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Entrepreneurs' human capital resources and tourism firm sales growth: A fuzzy-set qualitative comparative analysis

Andreas Kallmuenzer [a,*], Rui Baptista [b], Sascha Kraus [c], António Sérgio Ribeiro [b], Cheng-Feng Cheng [d], Paul Westhead [e]

[a] Excelia Business School, 102 rue de Coureilles, 17000 La Rochelle, France
[b] CEG-IST, Instituto Superior Técnico, Universidade de Lisboa, Av. Rovisco Pais 1, 1049 Lisboa, Portugal
[c] Faculty of Economics & Management, Free University of Bozen-Bolzano, Piazza Università 1, 39100 Bolzano, Italy
[d] Department of Business Management, National Taichung University of Science and Technology, Taichung 41434, Taiwan
[e] Durham University Business School, Durham, DH1 3LE, UK, United Kingdom

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ABSTRACT

New private tourism firms play a key role in promoting local and national wealth creation. Building upon insights from entrepreneurial motivation and human capital theories, in this study fuzzy-set qualitative comparative analysis of longitudinal data was employed to identify the human capital pathways of 1182 entrepreneurs in Portugal engaged in tourism reporting high firm sales growth between 2008 and 2015. Two dimensions of entrepreneur human capital at firm start-up were found to be sufficient for high sales growth: a) Necessity- and opportunity-based entrepreneurs with specific human capital industry experience relating to tourism, and b) Opportunity-based entrepreneurs with managerial experience.

1. Introduction

Tourism and hospitality firms generate wealth, employment and social benefits (Kokkranikal & Morrison, 2002). They promote self-reliant economic development (Kallmuenzer, 2018; Komppula, 2014) and improve the competitive power of existing firms in tourism destination regions (Jones & Haven, 2005). Entrepreneurial behavior in the tourism sector is vital for new firm formation and economic development (Hallak, Assaker, & Lee, 2014; Koh & Hatten, 2002; Peters & Kallmuenzer, 2018). Entrepreneurs engaged in tourism are often propelled by vision and creativity (Carmichael & Morrison, 2011) as well as innovativeness and social responsibility (Kallmuenzer, Nikolakis, Peters, & Zanon, 2018).

Consequently, increasing the number of new private tourism firms is a key policy goal (Andersson, Carlsen, & Getz, 2002; Hall & Williams, 2008). Policy-makers have introduced initiatives that address the attitudinal, resource and operational barriers to firm formation (Lerner & Haber, 2001). However, between 20% and 40% of new firms cease to trade within two years (Bartelsman, Scarpetta, & Schivardi, 2005). Rather than solely encouraging new firm formation, some policy-makers and practitioners are considering enterprise sustainability and development policies (Lane & Kastenholz, 2015). To guide their potentially substantial resource allocation decisions to support tourism firms, they require an evidence base surrounding the resource profiles of entrepreneurs that own high sales growth firms.

The entrepreneur (or entrepreneurial team) is the key resource of a new firm (Schjoedt & Kraus, 2009). Entrepreneurs are not a homogeneous entity (Amaral & Baptista, 2007; Lazear, 2004; Poschke, 2013; Westhead & Wright, 1998). Entrepreneur diversity relates to their motivations. A distinction has been made between necessity-based entrepreneurs that are 'pushed' into business ownership owing to dissatisfaction with their current situation (Amit & Muller, 1995) relating to unemployment, or the threat of redundancy (Evans & Leighton, 1990), compared with opportunity-based entrepreneurs that are 'pulled' into business ownership to exploit created or discovered business opportunities (Baptista, Karaöz, & Mendonça, 2014). Entrepreneur diversity is also apparent with regard to the accumulated pools of human capital (Helfat & Lieberman, 2002; Zhao, Ritchie, & Echtner, 2011), which can impact on firm performance (Davidsson & Honig, 2003).

* Corresponding author.
E-mail addresses: kallmuenzera@excelia-group.com (A. Kallmuenzer), rui.baptista@tecnico.ulisboa.pt (R. Baptista), sascha.kraus@zfke.de (S. Kraus), antonio.sergio.ribeiro@tecnico.ulisboa.pt (A.S. Ribeiro), chengcf@nutc.edu.tw (C.-F. Cheng), paul.westhead@durham.ac.uk (P. Westhead).

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Studies have focused on firm formation and performance across all industries (Brüderl, Preisendörfer, & Ziegler, 1992; Dobson, Breslin, Suckley, Barton, & Rodriguez, 2013; Geroski, Mata, & Portugal, 2010). Several studies have explored the factors associated with tourism firm formation (Alsos & Clausen, 2014; Sánchez-Medina, Arteaga-Ortiz, Naumchik, & Pellejero, 2019). However, there is a dearth of evidence relating to tourism firm performance. Recently, calls have been made for studies to specifically focus on tourism firm performance (Kallmuenzer, Kraus, Peters, Steiner, & Cheng, 2019; Rodriguez-Sanchez, Williams, & Brotons, 2019).

We contribute to the literature by focusing upon the sales growth (Brush & Vanderwerf, 1992; Wiklund & Shepherd, 2005) reported by new tourism firms. Further, we respond to the call for tourism studies to consider the motivations and human capital resource profiles of entrepreneurs and the performance of their firms (Sánchez-Medina et al., 2019). Consequently, this study explores the following research question: What configurations of general and specific human capital reported by necessity- and opportunity-based entrepreneurs are associated with high sales growth new tourism firms?

Guided by insights from motivation and human capital theories as well as empirical evidence, we expect that an entrepreneur's general (i.e., formal education) and specific (i.e., work, industry, managerial and business ownership experience) human capital at the firm start-up promote (or retard) superior firm sales growth. We make a theoretical contribution by exploring the configurations (or combinations) of entrepreneurial motivations and human capital resources at the firm start-up, and subsequent firm performance.

Firm performance studies have generally employed multiple regression techniques to explore the associations between entrepreneur human capital and firm performance across all industries (Davidsson & Honig, 2003). Whilst the latter quantitative studies provide useful insights relating to 'average' firm performance, they do not provide more fine-grained understanding of the links between entrepreneur human capital and firm performance (Douglas, Shepherd, & Prentice, 2020). Fuzzy-set qualitative comparative analysis (fsQCA) (Ragin, 2008a, 2008b) is increasingly being employed to explore such entrepreneurial behavior (Covin et al., 2020; Dimov, 2017; Douglas et al., 2020; Kraus, Mensching, Calabrò, Cheng, & Filser, 2016; Muñoz & Dimov, 2015). This qualitative configuration approach can provide fresh insights relating to the firm performance debate (Harms, Kraus, & Reschke, 2007; Harms, Kraus, & Schwarz, 2009; Mugler, Frank, Lueger, & Korunka, 2003). Few firm performance studies have employed this approach, and those that have used it generally relate to small samples of firms (Samagaio & Rodrigues, 2016) across all industries (Del Sarto, Di Minin, Ferrigno, & Piccaluga, 2019). We make a methodological contribution by utilizing the fsQCA (Kraus, Ribeiro-Soriano, & Schüssler, 2018), which is not widely employed in tourism studies. Also, we contribute by considering the conjunctional nature of entrepreneur human capital investments, rather than a piecemeal approach that ignores the mutual interplay between different types of human capital investments.

This study focuses upon longitudinal data from the travel and tourism industry in Portugal. Since 2009, the industry has made substantial contributions to wealth creation and job generation. In 2016, the industry generated 12.5% of GDP, which is the highest percentage in OECD countries (OECD, 2020). Moreover, in 2017, tourism directly generated 401,500 jobs (i.e. 8.5% of total employment). For example, in the Algarve, Madeira and the Azores, tourism is the key driver of economic development (Soukiazis & Proença, 2008). Between 2008 and 2015, 7% of all new firms in Portugal were engaged in tourism, and 89% of these firms were micro businesses with less than 10 employees.[1] However, over this period 7% of all firm closures were engaged in tourism. Several studies have focused on tourism in Portugal (Estevão & Ferreira, 2012; Figueiredo & Brochado, 2015; Oliveira, Pedro, & Marques, 2013; Pacheco & Tavares, 2017), but they have not specifically explored the pathways relating to entrepreneur motivations and human capital with regard to subsequent firm sales growth. Utilizing a unique longitudinal database of 1182 tourism firms in Portugal, we monitored firm sales growth between 2008 and 2015.

Thus, we contribute by providing longitudinal evidence on the role of entrepreneurial motivations and human capital resource profiles for superior firm performance (answering the call by Sánchez-Medina et al., 2019) and thus can guide tourism policy-maker and practitioner resource allocation decisions. Notably, we challenge the simplistic assumption that some 'individual' entrepreneur human capital variables promote superior firm performance. Here, we assert that configurations of entrepreneur human capital are associated with superior firm performance.

2. Theoretical background

2.1. Motivations

Context shapes entrepreneurial behavior (Morales-Gualdrón & Roig, 2005; Rocha, Carneiro, & Varum, 2018; Xavier-Oliveira, Laplume, & Pathak, 2015). Necessity-based entrepreneurs are 'pushed' into new firm formation because of unemployment, or the threat of redundancy. They generally report a fear of failure and lower expectations (Van Stel, Storey, & Thurik, 2007). In contrast, opportunity-based entrepreneurs voluntarily establish new firms (Fairlie & Fossen, 2019; Hechavarria & Reynolds, 2009). These entrepreneurs 'pulled' into entrepreneurship seek to exploit profitable business opportunities (Fairlie & Fossen, 2019). Opportunity-based entrepreneurs are generally more risk-seeking (Baptista et al., 2014). They are more likely to plan and accumulate financial resources and business networks required to ensure firm success. Also, opportunity-based entrepreneurs are more likely to pursue complex strategies (Block, Kohn, Miller, & Ullrich, 2015). The general and specific human capital resource profiles of necessity- and opportunity-based entrepreneurs can differ (Amit & Muller, 1995; Fossen & Büttner, 2013; van der Zwan, Thurik, Verheul, & Hessels, 2016). Necessity-based entrepreneurs generally accumulate smaller and narrower resource pools with regard to financial, technical and knowledge resources, which can lead to the formation of under-capitalized firms (Baptista et al., 2014). Studies suggest under-capitalized firms report higher closure rates, and lower levels of performance (Pfeiffer & Reize, 2000).

2.2. Human capital

2.2.1. Context

Human capital relates to the skills and knowledge that people acquire through investments in education and on-the-job training (Unger, Keith, Hilling, Gielnik, & Frese, 2009). Becker (1975) made a distinction between the investments made by people with regard to general and specific human capital. General human capital relates to the skills, capabilities and knowledge acquired through education and training that are useful in several settings. Specific human capital relates to the skills, capabilities and knowledge acquired through work experience in industry-specific and/or task-specific settings. It can be less transferable and useful beyond the context in which it was acquired.

Entrepreneurial human capital has long been associated with superior business performance (e.g., Brüderl et al., 1992; Cooper, Gimeno-Gascon, & Woo, 1994). Scholars have studied the human capital of owners, managers, and employees. Across all these units of analysis, studies have consistently found that owners and managers with greater human capital are more likely to discover opportunities and succeed (e.g., Bosma, van Praag, Thurik, & Wit, 2004; Rauch & Rijsdijk, 2013). We, therefore, assume that entrepreneurs' human capital, and the

[1] This evidence relates to all private tourism firms that had at least one wage-earner.

complementarities between different types of entrepreneurs' general and specific human capital (Dimov, 2017; Marvel, Davis, & Sproul, 2016) play a role in shaping the pathways linked with superior tourism firm performance.

Human capital plays an important role in helping business owners deal with the complexity and ambiguity of entrepreneurial decisions. Entrepreneurs face decisions about opportunity assessment, entrepreneurial entry, exploiting opportunities, and entrepreneurial exit. Often these decisions are made in extreme contexts characterized by high uncertainty, time pressure, and intense emotions (Shepherd, Williams, & Patzelt, 2014).

Human capital can influence decisions related to opportunity recognition and assessment. Sarasvathy (2001) proposes that entrepreneurs shape decisions about opportunities according to their own knowledge and resources. Thus, as entrepreneurs learn and build up human capital, their opportunity-related decisions change. Haynie, Shepherd, and McMullen (2009) find that entrepreneurs assess opportunities as more attractive when the opportunity is highly inimitable and when it is related to the entrepreneur's human capital. Entrepreneurs with higher levels of human capital are likely to deal better with uncertainty, being able to map alternatives and criteria for decision-making. Human capital influences the entrepreneur's perception of firm performance and potential, therefore shaping entry and exit decisions (Shepherd et al., 2014).

The complexity and ambiguity of entrepreneurial decisions result from both environmental uncertainty and contexts where multiple agents interact and decisions made about one subject (e.g., procurement) have repercussions on the circumstances in which other decisions (e.g., finance) are made. Under such circumstances, it can be argued that the impacts of factors such as human capital on decision-making (and, consequently, on business success) is unlikely to be accurately explained by linear models.

The use of fuzzy sets to identify configurations of factors influencing decision-making, as well as configurations of sets of decisions made by entrepreneurs seems particularly appropriate to make sense of these processes. Fuzzy sets have been successfully applied to business decision-making contexts (e.g., Kent & Argouslidis, 2005). In the case of the tourism sector, entrepreneurial decision-making in the context of the recent financial crisis in Greece has been addressed using fsQCA analysis crisis by Pappas and Papatheodorou (2017), Pappas (2018) and Pappas and Brown (2020). The present study resorts to the same method to examine configurations of entrepreneurial human capital resources influencing entrepreneurial decision-making and, concomitantly, entrepreneurial success in tourism.

2.2.2. General human capital: Formal education

Formal education is a general human capital resource (Unger et al., 2009). This resource encourages people to acquire skills, capabilities and knowledge (Davidsson & Honig, 2003). Education can foster imagination, creativity and innovation skills that can be mobilized to create business opportunities. Moreover, education encourages the collection and analysis of information to identify problems and solutions to problems, which can be mobilized to discover business opportunities. Education encourages students how to cope better with problems by utilizing external advice. Utilization of advice from actors in the external environment can provide additional and diverse resources required for firm development (Ucbasaran, Westhead, & Wright, 2008). More highly educated people generally obtain employment positions with higher levels of remuneration, and they are able to accumulate larger amounts of finance (and collateral), which can ensure their firms are less likely to suffer from under-capitalization. A meta-analysis focusing upon the returns of education found that higher educated entrepreneurs consistently reported superior firm performance (Van der Sluis, Praag, & Vijverberg, 2005).

2.2.3. Specific human capital: Work and managerial experience

Entrepreneurs require experience that can be mobilized to create, discover and exploit business opportunities (Agarwal, Echambadi, Franco, & Sarkar, 2004; Klepper, 2009. Work experience enables individuals to acquire know-how relating to finance, procurement, human resource management, production, marketing, and/or sales. This experience can foster an appreciation of the entrepreneurial skills required to establish and develop new ventures (Stuetzer, Obschonka, Davidsson, & Schmitt-Rodermund, 2013).

Managerial experience in innovative firms encourages the acquisition of imagination and creativity skills required to subsequently create new innovative business opportunities (Oberschachtsiek, 2012). Further, managerial experience encourages managers to recognize the importance of collecting and processing information to identify problems and solutions, which can lead to the discovery of business opportunities (Shane, 2000). Managers are encouraged to be reflective and strategic. This encourages the appreciation of the benefits associated with networking, and the utilization of external support that can facilitate the accumulation and mobilization of crucial resources to exploit a business opportunity (Cooper et al., 1994). Notably, the need to obtain external finance from several sources to ensure the business is not undercapitalized (Colombo, Delmastro, & Grilli, 2004). Managerial experience encourages a focus on profit maximization, the constant need to manage cashflow, and the importance of utilizing professional accounting practices. Moreover, managerial experience promotes the accumulation and the importance of organizing, monitoring and supervising skills (Baptista, Lima, & Preto, 2012; Shane, 2000). Managers (Campbell, Kryscynski, & Olson, 2017; Dahl & Reichstein, 2007) can acquire experience required for the accumulation and integration of new knowledge (Cooper et al., 1994; Li, 2014; Marchante & Ortega, 2012) to pursue proactive adaptation strategies that foster firm development. The faster entrepreneurs (and firms) learn about the fit between their resources and market conditions, the more able they will be to adapt to market requirements, and more likely to report firm superior performance (Eisenhardt & Martin, 2000; Helfat & Lieberman, 2002).

Staniewski (2016) finds that knowledge associated with business experience – as a manager and as a paid employee – contributes to entrepreneurial success. Those entrepreneurs that have accumulated knowledge about technology, organization, suppliers and clients are more likely to seize opportunities and be innovative, being therefore more likely to succeed. Li, Qu, and Huang (2018) find that graduate entrepreneurs with career experience are more likely to seek high entrepreneurial rewards, being more innovative and achieving higher growth.

2.2.4. Specific human capital: Industry experience

Employees working in tourism can acquire experience relating to the industry (Campbell et al., 2017; Klepper & Sleeper, 2005). For example, the accumulation of specialized product, market, customer, technological, supplier, competitor, regulatory and networking knowledge (Helfat & Lieberman, 2002; Najda-Janoszka, Kopera, & Wszendybył-Skulska, 2017). Employment in tourism can draw attention to the business opportunities in the industry (Becton & Graetz, 2001; Suh, West, & Shin, 2012). This experience can enhance employee awareness of the market, changing customer tastes, technological and regulatory uncertainty relating to the tourism industry.

Notably, employees can recognize the industry is associated with high levels of new firm entry, intense competition relating to quality differentiation and/or a low price strategy, and high closure rates (Ladkin, 2011; Nickson, 2007). However, employment in tourism can enable employees to recognize the resources required to address barriers to firm development. Tourism entrepreneurs can provide positive role models for their employees. Working for a successful entrepreneur can draw employee attention to the types of internal resources required to develop tourism firms, and the array of strategies required to obtain resources in the external environment from actors such as financiers and

public and private agencies supporting tourism (Dahl & Sorenson, 2009; Dahl & Sorenson, 2012).

Industry experience is closely associated with the phenomenon of 'spinouts' (often also dubbed 'spinoffs') whereby an employee leaves his/her firm (termed the 'parent') to start a new business in the same industry as the parent, potentially as a competitor (Agarwal et al., 2004; Helfat & Lieberman, 2002; Klepper, 2009). Industry-specific experience confers spinout founders an advantage that is reflected in greater chances of success (Agarwal, Campbell, Franco, & Ganco, 2016). Recent work seeks to explore the impact of industry-specific human capital on the industry choice of new business founders. Individuals with high human capital face a higher performance penalty if they start their firm outside the parent industry, but they also face greater deterrence from large parents if they stay in that industry. Sakakibara and Balasubramanian (2020) find that individuals with higher human capital are less likely to form spinouts in distant industries than in the parent's industry. Nikiforou, Dencker, and Gruber (2019) study the industry choices of necessity entrepreneurs, coming into business ownership from unemployment. They find that new business founders coming from unemployment are less likely to start firms in their parent industry, and that longer spells of unemployment tend to erode the value of industry-specific experience.

2.2.5. Specific human capital: Business ownership experience

Habitual entrepreneurs have business ownership experience in two or more firms, whilst novice entrepreneurs have business ownership experience only in one firm (Westhead & Wright, 2017). Prior business ownership experience generates assets such as managerial and technical skills, industry experience and entrepreneurial knowledge. Habitual entrepreneurs can mobilize this experience to engage in information search required to detect new business opportunities (Ucbasaran et al., 2008). Moreover, this experience can be employed to create new business opportunities (Davidsson, 2015; Shane, 2000), and exploit business opportunities (Davidsson & Honig, 2003). Owing to successful track records in prior business ownership habitual entrepreneurs accumulate legitimacy, and this signal of quality is well received by external private and public sector resources providers. Moreover, over their business ownership careers habitual entrepreneurs accumulate a knowledge and understanding of the requirements of financial institution, which can be mobilized to gain access to bank and/or venture capital finance required to develop their firms (Mueller, Westhead, & Wright, 2012; Ucbasaran, Westhead, & Wright, 2006; Westhead & Wright, 2017). Habitual entrepreneurs can build strong and effective networks of contacts with a diverse array of potential external resource providers (Westhead & Wright, 2017). Also, prior business ownership experience can foster entrepreneur learning and the accumulation of new capabilities.

3. Data collected and research methodology

3.1. Population and data collection

To analyze the influence of these entrepreneurial motivations and human capital factors on firm sales growth, quantitative data are collected. The Portuguese Ministry of Social Security and Employment conducts annual surveys relating to the population of all private firms with at least one wage-earner (including the firm owner) and excluding public administration and military.[2] Response to the survey is mandatory, firms are obliged to submit online responses to a detailed enquiry. This means that the response rate is close to 100% barring input errors. The *Quadros de Pessoal* (QP) database is built from this annual information submitted by firms. The database contains longitudinal information on workers, companies and establishments. Data on firms and individuals are linked through unique reference numbers, so it is possible to follow the careers of individuals as they start in the labor market, change firms, are promoted, or become business owners. It is also possible to follow the performance of firms from the year of startup to the year of closure.

The QP database surveys gather consistent evidence surrounding firm founder key informants (i.e., entrepreneurs) (Kumar, Stern, & Anderson, 1993). While a firm may have several owners/founders, only one of them is identified in the database as the top manager (based on the firm's response). For the purposes of our study, we consider that the firm owner/founder is the individual who owns (or partially owns) the firm and is the top manager in the firm. We collect data on entrepreneurial human capital and labor market status prior to founding for these individuals that are qualified both as owners and top managers, as we believe their human capital is more likely to play a key role in determining the firm's performance. The respondents' information include their gender, age, education level, employment status (i.e., varying from apprentice to skilled worker, intermediate manager and top manager), and labor income.[3] Concerning each firm and establishment, information is collected relating to location, sector, ownership form, employment size, and sales revenues.

From the QP database we can identify that 1182 tourism firms were established in the year 2008, including firms providing accommodation, food and drink services, as well as tour operators and travel agents. Profiles of firm founders and their firms were collected in 2008, including measures of human capital resources of the founders and their labor market status prior to founding (i.e., employed vs. unemployed), as well as sales and sales growth. Firm performance was monitored between 2008 and 2015. A seven year period is widely monitored in firm performance studies (Agarwal & Audretsch, 2001; Brouder & Eriksson, 2013). Starting with 1182 firms in 2008, we identify 255 firms that operated throughout the whole period and are still active in 2015, while the remaining 927 firms stopped operating (i.e., stopped reporting to the database) during the period. Since reporting is mandatory, we can state that 255 out of 1182 firms survived (i.e., a 21.6% survival rate).

3.2. Measures

3.2.1. Dependent variable

For the 255 surviving firms, the percentage sales growth between 2008 and 2015 was collected. Firms that had closed by 2015 (i.e., non-survivors) were assigned a growth rate of −100%. By measuring entrepreneur human capital resources and labor market status in the year of founding (2008) and assigning a growth rate of −100% to non-survivors, we generate a balanced panel for all the 1182 tourism firms that were established in 2008.

3.2.2. Entrepreneur motivation variable

Information from the QP database collected prior to 2008 was used to classify necessity- and opportunity- based firm founders with reference to a widely utilized definition (Baptista et al., 2014; Block & Wagner, 2010; Caliendo & Kritikos, 2019; Rocha et al., 2018). New firm founders that had been unemployed for at least three years prior to the monitored firm startup were classified as necessity-based entrepreneurs. Conversely, new firm founders who were wage/salary workers prior to the monitored firm startup were classified as opportunity-based

[2] This database has been increasingly used in recent research (e.g., Distel, Sofka, Faria, Preto, & Ribeiro, 2019; Rocha et al., 2018).

[3] QP micro-data discriminates the hierarchy in the firm according to the International Standard Classification of Occupations (ISCO) of the International Labor Union (see: https://www.ilo.org/public/english/bureau/stat/isco/). ISCO provides a description of the job levels and the corresponding tasks and skills required by each level. All firms are required to use these levels when answering the survey. The objective of the Ministry of Labor and Social Security is to have a common and comparable hierarchical structure across with no direct or prior connection with any type of wage setting process.

entrepreneurs. Information was gathered from 434 necessity-based entrepreneurs with a predicted error of 4.758% and 748 opportunity-based entrepreneurs with a predicted error of 3.795% (compare Akis, Peristianis, & Warner, 1996).

3.2.3. Entrepreneur human capital variables

The QP database, collecting data since 1986, gathers information relating to firm founder human capital resource profiles over time. Five firm founder human capital variables measured when the firm was established were operationalized. Formal education (EDUA), comprising eight levels.[4] Number of years of work experience as a wage employee in tourism prior to establishing the firm (WORK). Number of years of managerial experience in tourism prior to establishing the firm (MANA). Number of years of tourism industry experience prior to establishing the firm (INDU). Number of years of prior business ownership experience (i.e., both owner and top manager of a business) prior to establishing the firm (ENTR). Table 1 provides means and standard deviations relating to the total sample and samples of necessity- and opportunity-based entrepreneurs.

3.3. Methodology and data analysis

Set-theoretic-based data analyses are employed to test and/or retest theories (Bouncken, Fredrich, & Kraus, 2020; Hughes, Cesinger, Kraus, Schüssler, & Cheng, 2019; Kraus et al., 2018; Martí-Parreño, Galbis-Córdova, & Miquel-Romero, 2018). Fuzzy sets qualitative-comparative analysis (fsQCA) is a set-theoretic approach based on Boolean algebra that assesses causal complexity (Hughes et al., 2019; Ragin, 2000). The fsQCA methodology is employed to identify a set of causal factors (i.e., configurations of human capital investments by necessity- and opportunity-based entrepreneurs) relating to an outcome (high sales growth).

The fsQCA methodology addresses several limitations associated with regression and traditional symmetric quantitative approaches (Kallmuenzer et al., 2019). It combines antecedents (i.e., in this study, human capital resources) into various causal configurations (i.e., in this study, human capital profiles) to explore which configurations are associated with high outcome (i.e., in this study, firm sales growth) scores. Unlike regression analysis, which assumes a fixed structure for causality (usually a linear relationship), fsQCA implies causal asymmetry (Bouncken et al., 2020). Thus, the absence of a certain level of a human capital variable is not necessarily compensated by a greater amount of another human capital variable. What matters are the combinations (or configurations) of human capital variables (on gradated scales) associated with the monitored outcome. Table 2 shows that most of the correlation coefficient values are less than 0.6, and these values imply that the respective relationships between variables are generally asymmetric (Skarmeas, Leonidou, & Saridakis, 2014).

The fsQCA software package v.3.0 was used. The analysis relates to the following three steps: data calibration; constructing the truth table; and simplifying the analysis before interpretation (Ragin, 2008b). Calibration consists of assigning each case (i.e., in this case, each firm) scores that represent its membership in each causal condition set (i.e., in this study, education, work experience, managerial experience, industry experience, and prior business ownership experience human capital) and the outcome set (i.e., in this study, firm sales growth). Fuzzy scores range from 0 to 1, where 0.95 denotes 'full membership', 0.50 denotes 'cross-over point', 0.05 denotes 'full non-membership', and ranges between 0 and 1 denote 'degrees of membership in a set' (Ragin, 2008a, 2008b). This study sets the values of 95th, 50th, and 5th percentile from ordinary data to correspond to these memberships, respectively. For instance, 95th, 50th, and 5th percentile of sales growth are −1.00, 0.00, and 0.36. In other words, when the firm's sales growth exceeds 0.00, it can be defined as a firm with high sales growth.

Once cases have been calibrated, a 'truth table' is created to represent all the possible combinations of causal conditions leading to the outcome. The table is completed by distributing the observed cases to each unique possible configuration (e.g., in this study, how many firms possess high levels of education and work, managerial, industry and prior business ownership experience; how many firms possess high levels of education and work, managerial and industry experience but low levels of prior business ownership experience, etc.), and then assessing how consistently each configuration is associated with the outcome.

Finally, Boolean logic is used to simplify the configurations that lead to the outcome. For instance, with reference to the hypothetical case of two configurations from this study consistently related to high levels of sales growth: i) high levels of education and work, managerial, industry and prior business ownership experience; and ii) high levels of education, work, managerial and industry experience, but a low level of prior business ownership. In this case, the conditions for high sales growth could be simplified to a more parsimonious configuration: high levels of education and work, managerial and industry experience. As long as the levels of these human capital resources are high, the presence (or absence) of prior business ownership experience is irrelevant.

The goal of fsQCA is to identify the necessity and sufficiency of individual causal conditions, and how these causal conditions combine to lead to the outcome (Ragin, 2008a, 2008b). A necessary causal condition is one that must be present for a given outcome to occur, meaning the outcome does not occur in the absence of the causal condition. A causal condition is sufficient if it can produce a given outcome by itself, meaning that if the causal condition is present, the outcome is, in addition, present. However, the presence of the outcome does not necessitate the presence of a sufficient causal condition. Hence, a causal condition is sufficient for the result if all cases exhibiting the condition also exhibit the result, but there are, in addition, cases that exhibit the result but not the condition (Schneider & Wagemann, 2012).

The truth table algorithm then produces a 'consistency score'. This score indicates how consistently a particular configuration produces an outcome. Here, we differentiate the configurations of antecedents (i.e., in this study, entrepreneur human capital resources) that are sufficient for the outcome (i.e., in this study, high sales growth) to occur from those that are not by specifying a consistency cutoff value of 0.80, and by setting the number-of-cases threshold to at least 1 case per configuration, following Ragin (2008b), Kallmuenzer et al. (2019), and Moschouli, Soecipto, and Vanelslander (2019).

4. Results

Table 2 reports the intermediate solutions relating to high sales growth by necessity- and opportunity-based entrepreneurs, following common structures of how to display fsQCA results (e.g., Crilly, Zollo, & Hansen, 2012). Black circles ' ● ' indicate the presence of causal conditions (i.e., human capital antecedents). White circles ' ○ ' indicate the absence or negation of causal conditions. The blank cells represent 'do not care' conditions. A black circle, therefore, suggests that a specific human capital resource is part of a condition (i.e., configuration of human capital resources) that causes the desired output (i.e., high sales growth).

Table 3 presents all configurations of antecedents (i.e., human capital resources) that are sufficient conditions (i.e., they score a consistency index equal or above 0.80) for the output (i.e., high sales growth). The analysis shows that none of the conditions alone is necessary to determine the output.

For necessity-based entrepreneurs, three configurations of antecedents (i.e., human capital resources) are sufficient conditions for high

[4] 1 – did not attend school; 2 – primary (4-year) education; 3 – basic high school (6-year); 4- intermediate high school (9-year); 5 – completed high school (12-year); 6 – college degree (3-year Bachelor); 7 – advanced college degree (5-year Master); 8 – doctorate.

Table 1
Variable definition and descriptive statistics.

Variable	Description	Total sample				Necessity-based entrepreneurs				Opportunity-based entrepreneurs			
		Mean	Standard deviation	Min	Max	Mean	Standard deviation	Min	Max	Mean	Standard deviation	Min	Max
EDUA	Education level: 1 – did not attend school; 2 – primary (4-year) education; 3 – basic high school (6-year); 4- intermediate high school (9-year); 5 – completed high school (12-year); 6 – college degree (3-year Bachelor); 7 – advanced college degree (5-year Master); 8 – doctorate.	4.06	1.42	1	8	4.08	1.47	1	8	4.04	1.33	1	8
WORK	Number of years of work experience as a work employee **in tourism** prior to establishing the firm	4.92	4.53	0	25	5.05	3.56	1	15	4.85	5.01	0	25
MANA	Number of years of managerial experience **in tourism** prior to establishing the firm	1.18	1.37	0	13	1.16	1.18	0	8	1.20	1.47	0	13
INDU	Number of years of tourism industry experience prior to establishing the firm	1.82	3.03	0	24	1.47	2.15	0	11	2.03	3.42	0	24
ENTR	Number of years of prior business ownership experience (i.e. both owner and top manager of a business) prior to establishing the firm	1.94	2.58	0	26	1.79	1.98	0	14	2.02	2.88	0	26
Number of firms		**1182**				**434**				**748**			

Table 2
Correlation matrix.

Group	Correlations	EDUA	INDU	WORK	MANA	ENTR	SALG
1 Opportunity-based entrepreneurs (N_1 = 6527 cases from 748 firms)	EDUA	1.00					
	INDU	−0.11	1.00				
	WORK	−0.08	0.67	1.00			
	MANA	0.27	0.31	0.26	1.00		
	ENTR	−0.06	0.43	0.47	0.17	1.00	
	SALG	0.02	0.02	0.02	0.02	−0.01	1.00
2 Necessity-based entrepreneurs (N_2 = 3791 cases from 434 firms)	EDUA	1.00					
	INDU	−0.07	1.00				
	WORK	−0.03	0.50	1.00			
	MANA	0.27	0.45	0.32	1.00		
	ENTR	−0.10	0.23	0.24	0.19	1.00	
	SALG	0.03	0.01	0.04	0.04	−0.00	1.00

Table 3
Intermediate solutions relating to high sales growth.

Group	Path	Antecedent					Coverage		Consistency	Solution	
		EDUA	INDU	WORK	MANA	ENTR	Raw	Unique		Coverage	Consistency
1 Opportunity-based entrepreneurs (N_1 = 6527 cases from 748 firms)	1A		●	○	○		0.34	0.04	0.89	0.75	0.87
	2A	○		○	●		0.35	0.04	0.91		
	3A	●		●	○		0.36	0.05	0.88		
	4A	●	○	○		●	0.46	0.13	0.91		
	5A		○	●	○	●	0.33	0.03	0.92		
2 Necessity-based entrepreneurs (N_2 = 3791 cases from 434 firms)	1B	○	●	○	○		0.36	0.08	0.91	0.63	0.90
	2B	●		●	○	○	0.39	0.08	0.92		
	3B	●	○	○	○	●	0.43	0.12	0.92		

Notes: Entrepreneur education level (EDUA), industry experience (INDU), work experience (WORK), managerial experience (MANA), and prior business ownership experience (ENTR). Black circles '●' indicate the presence of causal conditions (i.e., human capital antecedents). White circles '○' indicate the absence or negation of causal conditions. The blank cells represent 'do not care' conditions.

sales growth to occur, whilst for opportunity-based entrepreneurs there are five configurations. The coverage index relating to the solution focuses on the extent to which the configurations of human capital variables explained variations in firm sales (Ragin, 2008a, 2008b). Notably, the configurations of human capital resources that are sufficient conditions of entrepreneur human capital account for 63% of high sales growth relating to necessity-based entrepreneurs, and 75% of high sales growth with regard to opportunity-based entrepreneurs. Coverage indexes above 0.60 are usually associated with a robust understanding of the causes of a specific outcome (Ragin, 2008a, 2008b). The human capital combinations (or configurations) that are sufficient conditions causing high sales growth can be deemed to explain a high proportion of the sales growth outcome.

There are multiple combinations of causal conditions that lead to high sales growth reported by both necessity- and opportunity-based entrepreneurs. For necessity-based entrepreneurs, no single human capital resource is indispensable for high sales growth. Configurations leading to high sales growth reported by necessity-based entrepreneurs require the presence of higher levels of general human capital relating to formal education, or specific human capital with regard to work

experience in tourism. Opportunity-based entrepreneurs report high growth with a greater variety of human capital resource combinations than necessity-based entrepreneurs. For opportunity-based entrepreneurs, there are five different configurations associated with high sales growth. This suggests that different elements of general and specific human capital lead to high sales growth firms. There is no specific human capital resource that is indispensable (i.e., no single human capital resource appears in all configurations). Opportunity-based entrepreneurs do not require complex combinations relating to several human capital resources to report high sales growth.

5. Discussion

This study adds to understanding the configurations of general and specific human capital reported by necessity- and opportunity-based entrepreneurs causally linked with new tourism firms' high sales growth. With reference to a large representative sample of 1182 new tourism firms, fsQCA was used to explore a unique database that combines entrepreneur and firm variables. Notably, the fsQCA detected multiple human capital pathways of entrepreneurs reporting high sales growth.

Previous studies (e.g., Brüderl et al., 1992; Rauch & Rijsdijk, 2013) simplistically assumed that 'individual' entrepreneur human capital variables promote superior firm performance. FsQCA has confirmed that this simplistic effect is flawed. 'Configurations' rather than 'individual' entrepreneur human capital resources explain superior sales growth. In addition, fsQCA showed that 'combinations' of general and specific human capital resources associated with superior firm sales growth reported by necessity-based entrepreneurs are not the same as those reported by opportunity-based entrepreneurs. Concerning both types of entrepreneurs, the analysis shows that no entrepreneur specific human capital resource is indispensable (i.e., no single human capital resource appears in all configurations).

Opportunity-based entrepreneurs with high sales growth firms reported more configurations of human capital resources than necessity-based entrepreneurs. However, both necessity- and opportunity-based entrepreneurs required only one or two forms of human capital at startup to report high sales growth over the monitored seven years period. This suggests that entrepreneurs facing human capital constraints at startup can operate firms that subsequently report high sales growth.[5]

Causal configurations relating to high sales growth by opportunity-based entrepreneurs are presented in Fig. 1. This figure displays the causal configurations related to high sales growth for those founders who were gainfully employed in the three years prior to startup. To enhance interpretation, an ellipse with a black-line border represents the presence of a causal condition (i.e., a human capital resource included in the configuration), whereas an ellipse with a dotted-line border indicates the absence or negation of a condition (i.e., the resource is not included in the configuration).

Configuration 1A indicates that high sales growth is reported by opportunity-based entrepreneurs with relatively high levels of tourism industry experience, but relatively low levels of managerial and work experience. In configuration 2A, high levels of managerial experience are required to achieve high sales growth, whilst high levels of formal education and work experience are absent. Moreover, in configurations 3A and 4A, high levels of formal education combine with high levels of work experience (and low levels of managerial experience), or high levels of prior business ownership experience (and low levels of both industry and work experience). In configuration 5A, high levels of prior business ownership and work experience combine with low levels of industry and managerial experience.

[5] Mallon, Lanivich, and Klinger (2017) detected this finding with regard to human, social and financial capital endowments in family firms.

High levels of industry experience thus can be a sufficient condition for high sales growth. Industry experience provides opportunity-based entrepreneurs with knowledge of incumbents' routines and strategies (Agarwal et al., 2004; Helfat & Lieberman, 2002; Klepper, 2009). This result supports previous studies focusing on entrepreneurial spinouts, which have found that startups by founders that were working in the same industry as the startup are more likely to be successful (e.g., Agarwal et al., 2016; Baptista et al., 2014). Our results suggest that industry experience and knowledge represent a distinct advantage which is sufficient to generate high sales growth regardless of other dimensions of human capital. One interpretation of this result is that industry experience provides entrepreneurs with knowledge of technology, operational issues, buyers and suppliers. A second interpretation is that this result reflects differences in the abilities of individuals to evaluate entrepreneurial opportunities. People with experience working in an industry may have a better sense of which entrepreneurial opportunities are most attractive; they may also be exposed to more valuable opportunities.

High levels of managerial experience represent another sufficient condition for high sales growth reported by opportunity-based entrepreneurs. Managerial experience enhances creativity and the ability to collect and process information. This experience enables opportunity-based entrepreneurs to build valuable social capital and acquire external support and financial resources. Moreover, managerial experience promotes the accumulation of organizing, monitoring and supervising skills. The evidence presented here suggests that managerial experience is sufficient to facilitate high sales growth, irrespective of other dimensions of human capital. Baptista et al. (2014) also find a positive effect of managerial experience on new venture performance for opportunity-based entrepreneurs while other studies, such as Bosma et al. (2004) report ambiguous effects for this form of human capital.

In the absence of the benefits associated with high levels of industry or managerial experience, high levels of both work and prior business ownership experience reported by opportunity-based entrepreneurs are sufficient to facilitate high sales growth. Opportunity-based entrepreneurs that acquire high levels of the latter experience can build valuable social capital and financial resources. The evidence presented here suggests that work and prior business ownership experience are sufficient to facilitate high levels of sales growth and offset low levels of industry and managerial experience. A high level of education is a sufficient condition for high sales growth reported by opportunity-based entrepreneurs when combined with work or prior business ownership experience. Thus, a high level of general human capital (formal education) compensates for low levels of managerial and industry experience if work or prior business ownership experience is accumulated. This configuration lends support to the results of Baptista et al. (2014) who find that both formal education and entrepreneurial experience contribute significantly to the survival of new tourism ventures created by opportunity-based entrepreneurs.

For the group of necessity-based entrepreneurs, Fig. 2 reports causal configurations relating to high sales growth. In configuration 1B high levels of industry experience combine with low levels of education as well as work and managerial experience. In configuration 2B high levels of formal education combine with high levels of work experience, but low levels of managerial and prior business ownership experience to facilitate high sales growth. In configuration 3B, high levels of education combine with high levels of prior business ownership experience in the absence of high levels of other dimensions of specific human capital.

For necessity-based entrepreneurs, high levels of industry experience can be a sufficient condition for high sales growth. Industry experience can compensate for low levels of education, and low levels of managerial and industry experience. This result suggests that industry-specific experience remains valuable for new tourism firm founders even after a spell in unemployment, contradicting the finding by Nikiforou et al. (2019) that longer spells of unemployment tend to erode the value of industry-specific experience. Managerial experience is not associated

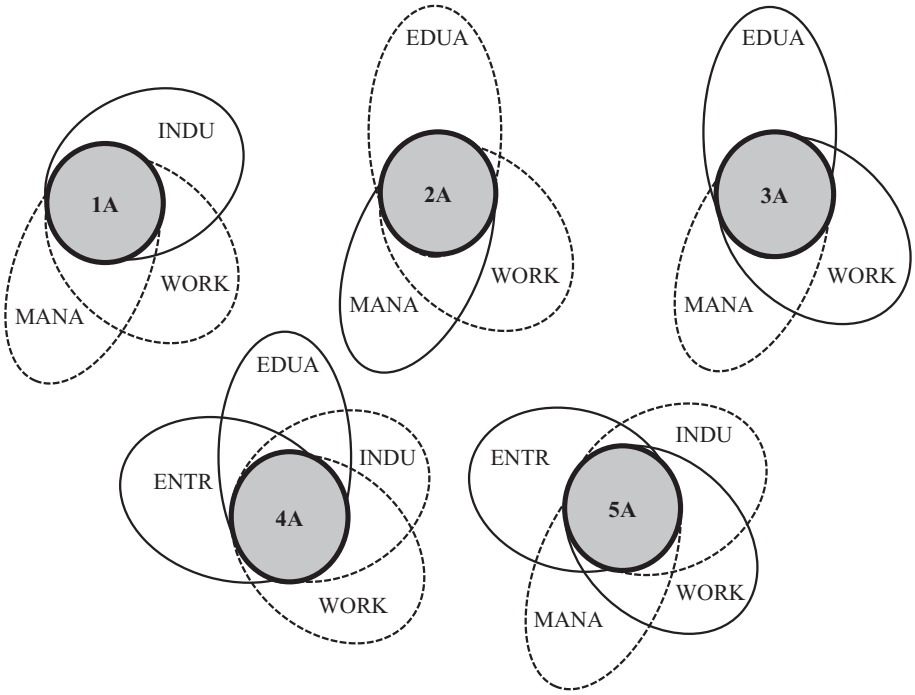

Fig. 1. Causal configurations relating to high sales growth by opportunity-based entrepreneurs.
Note: An ellipse with a black-line border represents the presence of the condition, whereas an ellipse with a dotted-line border represents the absence of the condition. If a condition is irrelevant to the configuration, no ellipse is displayed.

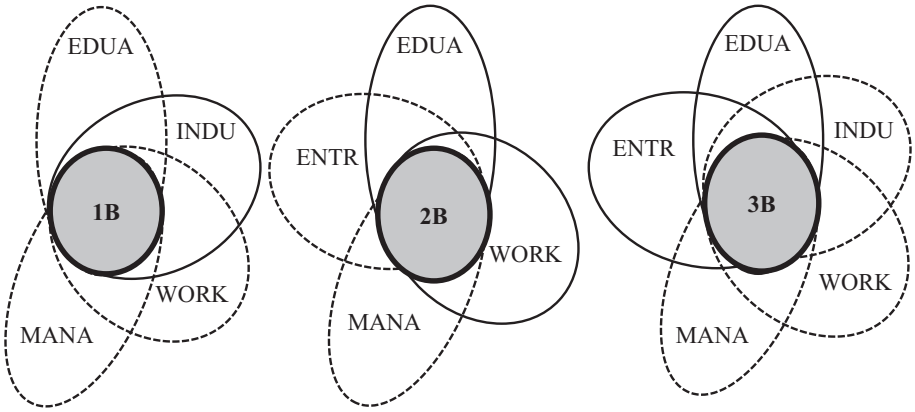

Fig. 2. Causal configurations relating to high sales growth by necessity-based entrepreneurs.
Note: An ellipse with a black-line border represents the presence of the condition, whereas an ellipse with a dotted-line border represents the absence of the condition. If a condition is irrelevant to the configuration, no ellipse is displayed.

with high sales growth probably because necessity-based entrepreneurs drawn from unemployment background are less likely to accumulate managerial experience.

Human capital resource configurations 2B and 3B for necessity-based entrepreneurs indicate that a high level of formal education is a sufficient condition for high sales growth when combined with either work experience or prior business ownership experience. For both necessity- and opportunity-based entrepreneurs, a high level of education can facilitate the acquisition of relevant knowledge, networks and financial capital required for high sales growth. Previous results generally suggest that ventures founded by people with prior business ownership experience have superior performance (e.g., Bosma et al., 2004). The results presented here suggest that, for necessity-based entrepreneurs, high levels of business ownership experience are associated with high venture growth only when combined with high levels of formal education.

Baptista et al. (2014) use logit regression models to examine the impact of the different forms of entrepreneurial human capital separately for necessity-based and opportunity-based entrepreneurs. In the case of necessity-based entrepreneurs, only entrepreneurial/business ownership experience is found to have a significant positive effect. By employing fuzzy set analysis rather than logit regression the present study sheds additional light on necessity-based entrepreneurs by identifying configurations of human capital resources leading to high growth where industry experience, work experience and business experience play important roles.

To complete this interpretation of results of an asymmetric analysis such as fsQCA, it is important to confirm that this study meets six principles (Olya & Altinay, 2016; Pappas, 2018). Concerning the first tenet (T1: *A simple antecedent condition may be necessary but a simple antecedent condition is rarely sufficient for predicting a high or low score in an outcome condition*, Olya & Altinay, 2016), evidence in Table 3 and Table 4 indicates that five simple conditions (i.e., EDUA, INDU, WORK,

Table 4
Intermediate solutions relating to low sales growth.

Group	Path	Antecedent					Coverage		Consistency	Solution	
		EDUA	INDU	WORK	MANA	ENTR	Raw	Unique		Coverage	Consistency
1 Opportunity-based entrepreneurs ($N_1 = 6527$ cases from 748 firms)	1C	○	○	○			0.47	0.01	0.86	0.71	0.84
	2C	●	○		○		0.49	0.02	0.88		
	3C		○		○	●	0.58	0.02	0.97		
	4C		○	○		●	0.56	0.01	0.96		
	5C	○		○	○	●	0.45	0.04	0.97		
2 Necessity-based entrepreneurs ($N_2 = 3791$ cases from 434 firms)	1D		○		○		0.65	0.10	0.80	0.77	0.77
	2D		○	○			0.62	0.07	0.81		
	3D	●		○	○	○	0.45	0.01	0.96		
	4D	○		○	○	●	0.48	0.02	0.96		

Notes: Entrepreneur education level (EDUA), industry experience (INDU), work experience (WORK), managerial experience (MANA), and prior business ownership experience (ENTR). Black circles '●' indicate the presence of causal conditions (i.e., human capital antecedents). White circles '○' indicate the absence or negation of causal conditions. The blank cells represent 'do not care' conditions.

MANA and ENTR) are apparent in at least one sufficient configuration; consequently, a simple antecedent condition is not sufficient to achieve high or low sales growth. Accordingly, this study confirms T1. Concerning the second tenet (T2: *Recipe principle: When two or more simple conditions create a complex configuration, an outcome condition can have a consistently high score*, Pappas, 2018), Table 3 shows that each sufficient condition contains at least three antecedents, hence confirming T2. Concerning the third tenet (T3: *Complex interactions/configurations can affect the decision making of managers/owners*, Pappas, 2018), the results of fsQCA support T2 by showing that each sufficient configuration did provide a different pathway for decision making. Concerning the fourth tenet (T4: *Within different combinations the simple conditions of interactions/configurations can positively or negatively affect the decision making of managers/owners,* Pappas, 2018), Table 3 and Table 4 provide evidence of support for T4. Concerning the fifth tenet (T5: *Equifinality principle: A sufficient decision-making for accommodation managers/owners is not always the result of a high outcome score*, Pappas, 2018), the results of fsQCA related to a minimum of three generated solutions for high sales growth, supporting T5. Lastly, concerning the sixth tenet (T6: *When the Y scores are high, a given recipe for the decision-making of managers/owners is not relevant for all cases*, Pappas, 2018), the results of fsQCA also support this tenet by showing that the raw coverage of the sufficient configurations varies from 0.33 to 0.46 with regards to high sales growth and 0.45 to 0.65 with regards to low sales growth.

6. Conclusions and implications

Building upon insights from motivation and human capital theories, this study used fsQCA to identify the profiles of necessity- and opportunity-based entrepreneurs that facilitate high sales growth. The analysis highlighted that both necessity- and opportunity-based entrepreneurs can facilitate high sales growth even when they have not accumulated diverse dimensions of human capital prior to firm startup. This is an important finding because it suggests that new tourism firms can grow when their entrepreneurs prior to firm start-up report deficiencies in human capital.

Necessity-based entrepreneurs reported fewer configurations of human capital resources required to facilitate high sales growth when compared with opportunity-based entrepreneurs. Prior tourism industry experience is required by both necessity- and opportunity-based entrepreneurs to facilitate growth when no or low levels of other dimensions of human capital have been accumulated prior to firm start-up.

Necessity- and opportunity-based entrepreneurs with high levels of education and high levels of work or prior business ownership experience reported high sales growth. This evidence supports prior evidence that highly educated entrepreneurs report superior firm performance (Unger et al., 2009; Van der Sluis et al., 2005), we contribute to the firm growth debate by highlighting that the benefits of the education resource can be increased when the education general human capital resource is combined with two dimensions of specific human capital.

Necessity- and opportunity-based entrepreneurs differ with regard to the human capital resources that facilitate high sales growth. Accumulation of managerial experience facilitated high sales growth in opportunity-based entrepreneur firms. In contrast, the accumulation of managerial experience was not crucial to facilitate high sales growth in necessity-based entrepreneur firms.

Tourism firm growth is attracting policy-maker and practitioner attention. Policy-makers and practitioners recognize that many new firms are born to die young, those that survive are generally born small and stay small, and relatively few new firms report high growth (Westhead & Wright, 2013). Presented findings suggest that entrepreneurs need to invest in human capital prior to establishing their new firms (García-Villaverde, Elche, Martínez-Pérez, & Ruiz-Ortega, 2017). Entrepreneurs, particularly necessity-based entrepreneurs, may not recognize the importance of accumulating human capital prior to firm start-up. Further, some entrepreneurs exhibit attitudinal barriers to external advice, and/or they may not have the financial resources required to obtain external support that can increase their human capital. Assuming an interventionist stance to promote the formation and development of new tourism firms, there is a potential case for policy-makers and practitioners to intervene to address the attitudinal and resource barriers relating to combinations of human capital resources required to facilitate high firm sales growth, which can generate wealth creation benefits for tourism entrepreneurs and employees, as well as providing wider economic and social beneficial outcomes.

Our results suggest it is crucial for novice tourism entrepreneurs to accumulate tourism industry skills and knowledge prior to establishing their firms. Further, our results suggest that policy-makers and practitioners can have a role in encouraging novice tourism entrepreneurs to accumulate managerial experience and knowledge before establishing their firms. For example, there is a case for initiatives to link novice entrepreneurs with successful portfolio tourism entrepreneurs that can facilitate the accumulation of resources required for firm development.

Additional studies are warranted to develop the insights presented in this study. The external validity of presented causal findings should be explored beyond the Portuguese context, and a recession context. Also, the generalizability of presented causal findings should be explored in a COVID-19 context. Results can be sensitive to the growth measure monitored. Future longitudinal studies should monitor the human capital resource configurations regarding an array of firm (and entrepreneur) performance measures. This additional analysis would ascertain whether the entrepreneur human capital resource combinations causally linked to high sales growth are the same as those relating to other dimensions of firm performance, such as employment growth (Westhead & Wright, 2013). In addition, future studies should consider a broader array of general and specific human capital variables, as well as variables relating to firm resource profiles and strategies (Kallmuenzer et al., 2019; Koh & Hatten, 2002). Results can be sensitive to the methodology

employed. Consequently, a diverse array of qualitative as well as quantitative approaches need to be employed. This study focused upon necessity- and opportunity-based entrepreneurs. Future studies should focus on several contexts for enterprise, for example, relating to entrepreneur gender, ethnicity, and experience (i.e., novice, serial and portfolio entrepreneurs), as well as firm innovativeness (Kallmuenzer, 2018; Martínez-Román, Tamayo, Gamero, & Romero, 2015) and the propensity to have used external support.

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Andreas Kallmuenzer is Full Professor at Excelia Business School, La Rochelle, France. Before his academic career, Andreas worked several years as an entrepreneur in the tourism industry. His research interests are the entrepreneurial attitudes and heterogeneity of SMEs and family firms, with a particular focus on the tourism and hospitality industry. He published papers in a variety of journals including Tourism Management, International Journal of Hospitality Management, International Journal of Contemporary Hospitality Management, Journal of Sustainable Tourism and Journal of Business Research.

Rui Baptista is Full Professor and Chair in Entrepreneurship and Innovation at Instituto Superior Técnico, University of Lisbon, Portugal, where he is Head of the Department of Engineering and Management. Rui's research and teaching interests are in the economics of entrepreneurship and innovation, human capital, regional development, industry dynamics, and labor markets. He is an Editor of Small Business Economics - An Entrepreneurship Journal.

Sascha Kraus is Full Professor of Management at the Free University of Bozen-Bolzano, Italy. He holds a doctorate in Social and Economic Sciences from Klagenfurt University/Austria, a Ph.D. in Industrial Engineering and Management from Helsinki University of Technology/Finland and a Habilitation (Venia Docendi) from Lappeenranta University of Technology/Finland. Before, he held Full Professor positions at Utrecht University/The Netherlands, the University of Liechtenstein, École Supérieure du Commerce Extérieur Paris/France, and at Durham University/United Kingdom. He also held Visiting Professor positions at Copenhagen Business School/Denmark and at the University of St. Gallen/Switzerland, and was EECPCL Participating Professor at Harvard University/USA.

António Sérgio Ribeiro is an Invited Assistant Professor at Instituto Superior Técnico, Universidade de Lisboa, Portugal, and researcher fellow of the Centre for Management Studies (CEG-IST). António's research focuses in the areas of entrepreneurship and innovation and sports economics. He has published in Journal of International Business Studies, Applied Economics and Applied Economics Letters.

Cheng-Feng Cheng is Associate Professor at the Department of Business Administration at National Taichung University of Science and Technology, Taiwman. His research interests are strategic management, marketing management, and consumer behavior. He published papers in a variety of journals including Personnel Review, British Journal of Management, Asia Pacific Business Review, Technovation, Journal of Business Research, Industrial Marketing Management, Applied Economics Letters and Journal of Computer Information Systems.

Paul Westhead is Professor of Entrepreneurship at Durham University Business School, United Kingdom. Before that, he held professorial posts at Warwick Business School, Nottingham Business School and Stirling School of Management, where he taught and researched entrepreneurship. He is currently researching the impact of initiatives encouraging graduates to consider business ownership and/or careers in small firms; entrepreneurial teams; the internationalization of smaller private firms; the development of private family firms; and the habitual entrepreneurship phenomenon.