

# **Knowledge capital in social and commercial entrepreneurship: Investigating the role of informal institutions**

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**Abstract:** This paper utilizes the lenses of knowledge capital and institutional theories to examine the role knowledge capital plays in the context of entry into social versus commercial entrepreneurship. We also investigate the moderating role of national culture in the relationship between knowledge capital and entrepreneurship. Using data from the Global Entrepreneurship Monitor, we find that social capital is relatively more important in social entrepreneurship than commercial entrepreneurship. We also find that national culture moderates this relationship such that in high individualism cultures, specific human capital is directed towards commercial entrepreneurship compared to social entrepreneurship. However, in high uncertainty avoidance cultures, social capital is directed towards social entrepreneurship rather than commercial entrepreneurship. Our findings uncover the nature of the contingent effects of informal institutions on the relationship between knowledge capital and entrepreneurship, leading to important implications for theory and development policy.

**Keywords:** Social entrepreneurship, Commercial entrepreneurship, Knowledge capital, Human capital, Social capital, Culture, Informal institutions, Global Entrepreneurship Monitor

## **INTRODUCTION**

Social entrepreneurs differ from commercial entrepreneurs in the relative importance that the former place on doing good for society as compared to private gains (Lepoutre et al., 2013; Saebi et al., 2019; Stephan et al., 2016). This difference leads to variations in terms of the organization's mission, opportunity perception, performance measurement, and organizational form (Austin et al., 2006; Dacin et al., 2010; Dwivedi and Weerawardena, 2018). Owing to these differences in the goals and needs of social and commercial entrepreneurs, they are likely to be influenced by different types of individual capital and environmental factors (Bacq et al., 2013; Estrin et al., 2016; Littlewood and Holt, 2018;

Pathak and Muralidharan, 2016; Sahasranamam and Nandakumar, 2020; Stephan et al., 2015).

Despite the differences in characteristics between social and commercial entrepreneurs, the overriding nature of entrepreneurship as a function of ability, motivation, and opportunity is applicable for both (McMullen and Dimov, 2013; McMullen and Shepherd, 2006). These attributes are embedded in the social structures, such that they are likely to be influenced by the institutional context (Hu et al., 2020; Littlewood and Holt, 2018; Muñoz and Kimmitt, 2019). Therefore, informal institutions, such as national culture, could exert influence by systematically facilitating or suppressing individual ability to engage in various entrepreneurial actions by providing endowments of resource support (Bruton et al., 2010; Castaño et al., 2015; Hoogendoorn, 2016). For instance, culture can endorse or shun certain avenues as congruent or incongruent with social norms and widely-held values (Apetrei et al., 2015; Semrau et al., 2016; Stephan and Uhlaner, 2010). From an institutional legitimacy point of view, we also know that culture helps establish the normative pillars that guide entrepreneurial activity (Bruton et al., 2010; Hayton et al., 2002; Kreiser et al., 2010). This point of view introduces social costs or benefits to the decision-making process of an individual trying to make investments towards entrepreneurship. Thus, informal institutions are likely to moderate the relationship between individual resources and entrepreneurial action (Shirokova et al., 2018). This influence may differ depending on the form of entrepreneurship, namely, in this case, commercial versus social entrepreneurship.

Indeed, most early studies in the entrepreneurship literature are phenomenon-driven, especially in the social entrepreneurship research field (Mair and Martí, 2006). Most of the evidence is case study based (see e.g. Short, Moss and Lumpkin, 2009) such as on the Grameen Bank in Bangladesh set up by Professor Mohammed Yunus (Papa et al., 1995), and

the Ashoka company set up in 1980 by William Drayton, which today funds social entrepreneurs around the world (Sen, 2007; Meyskens et al., 2010). Another example is the fair-trade movement and trademark for retailers in many countries (see Kerrigan et al., 2007; Davies, Doherty and Knox, 2010). However, this more recent fair-trade arrangement between producers of various commodities in developing countries and importers to achieve sustainable and equitable terms of trade (including supporting higher export prices and improving social and environment standards) has its origins in many much older movements in different countries around the world with different cultural backgrounds (Doherty, Davies and Tranchell, 2013). What many of the detailed case studies have in common are the important historical explanations of why the social enterprises came to be, which in many instances is argued to be driven by entrepreneurial characteristics, industry specific as well as national, cultural and institutional specific determinants (Short et al., 2009).

Estrin et al. (2016) explores the role of general and specific human capital on the choice of being a social versus a commercial entrepreneur. Scholars have also examined the country-level cultural determinants influencing social and commercial entrepreneurship emergence (Pathak & Muralidharan 2016; Estrin, Mickiewicz & Stephan, 2013). We build on both the individual- and country-level research comparing social versus commercial entrepreneurship choice in this paper. We conceptualize knowledge capital as a construct at the individual-level that is not only limited to the human capital components (Estrin et al, 2016), but also incorporates the aspect of knowledge obtained through social capital or network relationships with other entrepreneurs (Audretsch and Keilbach, 2004; Gedajlovic et al., 2013; Payne et al., 2011; Stam et al., 2014). Furthermore, the impact of knowledge capital on different forms of entrepreneurship is influenced by contextual conditions (De Clercq et al., 2013; Stam et al., 2014). However, we have a limited understanding of how the role of knowledge capital on entrepreneurship may be subject to the informal institutional context . Hence, there is a need

for multilevel research to understand the combined effect of knowledge capital (at an individual level) and informal institutional contextual factors (at country level) on social versus commercial entrepreneurship choice.

We integrate the lenses of knowledge capital theory, specifically human and social capital aspects (Bourdieu, 1986; Coleman, 1988; Putnam, 1995) and institutional theory (North, 1990; Scott, 2001) in this study to examine: (1) the role of knowledge capital on entry into social and commercial entrepreneurship, and (2) the contingent role of informal institutions on that relationship. We build and extend the work by Estrin et al. (2016), who consider only the human capital aspects on relative entrepreneurship choice. We argue that it is also crucial to consider the social capital of individuals with other entrepreneurs as part of the knowledge capital to have an integrated understanding of entrepreneurship choice (Bhagavatula et al., 2010; Nahapiet and Ghoshal, 1998). North (1990) characterizes institutions as the rules of the game that structure human interactions. It includes a combination of both formal rules, and informal norms or routines (North, 1990; Scott, 2001). Scholars have explored the contingent role of different formal institutions on the relationship between individual capital and social entrepreneurship while highlighting the need for future research to study the contingent role of informal institutions (Estrin et al., 2016; Sahasranamam and Nandakumar, 2020).

We use data from the Global Entrepreneurship Monitor (GEM) (Lepoutre et al., 2013; Reynolds et al., 2005; Terjesen et al., 2012) along with data about country-level indicators from other sources. We employ multi-level logistic regression analysis to estimate the results. We find that social capital is relatively more important for social than commercial entrepreneurship. We also observe that informal institutions have a significant moderating role in the investment of knowledge capital towards entrepreneurship choice, wherein high individualism cultures are likely to favor specific human capital investment towards

commercial over social entrepreneurship, while high uncertainty avoidance cultures are likely to favor social capital investment towards social over commercial entrepreneurship entry.

We offer two main overarching contributions (theoretically, practically and for policy) in this paper. Firstly, we broaden the understanding on the role of individual capital on entrepreneurship (Gedajlovic et al., 2013; Klyver and Schenkel, 2013; Payne et al., 2011; Stam et al., 2014) by exploring the effect of knowledge capital on social and commercial entrepreneurship. Our study suggests that social capital is relatively more important in social entrepreneurship than commercial entrepreneurship, something that is important for both entrepreneurs as well as policy makers. Secondly, we extend the literature on contextual effects on entrepreneurship (Estrin et al., 2013; Hu et al., 2020; Sahasranamam and Nandakumar, 2020; Shirokova et al., 2018; Stephan et al., 2015; Stephan and Pathak, 2016) by highlighting the contingent role of informal institutions on the relationship between knowledge capital and entrepreneurship. We, thus, add to the cross-country comparative research between social and commercial entrepreneurship (Bacq et al., 2016; Clark et al., 2018; Estrin et al., 2016; Hechavarría, 2016). For instance, we find that in high uncertainty avoidance cultures, social capital is directed towards social entrepreneurship rather than commercial entrepreneurship, which are important aspects to be taken into consideration by investors. Overall, our findings uncover the nature of the contingent effects of informal institutions on the relationship between knowledge capital and entrepreneurship, leading to important implications for developmental policy, as our research illuminates how different cultural contexts are likely to offer support to different types of entrepreneurship. We further elaborate on contributions and implications in the discussion and conclusion sections of this paper.

The remainder of this paper is structured into the following sections. First, we discuss the theoretical aspects of the two forms of entrepreneurship and the role of informal institutions

in entrepreneurship. Second, we build on it to develop our hypotheses examining the relationships between knowledge capital and entrepreneurship, and the contingent role of informal institutions on that relationship. Third, we describe our data sources and analysis methodology. Fourth, we present our results and follow this up with a discussion of them. Finally, we discuss the contributions of our research, alongside highlighting its limitations and opportunities for future research.

## **LITERATURE REVIEW**

### **Social and commercial entrepreneurship**

Social and commercial entrepreneurship are essential drivers of economic development and growth (McMullen, 2011; Santos, 2012). However, they differ in value creation with social entrepreneurs stressing social value over economic value (Sharir and Lerner, 2006; Weerawardena et al., 2010). Social entrepreneurs place greater importance on doing good for society while commercial entrepreneurs are relatively more inclined to focus on private gains (Austin et al. 2006; Dacin et al. 2010; Mair and Martí 2006).

Based on a review of social entrepreneurship literature, Doherty et al. (2014) identify hybridity in terms of social mission and financial sustainability as a defining characteristic of social ventures. Given the need for managing hybrid goals, social enterprise has to combine often multiple organizational forms and multiple logics, which deviates from established templates of organizing (Battilana and Dorado, 2010; Battilana and Lee, 2014; Doherty et al., 2014). Since social entrepreneurs attempt to satisfy seemingly contradicting goals with commercial and social ends, they face greater complexity in their activities compared to commercial entrepreneurs (Battilana and Lee, 2014; Santos, 2012).

Bacq and Janssen (2011) compares social and commercial entrepreneurship in terms of indicative and functional perspectives. From a meaningful perspective, founder

characteristics like pro-social motivation are recognized as a key distinguishing characteristic of social entrepreneurs (Grimes et al., 2013; Miller et al., 2012). On the functional front, aspects like the mission, performance measurement, opportunity perception, temporal view, and organizational form (Austin et al., 2006; Dacin et al., 2010) are highlighted as being different. For instance, social enterprises are likely to adopt performance measures like social return on investment (SROI) rather than traditional ROI measures (Block et al., 2018).

Given this context, institutional theory acts as an important framework that helps to describe the socio-cultural processes that support the emergence and legitimization of new ideas and firms (Smith et al. 2016; Tolbert et al. 2011). The concept of institutional legitimacy is particularly relevant in this regard. It refers to a congruence between idea, organization, or organizational form with social laws, norms, and values (DiMaggio and Powell, 1983; Scott, 2008; Suchman, 1995). Drawing from this, it is argued that individual preferences are based on the extent to which the individual perceives that the societal expectations accept a particular form of entrepreneurship as having legitimacy (Dart, 2004; Suddaby et al., 2017).

### **Informal institutions and entrepreneurship**

Our conceptualization of institutional context stems from the new institutional economics lineage of North (1990). According to North (1990), the institutional framework consists of formal institutions constituting the rules and structures, and informal institutions constituting the norms, values, and beliefs. National culture is considered an important informal institution influencing entrepreneurship emergence and economic development (Autio et al., 2013; Hayton et al., 2002). As Landes (1998: 516) has observed, "if we learn anything from the history of economic development, it is that culture makes all the difference." Extant research has already established that national culture has a significant influence on



innovation, entrepreneurship, and productivity (George and Zahra, 2002; Hayton et al., 2002; Shane, 1993, 1992).

There have been multiple attempts to quantify culture for a long time (England, 1967; Haire et al., 1966; Kluchhohn and Strodbeck, 1961; Kuhn and McPartland, 1954; Rokeach, 1973). However, it was Hofstede's (1980) publication "Culture's Consequences" which led to increased interest in cultural studies. Prior literature reports five major cross-cultural research projects undertaken to quantify culture, namely, (i) Hofstede (2001) cultural dimensions; (ii) the GLOBE project (House et al., 2004); (iii) values survey (Schwartz, 1999); (iv) Smith, Peterson, and Schwartz's (2002) study of event management; and (v) the World Values Survey (Inglehart et al., 2004). There had subsequently been debates over the merits of each of these projects (Hofstede, 2006; Javidan et al., 2006; Taras et al., 2009).

The literature review by Kirkman, Lowe, and Gibson (2006: 308) suggest that the conclusions from different large-scale culture studies, such as Schwartz (1992, 1994), Trompenaars (1993), and Smith et al. (1996) "have sustained and amplified Hofstede's conclusions rather than contradicted them." The review also provides evidence for applying Hofstede's framework successfully to examine cultures of various countries and conclude that Hofstede's values are relevant for additional cross-cultural research. Similar recommendations came out of the literature review carried out by Taras et al. (2009), which identified 121 instruments that have been used in the quantitative measurement of culture. Of the reviewed instruments, they found 97.5% of it to have some conceptual similarity with Hofstede indices. It was also found that individualism-collectivism, masculinity-femininity, power distance, and uncertainty avoidance were the most predominantly used cultural measures (Taras et al., 2009).

Based on the suggestions provided in the studies discussed above and a few others (Chui and Kwok, 2008; Kirkman et al., 2006; Kwok and Tadesse, 2006), we decided to use Hofstede's model as the main cultural model in this study for two main reasons. First, Hofstede's values are the most widely used for measuring national culture, which provides a commonly accepted and defined terminology for characterizing culture. Second, the work-related nature of Hofstede's values activated in work organizations matches well with the central topic of this study.

According to Hofstede (2001: 9), culture is "the collective programming of the mind that distinguishes the members of one group or category of people from another." In this context, culture is not so much a "characteristic of individuals as it is a way of categorizing people whose perceptions are shared as a result of conditioning by similar life experiences" (Hofstede, 1980, p. 43). Extant literature in entrepreneurship observed that four dimensions of national culture based on Hofstede framework influence commercial entrepreneurship activities in the following ways (George and Zahra, 2002; Hayton et al., 2002; Kreiser et al., 2010; Shneor et al., 2013) - low power distance, high individualism, low uncertainty avoidance, and high masculinity positively impact commercial entrepreneurship<sup>1</sup>. To offer a comparative perspective, we focus on these four dimensions<sup>2</sup> to explore how it moderates the impact of knowledge capital on entrepreneurship.

In past literature, it has been argued that the contingent effect of culture on social entrepreneurship emergence is distinct from that of commercial enterprise (Austin et al., 2006; Pathak and Muralidharan, 2016; Zahra et al., 2008). For instance, cultural systems have

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<sup>1</sup> Scholars using other culture dimensions like GLOBE have come to similar conclusions as well. For instance, societal collectivism and uncertainty avoidance cultures decreases the likelihood of commercial entrepreneurship (Autio et al., 2013; Pathak and Muralidharan, 2016).

<sup>2</sup> The fifth dimension namely long-term orientation which was added later is minimally used (Taras et al., 2009) and is available only for a limited number of 23 countries (Hofstede, 2001). Also, long-term orientation is not observed to be having much effect on entrepreneurship (Hayton et al., 2002).

a strong influence on the level of community support for social enterprises (Newth and Woods, 2014). This support could be in the form of donations, word-of-mouth promotion, contribution of time and effort, willingness to support a new initiative, or just tolerance of it. It is observed that post-materialism and socially supportive cultures have a positive effect on social entrepreneurship engagement (Stephan et al., 2015). Hoogendoorn (2016) notes that the prevalence of self-expression values in a country encourages social entrepreneurship entry. Pathak and Muralidharan (2016) find that societal collectivism increases the likelihood of social entrepreneurship, while it has a contrary effect on commercial entrepreneurship. Despite these studies in social entrepreneurship literature claiming that national culture can explain the cross-country variation in its emergence, how the cultural context influences the exploitation of individual resources for social entrepreneurship creation remains a relatively unexplored region (Estrin et al., 2016; Pathak and Muralidharan, 2016; Puthusserry et al., 2019).

### **Knowledge capital and entrepreneurship**

The knowledge spillover theory of entrepreneurship (Audretsch, 1995) emerged as the dominant theory of knowledge production in the context of entrepreneurial ventures.

According to this theory, a decision making context enriched by knowledge helps identify entrepreneurial opportunities (Acs et al., 2013). This theory was extended by introducing concepts such as entrepreneurial absorptive capacity, which suggests that, besides knowledge spillover, the creation of new ventures will also depend on the ability of the entrepreneur to internalize the knowledge and create successful business ideas (Qian and Acs, 2013).

Drawing on the research on knowledge capital and entrepreneurial capital, many studies suggest that human and social capital promotes entrepreneurial activities (Becker, 1994; Davidsson and Honig, 2003; Estrin et al., 2016; Gedajlovic et al., 2013). We explore the role of knowledge capital, comprising of an individual's general human capital, specific human

capital, and social capital networks with other entrepreneurs, on the relative entrepreneurship choice between social and commercial entrepreneurship.

The human capital theory was initially developed to study the importance of education, which suggests that variations in knowledge and skills of the individual lead to differing economic value (Becker, 1994; Schultz, 1959). Entrepreneurship research borrowed this concept to study its importance on entrepreneurial opportunity discovery and exploitation (Alvarez and Barney, 2007; Davidsson and Honig, 2003). It is known to help individuals in knowledge creation, which facilitates opportunity discovery (Bradley et al., 2012; Corbett et al., 2007) and in acquiring resources that support opportunity exploitation (Autio and Acs, 2010; Bhagavatula et al., 2010). While human capital positively impacts entrepreneurial opportunity recognition and exploitation, it also increases the opportunity costs associated with the entry to entrepreneurship (Colombo and Piya, 2020).

We draw upon Becker's distinction of human capital into general and specific human capital. General human capital is typically acquired through formal education, which offers individuals' cognitive skills, problem-solving abilities, discipline, motivation, and self-confidence (Cooper et al., 1994; Grichnik et al., 2014). Formal education equips individuals with knowledge about markets and technology, enabling them to recognize better opportunities (Marvel et al., 2016; Shane, 2000). Specific human capital refers to knowledge specific to entrepreneurship (Rauch and Rijdsdijk, 2013), which could involve industry experience, prior self-employment, management expertise, or domain-specific knowledge (Baptista et al., 2014; Unger et al., 2011). Prior research suggests that general human capital is transferable between occupations, while specific human capital skills are domain-specific and provide more value in specific contexts (Huggins et al., 2017; Rauch and Rijdsdijk, 2013).

## **HYPOTHESES DEVELOPMENT**

As highlighted earlier, we operationalize knowledge capital as comprising of general human capital, specific human capital, and social capital. The direct effect of general and specific human capital on the relative choice between social and commercial entrepreneurship is already tested by Estrin et al. (2016). They find that individuals with higher levels of general human capital have a greater likelihood to engage in social, compared to commercial entrepreneurship. In contrast, individuals with specific (entrepreneurial) human capital have a greater likelihood to engage in commercial, compared to social entrepreneurship. We, thus, do not explicitly hypothesize for the effect of general and specific human, but we study the moderating effect of informal institutions on them in subsequent hypotheses. However, we theorize for the role of social capital aspect of knowledge capital in our direct effect hypothesis.

Social capital is developed as a function of an individual's involvement in social structures (Adler and Kwon, 2002; Baker, 1990; Bourdieu, 1986; Coleman, 1988). These social structures are constituted by friends, colleagues, and other contacts who are likely to support individuals in identifying new opportunities and offer support in their development (Burt 1997; Burt 1992). According to Adler and Kwon (2002), social capital also refers to the goodwill others have towards us. Social capital is likely to provide individuals with benefits like information, legitimacy, trust, and emotional support (Coleman, 1988; Klyver and Schenkel, 2013; Miao et al., 2017). Trust acts as an important tenet of social capital that helps an entrepreneur to cooperate and network with other entities. Social capital provides plenty of avenues for creating new businesses to entrepreneurs (Yoon, Yun, Lee, & Phillips, 2015) and hence an individual having higher social capital is more likely to identify new opportunities (Kreiser et al., 2013; McKeever et al., 2014). It is acknowledged that such network relationships complement other forms of capital like education and experience (Gedajlovic et al., 2013; Miao et al., 2017; Sahasranamam and Sud, 2016).

One of the critical forms of social capital in entrepreneurship is the network with other entrepreneurs. It is noted that individuals who have networks with other entrepreneurs tend to be more entrepreneurial (Klyver and Schenkel, 2013). These networks act as a crucial source of advice and support for aspiring entrepreneurs, and new firms (Klyver et al., 2008). For instance, it is observed that individuals who are better connected with other entrepreneurs find it easier to develop their business (Ucbasaran et al., 2008). Similarly, it could also act as a support mechanism for the difficult entrepreneurship journey by motivating them (Manolova et al., 2007).

We believe that this effect of social capital on entrepreneurship will be more important in social entrepreneurship rather than commercial entrepreneurship. As discussed earlier, social entrepreneurs are focussed more on using their resources for social good rather than financial benefits. They also suffer from the liability of its organizational form, which is still in an emergent phase. Hence, they either are likely to choose or are forced to get support from their network to access the required resources (Austin et al., 2006; Desa and Basu, 2013). It is also possible that the size of an individual's social capital could indicate a preference towards social engagement (Kachlami et al., 2018), which could predispose the individual to a social enterprise. For instance, Hu et al. (2020) highlight the importance of social resources in the form of exchange relationships and networks as being crucial for social entrepreneurship opportunity actualization. A study conducted among Alutiiq people based in Old Harbor, Alaska (Light and Dana, 2013) found that though social capital was helpful in promoting traditional hunting and fishing, though it did not stimulate commercial entrepreneurship. Montgomery et al., (2012: p. 376) note that "much of social entrepreneurship appears, in fact, to be collaborative and collective, drawing on a broad array of support, cooperation and alliances to build awareness, gain resources and, ultimately, make a change". In the context of rural social entrepreneurs, Lang and Fink (2019) highlight that

networks between them offer complimentary resources to facilitate their business models.

Based on these arguments, we expect that individuals with greater access to social capital are more likely to engage in social enterprise. Thus, we hypothesise,

**H1:** Individuals with higher levels of social capital have a greater likelihood to engage in social entrepreneurship compared with commercial entrepreneurship

### **Contingent role of national culture**

As mentioned earlier, we study the contingent role of four main dimensions of Hofstede (1980), namely power distance, individualism, uncertainty avoidance, and masculinity on the relationship between knowledge capital and entrepreneurship. Based on the institutional legitimacy argument, we argue how culture establishes the informal norms and routines of a society that guide entrepreneurial choices (Aldrich and Fiol, 1994; Suchman, 1995; Suddaby et al., 2017). We integrate these with social entrepreneurship literature to posit that in cultures where societal preferences encourage or require pro-social actions, greater legitimacy is bestowed on social entrepreneurship, offering external support in favor of knowledge capital investment towards it.

#### ***Knowledge capital, power distance, and entrepreneurship***

Power distance captures how different nations handle human inequality differently.

Inequality could emerge out of physical and mental characteristics, wealth, power status, social status, and prestige (Hofstede, 2001). Power distance reflects the degree of centralization that may be present in the mental programming of individuals at all levels of society (Ronen, 1986). In high power distance cultures, people at junior levels consider their superiors as a different kind of people, with non-power holders accepting the existence of a certain level of distance between them and those having power (Park et al., 2002).

The social norm in high power distance countries accepts the existence of inequality, acknowledging that everyone has his/her rightful place. This acceptance manifests itself in terms of social status and wealth. When there is greater inequality in terms of status and wealth, people who are of lower rank and/or poor often find themselves in a position of being unable to have access to the market on equal terms as people who are of higher status and/or wealthier. Such a situation is referred to as a social-market failure, wherein commercial market forces fail to meet a social need (e.g., public goods) (Weisbrod, 1977). Extant literature argues that social entrepreneurs find greater legitimacy and opportunities in contexts of social-market failure and acute poverty (Rivera-Santos et al. 2015; Robinson 2006; Seelos and Mair 2005).

In communities where high social inequality exists, community members are likely to support individuals that undertake actions aimed at reducing inequality (Frid et al., 2016; Santos, 2012). Individuals who have higher knowledge capital will be in a better position to attract such external support in higher power distance countries in favor of engagement in social, relative commercial entrepreneurship. Hence, we posit that:

**H2:** In power distance cultures, the likelihood of social entrepreneurship entry of those with knowledge capital (general human capital, specific human capital, and social capital) is greater relative to commercial entrepreneurship.

### ***Knowledge capital, individualism, and entrepreneurship***

Individualism is described as 'the relationship between the individual and the collective' (Hofstede, 2001, p. 209) that prevails in a given society. The individualism–collectivism dimension captures the relative relevance that people give towards personal interest and shared pursuits (Wagner III, 1995). In cultures with low levels of individualism, the emphasis is on belonging to the collective, and the context imposes activities. In contrast, the focus is on individual initiative and achievement, and activities are self-started in high individualism



cultures (Hofstede, 2001). In individualistic cultures, individuals tend to care for their self-interests, ignoring the interests of the group (Hofstede, 1983). In contrast, individuals in collectivist cultures are likely to exhibit cooperative behaviors that benefit the group, irrespective of personal gains from it. (Spence, 1985).

In comparison to commercial entrepreneurs, social entrepreneurs are faced with more constraints like limited access to superior talent and finances, which reduces their ability to access and deploy resources needed for the organization (Bacq and Janssen, 2011; Desa, 2012). Given these constraints, social entrepreneurs focus on resources outside their organizational boundaries to help them in achieving their goals. One such effort involves focussing on developing social capital and the skills to manage it (Hechavarría et al., 2017; Lumpkin et al., 2018; Sahasranamam and Ball, 2016). Comparisons of social and commercial entrepreneurs point out that social entrepreneurs draw their support from collective wisdom and experience (Austin et al., 2006). Social enterprises rely on their trust and relational ties with communities where they work to secure external resources needed for social action (Dacin et al. 2010; Mair and Martí 2006). Hence, social enterprises are likely to garner greater legitimacy and external resource support in collectivistic cultures than commercial enterprises (Corner and Ho, 2010; Pathak and Muralidharan, 2016). Individuals who have higher knowledge capital are likely to be better placed to attract such external support in high collectivism (low individualism) cultures in favour of engagement in social, relative commercial entrepreneurship. Thus, we posit that:

**H3:** In individualistic cultures, the likelihood of social entrepreneurship entry of those with knowledge capital (general human capital, specific human capital, and social capital) is lower relative to commercial entrepreneurship.

***Knowledge capital, uncertainty avoidance, and entrepreneurship***

Hofstede (2001: 148) describes uncertainty avoidance as: “uncertainty-avoiding cultures shun ambiguous situations. People in such cultures look for structure in their organizations, institutions, and relationships, which makes events interpretable and predictable.” The extent to which individuals in a society are anxious about the unpredictable nature of the future has implications on economic and entrepreneurial initiatives in that country (Shane, 1995). For example, Venaik and Brewer (2010) noted a negative relationship between Hofstede's uncertainty avoidance and economic prosperity.

Extant literature also clarifies that uncertainty avoidance and risk avoidance are not synonymous terms. Uncertainty refers to ambiguous situations, whereas risk has a definite probability attached to an event (Hofstede, 2001). Further, Hofstede (2001) suggests that individuals in high uncertainty avoidance cultures are willing to take risks or to support others taking such risks as a means of reducing the ambiguity and stress that they encounter. Social entrepreneurs attempt to solve the social problems bringing more significant structure to the lives of the people (Mair et al. 2007, 2012; Mair and Marti 2009), and hence they are likely to have higher legitimacy and resource support compared to commercial entrepreneurs in high uncertainty avoidance cultures (Manning, Kannothra & Wissman-Weber, 2017). As a result, we expect that better-networked individuals would garner greater external support in favor of social, relative to commercial entrepreneurship in high uncertainty avoidance cultures. Thus, we posit that:

**H4:** In uncertainty avoidance cultures, the likelihood of social entrepreneurship entry of those with knowledge capital (general human capital, specific human capital, and social capital) is greater relative to commercial entrepreneurship.

#### ***Knowledge capital, masculinity, and entrepreneurship***

Masculinity is defined as “the extent to which the dominant values in society are 'masculine', that is, assertiveness, the acquisition of money and things, and not caring for others, the

quality of life, or people" (Hofstede, 1980, p. 46). Masculine societies emphasize performance, achievement, and support material success. Feminine societies, on the other hand, tend to stress welfare, give greater importance for relationships with people over money, care for the preservation of the environment, and extend support to the weak (Hofstede, 2001).

People in feminine societies have high compassion (Goetz et al., 2010), and have greater sensitivity to the pain and needs of others (Nussbaum, 1996; Ortony et al., 1988). These qualities compel individuals to participate in activities that alleviate others' suffering (Batson and Shaw, 1991; Omoto et al., 2009). Compassion acts as a pro-social motivator, which is "the desire to expend effort to benefit other people" (Grant, 2008, p. 49). Hence, when there are greater levels of compassion among individuals in a country, they are more likely to perceive the activities of social entrepreneurs who try to alleviate the suffering of others as legitimate and support them (Grimes et al., 2013; Hechavarría et al., 2017; Miller et al., 2012). Social entrepreneurs will receive greater external support like compassion in countries with feminine culture. Hence we expect that individual knowledge capital will be more instrumental in social, relative to commercial entrepreneurship in weak masculine (high feminine) cultures. Thus, we posit that:

**H5:** In masculine cultures, the likelihood of social entrepreneurship entry of those with knowledge capital (general human capital, specific human capital, and social capital) is lower relative to commercial entrepreneurship.

We present our conceptual model in Figure 1.

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## **DATA AND METHODS**

## **Data Sources**

We use a multi-country dataset for testing our hypotheses. This dataset was developed by merging multiple datasets. The main source of data was from the the Global Entrepreneurship Monitor (GEM). Besides, for data on country-level institutional variables, we used sources such as Hofstede survey, World Bank, and Heritage Foundation. GEM entrepreneurship surveys are conducted on an annual basis across countries since 2000. In certain years, GEM conducts special additional surveys; one such instance was the special survey on social entrepreneurship in 2009. This data is well-suited for the theoretical concerns of our study. Prior research has established the reliability and validity of the GEM survey (Reynolds et al., 2005), and several studies in international business and entrepreneurship have used this survey data (Estrin et al., 2016; Mickiewicz et al., 2017; Stephan and Pathak, 2016). We use data from the Adult Population Survey (APS) of GEM, which is collected annually through telephone (or occasionally face-to-face) interviews, with around 2000 adult respondents (18-64 age group) from each country.

## **Variables**

### ***Dependent variable***

For our main set of results, we follow Estrin et al. (2016) to use a multilevel logit model comparing the individual likelihood of social and commercial entrepreneurial entry. We consider commercial entrepreneurship as the baseline category (coded as 0), and social entry is coded as 1. We classify entrepreneurship into social and commercial based on individuals' nascent entrepreneurial activity. GEM methodology classifies respondents as nascent entrepreneurs who answered affirmatively to the following statements: "(a) they are alone or with others are currently trying to start a new business, (b) they have actively taken action to start the new business over the past 12 months, (c) they will at least part-own this business, and (d) they have not paid wages, salaries, or 'in-kind' for more than three months" (Estrin et

al., 2016: 456). Within that, respondents who answered positively to the question about starting and owner-managing “any kind of activity, organization or initiative that has a particular social, environmental or community objective” were identified as social entrepreneurs (Lepoutre et al., 2013; Stephan et al., 2015; Terjesen et al., 2012). Prior social entrepreneurship research uses a similar definition (Mair and Martí 2006; Zahra et al. 2009).

### ***Independent variable***

Our individual-level predictor variable is knowledge capital, which is comprised of three variables, namely general human capital, specific human capital, and individual social capital. We measure general human capital based on respondents' educational status, equal to 1 if they have completed secondary education (De Clercq et al., 2013). We operationalized specific human capital as a dummy variable, that takes the value 1 when the respondents mention that “they had the knowledge, skills, and experience required to start a new business” (De Clercq et al., 2013; Sahasranamam and Sud, 2016). We measure social capital as a dummy variable, equal to 1, if respondents mention that they know someone who had started a business in the past two years (Arenius and Minniti, 2005; De Clercq et al., 2013; Klyver et al., 2008; Klyver and Schenkel, 2013).

### ***Moderator variables***

We measure national culture values of power distance, individualism, uncertainty avoidance, and masculinity based on Hofstede (2001). National culture is relatively stable over long periods, and hence using the culture orientation scores from 2001 is appropriate (Beugelsdijk et al., 2015).

### ***Control variables***

Considering the multilevel nature of our research question, we include control variables at both the individual and country levels. At the individual level, following prior research (De Clercq et al., 2013; Estrin et al., 2016), we control for gender, age, occupational status, fear of failure, and financial capital. We measure gender as a dummy variable (Male = 1). We

measure the age of the respondent in years. We operationalize occupational status as a dummy variable based on whether the respondent is working (full-time or part-time) or not. Fear of failure is also a dummy variable, which captures whether respondents agree that fear of failure would prevent them from starting a business. We measure financial capital in terms of respondents' household income. If the respondents' household income is in the middle or upper third of incomes in a national sample, we code it as 1.

At the country level, based on prior research, we control for GDP per capita, GDP growth, unemployment, government spending (as a ratio of GDP), and the rule of law (Estrin et al., 2016; Hoogendoorn, 2016). The data on GDP per capita, GDP growth, unemployment rate, and the rule of law were obtained from the World Bank. The data on government spending (as a ratio of GDP) was taken from the Heritage Foundation. We lag all these variables by one year. Furthermore, in regression models testing the moderating role of culture, we control for their respective country-level values.

## **Estimation**

Our data has a nested structure with individual-data within country-level data, and our dependent variable is a dummy variable. So we use a multi-level logistic regression analysis. (Guo and Zhao, 2000). There are multiple advantages to using a multi-level approach. First, it reduces bias in the analysis by factoring for the interdependency between data at the individual and country-level (Autio and Acs, 2010; Hofmann, 1997). Second, ecological fallacy<sup>3</sup> concerns emerge when the focus is only on one level (Terjesen et al., 2016); a multi-level approach helps to overcome this through systematic analysis of cross-level interaction effect (Echambadi et al., 2006; Guo and Zhao, 2000). Several entrepreneurship studies have adopted such multi-level approaches (Autio and Acs, 2010; De Clercq et al., 2013).

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<sup>3</sup> Ecological fallacy concerns arise when statements about individual behaviors are made based on aggregated data (Robinson 1950).

While testing moderating effects, the direction and statistical significance of interactions vary for different independent variables (Hoetker, 2007; Zelner, 2009). So we plot the marginal interaction graphs between high and low values of the moderator variable for different values of the independent variable (Zelner, 2009).

## **RESULTS**

We present the summary statistics and the correlation matrix in Tables 1 and 2, respectively. From Table 2, we note that there are no high correlations between individual-level variables and between individual- and country-level variables. We also tested for multi-collinearity using the VIF statistic in each of the regression models. The average VIF scores for the regression models are within the range of 4 (Cohen et al., 2003; Neter et al., 1996), and the overall condition number is less than 15 (Belsley et al., 2005), suggesting that multicollinearity is not a severe concern in our study.

We show the results of our logistic regression in Table 3. Model 1 includes all the control variables at the individual and country levels. In Model 2, we add the predictor variable at the individual level, i.e., knowledge capital. In Models 3, 4, 5, and 6, we include the interaction effects of three knowledge capital variables with power distance, individualism, uncertainty avoidance, and masculinity culture, respectively. We present the relative Odds Ratio (OR) in the tables; an  $OR > 1$  indicates a positive effect, and  $OR < 1$  indicates a negative effect.

From Model 2 in Table 3, we see a significant positive effect on social capital on social compared to commercial entrepreneurship entry ( $OR = 1.17, p < 0.001$ ). This implies that individuals who are better resourced from a social capital perspective are more likely to engage in social entrepreneurship than in commercial entrepreneurship, lending support to

Hypothesis 1. We also find the same results as Estrin et al. (2016) for general and specific human capital variables.

From Model 3, we find no significant interaction effect of power distance culture on the relationship between knowledge capital variables and relative entrepreneurship choice. Thus, we do not find support for Hypothesis 2.

From Model 4, we observe a significant negative interaction effect between specific human capital and individualism culture (OR = 0.84,  $p < 0.05$ ), while the interaction with other forms of knowledge capital is not significant. Therefore, we find partial support for Hypothesis 3. This result suggests that individualistic culture influences specific human capital investment towards commercial entrepreneurship compared to social entrepreneurship. We plot this significant moderating effect in Figure 2.

From Model 5, we find a significant positive interaction effect between social capital and uncertainty avoidance culture (OR = 1.16,  $p < 0.05$ ), while the interaction with other forms of knowledge capital is not significant. Hence, Hypothesis 4 is partially supported. This finding implies that, in high uncertainty avoidance cultures, social capital has a more substantial effect on entry to social entrepreneurship compared to commercial entrepreneurship. We plot this significant moderating effect in Figure 3.

From Model 6, we note an insignificant moderating effect for masculinity culture. Similar to the finding for power distance, this suggests that masculinity cultures do not have a differential effect in influencing knowledge capital investment towards either form of entrepreneurship, and hence Hypothesis 5 is not supported.

Among the control variables, we observe that people who are already working prefer to engage in commercial rather than social entrepreneurship entry, and this finding is consistent with prior research findings (Estrin et al., 2016). It is also interesting to note that



the financial capital of individuals does not influence the relative entrepreneurship choice, though previous research has found it to be important for both types of entrepreneurship when contrasted with no entrepreneurial activity (De Clercq et al., 2013).

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Insert Tables 1- 3 and Figures 2-3 about here  
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### **Robustness tests**

We perform multiple robustness tests<sup>4</sup>. First, we removed country-level variables like unemployment rate and government spending separately, and repeated the analysis. Second, we used the regulatory quality index from the World Bank instead of the rule of law at the country-level as a control variable. In the above-mentioned robustness analysis, the direction and statistical significance of the results were consistent with those in Table 3.

### **DISCUSSION**

This paper studied the role of knowledge capital on social and commercial entrepreneurship, while simultaneously considering the contingent effect of informal institutions. Drawing on social capital theory, we find that social capital is relatively more important for social, compared to commercial entrepreneurship. This finding is consistent with the views expressed by many scholars (e.g., Hu et al., 2020; Kachlami et al., 2018) that social capital would be more helpful in promoting social entrepreneurship than commercial entrepreneurship.

Upon integrating it with institutional theory and national culture characteristics, we observe that this is better understood when considered as a multilevel phenomenon of knowledge capital situated within the individual's informal institutional context. In this

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<sup>4</sup> The results are available with the authors upon request.

study, we respond to two critical calls for future research, namely (i) understanding the key drivers for setting up both social and commercial enterprises resulting in a clear distinction between them (Clark et al., 2018; Estrin et al., 2016; Sahasranamam and Nandakumar, 2020) and (ii) in-depth examination of the role played by informal institutions on the emergence of new ventures (Liñán et al., 2014; Shirokova et al., 2018).

Contrary to our expectations, we did not find support for our argument that knowledge capital promotes social entrepreneurship than commercial entrepreneurship in high power distance cultures. Similarly, the results did not support our hypothesis that suggests knowledge capital will support commercial than social entrepreneurs in masculine cultures. There is some empirical evidence that suggests that lower power distance and lower masculinity promote social entrepreneurship (e.g., Kedmenec and Strašek, 2017). Hence our research findings help promote further debate regarding the impact of cultural distance on the emergence of social entrepreneurship.

### **Theoretical Contributions**

We make two key theoretical contributions through this study. Firstly, we contribute to the literature on individual capital in entrepreneurship (Bhagavatula et al., 2010; Davidsson and Honig, 2003; Gedajlovic et al., 2013; Payne et al., 2011; Stam et al., 2014). Prior literature has recognized the importance of network relationships and social capital on entrepreneurship engagement (Bhagavatula et al., 2010; Davidsson and Honig, 2003; Sahasranamam and Sud, 2016). We extend this understanding by highlighting the greater relevance of social capital for social compared to commercial entrepreneurship. This research finding conforms with the arguments in social entrepreneurship literature over the importance of reliance on social capital for resource acquisition in social enterprises (Austin et al., 2006; Desa and Basu, 2013).

Our second contribution is to the growing literature on contextual effects on entrepreneurship (Estrin et al., 2016, 2013; Estrin and Mickiewicz, 2011; Pathak and Muralidharan, 2016; Semrau et al., 2016; Xavier-Oliveira et al., 2015). The contingent role of formal institutional factors like the rule of law, financial system, and educational system on individual capital investment towards social entrepreneurship have been explored in earlier studies (Estrin et al., 2016; Sahasranamam and Nandakumar, 2020). We add to this literature by highlighting the moderating role of informal institutions on the relationship between knowledge capital and entrepreneurship. We find that high individualism cultures are likely to favor specific human capital investment towards commercial over social entrepreneurship, while high uncertainty avoidance cultures are likely to favor social capital investment towards social over commercial entrepreneurship entry. This learning conforms to our theoretical arguments that in such cultures, individuals are likely to garner greater legitimacy and external resource support in favor of social entrepreneurship to complement their knowledge capital. In collectivistic cultures, social entrepreneurs find support from the collective wisdom, relational ties, and community embeddedness, which are lower in individualistic cultures (Dacin et al. 2010; Mair and Martí 2006). In uncertainty avoidance cultures, it stems from the recognition that social enterprise activities are aimed at solving social problems and bringing greater structure to their lives (Mair et al. 2012; Mair and Marti 2009). Concerning power distance and masculinity cultures, we find that they do not have a differential role in encouraging knowledge capital investment towards either form of entrepreneurship entry. This finding was surprising in light of our arguments of inequalities and pro-social motivations, respectively, which requires further in-depth study.

## **Practical Implications**

Our findings on the relationship of knowledge capital with entrepreneurship and the contingency of national culture provide a basis for developing policies targeted at encouraging different forms of entrepreneurship. First, our finding suggests that social capital is more likely to encourage social entrepreneurship in comparison to commercial entrepreneurship. Hence, the policymakers and other stakeholders in the social entrepreneurship ecosystem should create forums for developing social capital among social entrepreneurs like networking events and entrepreneur meet-ups. Second, our results suggest that entrepreneurship support policies need tailoring to the cultural context. For instance, we find that the effect of specific human capital and social capital on social versus commercial entrepreneurship entry varies depending on the cultural context. This finding has implications for global bodies, such as the World Bank or the United Nations. For example, in seeking to implement the United Nation's Sustainable Development Goals, encouraging social entrepreneurship could be an important strategy. Our research suggests that one size tool will not fit all countries. For example, in cultures of high uncertainty avoidance, interventions to develop social capital may translate into more social entrepreneurship activity. However, in cultures of high power distance and masculinity, similar interventions might not have an equally beneficial effect.

## **LIMITATIONS, FUTURE RESEARCH, AND CONCLUSION**

There are certain limitations to the GEM dataset. For instance, we are limited by the GEM dataset using binary coding for some constructs. We capture measures like social capital, human capital, and fear of failure based on Yes/No responses. Furthermore, some of these measures are perceptual. Therefore, we encourage future research to use more fine-grained and objective measures for these constructs. However, we utilize it, considering that GEM is the only large scale database available on social entrepreneurship (Bacq et al., 2013; Lepoutre et al., 2013). GEM captured the social entrepreneurship information as a special survey in

2009. Therefore, the dataset is cross-sectional, and this gives rise to reverse causality concerns. However, we alleviate these concerns as far as we can by considering human and social capital (which are acquired in the past) and by lagging the country-level institutional data. Future research using longitudinal datasets could further explore this phenomenon. The data we have used in this study was collected in 2009, which becomes a limitation of our study. However, there is a lack of alternate cross-country data sources that offer comparable social and commercial entrepreneurship choice information at the individual level. Also, national culture is a societal attribute that changes very gradually; thus the findings from our study still hold relevance. In recent years, cross-country efforts have started for data collection exclusively on social entrepreneurship like Social Enterprise as FORCE for more Inclusive and Innovative Societies (SEFORIS), which has a predominant focus on EU countries (Huysentruyt et al., 2016). The country-level social enterprise estimates discussed by Huysentruyt et al., (2016) are comparable to the rates discussed in the report on GEM 2009 special survey (Lepoutre et al., 2012). Future research could draw on such data sources to have a more in-depth understanding of the cultural influence on social enterprises.

Hofstede's dimensions are acknowledged to have certain limitations and other cross-culture quantitative measures (Javidan et al., 2006). For instance, there is a critique that nations are not the ideal units of analysis for measuring culture. Another limitation of Hofstede and other multi-country culture measures is that the size distributions across countries vary (Kirkman et al., 2006). Culture is a complex phenomenon that makes it difficult to model (Taras et al., 2009). Despite the limitations, Hofstede's dimensions continue to have a strong holding within academic research and are considered appropriate for cross-country research (Beugelsdijk et al., 2015).

One of our key findings is that different cultural contexts exhibit variations in their contingent role in the relationship between knowledge capital and entrepreneurship. Researchers have thus far explored such multilevel effects involving informal institutions in a limited way. This avenue opens up significant future research potential to explore the moderating role of culture on the relationship between entrepreneur- or firm-level characteristics and entrepreneurship entry/performance. We know that cultures vary substantially at sub-national levels, especially within large and heterogeneous emerging market economies like India and China (Chatterjee and Sahasranamam, 2018; Sahasranamam and Ball, 2018). Therefore, there is a need for research to explore the role of sub-national cultures on entrepreneurship.

Our study reinforces the importance of knowledge capital for entrepreneurial entry. It extends social capital theory by illuminating its comparative role in social and commercial entrepreneurship and by highlighting the contingent role of national culture. Our findings enrich our knowledge on the comparison between social and commercial entrepreneurship concerning knowledge capital and the contextual influence of informal institutions.

## REFERENCES

- Acs, Z., Audretsch, D., Lehmann, E., 2013. The knowledge spillover theory of entrepreneurship. *Small Bus. Econ.* 41, 757–774.
- Adler, P.S., Kwon, S., 2002. Social capital: Prospects for a new concept. *Acad. Manag. Rev.* 27, 17–40.
- Aldrich, H.E., Fiol, C.M., 1994. Fools rush in? The institutional context of industry creation. *Acad. Manag. Rev.* 19, 645–670.
- Alvarez, S.A., Barney, J.B., 2007. Discovery and creation: Alternative theories of entrepreneurial action. *Strateg. Entrep. J.* 1, 11–26. <https://doi.org/10.1002/sej>
- Apetrei, A., Kureshi, N.I., Horodnic, I.A., 2015. When culture shapes international business. *J. Bus. Res.* 68, 1519–1521. <https://doi.org/10.1016/j.jbusres.2015.01.044>
- Arenius, P., Minniti, M., 2005. Perceptual variables and nascent entrepreneurship. *Small Bus. Econ.* 24, 233–247. <https://doi.org/10.1007/s11187-005-1984-x>
- Audretsch, D.B., 1995. *Innovation and industry evolution*. MIT Press, Cambridge, MA.
- Audretsch, D.B., Keilbach, M., 2004. Does entrepreneurship capital matter? *Entrep. Theory Pract.* 28, 419–430.
- Austin, J., Stevenson, H., Wei-skillern, J., 2006. Social and commercial entrepreneurship:

- Same, different, or both? *Entrep. Theory Pract.* 30, 1–22.
- Autio, E., Acs, Z.J., 2010. Intellectual property protection and the formation of entrepreneurial growth aspirations. *Strateg. Entrep. J.* 4, 234–251. <https://doi.org/10.1002/sej>
- Autio, E., Pathak, S., Wennberg, K., 2013. Consequences of cultural practices for entrepreneurial behaviors. *J. Int. Bus. Stud.* 44, 334–362. <https://doi.org/10.1057/jibs.2013.15>
- Bacq, S., Hartog, C., Hoogendoorn, B., 2016. Beyond the moral portrayal of social entrepreneurs: An empirical approach to who they are and what drives them. *J. Bus. Ethics* 133, 703–718. <https://doi.org/10.1007/s10551-014-2446-7>
- Bacq, S., Hartog, C., Hoogendoorn, B., 2013. A quantitative comparison of social and commercial entrepreneurship: Toward a more nuanced understanding of social entrepreneurship organizations in context. *J. Soc. Entrep.* 4, 40–68. <https://doi.org/10.1080/19420676.2012.758653>
- Bacq, S., Janssen, F., 2011. The multiple faces of social entrepreneurship: A review of definitional issues based on geographical and thematic criteria. *Entrep. Reg. Dev.* 23, 373–403. <https://doi.org/10.1080/08985626.2011.577242>
- Bahmani, S., Galindo, M. Á., & Méndez, M. T., 2012. Non-profit organizations, entrepreneurship, social capital and economic growth. *Small Business Economics*, 38(3), 271–281.
- Baker, W., 1990. Market networks and corporate behavior. *Am. J. Sociol.* 96, 589–625.
- Baptista, R., Karaöz, M., Mendonça, J., 2014. The impact of human capital on the early success of necessity versus opportunity-based entrepreneurs. *Small Bus. Econ.* 42, 831–847. <https://doi.org/10.1007/s11187-013-9502-z>
- Batson, C.D., Shaw, L.L., 1991. Evidence for altruism: Toward a pluralism of prosocial motives. *Psychol. Inq.* 2, 107–122.
- Battilana, J., Dorado, S., 2010. Building sustainable hybrid organizations: The case of commercial microfinance organizations. *Acad. Manag. J.* 53, 1419–1440.
- Battilana, J., Lee, M., 2014. Advancing research on hybrid organizing – Insights from the study of social enterprises. *Acad. Manag. Ann.* 8, 397–441. <https://doi.org/10.1080/19416520.2014.893615>
- Becker, G.S., 1994. Human capital: A theoretical and empirical analysis with specific reference to education. University of Chicago Press, Chicago.
- Belsley, D.A., Kuh, E., Welsch, R.E., 2005. Regression diagnostics: Identifying influential data and sources of collinearity. John Wiley & Sons, New York.
- Beugelsdijk, S., Maseland, R., van Hoorn, A., 2015. Are scores on Hofstede’s dimensions of national culture stable over time? A cohort analysis. *Glob. Strateg. J.* 5, 223–240. <https://doi.org/10.1002/gsj.1098>
- Bhagavatula, S., Elfring, T., van Tilburg, A., van de Bunt, G.G., 2010. How social and human capital influence opportunity recognition and resource mobilization in India’s handloom industry. *J. Bus. Ventur.* 25, 245–260. <https://doi.org/10.1016/j.jbusvent.2008.10.006>
- Block, J.H., Colombo, M.G., Cumming, D.J., Vismara, S., 2018. New players in entrepreneurial finance and why they are there. *Small Bus. Econ.* 50, 239–250. <https://doi.org/10.1007/s11187-016-9826-6>
- Bourdieu, P., 1986. The forms of capital, in: Richardson, J. (Ed.), *Handbook of Theory and Research for the Sociology of Education*. Greenwood, Westport, pp. 241–258.
- Bradley, S.W., McMullen, J.S., Artz, K., Simiyu, E.M., 2012. Capital is not enough: Innovation in developing economies. *J. Manag. Stud.* 49, 684–717. <https://doi.org/10.1111/j.1467-6486.2012.01043.x>

- Bruton, G.D., Ahlstrom, D., Li, H., 2010. Institutional theory and entrepreneurship: Where are we now and where do we need to move in the future? *Entrep. Theory Pract.* 34, 421–440. <https://doi.org/10.1111/j.1540-6520.2010.00390.x>
- Burt, R., 1997. The contingent value of social capital. *Adm. Sci. Q.* 42, 339–365.
- Burt, R.S., 1992. *Structural holes: The social structure of competition*. Harvard University Press, Cambridge.
- Castaño, M.S., Méndez, M.T., Galindo, M.Á., 2015. The effect of social, cultural, and economic factors on entrepreneurship. *J. Bus. Res.* 68, 1496–1500. <https://doi.org/10.1016/j.jbusres.2015.01.040>
- Chatterjee, D., Sahasranamam, S., 2018. Technological innovation research in China and India: A bibliometric analysis for the period 1991-2015. *Manag. Organ. Rev.* 14, 179–221. <https://doi.org/doi:10.1017/mor.2017.46>
- Chui, A.C.W., Kwok, C.C.Y., 2008. National culture and life insurance consumption. *J. Int. Bus. Stud.* 39, 88–101. <https://doi.org/10.1057/palgrave.jibs.84003>
- Clark, K.D., Newbert, S.L., Quigley, N.R., 2018. The motivational drivers underlying for-profit venture creation: Comparing social and commercial entrepreneurs. *Int. Small Bus. J. Res. Entrep.* 36, 220–241. <https://doi.org/10.1177/0266242617731139>
- Cohen, J., Cohen, P., West, S.G., Aiken, L.S., 2003. *Applied multiple regression/correlation analysis for the behavioral sciences*, 3rd ed. Routledge, New Jersey.
- Coleman, J., 1988. Social capital in the creation of human capital. *Am. J. Sociol.* 94, S95–S120.
- Colombo, M. G., Piva, E., 2020. Start-ups launched by recent STEM university graduates: The impact of university education on entrepreneurial entry. *Research Policy*, 49(6), 103993.
- Cooper, A.C., Gimeno-Gascon, F.J., Woo, C.Y., 1994. Initial human and financial capital as predictors of new venture performance. *J. Bus. Ventur.* 9, 371–395. [https://doi.org/10.1016/0883-9026\(94\)90013-2](https://doi.org/10.1016/0883-9026(94)90013-2)
- Corbett, A.C., Neck, H.M., DeTienne, D.R., 2007. How corporate entrepreneurs learn from fledgling innovation initiatives: Cognition and the development of a termination script. *Entrep. Theory Pract.* 31, 829–852.
- Corner, P.D., Ho, M., 2010. How opportunities develop in social entrepreneurship. *Entrep. Theory Pract.* 34, 635–659. <https://doi.org/10.1111/j.1540-6520.2010.00382.x>
- Dacin, P.A., Dacin, T.M., Matear, M., 2010. Social entrepreneurship: Why we don't need a new theory and how we move forward from here. *Acad. Manag. Perspect.* 24, 37–57.
- Dart, R., 2004. The legitimacy of social enterprise. *Nonprofit Volunt. Sect. Q.* 14, 411–424. <https://doi.org/10.1002/nml.43>
- Davidsson, P., Honig, B., 2003. The role of social and human capital among nascent entrepreneurs. *J. Bus. Ventur.* 18, 301–331. [https://doi.org/10.1016/S0883-9026\(02\)00097-6](https://doi.org/10.1016/S0883-9026(02)00097-6)
- Davies, I. A., Doherty, B., Knox, S. 2010. The rise and stall of a fair trade pioneer: The Cafédirect story. *Journal of Business Ethics*, 92(1), 127-147.
- De Clercq, D., Lim, D.S.K., Oh, C.H., 2013. Individual-level resources and new business activity: The contingent role of institutional context. *Entrep. Theory Pract.* 37, 303–330. <https://doi.org/10.1111/j.1540-6520.2011.00470.x>
- Desa, G., 2012. Resource mobilization in international social entrepreneurship: Bricolage as a mechanism of institutional transformation. *Entrep. Theory Pract.* 36, 727–751. <https://doi.org/10.1111/j.1540-6520.2010.00430.x>
- Desa, G., Basu, S., 2013. Optimization or bricolage? Overcoming resource constraints in global social entrepreneurship. *Strateg. Entrep. J.* 7, 26–49. <https://doi.org/10.1002/sej.1150>



- DiMaggio, P.J., Powell, W.W., 1983. The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *Am. Sociol. Rev.* 48, 147–160.
- Doherty, B., Haugh, H., Lyon, F., 2014. Social enterprises as hybrid organizations: A review and research agenda. *Int. J. Manag. Rev.* 16, 417–436.  
<https://doi.org/10.1111/ijmr.12028>
- Doherty, B., Davies, I. A., Tranchell, S. 2013. Where now for fair trade?. *Business history*, 55(2), 161-189.
- Dwivedi, A., Weerawardena, J., 2018. Conceptualizing and operationalizing the social entrepreneurship construct. *J. Bus. Res.* 86, 32–40.  
<https://doi.org/10.1016/j.jbusres.2018.01.053>
- Echambadi, R., Campbell, B., Agarwal, R., 2006. Encouraging best practice in quantitative management research: An incomplete list of opportunities. *J. Manag. Stud.* 43, 1801–1820.
- England, G.W., 1967. Personal value systems of American managers. *Acad. Manag. J.* 10, 53–68.
- Estrin, S., Mickiewicz, T., 2011. Institutions and female entrepreneurship. *Small Bus. Econ.* 37, 397–415. <https://doi.org/10.1007/s11187-011-9373-0>
- Estrin, S., Mickiewicz, T., Stephan, U., 2016. Human capital in social and commercial entrepreneurship. *J. Bus. Ventur.* 31, 449–467.  
<https://doi.org/10.1016/j.jbusvent.2016.05.003>
- Estrin, S., Mickiewicz, T., Stephan, U., 2013. Entrepreneurship, social capital, and institutions: Social and commercial entrepreneurship across nations. *Entrep. Theory Pract.* 37, 479–504. <https://doi.org/10.1111/etap.12019>
- Frid, C.J., Wyman, D.M., Coffey, B., 2016. Effects of wealth inequality on entrepreneurship. *Small Bus. Econ.* 47, 895–920. <https://doi.org/10.1007/s11187-016-9742-9>
- Gedajlovic, E., Honig, B., Moore, C.B., Payne, G.T., Wright, M., 2013. Social capital and entrepreneurship: A schema and research agenda. *Entrep. Theory Pract.* 37, 455–478.  
<https://doi.org/10.1111/etap.12042>
- George, G., Zahra, S., 2002. Culture and its consequences for entrepreneurship. *Entrep. Theory Pract.* 26, 5–8.
- Goetz, J.L., Keltner, D., Simon-Thomas, E., 2010. Compassion: An evolutionary analysis and empirical review. *Psychol. Bull.* 136, 351–374.
- Grant, A.M., 2008. Does intrinsic motivation fuel the prosocial fire? Motivational synergy in predicting persistence, performance, and productivity. *J. Appl. Psychol.* 93, 48–58.
- Grichnik, D., Brinckmann, J., Singh, L., Manigart, S., 2014. Beyond environmental scarcity: Human and social capital as driving forces of bootstrapping activities. *J. Bus. Ventur.* 29, 310–326. <https://doi.org/10.1016/j.jbusvent.2013.02.006>
- Grimes, M.G., McMullen, J.S., Vogus, T.J., Miller, T.L., 2013. Studying the origins of social entrepreneurship: Compassion and the role of embedded agency. *Acad. Manag. Rev.* 38, 460–463. <https://doi.org/10.5465/amr.2012.0429>
- Guo, G., Zhao, H., 2000. Multilevel modeling for binary data. *Annu. Rev. Sociol.* 26, 441–462.
- Haire, M., Ghiselli, E.E., Porter, L.W., 1966. *Managerial thinking: An international study.* Wiley, New York.
- Hayton, J., George, G., Zahra, S., 2002. National culture and entrepreneurship: A review of behavioral research. *Entrep. Theory Pract.* 26, 33–52.
- Hechavarría, D.M., 2016. The impact of culture on national prevalence rates of social and commercial entrepreneurship. *Int. Entrep. Manag. J.* 12, 1025–1052.  
<https://doi.org/10.1007/s11365-015-0376-1>
- Hechavarría, D.M., Terjesen, S.A., Ingram, A.E., Renko, M., Justo, R., Elam, A., 2017.

- Taking care of business: The impact of culture and gender on entrepreneurs' blended value creation goals. *Small Bus. Econ.* 48, 225–257. <https://doi.org/10.1007/s11187-016-9747-4>
- Hoetker, G., 2007. The use of logit and probit models in strategic management research: Critical issues. *Strateg. Manag. J.* 28, 331–343. <https://doi.org/10.1002/smj>
- Hofmann, D., 1997. An overview of the logic and rationale of hierarchical linear models. *J. Manage.* 23, 723–744.
- Hofstede, G., 2006. What did GLOBE really measure? Researchers' minds versus respondents' minds. *J. Int. Bus. Stud.* 37, 882–896.
- Hofstede, G., 2001. *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations*, 2nd ed. Sage Publications, Thousand Oaks, California.
- Hofstede, G., 1983. National cultures in four dimensions: A research-based theory of cultural differences among nations. *Int. Stud. Manag. Organ.* 13, 46–74.
- Hofstede, G., 1980. *Culture's consequences: International differences in work related values*. Sage Publications, Beverly Hills, CA.
- Hoogendoorn, B., 2016. The prevalence and determinants of social entrepreneurship at the macro level. *J. Small Bus. Manag.* 54, 278–296. <https://doi.org/10.1111/jsbm.12301>
- House, R.J., Hanges, P.J., Javidan, M., Dorfman, P.W., Gupta, V., 2004. *Culture, leadership, and organizations: The GLOBE study of 62 societies*. Sage Publications, Thousand Oaks.
- Hu, X., Marlow, S., Zimmermann, A., Martin, L., Frank, R., 2020. Understanding opportunities in social entrepreneurship: A critical realist abstraction. *Entrep. Theory Pract.* 44, 1032–1056.
- Huggins, R., Prokop, D., Thompson, P., 2017. Entrepreneurship and the determinants of firm survival within regions: human capital, growth motivation and locational conditions. *Entrep. Reg. Dev.* 29, 357–389. <https://doi.org/10.1080/08985626.2016.1271830>
- Huysentruyt, M., Le Coq, C., Mair, J., Rimac, T., Stephan, U., 2016. *Social entrepreneurship as a force for more inclusive and innovative societies: Cross-country report*.
- Inglehart, R., Basanez, M., Diez-Medrano, J., Halman, L., Luijkx, R., 2004. *Human beliefs and values: A cross-cultural sourcebook based on the 1999–2002 values surveys*. Siglo XXI Editores, Mexico.
- Javidan, M., House, R.J., Dorfman, P.W., Hanges, P.J., Sully de Luque, M., 2006. Conceptualizing and measuring cultures and their consequences: A comparative review of GLOBE's and Hofstede's approaches. *J. Int. Bus. Stud.* 37, 897–914. <https://doi.org/10.1057/palgrave.jibs.8400234>
- Kachlami, H., Yazdanfar, D., Öhman, P., 2018. Regional demand and supply factors of social entrepreneurship. *Int. J. Entrep. Behav. Res.* 24, 714–733.
- Kedmenec, I., & Strašek, S. 2017. Are some cultures more favourable for social entrepreneurship than others?. *Economic research-Ekonomska istraživanja*, 30(1), 1461-1476.
- Kerrigan, F., Schaefer, A., Doherty, B., Tranchell, S., 2007. Radical mainstreaming of fairtrade: the case of The Day Chocolate Company. *Equal Opportunities International*.
- Kirkman, B.L., Lowe, K.B., Gibson, C.B., 2006. A quarter century of Culture's Consequences: A review of empirical research incorporating Hofstede's cultural values framework. *J. Int. Bus. Stud.* 37, 285–320. <https://doi.org/10.1057/palgrave.jibs.8400202>
- Kluchhohn, F.R., Strodtbeck, F.L., 1961. *Variations in Value Orientations*. Row, Peterson, Evanston.
- Klyver, K., Hindle, K., Meyer, D., 2008. Influence of social network structure on entrepreneurship participation—A study of 20 national cultures. *Int. Entrep. Manag. J.* 4,

- 331–347. <https://doi.org/10.1007/s11365-007-0053-0>
- Klyver, K., Schenkel, M.T., 2013. From resource access to use: Exploring the impact of resource combinations on nascent entrepreneurship. *J. Small Bus. Manag.* 51, 539–556. <https://doi.org/10.1111/jsbm.12030>
- Kreiser, P.M., Marino, L.D., Dickson, P., Weaver, K.M., 2010. Cultural influences on entrepreneurial orientation: The impact of national culture on risk taking and proactiveness in SMEs. *Entrep. Theory Pract.* 34, 959–983. <https://doi.org/10.1111/j.1540-6520.2010.00396.x>
- Kreiser, P.M., Patel, P.C., Fiet, J.O., 2013. The influence of changes in social capital on firm-founding activities. *Entrep. Theory Pract.* 37, 539–568. <https://doi.org/10.1111/etap.12039>
- Kuhn, M.H., McPartland, R., 1954. An empirical investigation of self attitudes. *Am. Sociol. Rev.* 19, 68–76.
- Kwok, C., Tadesse, S., 2006. National culture and financial systems. *J. Int. Bus. Stud.* 37, 227–247.
- Landes, D., 1998. *The wealth and poverty of nations: Why some are so rich and some so poor.* W.W.Norton, New York.
- Lang, R., Fink, M., 2019. Rural social entrepreneurship: The role of social capital within and across institutional levels. *J. Rural Stud.* 70, 155–168.
- Lepoutre, J., Justo, R., Terjesen, S., Bosma, N., 2013., Designing a global standardized methodology for measuring social entrepreneurship activity: The Global Entrepreneurship Monitor social entrepreneurship study. *Small Bus. Econ.* 40, 693–714. <https://doi.org/10.1007/s11187-011-9398-4>
- Light, I., & Dana, L. P., 2013. Boundaries of social capital in entrepreneurship. *Entrepreneurship Theory and Practice*, 37(3), 603-624.
- Liñán, F., Fernandez-Serrano, J.J., Linan, F., Fernandez-Serrano, J.J., Liñán, F., Fernandez-Serrano, J.J., 2014. National culture, entrepreneurship and economic development: Different patterns across the European Union. *Small Bus. Econ.* 42, 685–701. <https://doi.org/10.1007/s11187-013-9520-x>
- Littlewood, D., Holt, D., 2018. Social entrepreneurship in South Africa: Exploring the influence of environment. *Bus. Soc.* 57, 525–561. <https://doi.org/10.1177/0007650315613293>
- Lumpkin, G.T., Bacq, S., Pidduck, R.J., 2018. Where change happens: Community-level phenomena in social entrepreneurship research. *J. Small Bus. Manag.* 56, 24–50.
- Mair, J., Marti, I., 2009. Entrepreneurship in and around institutional voids: A case study from Bangladesh. *J. Bus. Ventur.* 24, 419–435. <https://doi.org/10.1016/j.jbusvent.2008.04.006>
- Mair, J., Martí, I., 2006. Social entrepreneurship research: A source of explanation, prediction, and delight. *J. World Bus.* 41, 36–44. <https://doi.org/10.1016/j.jwb.2005.09.002>
- Mair, J., Martí, I., Canly, K., 2007. Institutional voids as spaces of opportunity. *Eur. Bus. Forum* 34–39.
- Mair, J., Martí, I., Ventresca, M.J., 2012. Building inclusive markets in rural Bangladesh: How intermediaries work institutional voids. *Acad. Manag. J.* 55, 819–850. <https://doi.org/10.5465/amj.2010.0627>
- Manolova, T.S., Carter, N.M., Manev, I.M., Gyoshev, B.S., 2007. The differential effect of men and women entrepreneurs' human capital and networking on growth expectancies in Bulgaria. *Entrep. Theory Pract.* 31, 407–426.
- Marvel, M.R., Davis, J.L., Sproul, C.R., 2016. Human capital and entrepreneurship research: A critical review and future directions. *Entrep. Theory Pract.* 40, 599–626.

- <https://doi.org/10.1111/etap.12136>
- McKeever, E., Anderson, A., Jack, S., 2014. Entrepreneurship and mutuality: social capital in processes and practices. *Entrep. Reg. Dev.* 26, 453–477.  
<https://doi.org/10.1080/08985626.2014.939536>
- McMullen, J.S., 2011. Delineating the domain of development entrepreneurship: A market-based approach to facilitating inclusive economic growth. *Entrep. Theory Pract.* 35, 185–193. <https://doi.org/10.1111/j.1540-6520.2010.00428.x>
- McMullen, J.S., Dimov, D., 2013. Time and the entrepreneurial journey: The problems and promise of studying entrepreneurship as a process. *J. Manag. Stud.* 50, 1481–1512.
- McMullen, J.S., Shepherd, D.A., 2006. Entrepreneurial action and the role of uncertainty in the theory of the entrepreneur. *Acad. Manag. Rev.* 31, 132–152.
- Meyskens, M., Robb-Post, C., Stamp, J. A., Carsrud, A. L., & Reynolds, P. D., 2010. Social ventures from a resource-based perspective: An exploratory study assessing global Ashoka fellows. *Entrepreneurship theory and practice*, 34(4), 661–680.
- Miao, C., Coombs, J.E., Qian, S., Sirmon, D.G., 2017. The mediating role of entrepreneurial orientation: A meta-analysis of resource orchestration and cultural contingencies. *J. Bus. Res.* 77, 68–80. <https://doi.org/10.1016/j.jbusres.2017.03.016>
- Mickiewicz, T., Nyakudya, F.W., Theodorakopoulos, N., Hart, M., 2017. Resource endowment and opportunity cost effects along the stages of entrepreneurship. *Small Bus. Econ.* 48, 953–976. <https://doi.org/10.1007/s11187-016-9806-x>
- Miller, T.L., Grimes, M.G., McMullen, J.S., Vogus, T.J., 2012. Venturing for others with heart and head: How compassion encourages social entrepreneurship. *Acad. Manag. Rev.* 37, 616–640. <https://doi.org/10.5465/amr.2010.0456>
- Montgomery, A.W., Dacin, P.A., Dacin, T.M., 2012. Collective social entrepreneurship: Collaboratively shaping social good. *J. Bus. Ethics* 111, 375–388.  
<https://doi.org/10.1007/s10551-012-1501-5>
- Muñoz, P., Kimmitt, J., 2019. Social mission as competitive advantage: A configurational analysis of the strategic conditions of social entrepreneurship. *J. Bus. Res.* 101, 854–861.
- Nahapiet, J., Ghoshal, S., 1998. Social capital, intellectual capital and the organizational advantage. *Acad. Manag. Rev.* 23, 242–266.
- Neter, J., Kutner, M.H., Nachtsheim, C.J., Wasserman, W., 1996. *Applied linear statistical models*, 4th ed. Irwin, Boston.
- Newth, J., Woods, C., 2014. Resistance to social entrepreneurship: How context shapes innovation. *J. Soc. Entrep.* 5, 192–213. <https://doi.org/10.1080/19420676.2014.889739>
- North, D.C., 1990. *Institutions, institutional change and economic performance*. Cambridge University Press.
- Nussbaum, M., 1996. Compassion: The basic social emotion. *Soc. Philos. Policy* 13, 27–58.
- Omoto, A.M., Maisch, A.M., Barraza, J.A., 2009. Compassionate acts: Motivations for and correlates of volunteerism among older adults, in: Fehr, B., Sprecher, S., Underwood, L.G. (Eds.), *The Science of Compassionate Love: Theory, Research, and Applications*. Blackwell, Chichester, UK, pp. 257–282.
- Ortony, A., Clore, G., Collins, A., 1988. *The cognitive structure of emotions*. Cambridge University Press, Cambridge.
- Papa, M.J., Auwal, M. Singhal, A., 1995. Dialectic of control and emancipation in organizing for social change: a multitheoretic study of the Grameen Bank in Bangladesh’, *Communication Theory*, 5, 189–223.
- Park, H., Borde, S.F., Choi, Y., 2002. Determinants of insurance pervasiveness: A cross-national analysis. *Int. Bus. Rev.* 11, 79–96. [https://doi.org/10.1016/S0969-5931\(01\)00048-8](https://doi.org/10.1016/S0969-5931(01)00048-8)

- Pathak, S., Muralidharan, E., 2016. Informal institutions and their comparative influences on social and commercial entrepreneurship: The role of in-group collectivism and interpersonal trust. *J. Small Bus. Manag.* 54, 168–188. <https://doi.org/10.1111/jsbm.12289>
- Payne, G.T., Moore, C.B., Griffis, S.E., Autry, C.W., 2011. Multilevel Challenges and Opportunities in Social Capital Research. *J. Manage.* 37, 491–520. <https://doi.org/10.1177/0149206310372413>
- Puthusserry, P., Child, J., Khan, Z., 2019. Social capital development through the stages of internationalization: Relations between British and Indian SMEs. *Glob. Strateg. J.* 282–308. <https://doi.org/10.1002/gsj.1361>
- Putnam, R.D., 1995. Bowling alone: America's declining social capital. *J. Democr.* 1, 65–78.
- Qian, H., Acs, Z.J., 2013. An absorptive capacity theory of knowledge spillover entrepreneurship. *Small Bus. Econ.* 40, 185–197.
- Rauch, A., Rijdsdijk, S.A., 2013. The effects of general and specific human capital on long-term growth and failure of newly founded businesses. *Entrep. Theory Pract.* 37, 923–941. <https://doi.org/10.1111/j.1540-6520.2011.00487.x>
- Reynolds, P.D., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., Lopez-Garcia, P., Chin, N., 2005. Global Entrepreneurship Monitor: Data collection design and implementation. *Small Bus. Econ.* 24, 205–231. <https://doi.org/10.1007/sl>
- Rivera-Santos, M., Holt, D., Littlewood, D., Kolk, A., 2015. Social entrepreneurship in sub-Saharan Africa. *Acad. Manag. Perspect.* 29, 72–91.
- Robinson, J., 2006. Navigating social and institutional barriers to markets: How social entrepreneurs identify and evaluate opportunities, in: Mair, J., Robinson, Jeffrey, Hockerts, K. (Eds.), *Social Entrepreneurship*. Palgrave Macmillan, New York, pp. 95–120.
- Robinson, W.S., 1950. Ecological correlations and the behavior of individuals. *Am. Sociol. Rev.* 15, 351–357.
- Rokeach, M., 1973. *The Nature of Human Values*. Free Press, New York.
- Ronen, S., 1986. *Comparative and multinational management*. Wiley, New York.
- Saebi, T., Foss, N.J., Linder, S., 2019. Social Entrepreneurship Research: Past Achievements and Future Promises. *J. Manage.* 45, 70–95. <https://doi.org/10.1177/0149206318793196>
- Sahasranamam, S., Ball, C., 2018. National context matters: Influence of national business system on social enterprises in Scotland and India, in: Spence, L.J., Frynas, J.G., Muthuri, J.N., Navare, J. (Eds.), *Research Handbook on Small Business Social Responsibility: Global Perspectives*. Edward Elgar Publishing Ltd., Cheltenham, pp. 23–46.
- Sahasranamam, S., Ball, C., 2016. Sustainable procurement in social enterprises: Comparative case studies from India and Scotland, in: Bals, L., Tate, W. (Eds.), *Implementing Triple Bottom Line Sustainability into Global Supply Chains*. Greenleaf Publishing, pp. 219–231.
- Sahasranamam, S., Nandakumar, M.K., 2020. Individual capital and social entrepreneurship: Role of formal institutions. *J. Bus. Res.* 107, 104–117. <https://doi.org/10.1016/j.jbusres.2018.09.005>
- Sahasranamam, S., Sud, M., 2016. Opportunity and necessity entrepreneurship: A comparative study of India and China. *Acad. Entrep. J.* 22, 21–40.
- Santos, F.M., 2012. A positive theory of social entrepreneurship. *J. Bus. Ethics* 111, 335–351. <https://doi.org/10.1007/s10551-012-1413-4>
- Schultz, T.W., 1959. Investment in man: An economist's view. *Soc. Serv. Rev.* 33, 109–117.
- Schwartz, S.H., 1999. A theory of cultural values and some implications for work. *Appl. Psychol.* 48, 23–47.

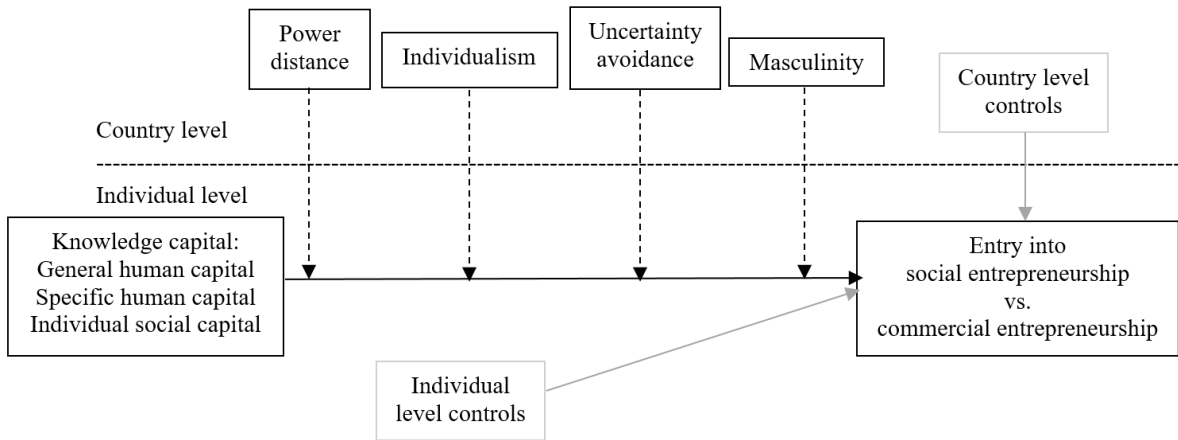
- Schwartz, S.H., 1994. Cultural dimensions of values: towards an understanding of national differences, in: Kim, U., Triandis, H.C., Kagitcibasi, C., Choi, S.C., Yoon, G. (Eds.), *Individualism and Collectivism: Theoretical and Methodological Issues*. Sage, Thousand Oaks, California, pp. 85–119.
- Schwartz, S.H., 1992. Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries, in: Zanna, M.P. (Ed.), *Advances in Experimental Social Psychology*. Academic Press, San Diego, CA, pp. 1–65.
- Scott, W.R., 2008. *Institutions and organizations: Ideas and interests*, 3rd ed. Sage Publications Inc., Thousand Oaks, California.
- Scott, W.R., 2001. Crafting an Analytic Framework I, in: *Institutions and Organizations*. Sage Publications, Thousand Oaks, pp. 47–70.
- Seelos, C., Mair, J., 2005. Social entrepreneurship: Creating new business models to serve the poor. *Bus. Horiz.* 48, 241–246. <https://doi.org/10.1016/j.bushor.2004.11.006>
- Semrau, T., Ambos, T., Kraus, S., 2016. Entrepreneurial orientation and SME performance across societal cultures: An international study. *J. Bus. Res.* 69, 1928–1932. <https://doi.org/10.1016/j.jbusres.2015.10.082>
- Sen, P., 2007. Ashoka's big idea: Transforming the world through social entrepreneurship. *Futures*, 39(5), 534–553.
- Shane, S., 2000. Prior knowledge and the discovery of entrepreneurial opportunities. *Organ. Sci.* 11, 448–469.
- Shane, S., 1995. Uncertainty avoidance and the preference for innovation championing roles. *J. Int. Bus. Stud.* 26, 47–68.
- Shane, S., 1993. Cultural influences on national rates of innovation. *J. Bus. Ventur.* 8, 59–73.
- Shane, S., 1992. Why do some societies invent more than others? *J. Bus. Ventur.* 7, 29–46.
- Sharir, M., Lerner, M., 2006. Gauging the success of social ventures initiated by individual social entrepreneurs. *J. World Bus.* 41, 6–20. <https://doi.org/10.1016/j.jwb.2005.09.004>
- Shirokova, G., Tsukanova, T., Morris, M.H., 2018. The moderating role of national culture in the relationship between university entrepreneurship offerings and student start-up activity: An embeddedness perspective. *J. Small Bus. Manag.* 56, 103–130. <https://doi.org/10.1111/jsbm.12363>
- Short, J. C., Moss, T. W., & Lumpkin, G. T. (2009). Research in social entrepreneurship: Past contributions and future opportunities. *Strategic entrepreneurship journal*, 3(2), 161–194.
- Shneor, R., Camgöz, S.M., Karapinar, P.B., 2013. The interaction between culture and sex in the formation of entrepreneurial intentions. *Entrep. Reg. Dev.* 25, 781–803. <https://doi.org/10.1080/08985626.2013.862973>
- Smith, A., Judge, W., Pezeshkan, A., Nair, A., 2016. Institutionalizing entrepreneurial expertise in subsistence economies. *J. World Bus.* 51, 910–922. <https://doi.org/10.1016/j.jwb.2016.02.003>
- Smith, P.B., Dugan, S., Trompenaars, F., 1996. National culture and the values of organizational employees: A dimensional analysis across 43 nations. *J. Cross. Cult. Psychol.* 27, 231–264.
- Smith, P.B., Peterson, M.F., Schwartz, S.E., 2002. Cultural values, sources of guidance, and their relevance to managerial behavior: A 47-nation study. *J. Cross. Cult. Psychol.* 33, 188–202.
- Spence, J.T., 1985. Achievement of American style: The rewards and costs of individualism. *Am. Psychol.* 40, 1285–1295.
- Stam, W., Arzlanian, S., Elfring, T., 2014. Social capital of entrepreneurs and small firm performance: A meta-analysis of contextual and methodological moderators. *J. Bus. Ventur.* 29, 152–173. <https://doi.org/10.1016/j.jbusvent.2013.01.002>

- Stephan, U., Pathak, S., 2016. Beyond cultural values? Cultural leadership ideals and entrepreneurship. *J. Bus. Ventur.* 31, 505–523.
- Stephan, U., Patterson, M., Kelly, C., Mair, J., 2016. Organizations driving positive social change. *J. Manage.* 42, 1250–1281. <https://doi.org/10.1177/0149206316633268>
- Stephan, U., Uhlaner, L.M., 2010. Performance-based vs socially supportive culture: A cross-national study of descriptive norms and entrepreneurship. *J. Int. Bus. Stud.* 41, 1347–1364. <https://doi.org/10.1057/jibs.2010.14>
- Stephan, U., Uhlaner, L.M., Stride, C., 2015. Institutions and social entrepreneurship: The role of institutional voids, institutional support, and institutional configurations. *J. Int. Bus. Stud.* 46, 308–331. <https://doi.org/10.1057/jibs.2014.38>
- Suchman, M., 1995. Managing legitimacy: Strategic and institutional approaches. *Acad. Manag. Rev.* 20, 571–611.
- Suddaby, R., Bitektine, A., Haack, P., 2017. Legitimacy. *Acad. Manag. Ann.* 11, 451–478.
- Taras, V., Rowney, J., Steel, P., 2009. Half a century of measuring culture: Review of approaches, challenges, and limitations based on the analysis of 121 instruments for quantifying culture. *J. Int. Manag.* 15, 357–373. <https://doi.org/10.1016/j.intman.2008.08.005>
- Terjesen, S., Hessels, J., Li, D., 2016. Comparative international entrepreneurship: A review and research agenda. *J. Manage.* 42, 299–344. <https://doi.org/10.1177/0149206313486259>
- Terjesen, S., Lepoutre, J., Justo, R., Bosma, N., 2012. Global Entrepreneurship Monitor: Social entrepreneurship study.
- Tolbert, P.S., David, R.J., Sine, W.D., 2011. Studying choice and change: The intersection of institutional theory and entrepreneurship research. *Organ. Sci.* 22, 1332–1344.
- Trompenaars, F., 1993. *Riding the waves of culture: Understanding diversity in global business.* Irwin Professional Publishing, Chicago, IL.
- Ucbasaran, D., Wright, M., Westhead, P., 2008. Opportunity identification and pursuit: Does an entrepreneur's human capital matter? *Small Bus. Econ.* 30, 153–173.
- Unger, J., Rauch, A., Frese, M., Rosenbusch, N., 2011. Human capital and entrepreneurial success: A meta-analytic review. *J. Bus. Ventur.* 26, 341–385.
- Venaik, S., Brewer, P., 2010. Avoiding uncertainty in Hofstede and GLOBE. *J. Int. Bus. Stud.* 41, 1294–1315. <https://doi.org/10.1057/jibs.2009.96>
- Wagner III, J.A., 1995. Studies of individualism-collectivism: Effects on cooperation in groups. *Acad. Manag. J.* 38, 152–172.
- Weerawardena, J., McDonald, R.E., Mort, G.S., 2010. Sustainability of nonprofit organizations: An empirical investigation. *J. World Bus.* 45, 346–356. <https://doi.org/10.1016/j.jwb.2009.08.004>
- Weisbrod, B., 1977. *The voluntary nonprofit sector.* DC Health and Co., Lexington, MA.
- Xavier-Oliveira, E., Laplume, A.O., Pathak, S., 2015. What motivates entrepreneurial entry under economic inequality? The role of human and financial capital. *Hum. Relations* 68, 1183–1207. <https://doi.org/10.1177/0018726715578200>
- Yoon, H., Yun, S., Lee, J., & Phillips, F. 2015. Entrepreneurship in East Asian regional innovation systems: Role of social capital. *Technological Forecasting and Social Change*, 100, 83-95.
- Zahra, S.A., Gedajlovic, E., Neubaum, D.O., Shulman, J.M., 2009. A typology of social entrepreneurs: Motives, search processes and ethical challenges. *J. Bus. Ventur.* 24, 519–532. <https://doi.org/10.1016/j.jbusvent.2008.04.007>
- Zahra, S.A., Rawhouser, H., Bhawe, N., Neubaum, D.O., Hayton, J.C., 2008. Globalization of social entrepreneurship opportunities. *Strateg. Entrep. J.* 2, 117–131. <https://doi.org/10.1002/sej>

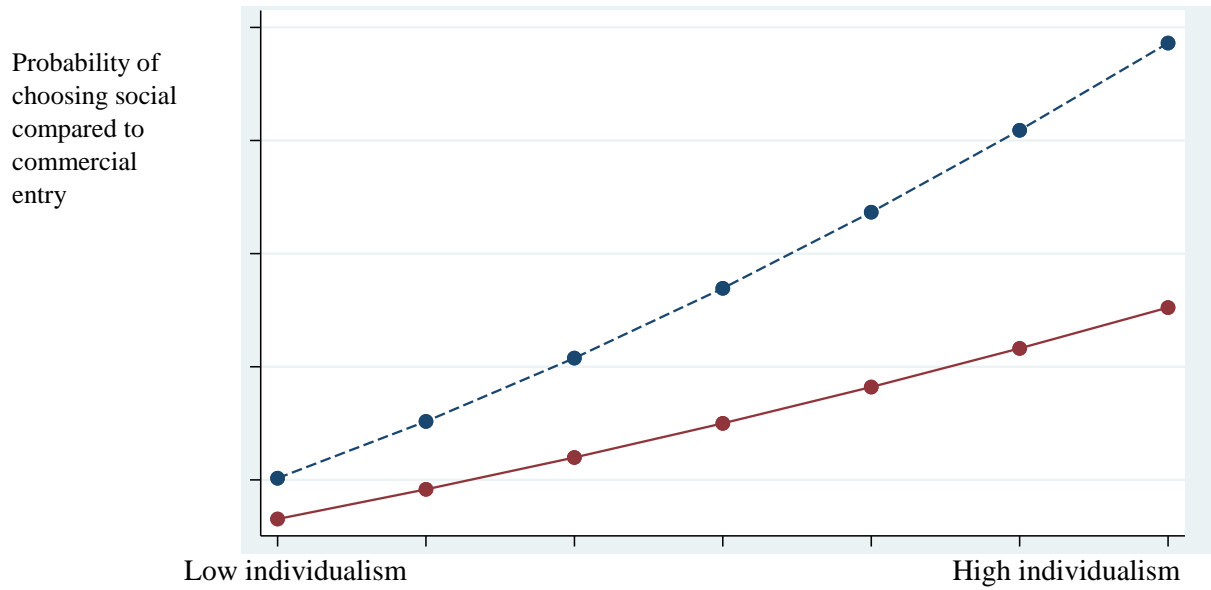
Zelner, B.A., 2009. Using simulation to interpret results from logit, probit, and other nonlinear models. *Strateg. Manag. J.* 30, 1335–1348. <https://doi.org/10.1002/smj.783>



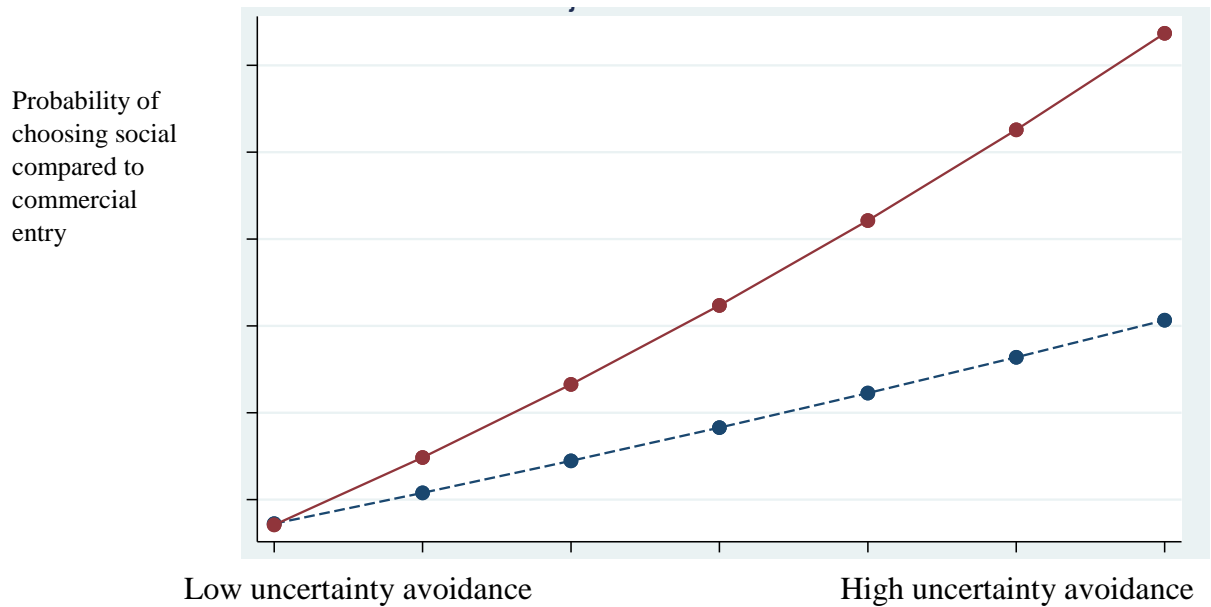
**Figure 1. Conceptual model**



**Figure 2.** Interaction effect between specific human capital and individualism culture (Solid line represents high specific human capital while dotted line represents low specific human capital).



**Figure 3.** Interaction effect between social capital and uncertainty avoidance culture (Solid line represents high social capital while dotted line represents low social capital).



**Table 1: Summary statistics**

Variable	Mean	s.d.
Social relative to commercial start-up	0.17	0.37
Age	37.59	11.75
Gender	0.59	0.49
Occupational status	0.82	0.38
Fear of failure	0.27	0.44
Specific human capital	0.85	0.36
General human capital	0.37	0.48
Individual social capital	0.63	0.48
Individual financial capital	0.82	0.38
GDP per capita	20998.48	20683.23
GDP growth	1.86	3.42
Rule of law	0.33	1.03
Unemployment rate	7.42	4.40
Government spending	64.51	20.65
Power distance	43.00	29.95
Individualism	34.35	30.96
Uncertainty avoidance	49.28	36.04
Masculinity	38.65	26.78

**Table 2: Correlation matrix**

1. Social relative to commercial start-up	1																	
2. Age	0.05*	1																
3. Gender	-0.02*	-0.00	1															
4. Occupational status	-0.05*	0.05*	0.12*	1														
5. Fear of failure	-0.01	-0.01	-0.07*	-0.02*	1													
6. Specific human capital	-0.03*	0.02*	0.06*	0.05*	-0.14*	1												
7. General human capital	0.13*	0.07*	0.03*	0.06*	-0.04*	0.07*	1											
8. Individual financial capital	-0.01	0.02*	0.08*	0.10*	-0.01*	0.05*	0.14*	1										
9. GDP per capita	0.17*	0.21*	0.03*	0.05*	-0.04*	0.02*	0.30*	0.03*	1									
10. GDP growth	-0.10*	-0.09*	-0.05*	0.02*	-0.01	-0.01*	-0.21*	-0.06*	-0.58*	1								
11. Rule of law	0.15*	0.21*	0.03*	0.03*	-0.04*	0.03*	0.28*	0.00	0.83*	-0.47*	1							
12. Unemployment rate	-0.01*	-0.04*	0.04*	-0.09*	0.02*	-0.01	-0.01	0.09*	-0.20*	-0.14*	-0.15*	1						
13. Government spending	-0.15*	-0.15*	-0.04*	-0.02*	0.00	0.01	-0.19*	-0.03*	-0.68*	0.47*	-0.64*	-0.07*	1					
14. Individual social capital	0.02*	-0.12*	0.07*	0.03*	-0.01	0.09*	0.05*	0.06*	-0.04*	0.07*	-0.03*	-0.04*	0.08*	1				
15. Power distance	0.01	0.06*	-0.03*	0.01	-0.01	0.00	-0.00	0.10*	-0.10*	0.29*	-0.06*	-0.03*	0.19*	0.01	1			
16. Individualism	0.18*	0.21*	0.00	0.03*	-0.03*	0.01	0.23*	-0.00	0.70*	-0.40*	0.70*	-0.00	-0.64*	-0.09*	0.21*	1		
17. Uncertainty avoidance	0.04*	0.09*	-0.01	-0.01	-0.01	0.03*	0.08*	0.12*	0.10*	0.09*	0.16*	0.05*	-0.03*	-0.01	0.80*	0.33*	1	
18. Masculinity	0.12*	0.15*	-0.04*	0.03*	-0.02*	-0.01	0.10*	0.05*	0.18*	-0.01	0.18*	0.03*	-0.18*	-0.07*	0.67*	0.63*	0.54*	1

\*p < 0.05

**Table 3: Multilevel logistic regressions on the likelihood of social relative to commercial start-up**

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Controls: Individual level						
Age	1.07** (0.04)	1.09** (0.04)	1.09** (0.04)	1.09*** (0.04)	1.09** (0.04)	1.09** (0.04)
Gender	0.89* (0.05)	0.90** (0.05)	0.90* (0.05)	0.90* (0.05)	0.90* (0.05)	0.90* (0.05)
Occupational status	0.72*** (0.08)	0.72*** (0.08)	0.72*** (0.05)	0.72*** (0.06)	0.72*** (0.05)	0.71*** (0.05)
Fear of failure	1.06 (0.08)	1.02 (0.07)	1.02 (0.07)	1.02 (0.07)	1.02 (0.07)	1.02 (0.07)
Individual financial capital	0.97 (0.09)	0.94 (0.09)	0.94 (0.07)	0.94 (0.07)	0.94 (0.07)	0.94 (0.07)
Controls: Country level						
GDP per capita	1.33 (0.32)	1.29 (0.30)	1.31 (0.36)	1.19 (0.33)	1.30 (0.35)	1.29 (0.34)
GDP growth	1.12 (0.23)	1.11 (0.22)	1.06 (0.19)	1.08 (0.19)	1.05 (0.18)	1.09 (0.19)
Rule of law	1.12 (0.35)	1.11 (0.34)	1.11 (0.31)	1.05 (0.30)	1.07 (0.30)	1.12 (0.31)
Unemployment rate	1.18 (0.15)	1.19 (0.15)	1.23 (0.20)	1.15 (0.18)	1.22 (0.19)	1.19 (0.18)
Government spending	0.88 (0.18)	0.89 (0.18)	0.88 (0.16)	0.95 (0.18)	0.91 (0.17)	0.90 (0.16)
Power distance culture (PD)			1.07 (0.19)			
Individualism culture (IND)				1.44 (0.33)		
Uncertainty avoidance culture (UA)					1.14 (0.20)	
Masculinity culture (MAS)						1.14 (0.19)
Independent variable - Knowledge capital						
General human capital (GHC)		1.46*** (0.09)	1.46*** (0.09)	1.46*** (0.09)	1.47*** (0.09)	1.47*** (0.09)
Specific human capital (SHC)		0.67*** (0.07)	0.67*** (0.05)	0.71*** (0.06)	0.67*** (0.05)	0.66*** (0.05)
Individual social capital (ISC)		1.17*** (0.06)	1.17*** (0.07)	1.14** (0.07)	1.16** (0.07)	1.15** (0.07)
Cross-level interactions						
GHC x PD			0.95 (0.07)			
SHC x PD			1.06 (0.10)			
ISC x PD			1.11 (0.08)			
GHC x IND				0.99 (0.06)		
SHC x IND				0.84** (0.06)		
ISC x IND				1.09		

					(0.06)	
GHC x UA					0.93	
					(0.06)	
SHC x UA					1.03	
					(0.09)	
ISC x UA					1.16**	
					(0.08)	
GHC x MAS						0.98
						(0.06)
SHC x MAS						1.07
						(0.09)
ISC x MAS						1.08
						(0.07)
Constant	0.22***	0.25***	0.25***	0.24***	0.25***	0.26***
	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Log-likelihood	-4457	-4255	-4253	-4251	-4251	-4253
Observations	11,096	10,707	10,707	10,707	10,707	10,707
Number of groups	49	49	49	49	49	49

Relative odds ratios (OR) are presented, OR>1 indicates positive effect and OR < 1 indicates negative effect; Standard errors in parenthesis; \*\*\*p < 0.001, \*\*p < 0.01, \*p < 0.10.