations will have a positive impact on their economic, social and sporting performance.

Regarding the results found in this work, the age of the employees in the tennis centres is a factor to consider, as it is a condition that was found to be present in four of the five solutions. It seems that potential intrapreneurs can be found among older employees, which may be because they have higher levels of professional experience, or because they have been working in the company for more years and therefore have a deeper knowledge of the company (González-Serrano et al., 2018; Guerrero & Peña-Legazkue, 2013; Parker, 2011). This experience is undoubtedly acquired with the passage of time and full knowledge of the sector, although the time required could be reduced if employees at the top of the organisations were trained to know how and why the sector works in a certain way.

On the other hand, the position occupied within the tennis clubs, i.e. being in positions of lower levels of responsibility, may also favour such intrapreneurial intentions, which is in line with the findings of several authors (Battilana, 2006; Howard-Grenville, 2007; Kraus et al., 2019; Meyerson & Scully, 1995). Intra-entrepreneurship is a bottom-up current in the organisation (Amo, 2010), but it requires key figures, such as middle management (e.g. sports coordinators). In this study, it has been found that tennis coaches (lowest position of responsibility in the club) have a higher intention of intra-entrepreneurship, which is in line with the literature (Battilana, 2006; Howard-Grenville, 2007; Kraus et al., 2019; Meyerson & Scully, 1995). Therefore, to materialise such intrapreneurial intentions into real future behaviour, it is necessary to listen to employees and take their ideas into account, as well as to detect potential intrapreneurs and place them in middle management positions so that they are able to motivate coaches to intrapreneurship and defend/present the proposals to the organisation's management.

The most important conditions for generating such intrapreneurial intentions are having a high level of education, having high levels of satisfaction with the recognition given in the company for tasks well done, and having the possibilities of promotion. The fact that having a high level of education is linked to a greater intention to become an intrapreneur has already been explained by Urbano and Turró (2013). This higher education is linked to a higher level of cognitive complexity and to a greater adaptability to diverse environments in which decisions would have to be made to renew the organisation (Camelo-Ordaz et al., 2012; Ginsberg, 1990; Thompson et al., 2010). Moreover, in relation to high levels of satisfaction with recognition and promotion possibilities, these results are in line with Moriano et al.

(2009), who argued that management support (in this case, recognition for tasks well done) and the use of rewards (in this case, promotion possibilities) have a direct impact on the identification of subjects with organisations, and this in turn on intra-entrepreneurial behaviours. Thus, having employees with high levels of intrinsic satisfaction will lead to a greater identification with the organisation and, therefore, greater intra-entrepreneurial intention and behaviour. However, having a lower level of education but older age and having high levels of satisfaction with employer-employee relations is also important. In this sense, and as discussed above, experience seems to be a differentiating aspect that in most cases is provided by age. Perhaps in this sense, having a lower level of education could be balanced with a high level of experience in the sector. Moreover, if we add to this the importance of satisfaction in terms of the relationships established between employees and the organisation, we would be focusing directly on identification with the organisation and engagement. In this sense, several authors indicate that employees with high levels of autonomy and activities delegated by their superiors have high job satisfaction and performance, implying an increase in the competitiveness and effectiveness of their organisations (Kuratko et al., 2005; Lumpkin, 2007; Moriano et al., 2009).

On the other hand, being older but having low levels of satisfaction with employer-employee relations but high levels of satisfaction with promotion possibilities is important. This could be explained by the importance of the use of rewards in organisations (Lumpkin, 2007; Moriano et al., 2009; Morris & Kuratko, 2002). Thus, older (and possibly more experienced) individuals with promotion possibilities may be more willing to get involved in the organisation to which they belong, as they foresee that this may bring them benefits. It is true that one must be cautious in the use of incentives (e.g. promotion), since an unwise or poorly managed use could lead to an excessive zeal for the work of employees and inhibit intra-entrepreneurial behaviour (Moriano et al., 2009).

Finally, having a high level of education, holding positions of high responsibility, and having low levels of satisfaction with employee-employer relations were also found to be important. In this last case, the situation of managers or middle managers who hold positions of high responsibility and have the intention to be intra-entrepreneurs and possibly act as intra-entrepreneurs within the organisation is presented. As for the low levels of satisfaction linked to relationships, this could be explained by the situation of having to mediate and/or sometimes control their colleagues, so some differences could arise between them. However, the literature advocates fostering good relationships between employees and entrepreneurs, which will have a direct impact on intra-entrepreneurial behaviour (Rigtering & Weitzel, 2013; Wakkee et al., 2008).

## 9 Conclusions

This paper is, to our knowledge, the first study to analyse intrapreneurship intentions in the sports sector with employees of tennis sports organisations, focusing on the precursors of this intention (age, educational level, level of responsibility and intrinsic job satisfaction). Thus, further research on intrapreneurship in the sports sector and its employees is needed, as it could be a fundamental pillar to support the growth of the sector.

Encouraging entrepreneurship within the sports sector is of vital importance to improve competitiveness and performance within the industry. Efforts should be made to harness the great potential that the human capital of the sports industry possesses. Many of these workers have been involved in sport, which has given them skills that are highly transferable to intra-entrepreneurship. Therefore, it is necessary to design sport policies to foster intrapreneurship within sports organisations, and, in this particular case, within tennis centres. Specifically, the findings of this study have shown that being older can be a good indicator of those people who seem to be more predisposed to act in an intrapreneurial way. Therefore, the role that older or more senior employees play within the company should not be underestimated. In some cases, it seems that the experience they have acquired provides them with knowledge that can make up for a lack of training.

Furthermore, not only the opinions of those employees who occupy higher levels of responsibility (managers, directors...) in the tennis centres should be considered, but also those who occupy positions of lesser responsibility (sports technician, sports instructor, receptionist, customer service...among others). These employees also seem to have a strong disposition towards intra-entrepreneurial behaviour, so their opinion should be taken into account. In this line, although on some occasions it has not proved to be a determining factor, it is also important to develop strategies to improve relations between management and employees. Establishing networking dynamics and fostering a participative and open climate can be very useful.

However, it does not seem to be so important for employees in tennis centres to be satisfied with the recognition they get for a job well done, but rather with the possibilities for promotion that this presents. Therefore, establishing different levels or ranks for promotion within the tennis centres could be interesting to promote intra-entrepreneurship.

For all these reasons, this work has a direct impact on the reality of a sector – sports – and on a specific ecosystem – tennis. This study provides greater knowledge about subjects with intrapreneurial potential, so both at the research and professional level it is hoped that these findings will serve as a guide for future research related to this topic and, above all, serve the managers/directors of tennis centres for them to be able to remain competitive and relaunch the practice of this sport, increasing the number of practitioners and the number of intrapreneurs in their centres.

## 10 Limitations and Future Research

Finally, it is necessary to mention that this study has a number of limitations. First, the results obtained are not generalisable to all sports clubs since the sample selected is only from tennis sports organisations. Therefore, future studies should use samples from different sports organisations (swimming, athletics, football, basketball...) to find out whether the predictors of intrapreneurship intentions differ according to the type of sport offered by the club or organisation. Second, the number of variables used was limited, so future studies could analyse the relationships of other variables with intrapreneurship intentions. Finally, as the sample comes from tennis organisations from only one region of one country, future studies should try to analyse whether the region and/or country where the organisations are located plays a moderating role in the determinants of the intrapreneurship intentions of employees of sports organisations.

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# Strategy as a Tool for Management and Organizational Performance: Case Study in a Microenterprise—Araxá-MG


**Waldecy Carvalho de Lima**

**Abstract** This article aimed to investigate the use of strategic tools and their effects on the performance of a microenterprise in the food sector, in the city of Araxá-MG. An exploratory research was carried out through a single case study, using semi-structured interviews as a data collection technique. The results show that a proactive, systemic, and educated manager can make a difference in his area of expertise, and with teamwork, the company can "talk" to both internal and external customers, as well as to competitors and suppliers. Your business, where you operate and where you want to go. A company that learns can also teach, grow, and become a reference in the market using strategies applied in the segment in which it operates.

## 1 Introduction

The purpose of this work is to identify the process of formation and use of strategies, which can promote innovation and changes, organizational performance and competitive positioning in the scenario of a microenterprise. In other words, analyze factors that contribute positively and negatively to a microenterprise and how it can expand, grow within its area of operation or in other areas, focusing on differentiated strategic actions.

Micro and small businesses, or entrepreneurial organizations, according to Mintzberg et al. (2006, p. 268), need to restructure their production processes, review their traditional management and planning models to assimilate adaptations and requirements and produce innovations so that become competitive, ensuring their survival in the market. For Mintzberg et al. (2006, p. 269), the "structure of the entrepreneurial organization is always very simple, characterized above all by what it is not: elaborate." Organizations need to have a clear and coherent vision of their goals and objectives, using innovative and appropriate tools as a differential in the environment in which they operate.

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For da Santos et al. (2007), small companies in general have the potential to offer a large contribution to the gross national product, high use of labor at low cost, and considerable performance in large-scale enterprises. These organizations characterize a typically national business class. However, there is a natural deficiency in them in relation to strategic tools, preventing the perception of growth opportunities within the area or market in which they operate, and it is also evident, in some cases, the lack of measurement of the organization's performance and marketing positioning.

For Mintzberg et al. (2006), the activities are very little formalized, and the use of planning or training routines is minimal. In this environment of changes in business relations and trend towards an integrated economy, and a fierce and truly competitive arena, it is also noted that organizations are being forced to develop or implement strategies to obtain a differentiated advantage over the competition.

For micro and small business managers, often classified as entrepreneurs, the need to act independently or as part of an organization and turn this action into an entrepreneurial opportunity is vital. For this, they constantly take the risks to develop an innovation and try to put it into practice.

Many micro-enterprises have invested in the issue of quality, whether in the products or services provided or in the service they provide to customers. This new working condition has given micro and small companies the concern and need to behave like large companies, being able to invest in areas that were previously unnoticed or ignored by micro-entrepreneurs. These, for the most part, understood that some business procedures would only be used in large companies and that in micro companies they would be costs and not investments (Sebrae, 2008).

For Campos (2004, p. 38), this new structuring in the way microenterprises work has contributed to greater gains for the consumer: increased competition makes companies seek to satisfy their desires, demanding from the sectors directly responsible for formulation of strategies to be able to meet all your needs. Drawing up a strategy implies, according to the author, knowing where and when this interaction takes place in the time and space in which the company is inserted.

The various actions of development, implementation and monitoring of strategies within the scope of micro and small companies deserve more careful analysis and this is the reason for this study. With this objective, the work structure, innovation and strategy of entrepreneurs in a micro-enterprise, in the city of Araxá-MG, whose business is the sale of homemade sweets, emerged at the end of 1969 with products that at that time they already stood out for their quality and diversity.

It is opportune to remember the words of Mintzberg et al. (2006, p. 269) "the entrepreneur or owner, conducts the organization simply with the strength of personality or by more direct interventions."

The theoretical framework, methodology, results, and conclusions are presented below.

## 2 Theoretical Foundation

### *2.1 Organizational Strategy and Performance: Concept and Applicability*

The business strategy has evolved a lot over time and aims to better understand companies and their environment.

> Strategy ideas were heavily influenced by the view that success would occur when the company adjusted its strategy and internal strengths to the turmoil of the external environment. In other words, the more dynamic and full of changes a business environment, the more flexible companies should be, even if this represents losing efficiency (Fontes Filho, 2006, p. 19).

The concept of strategy for Andrews (1981),quoted by Mintzberg et al. (2001), it is a pattern of decisions that determine its objectives, the course of the business, and that can produce the main policies and plans, in addition to identifying the business segment in which the organization is inserted, the nature the economic and non-economic contributions to be made to shareholders, employees, customers and the community. For Fleury and Fleury (2004, p. 55), "the main focuses of analysis are products, consumers and competitors, and the company's strategy must result from the identification of trends and opportunities."

All organizations, according to Porter (1986), have an implicit or explicit strategy. The author conceptualizes strategy as the development of a broad formula for how a company will compete, as well as the policies and goals necessary to achieve its objectives. Competitive strategy is "a combination of the ends (goals) that the company seeks and the means (policies) by which it is seeking to get there" (Porter, 1986, p. 16).

Fontes Filho (2006) presents in Table 1 the evolution of strategic thinking, showing that the identification of competitive advantage can allow the development of strategic tools to create new service offerings, and also that the classic methodologies of competitive strategic planning started to function as instrument of these competencies, disseminating strategic thinking within the organization and disciplining administrative, collective and negotiated choices, prioritizing objectives and strategies, and formulating and implementing action plans.

Strategic management, according to Hunger (2002, p. 04), "is the set of decisions and strategic actions that determine the long-term performance of a corporation." This type of management includes in-depth analysis of the internal and external environments, strategy formulation, strategic or long-term planning, strategy implementation, evaluation and control. The author also mentions that the study of strategic management emphasizes the monitoring and evaluation of external opportunities and threats in the face of a corporation's strengths and weaknesses. According to Senge (1990), learning does not only mean acquiring information or knowledge, it is necessary to have a systemic and differentiated view to expand results.

**Table 1** Evolution of strategic thinking

| Decade. | Theme dominant | Focus | Main concepts and techniques | Implications for the organization |
|---|---|---|---|---|
| 50s | Budget planning and control | Financial control through budgets | Financial budget. Investment planning and project evaluation | Financial management as a key to corporate functions |
| 60s | Corporate planning | Planned growth | Market forecast. Diversification and synergy analysis | Development of corporate planning departments. Conglomerate growth. Diffusion of multiple business conglomerates |
| 70s | Corporate strategy | Portfolio planning | Strategic business unit (UEN) as a unit of analysis. Portfolio planning matrices. Experience curve | Integration of financial and strategic controls. Strategic planning as a dialogue between the general management and the divisions |
| 80s | Industry and competition analysis | Positioning within industry, markets, chosen segments | Analysis of the structure of the competitive industry. PIMS (profit impact of market strategy) analysis | Divestment of unattractive business units. Active asset management |
| 90s | Search for competitive advantage | Sources of competitive advantage within the company. Dynamic aspects of strategy | Resource analysis. Analysis of organizational skills and capabilities. Dynamic analysis: Analysis of speed, responsiveness and first mover advantages | Corporate restructuring and reengineering. Capacity building through management information systems, strategic alliances and new organizational forms |

Source: (cited by Fontes Filho, 2006, p. 21)

As a field of study, strategic management incorporates concerns that are part of business policy with greater emphasis on the external environment and strategy. As managers try to deal with the dynamic world in which they live, strategic management in a company usually evolves through a sequence (Hunger, 2002, p. 5):

- Phase 1. Basic financial planning: seek better operational control, trying to meet budgets.
- Phase 2. Planning based on forecast: seek a more effective planning to achieve growth, trying to forecast the future beyond the year following the current year.
- Phase 3. Planning oriented towards the external environment (strategic planning): seek a greater level of responsibility for the markets and for the competition, trying to think strategically.
- Phase 4. Strategic management: seek a competitive advantage and a successful future through the management of all resources. In this phase, it is worth

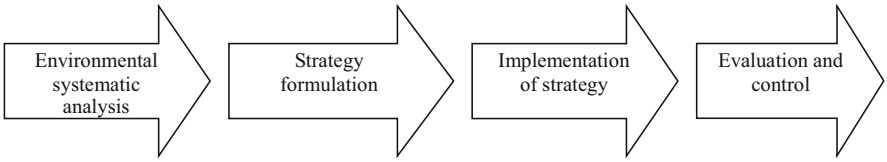


**Fig. 1** Basic elements of the strategic management process. Source: Hunger (2002, p. 9)

considering the implementation, evaluation and control of the strategy, in addition to emphasizing the strategic planning of the third phase.

The author points out that studies on planning practices in real organizations suggest that the true value of strategic planning may lie more in guiding the planning process for the future than in any written strategic plan. Particularly small businesses, says Hunger (2002, p. 7), "may plan informally and irregularly; the president and a handful of top managers may meet casually to resolve strategic issues and plan their next steps. And it classifies strategic management into four basic elements" (Fig. 1):

The formation of strategic competences, at the organizational level, according to Fleury and Fleury (2004, p. 68–69), can be treated using the same verbs that characterize individual competence:

1. Knowing how to act—knowing how to deal with complexity and diversity; knowing how to prospect to be able to anticipate; act at the right time with a systemic view.
2. Knowing how to mobilize—understanding and knowing how to use different sources of resources (financial, human, informational...); knowing how to seek partnerships and integrate them into the business.
3. Knowing how to communicate—knowing the languages of business and markets; knowing how to listen and communicate efficiently with the main stakeholders.
4. Knowing how to learn—creating the organizational culture, systems and mechanisms required for learning.
5. Knowing how to take responsibility—knowing how to assess the consequences of decisions, both at the company's internal level and at the external level of society.
6. Have a strategic vision—know and deeply understand the organization's business and its environment, identifying competitive advantages and opportunities.

Also, according to the authors, the competence to formulate strategies, based on organizational competences, is the most important for companies in a context of high competitiveness such as that which characterizes today's markets.

According to Montgomery and Porter (1998, p. 29–30), strategists insist that, to obtain exceptional performance, a company has to beat the competition. But the problem is that competitors already know the same message; in this case, in an organization, the areas and sectors involved can adopt three salient points about competition:

1. Product innovation. Competitors are able to keep detailed information secret for 70% of all new products within a year of their development.
2. Production. New processes are much harder to protect than new products.
3. Marketing. The use of extra-price instruments is a technique that is given more power than price changes, perhaps because it is more difficult to copy.

For the authors, in principle, threats like these have always been part of the business. In practice, they multiplied with the intensification of internal and external competition.

The main objective of the strategy, for Santos (2007), would no longer be adaptation to environmental conditions, but continuous transformation and renewal. Within this approach, "it is possible to consider that a position is neither durable nor defensible and that the only solution for survival is to change its position before the competition takes the same initiative" (Santos, 2007, p. 8).

An organization, according to Fernandes et al. (2006, p. 49), can be understood as a "set of resources used to generate wealth. The concept of organizational competence derives from this view, and is related to the set of coordinated resources that affect the organization's performance."

Therefore, it is necessary that such resources are mobilized and coordinated to ensure organizational performance. For de Oliveira (2009), p.79), knowledge and strategic applicability place the Brazilian executive and entrepreneur in a situation that is necessary and possible to "make things happen."

For Bergamini and Beraldo (1998), organizational performance means action, performance, behavior. "When the performance in the organization is evaluated and it is concluded as to its adequacy or not, it is attributed to a qualification that can be summarized as follows: efficient performance or effective performance or both" (Bergamini & Beraldo, 1998, p. 36).

According to Ghemawat (2000), organizational performance is characterized as competitive positioning; and the author also points out that "companies that intend to be particularly successful, in general, need to position themselves to create competitive advantages in their sectors of activity" (Ghemawat, 2000, p. 79).

> Organizations are constituted by a complex combination of resources, interdependent and interrelated, which must pursue the same objectives and whose performance can affect, positively or negatively, the organization as a whole. With a systemic view, it assumes that the people in the organization understand their role as a whole; the interrelationships between the elements that make up the organization, and the importance of its integration with the external world. It includes focusing the entire organization on strategy, which means monitoring and managing performance based on business results and meeting the needs of all interested parties, harmoniously and balanced (FNQ, 2006, p. 5).

What can cause discrepancies between actual performance and potential performance? For Bradford and Cohen (1985), it is believed that the problem lies in the leadership model used by most managers; often, still according to the authors, a model suited to a previous era, but now outdated, is inadequate to obtain the best performance in complex contemporary organizations.

The constant improvement of operational effectiveness, according to Porter (1999), is of fundamental importance for achieving superior profitability. Even based on operational effectiveness, few companies successfully compete for longer periods, facing increasing difficulties in keeping ahead of competitors; that is, rivals can also achieve better practices and with that, they can quickly imitate management techniques, new technologies, improvements in inputs and superior ways of meeting the needs and desires of customers.

Fernandes et al. (2006) admit that business performance or performance is a broad concept; it can be evaluated not only by financial results. For Sink and Tuttle (1993), efficiency and effectiveness are the functions that are normally analyzed in organizational performance, and it is in this sense that the effects of strategy were analyzed.

## 3 Methodology

This article resulted from an exploratory research that used the case study strategy in a micro company, in the city of Araxá-MG. According to Lakatos and Marconi (2001), exploratory studies are a type of empirical research that aim to lead to the formulation of questions or a problem, with the purpose of developing hypotheses, increasing the researcher's familiarity with an environment, fact or phenomena aiming at future research, or to modify or clarify concepts.

Cervo and Bervian (1998) state that the case study is the research on a particular individual, family, group or community that is representative of their universe, to examine different aspects of their life. The objectives of the study were to investigate the use of strategic tools in the management of a microenterprise, and its effects on organizational performance.

Systematic procedures were used for data collection, which was carried out using semi-structured interviews. The data were analyzed seeking to extract from them the company's history and the strategies used during its course in time.

Data collection for this study was carried out through interviews, which were recorded and transcribed and in company visit reports. These interviews were carried out with the first owner and the current manager, her son, who now coordinates all the commercial and administrative activities of the company.

The company operates in the food industry and was founded in 1969. The idea of selling homemade sweets arose at the end of the same year, when the entrepreneur, the first manager of the business, already stood out in the local community for the quality and diversity of its products, which he made it at home for his own consumption and for his friends.

At that time, the company only had the "confectioner," a kitchen assistant and her husband, who was responsible for purchasing inputs and selling products. As they did not have financial resources, they worked from their own residence, which in some ways facilitated the sale, as they were always at the point of sale.

Even today, the traditional characteristics of the production of products are preserved so that customers / consumers can taste, in an artisanal way, products that made people and a small business a reference in a community.

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## 4 Análise Dos Resultados

The researched company, operating since 1969 in the food industry, emerged as a result of the closing of the then family business, a household appliance trade, and by the influence of friends, who suggested promoting and marketing the products manufactured for domestic consumption.

The main strategy was to promote and market the products. From the beginning, the owner/entrepreneur had as the main differentials of the manufactured products the quality, variety and way of serving customers at home. With this home sales strategy, customers had the opportunity to see how the product manufacturing process was done and timely indicate the products to future customers; and as the products were sold at home, it was opportunely open 24 h a day. Therefore, we can praise the words of Fernandes et al. (2006, p. 49), "an organization can be understood as a set of resources used to generate wealth."

It was also found that competition was fierce due to the possibility of having your own business at home. Many employees, when they left the company, set up their own business, using the recipes, procedures and types of products manufactured where they worked. It was then necessary that the recipes and manufacturing procedures of the products were no longer fully known to the employees. Each employee learned by stage, or by product type. This eliminated the possibility of a former employee becoming a future competitor. In this case, the statement by Santos (2007) is valid, when the organization, in order to survive, needs to change its position in advance before the competition takes the same initiative.

Planning, plans and planners are likely to encounter considerable resistance, according to Mintzberg (2004), in the entrepreneurial form of organization, as decisions to be taken are in the hands of the chief executive. In general, good intuitive leaders make implementing strategy in micro companies a team effort. According to the words of Senge (1990), it can be said that in an organization that learns, it becomes better and better where it operates and increases its competitive edge.

In the analyzed company, what was noticed was teamwork directed by the manager/owner, according to his systemic vision. This vision is communicated to employees, who are around 12 fixed; being one responsible for purchases, one responsible for events / fairs, seven employees take turns preparing and handling the products, and three are responsible for service in the store, taking turns with the employees who work in the production of the products. There are also a number of five service providers who work in non-routine activities: wrapping sweets,

promoting company visits and delivering pamphlets, participating in events and accompanying visitors to the store.

Permanent employees are trained by the manager in partnership with professional associations; these employees serve customers on a day-to-day basis.

In the company studied, the performance of the responsible manager also showed the ability to perceive the need to improve their technical and specific knowledge and also that of their team, using professional improvement (food handling and hygiene techniques, quality of customer service, marketing strategies and products, and others) with organizational partners, in this case, the Brazilian Micro and Small Business Support Service (SEBRAE) and the Commercial, Tourism, Services and Business Association of Araxá-MG.

> Managers are often unaware of the extent to which their expectations influence the performance of their subordinates. If I see that a person has a high potential, I give him special attention so that he can develop that potential. When she blossoms, I feel my assessment was correct and I continue to help her. On the other hand, those I consider to be low-potential don't get any attention, work disinterestedly, and, in my mind, justify the lack of attention I give them. This is the so-called "Pygmalion effect," in which the leader transforms his/her subordinate's image into reality" (SENGE, 1990, p. 86–87).

The company has developed studies to produce and market innovative products (diet), because it has worked with this product before and found it to be widely accepted in the market. But to reach a market niche considered more profitable than the current one, it awaits permission from responsible entities to operate in the market.

In the study of the company, the manager's strategic and organizational performance was evidenced in the adoption of strategic planning (this tool, attributed to training courses offered by organizational entities), in innovative actions to publicize the products (participates in fairs and events in the city and region, promotes strong actions to promote its products in the media and works in partnership with suppliers), using its own physical facilities to demonstrate its quality; in the number of employees currently working, in the variety and quality of the products sold and in the performance in front of consumers.

When it comes to showing the product, in addition to participating in fairs and large events, it is in the process of marketing its products externally, mainly in Argentina and Chile, and does not have a competitor in the city of Araxá-MG, equal to its diversity and quality. of your products.

Mintzberg (2004, p. 322), points out that as the entrepreneurial organization grows, establishes itself and begins to take the form of a machine, the leader's visionary strategy may have to be defined through strategic propagation, thus increasing influence planners, what happened in the microenterprise. With that, the results could not be better; today it is a reference in the region and its performance is better than that of its competitors.

The study in the company showed that the responsible manager has, according to de Oliveira (2009), p. 15)), the following characteristics:

- plan for the future, not just for the current period;
- you want to optimize the situation, and believe you can;
- handles problems in advance;
- is concerned with opportunities and threats;
- presents a liberal style of administration.

## 5 Conclusions

To be successful and survive in the short term, according to Ansoff and MacDonnell (1993), companies are required to make their products or services attractive to their customers; production needs to be efficient, the organization needs to have effective marketing, efficient logistics, reliable performance, and a very satisfied consumer who returns and recommends products to others. In the case of the studied company, innovation, quality and product diversity become a great competitive advantage and a profitable and valid factor of organizational performance.

The objectives previously established in the strategy formulation, according to Hunger (2002), dealing with profitability, market share and cost reduction, should certainly be used to evaluate the company's performance once the strategies are implemented. In this case, business owners or executives must remember that the expansion process of a business must be planned; otherwise, it can be absorbed by other companies, or even disappear from the market.

In this study, it was evidenced that the managerial performance of the entrepreneur is the support of the business. Their willingness to learn, their need to remain prominent in the market, show that knowledge, combined with partnership, is a viable and profitable association.

The limitations of this work are the fact that the case study does not allow generalizations. Thus, it is not possible to predict how other entrepreneurs, who do not have as much knowledge, can manage their businesses. How can class institutions, when it comes to professional training, get closer or even know who they are? And what strategies are these managers adopting to maintain their businesses?

An enterprising manager cannot just rely on "feel" for the business; you need to learn to have partners, you need to show in other companies or studies, aspects that lead you to use different tools for your company, service / product. Perhaps for a micro-entrepreneur the most difficult moment is when he compares his company with his competitor, and realizes that the latter is way ahead.

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