

# **Is there an entrepreneurial culture? A review of empirical research**

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### **ABSTRACT**

The literature on the association between cultural values and entrepreneurial beliefs, motives and behaviours has grown significantly over the last decade. Through its influence on beliefs, motives and behaviours, culture can magnify or mitigate the impact of institutional and economic conditions upon entrepreneurial activity. Understanding the impact of national culture, alone and in interaction with other contextual factors, is important for refining our knowledge of how entrepreneurs think and act. We present a review of the literature with the goal of distilling the major findings, points of consensus and points of disagreement, as well as identify major gaps. Research has advanced significantly with respect to examining complex interactions among cultural, economic and institutional factors. As a result, a more complex and nuanced view of culture's consequences is slowly emerging. However, work that connects culture to individual motives, beliefs and values has not built significantly upon earlier work on entrepreneurial cognition. Evidence for the mediating processes linking culture and behaviour remains sparse and inconsistent, often dogged by methodological challenges. Our review suggests that we can be less confident, rather than more, in the existence of a single entrepreneurial culture. We conclude with suggestions for future research.

**Keywords:** Entrepreneurship, culture, national culture, cultural values, entrepreneurial activity, entrepreneurial cognition.

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### 1. INTRODUCTION

One of the oldest research questions in the field of entrepreneurship is how and to what extent does national culture influence entrepreneurial action, the rate of new firm formation and ultimately economic development (e.g., McClelland 1961; Weber 1930; Schumpeter 1934)? It has long been established that the level of entrepreneurial activity varies across countries and regions and this variation has been associated with both economic and social benefits (e.g., Audretsch and Thurik 2001; Birley 1987; Van Praag and Versloot 2007; Van Stel 2005; Wennekers, Uhlaner, and Thurik 2002). As with many topics in an applied field, scholars from diverse disciplinary backgrounds have addressed this question (Hayton, George, and Zahra 2002). However, often such disciplinary diversity can lead to challenges with respect to the incremental development of a knowledge base as scholars emphasise different theoretical lenses, languages, research questions and methods. In particular, the recent expansion in published empirical research on this topic raises the question of whether the convergence observed by Hayton, George, and Zahra (2002) towards a single view of entrepreneurial culture continues to be tenable. In contrast, does recent research create a more nuanced, but less consistent story about what aspects of culture support entrepreneurial decision and action? Understanding the real impact of culture, and the ways in which culture may moderate, or be mitigated by contextual factors such as institutions and economic development has great significance for theorising about, and empirically studying entrepreneurial behaviour around the world. It is also of importance for policymakers concerned with promoting entrepreneurial activity. It is from this perspective that it is of value to review, organise and evaluate what we now know.

Hofstede (2001, 9) described culture as a 'collective programming of the mind that distinguishes the members of one group or category of people from another.' We therefore define culture as the values, beliefs and expected behaviours that are sufficiently common across people within (or from) a given geographic region as to be considered as shared (e.g.,

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Herbig 1994; Hofstede 1980). To the extent that cultural values lead to an acceptance of uncertainty and risk taking, they are expected to be supportive of the creativity and innovation underlying entrepreneurial action. Entrepreneurial actions are facilitated both by formal institutions (e.g., property rights, enforceable contracts) and socially shared beliefs and values that reward or inhibit the necessary behaviours (e.g. innovation, creativity, risk taking) (Hayton, George, and Zahra 2002; Herbig and Miller 1992; Herbig 1994; Hofstede 1980). It is because of this subtle but widespread influence of culture that it is necessary to seek a deeper understanding of the phenomenon. For the purposes of this review, we assume a broad definition of entrepreneurship that includes growth oriented new-venture creation, but also extends to small and micro-enterprises that do not typically lead to employment growth beyond self-employment (Bhide 2000).

We take as a starting point the review by Hayton, George, and Zahra (2002), which offered a review of behavioural research into 'culture's consequences' for entrepreneurship, to borrow from Hofstede's famous title (Hofstede 1980). We focus on empirical research in order to get an accurate gauge on what we now know, and particularly what we have learned over the past decade of research. To identify articles for inclusion, we searched the ABI-Inform and Business Source Premier databases for references to national culture and entrepreneurship. These databases include extensive collections of journals that most frequently publish entrepreneurship and cross-cultural behavioural research (e.g., Journal of Business Venturing, Entrepreneurship Theory and Practice, Entrepreneurship and Regional Development, Journal of International Business Studies, Academy of Management Journal, and Strategic Entrepreneurship Journal). We also examined the reference lists of all studies found through our search to identify articles not discovered through a search of the databases. We have only included single or multi country studies that address the significance of culture, however defined or operationalised, for entrepreneurship. In all, seven studies have been excluded on the grounds that they do not measure national culture, but

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only infer it from country (Uhlener and Thurik 2007; Freytag and Thurik 2009; Beugelsdijk 2007; Beugelsdijk and Noorderhaven 2004; Swierczek and Quang 2004; Stewart et al. 2003; de Pillis and Reardon 2007). In addition to the 21 empirical studies already identified in Hayton, George, and Zahra (2002) we found an additional 21 empirical studies published from 2001 to 2012.

Our review of the recent research on culture and entrepreneurship revealed research streams previously identified by Hayton, George, and Zahra (2002)<sup>1</sup>. Rather than proposing a new analytical framework, we preferred to examine the research questions, methods and results of the studies in those research streams for two reasons: this organisation of the research is still appropriate; and it allows us to directly evaluate the extent to which knowledge has been updated over the past decade, and areas where research is still needed. The first research stream addresses the impact of national culture on rates of innovation and entrepreneurship at the national or regional level. The second stream focuses on the relationship between culture and the beliefs, motives, values, and cognitions of entrepreneurs across regional and national boundaries. This second stream is itself divided into two parts. The first presents evidence for differences across regions or countries in terms of the individual beliefs, motives and values associated with entrepreneurial behaviour. The second focuses on the existence of an entrepreneurial mindset, and reflects a test of the 'deviance' hypothesis – i.e., that by necessity, entrepreneurs somehow deviate from cultural norms. At the end of our review of each of these streams of research, we offer a summary that provides a critical evaluation of the state of the art with respect to culture's consequences. In the last sections of the paper, we revise the model of national culture and entrepreneurship suggested by Hayton, George, and Zahra (2002), and conclude by offering suggestions for future research.

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<sup>1</sup>We do not include in our review research on the relationship between culture and corporate entrepreneurship. This is due to space constraints, given the expansion of research in independent entrepreneurship, and also the relative stagnation in the literature on corporate entrepreneurship with respect to the issue of culture.

## **2. NATIONAL CULTURE AND ENTREPRENEURSHIP AT THE NATIONAL OR REGIONAL LEVEL**

A growing number of studies have addressed the relationship between national or regional culture and aggregate levels of entrepreneurship. (Davidsson 1995; Davidsson and Wiklund 1997; Rinne, Steel, and Fairweather 2012; Shane 1992, 1993; Stephan and Uhlaner 2010; Sun 2009; Williams and McGuire 2010). These studies are summarised in Table 1.

### **2.1 Culture and national rates of innovation**

We can subdivide studies at the national level based upon the operationalisation of the dependent variable. Several studies have examined the relationship between culture and aggregate rates of innovation (Shane 1992; 1993; Sun 2009; Rinne, Steel, and Fairweather 2012; Williams and McGuire 2010). Shane's 1992 and 1993 studies provided preliminary evidence that Hofstede's cultural dimensions of individualism, power distance and uncertainty avoidance were significantly associated with national rates of innovation, after controlling for national wealth. However, Shane (1993) reported that the association between individualism, power distance and innovation rates was not stable over time. Sun (2009) and Rinne, Steel, and Fairweather (2012) offer mixed support for Shane's (1992,1993) by using different sources for innovation rates (Porter and Stern 2001; INSEAD 2009). While both studies also suggest an association between individualism, power distance and innovation capability, they only examine a single time period, and do not control for other potential confounding factors such as GDP or stage of economic development.

In contrast with previous studies, Williams and McGuire reframed Hofstede's culture variables and created an aggregate measure of culture to examine its relationship with innovation at national level. They propose that 'culture is a multidimensional phenomenon whose constituent parts



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**Table 1. Studies of national culture and entrepreneurship at the country level.**

Authors	Research Question	Major Variables (Independent/Dependent)	Sample/Data Source(s)	Major Findings
Shane (1992)	What is the association between national culture and national rates of innovation?	Individualism, power-distance (Hofstede, 1980) / National rates of innovation	33 Countries / Cultural values based on Hofstede's (1980) result and compared with per capita rates of innovation in 1967, 1971, 1976, and 1980.	National rates of innovation are positively correlated with individualism and power distance.
Shane (1993)	What effect does national culture have on national rates of innovation?	Individualism, power-distance, uncertainty avoidance, and masculinity (Hofstede, 1980) / National rates of innovation	33 Countries / Cultural values based upon Hofstede's (1980) results and compared with per capita rates of innovation in 1975 and 1980.	National rates of innovation are positively correlated with individualism and negatively correlated with uncertainty avoidance and power distance.
Davidsson (1995)	What is the interaction among structural characteristics, culture, beliefs and concerning entrepreneurship, and entrepreneurial intentions?	<ul style="list-style-type: none"> <li>An entrepreneurial values index that includes dimensions such as achievement motivation, locus of control, need for autonomy, and change orientation.</li> <li>Entrepreneurial belief: Societal contribution, financial payoff, perceived risk, social status.</li> <li>Values: Change orientation, need for achievement, need for autonomy, Jante-mentality competitiveness.</li> <li>Beliefs: Social contribution, financial payoff, perceived risk, social status workload, know-how, cultural values measured by survey /</li> </ul>	2.200 individuals; 6 region in Sweden / Survey	Scores on the entrepreneurial values index are correlated with regional rates of new-firm formation.
Davidsson and Wiklund (1995)	Controlling for economic/structural factors, is culture associated with differences in rates of new-firm formation?	Rates of new-firm formation	1.313 individuals; 6 regions in Sweden / Survey	Cultural values and beliefs have a small but statistically significant association with regional rates of new firm formation.
Wennekers et al. (2007)	Does the cultural attitudes towards uncertainty influence the rate of business ownership?	Uncertainty influence / Rates of business ownership	21 OECD Countries / Survey	There is a direct and positive relationship between uncertainty avoidance and business ownership.

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**Table 1. Studies of national culture and entrepreneurship at the country level (continued).**

Authors	Research Question	Major Variables (Independent/Dependent)	Sample/Data Source(s)	Major Findings
Sun (2009)	What is the influence of national cultures on innovation capability?	Individualism, power distance, uncertainty avoidance and masculinity / Innovation capability	2 Previous studies: Hofstede (1991, 2001) and Porter & Stern (2001)	Individualism, power distance and uncertainty avoidance are correlated with national innovation capability.
Williams and McGuire (2010)	How does culture affect national prosperity?	Aggregation of power proximity, uncertainty acceptance, and individualism / National prosperity	63 Countries / Cultural values based on Hofstede's (1980, 2001) results	Culture affects national prosperity by influencing economic creativity, which leads to innovation implementation. The latter influences directly national prosperity.
Stephan and Uhlaner (2010)	Do cultural descriptive norms explain cross-national differences in entrepreneurship rate and in antecedent supply-side and demand-side variables?	Socially supportive culture and performance-based culture / Entrepreneurship rates	40 Countries / GLOBE project data	The social capital is the aspect of culture that drives both the overall level and the quality of national entrepreneurship.
Rinne, Steel, and Fairweather (2012)	What is the association between Hofstede's measures of cultural values and innovation?	Hofstede's cultural values / Global Innovation Index (GII)	66 Countries / Cultural values based on Hofstede's (2010) result and compared with rates of innovation from INSEAD 2009	There is a strong negative relationship between power distance and GIH innovation scores as well as a strong positive relationship between individualism and GIH innovation scores.
Pimillos and Reyes (2011)	What is the relationship between culture and entrepreneurial activity?	Individualism-collectivism / Entrepreneurial activity	52 Countries / Secondary (GEM)	For lower levels of development there is a negative association between individualism and entrepreneurship, and when development is high, this relationship becomes positive.

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interact to create the whole' (2010, 393) and the diverse aspects of culture should be taken together in order to measure the effect of culture at national level of analysis. Therefore, in this study culture is treated as a single latent variable reflecting three dimensions: power proximity, uncertainty acceptance, and individualism. They found that when national culture was operationalised in this way, these combined dimensions were positively associated with economic creativity, and indirectly with innovation.

### 2.2 Culture and new firm formation

Following the early empirical research by Davidsson (1995; Davidsson and Wiklund 1997), three studies have explored the relationship between national culture and entrepreneurial activity in the last decade (Stephan and Uhlaner 2010; Wennekers et al. 2007; Pinillos and Reyes 2011). In these studies, entrepreneurial activity was operationalised as new firm formation or firm ownership rates.

Wennekers et al. (2007) examined the relationship between uncertainty avoidance and variation in business ownership rates across countries. Using data from a sample of 21 countries in 1976, 1990, and 2004, Wennekers et al.'s (2007) results showed that, contrary to prior evidence, high uncertainty avoidance could actually push individuals towards self-employment. Their hypotheses rest on the proposition that in uncertainty avoiding countries, entrepreneurship is the route through which innovators may pursue their objectives, while in less restrictive environments, entrepreneurial individuals may be able to pursue their goals within the context of employment. However, they found that this relationship was not stable over time. In addition the authors report a negative moderating influence of uncertainty avoidance on the relationship between GDP per capita and business ownership: the effect of GDP on entrepreneurship rates is observed to be smaller in low- compared to high uncertainty avoidance countries. This study provides evidence that the role of uncertainty avoidance is complex and may not be reducible to a simple, linear association.

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Pinillos and Reyes (2011) also questioned the assumption of a simple linear association between culture and entrepreneurial activity. They observed that despite arguments that individualism is positively associated with entrepreneurship, there are many countries characterised by collectivist orientation that also exhibit high levels of entrepreneurial activity. Using data from the GEM project, these authors showed that for lower levels of development there was a negative association between individualism and entrepreneurship, and when development was high, this relationship became positive.

A study by Stephan and Uhlaner (2010) also contradicts the established view on individualistic cultures being supportive of entrepreneurship. They used descriptive norms rather than cultural values to predict variations in cross-national entrepreneurship. According to the values approach, culture is measured as the aggregation of individual scores of values and preferences. In contrast, descriptive norms are measured by asking respondents to describe characteristic behaviours displayed by most people within their culture. Only if there is adequate evidence for agreement, are they then aggregated to a higher level of regional or national cultural values. Thus a values-based approach reflects a more direct measure, but depends upon the representativeness of the sample. The descriptive norms approach is an indirect measure, but depends upon the knowledge that respondents possess of the typical behaviours. Based on data from the GLOBE project, Stephan and Uhlaner (2010) identified two higher-order factors: performance-based culture (PBC); and socially supportive culture (SSC). The first factor, PBC, is described by Stephan and Uhlaner (2010, 1351) as 'a culture that rewards individual accomplishments as opposed to collective membership, family relationships or position, and in which systematic, future-oriented planning is viewed as a key way to achieve high performance.' The most representative societies were those belonging to the Anglo, Germanic Europe and Nordic Europe country cluster. Latin American, Latin and Eastern Europe cluster showed the lowest score on PBC while Confucian and Southern Asian countries were in the middle. The second factor, SSC

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reflects high human orientation and low assertiveness. Southern and Confucian Asian countries, as well as Anglo and Nordic European societies scored very high on SSC. Germanic, Eastern and Latin European societies showed low scores, whereas Latin American countries were in the middle. The authors go on to argue that SSC reflects ‘a descriptive norm based on repeated experiences of supportiveness and helpfulness’ (2010, 1351). Notwithstanding this conceptual and methodological contribution, the results of the study are somewhat disappointing. In direct contrast to Williams and McGuire (2010), Stephan and Uhlaner do not find any significant relationship between PBC and entrepreneurship, although SSC is related to several different measures of entrepreneurial activity. However, their hypothesised mediation relationships are not supported, thus failing to provide evidence for how or why SSC influences entrepreneurship.

Perhaps the most interesting aspect of this study is that in contrast to the broad assumption that performance oriented cultures are most supportive of entrepreneurship (e.g.. Williams and McGuire 2010), this research suggests an important role for cooperative and supportive cultures. It is plausible that higher social capital enhances weak ties among individuals of a population, increasing the number of opportunities discovered (Granovetter 1973), or that it reduces transaction costs.

### 2.3 Summary

Since Hayton, George, and Zahra’s (2002) review, there have been six new published articles that explore the significance of culture for aggregate measures of entrepreneurship and innovation. The recent empirical studies provide further evidence for the association of cultural values with a diverse range of indicators of entrepreneurial activity.

Unfortunately, much of the evidence does not yet point to consensus on effects. On the topic of innovation, there have been several studies suggesting that individualism, uncertainty acceptance, and power proximity are all associated with this outcome (Shane 1991, 1993; Sun 2009;

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Williams and McGuire 2010; Rinne, Steel, and Fairweather 2012;). However, there is evidence for temporal instability (e.g., Shane 1993; Wennekers et al. 2007), which suggests caution. McGrath, MacMillan and Yang (1992) find that individualism, uncertainty avoidance and materialist values are relatively enduring cultural values and only attitudes towards power-distance appear to change significantly over time. If observed instability cannot be attributed to changes in values, then it must be caused by the influence of unmeasured variables. Possibilities include shifts in global markets leading to growing pressures for innovation causing increases in investments by governments and businesses. Similarly, the increasingly global nature of the innovation process and the effects of knowledge spillovers from multinational enterprises may also be diminishing culture's influence on variations in innovation rates. This is the observation of Wennekers et al. (2007) who suggest that changes in the global competitive environment may account for the observed instability in culture's influence. Given the dynamism of the extra-national environment and its influence on both demand and supply factors influencing entrepreneurship, future research investigating culture's role need to address this possibility for changes in relationships – both magnitude and direction - over time.

There has not been much consensus in research examining entrepreneurship rates, startup rates, and firm formations (e.g., Davidsson 1995; Davidsson and Wiklind 1997; Stephan and Uhlaner 2010). However, contemporary research is beginning to reveal the interactions between culture and economic development in ways that allow for dynamism in the influence of culture, without suggesting instability in cultural values themselves. Pinillos and Reyes (2011) show that the association between individualism and entrepreneurial activity varies with the stage of economic development. Stephan and Uhlaner's (2010) work appears to directly contradict established views on which cultural dimensions are most supportive by revealing the significance of socially supportive culture, while finding the more masculine, performance oriented, individualist cultural characteristics to be non-significant. The significance of Stephan and

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Uhlener's SSC dimension does makes sense of why we can observe high rates of entrepreneurship in collectivist countries, satisfying one of the main criticisms of Pinillos and Reyes (2011) and a concern that was raised two decades ago by McGrath et al. (1992) of whether the U.S. centric definition of an entrepreneurship supportive culture was universally appropriate. It appears that a model of entrepreneurial culture involving high individualism, uncertainty tolerance, and low power distance is appropriate only under higher levels of economic development. There is now some support for Hayton, George, and Zahra's (2002) proposition that culture moderates the influence of economic variables (Wennekers et al. 2007).

One common methodological approach that has been challenged is the tendency to treat the dimensions of culture as discrete factors. Some scholars have recently provided evidence that these factors may either be combined into a global measure (e.g., Williams and McGuire 2010); or that they can be reduced to a smaller number of superordinate dimensions (e.g., Stephan and Uhlener 2010). The advantage of such an approach is that it simplifies subsequent empirical analysis and facilitates clustering of similar countries according to a small number of dimensions (e.g., Stephan and Uhlener 2010). The risk is that such clustering loses theoretical meaning and empirical information. For example, Williams and McGuire find that power proximity, uncertainty acceptance, and individualism reflect a single underlying latent construct. By operationalising culture in this way, they allow the components to be substitutable, but do not allow for possible interactions among them. Notably, the global culture factor identified by Williams and McGuire (2010) includes three components that are consistent with Stephan and Uhlener's (2010) Performance Based Culture dimension, and yet their results were not consistent. These conflicting results suggest caution with respect to the practice of reducing cultural dimensions to a single score or index.

The research question, samples, data sources, major findings, and dimensions of culture measured in this group of studies are summarised in Table 1. Hayton, George, and Zahra (2002) criticised the literature for its

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reliance on small samples. Rinne, Steel, and Fairweather (2012) and Williams and McGuire (2010) are examples of studies with larger samples, which have contributed somewhat to ameliorating this concern. Ultimately, a limiting factor in studies at the national level is the number of countries for which data exists. One way to overcome such a challenge is by studying culture at the regional level (e.g. Davidsson 1995).

The second limitation that Hayton, George, and Zahra (2002) had identified within this literature was the lack of integration of institutional and cultural factors in single studies. Only Wennekers et al. (2007) attempt an integration of culture with institutional factors. Their theoretical approach is to examine how both cultural and institutional forces moderate the expected payoff from entrepreneurial action. It would be valuable to be able to extend such an analysis beyond uncertainty avoidance to other cultural values.

A fundamental assumption that is implicit in much of the research reviewed so far is that culture influences the motives, values, and beliefs of individuals within a population so as to create a larger supply of potential entrepreneurs (Davidsson and Wiklund 1997). This question is examined directly in the second stream of research.

### **3. NATIONAL CULTURE AND THE INDIVIDUAL CHARACTERISTICS OF ENTREPRENEURS**

A growing number of studies have empirically examined the relationship between national culture and the entrepreneurial characteristics, or traits, of individuals. We divide these studies into two groups according to the focus. Some studies address the question of whether entrepreneurs differ in terms of their motives, beliefs or values across countries and why that is the case. These are summarised in Table 2. A second group of studies asks the question of whether a universal entrepreneurial 'mindset' exists that is more



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**Table 2. Studies of national culture and characteristics of entrepreneurs.**

Authors	Research Question	Major Variables (Independent/Dependent)	Sample/Data Source(s)	Major Findings
Scheinberg and MacMillan (1988)	Are the motives of entrepreneurs to start a business similar or different across cultures?	National Culture / Motives of entrepreneurs to start a business	1,402 entrepreneurs; 11 countries / Survey	Indicators of motives represent six dimensions: need for approval, perceived instrumentality of wealth, communitarianism, need for personal development, need for independence, and need for escape. The importance of these motives varies systematically across cultures.
Shane, Kolvereid, and Westhead (1991)	Are there significant differences across culture and/or gender in reasons given for business start-up?	Cultural Values / Reasons given for business start-up	597 entrepreneurs; 3 countries / Cultural values based upon Hofstede's (1980)	Reasons for starting a business reflect four underlying dimensions: recognition of achievement, independence from others, learning and development, and roles. The emphasis on each of these reasons varies systematically across countries.
Mueller and Thomas (2000)	Do entrepreneurial traits vary systematically across cultures?	Individualism, Uncertainty avoidance / Entrepreneurial traits	1,790 students; 9 countries / Survey	Cultures high in individualism are correlated with an internal locus of control. Cultures high in individualism and low in uncertainty avoidance rate highest on a measure of entrepreneurial orientation (innovativeness plus internal locus of control). Entrepreneurial traits (internal locus of control, risk taking, high energy levels) decrease as cultural distance from the U.S. increases.
Thomas and Mueller (2000)	How prevalent are four key entrepreneurial traits (innovativeness, locus of control, risk taking, energy) across culture?	Power-distance, uncertainty avoidance, individualism, masculinity / Entrepreneurial traits (innovativeness, locus of control, risk taking, energy)	1,790 students; 9 countries / Survey	Entrepreneurial traits (internal locus of control, risk taking, high energy levels) decrease as cultural distance from the U.S. increases.
Mitchell et al. (2000)	Does the presence of cognitive scripts associated with venture creation decisions vary significantly across cultures?	Individualism power-distance, cognitive scripts / Venture creation decisions	753 entrepreneurs and non entrepreneurs; 7 Countries / Survey	Individualism and power-distance are associated with entrepreneurial cognitive scripts and the venture creation decisions.

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**Table 2. Studies of national culture and characteristics of entrepreneurs (continued).**

Authors	Research Question	Major Variables (Independent/Dependent)	Sample/Data Source(s)	Major Findings
Autio et al. (2001)	Does the Ajzen's model predict entrepreneurial intent across countries?	Perceived behavioural control, subjective norm, attitude toward the behaviour, Cultural values / Entrepreneurial Intent	3445 students in Finland, Sweden, and USA / Survey	The international comparisons indicate a good robustness of the Ajzen's model and perceived behavioural control emerges as the most important determinant of entrepreneurial intent.
Stewart et al. (2003)	Does the relationship between entrepreneurial disposition and goal orientations differ between United States and Russian entrepreneurs?	Individualism/collectivism, power distance, uncertainty avoidance, and masculinity / Entrepreneurial motive disposition (need for achievement, risk taking, and innovativeness)	518 individuals; 427 in the US and 91 in Russia / Survey (cultural values based on Hofstede's indices)	Only Achievement motivation is an important cultural variant in entrepreneurship. The significant higher levels of achievement motivation in both (macro and micro entrepreneurs) types of United States entrepreneurs relative to their Russian counterparts is indicative of the individualistic, masculine nature of Hofstede's (1980) description of United States culture.
Kristiansen and Indarti (2004)	What is the impact of different economic and cultural contexts on entrepreneurial intentions?	Need for achievement, locus of control, and self-efficacy, cultural values / Entrepreneurial Intent	251 students; 121 from Norway and 130 from Indonesia / Survey	The degree of entrepreneurial intention among Indonesian students is significantly higher than among Norwegian students.
Urban (2006)	Do different cultural values influence proclivity toward entrepreneurship across ethnic groups?	Individualism/collectivism, power distance, uncertainty avoidance, masculinity, and long term orientation / Proclivity toward entrepreneurship	150 MBA students / Survey (Cultural values assessed through the Value Survey Module 94)	Cultural values do not have a strong and clear relationship with entrepreneurial intentions.
Lee-Ross and B. Mitchell 2007	What is the relationship culture and entrepreneurial characteristics in the Torres Straits?	Individualism, power distance, uncertainty avoidance, and masculinity / perceptual entrepreneurial traits	61 Torres Strait entrepreneurs / Semi-structured interviews	Torres Strait entrepreneurs show sizable perceptual trait differences compared with western theory.

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**Table 2. Studies of national culture and characteristics of entrepreneurs (continued)**

Authors	Research Question	Major Variables (Independent/Dependent)	Sample/Data Source(s)	Major Findings
Garcia-Cabrera and Garcia-Soto (2008)	Are the cultural values associated in the literature with venture creation generalizable to different cultural contexts? Are there intra-cultural differences in a country generating differences in the entrepreneurial behaviour of its population?	Individualism and masculinity / Locus of control	448 individuals in Cape Verde / Survey (cultural values measured using the instrument developed by Hofstede in 1982 VSM82)	Individualistic cultural orientation has a positive and direct effect on the locus of control which, in turn, influences entrepreneurial behaviour through educational level.
Pruett et al. (2009)	Do Cultural, social, and psychological factor predict entrepreneurial intentions?	Individualism/collectivism, power distance, uncertainty avoidance, and masculinity / Entrepreneurial Intention	1,058 students from US, China, and Spain / Survey (cultural values based on Hofstede's indices)	Country, personal entrepreneurial exposure, and social barriers explain only a small part of a student's entrepreneurial intention.
Linan and Chen (2009)	Does culture influence the applicability of the entrepreneurial intention model (Ajzen model TPB) to different countries (Spain and Taiwan)?	Personal attitude, subjective norm, and perceived behavioural control, individualism/collectivism, power distance, uncertainty avoidance, and masculinity / Entrepreneurial Intention	519; 387 from Spain and 132 from Taiwan / Survey (cultural values based on Hofstede's indices)	The three motivational antecedents (personal attitude, subjective norm, and perceived behavioural control) explained the formation of entrepreneurial intention in both countries, with cultural values determining the strength of the relationships. Subjective norm exerts a stronger effect on personal attitude and perceived behavioural control in the less individualistic country.
Aoyama (2009)	What role does the regional culture play in shaping entrepreneurship?	Regional legacy / Incentives, motivations, and perceptions for contemporary entrepreneurship	54; 27 from Hamamatsu and 21 from Kyoto / Survey	The regional legacy shapes incentives, motivations, and perceptions for contemporary entrepreneurship.
Nguyen et al. (2009)	How do culture and institutions influence different aspects of entrepreneurship?	Individualism, power distance, uncertainty avoidance, and Confucian cultural values, Institutional aspects / Entrepreneurial intention, desire, and confidence	398 undergraduate business students; 121 from US; 154 from Vietnam; 123 from Taiwan / Survey (cultural values based on Hofstede's indices)	Neither the cultural values nor institutional development could fully explain the cross-national differences in entrepreneurship.

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**Table 2. Studies of national culture and characteristics of entrepreneurs (continued).**

Authors	Research Question	Major Variables (Independent/Dependent)	Sample/Data Source(s)	Major Findings
Engle et al. (2010)	Can the Ajzen model be used to predict entrepreneurial intent across countries with different cultures?	Attitude towards behaviour, social norms, and perceived control, cultural cluster (language, geography, religion, history) / Entrepreneurial Intent	1,748 students from 12 countries representative of 10 regional cultural clusters from House et al.'s study (2004) / Survey	The three model elements (attitude towards behaviour, social norms, and perceived control) that predict entrepreneurial intent differ greatly between countries. Only two countries (Finland and Russia) have all three model antecedents on intention as statistically significant predictors.
Goktan and Gunay (2011)	What is the relationship between culture and entrepreneurial cognition?	Hofstede's cultural values / Likelihood of venture creation, aspiration of the entrepreneur for the new venture, and opportunity evaluation	113 students from U.S. and 119 from Turkey / Survey	Culture and entrepreneurial cognition are significantly interrelated.
Moriano et al. (2012)	What is the role of culture in the formation of entrepreneurial intention?	Cultural Values, entrepreneurial attitudes, self efficacy, subjective norms / Entrepreneurial intention	1074 students in six different countries (Germany, India, Iran, Poland, Spain, and The Netherlands) / Survey (cultural values based on Hofstede's indices)	Results support culture universal effects of attitudes and perceived and self-efficacy on entrepreneurial career intentions, but cultural variation in the effects of subjective norms.

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powerful than national culture in influencing entrepreneurship. We first examine the studies focusing on cross-cultural differences in motives, beliefs and values.

### **3.1 Cultural variations in the beliefs, motives or values of entrepreneurs**

#### **3.1.1 Values and motives**

Earlier studies examining the association between national culture and entrepreneurial motives and values showed strong evidence that self-reported reasons for starting a business vary systematically with variations in culture along dimensions of individualism, power-distance, and masculinity (Scheinberg and MacMillan 1998; Shane, Kolvereid, and Westhead 1991). A recent study by Pruett et al. (2009) examining differences in motives and barriers regarding start-ups in US, China, and Spain, parallels these findings. Chinese respondents emphasised money as the primary motive to start a business, compared to Spanish and US individuals. This is explained through differences in the power distance dimension of culture, where China scores relatively highly. Such variation in cultural tolerance of status inequality might explain Chinese entrepreneurs' greater espoused desire for money (and therefore greater social status) as a motive for business formation.

In a study involving interviews with 52 entrepreneurs (founders and cofounders) in Japan, Aoyama (2009) presents qualitative evidence that the mind-set, in terms of incentives, motivations, perceptions, and codes of conduct among Japan's information technology entrepreneurs are shaped by regional culture and context. While an impressive array of interview data is reported, the analysis lacks the precision of a quantitative analysis for presenting more than impressionistic evidence or testing specific hypotheses. It does, however, present further evidence that culture operates at the regional as well as national level, even within a national culture that is reputed to be strong, homogeneous and internally consistent as that of Japan.

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Stewart and colleagues (2003) present an interesting comparison of the motive dispositions (need for achievement, risk taking, and innovativeness), measured using the Jackson Personality Research Form, of growth and non-growth oriented entrepreneurs in the United States and Russia. While the U.S. growth oriented entrepreneurs are consistently higher than all others on the three motive disposition measures, the Russian entrepreneurs only differ significantly from U.S. entrepreneurs on need for achievement. Achievement motivation theory suggests that this is a learned disposition (McClelland et al. 1953), and therefore would be subject to influence from cultural norms and values. As with McClelland's (1961) study, the work of Stewart et al. (2003) supports this interpretation. The significantly higher levels of achievement motivation in both types of United States entrepreneurs relative to their Russian counterparts is suggestive of the influence of the individualistic, masculine nature United States culture in contrast to the more feminine, and collectivistic culture that characterises Russia (Hofstede 1980). However, the observation that Russian entrepreneurs have lower levels of achievement motivation somewhat undermines arguments for the universal importance of this motive.

### **3.1.2 Entrepreneurial Traits**

Thomas and Mueller (2000) examined whether traits associated with entrepreneurship - innovativeness, locus of control, risk-taking propensity, and energy - differ systematically with cultural distance from the United States. In a second study Mueller and Thomas (2000) offer evidence that internal locus of control is dominant in individualistic cultures and that innovativeness and internal locus of control are prevalent in cultures high in individualism and low in uncertainty avoidance. At the time, these findings led to the conclusion that cultures high in individualism and uncertainty avoidance are supportive of entrepreneurship. A limitation is that the subjects were students, and neither study linked these traits to entrepreneurial outcomes. Furthermore, recent evidence of high rates of entrepreneurship in traditionally collectivist and uncertainty avoiding

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cultures (e.g., Pinillos and Reyes 2011) suggests that we should be cautious in drawing strong conclusions.

In their study in Cape Verde, Garcia-Cabrera and Garcia-Soto (2008) propose that individualism is linked to locus of control, which in turn, only influences entrepreneurial behaviour indirectly through education level. While conceptually plausible, the authors do not present a strong test of this double mediation effect (e.g., Baron and Kenny 1986). Therefore further evidence is needed that such a causal chain can explain the impact of culture. In contrast, Kristiansen and Indarti (2004) did not find strong differences in locus of control among Indonesian and Norwegian students. Rather, they showed that, in these countries that differ in cultural characteristics such as individualism/collectivism, differences in entrepreneurial intentions are explained by differences in need for achievement and self- efficacy. This study also leads to the conclusion that in order to trace links between culture and entrepreneurial traits, it is necessary to consider multiple dimensions of culture and multiple theoretically relevant traits.

Lee-Ross and Mitchell (2007) replicated the association between entrepreneurial traits and Hofstede's dimensions of culture in the Torres Strait Islands. In their qualitative study, 61 Torres Strait entrepreneurs perceived sizable trait differences compared to models derived from western studies. This finding highlights an important issue. Much research has focused on high GDP countries in which opportunity-based entrepreneurial behaviour is more prevalent than necessity-based entrepreneurship. This suggests that the form of entrepreneurial behaviour may represent an important boundary condition on theoretical frameworks linking culture to entrepreneurship.

### **3.1.3 Entrepreneurial intentions**

Some recent studies have investigated the effects of cultural values on entrepreneurial intentions (Linan and Chen 2009; Engle et al. 2010; Urban 2006; Autio et al. 2001; Moriano et al. 2012). These studies used the

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Theory of Planned Behaviour (TPB) (Ajzen 1991) to analyse entrepreneurial intentions in specific countries (Autio et al. 2001; Urban 2006) or to compare Ajzen's model across countries with different cultures (Linan and Chen 2009; Moriano et al. 2012; Engle et al. 2010). Urban (2006) measured the relationship between specific configurations of Hofstede's (1990) cultural dimensions and entrepreneurial intentions in South Africa, which is characterised as a highly diverse, multi-cultural society. This is a setting in which it is possible to test the effects of diverse cultural norms in a single country. Entrepreneurial intentions were hypothesised to be positively influenced by moderate individualism/collectivism, low uncertainty avoidance, high masculinity, low power distance, and high long-term orientation. Unfortunately, the results suggest that, at least within this single country context, differences in cultural values do not have a strong and clear relationship with entrepreneurial intentions. Urban interpreted such finding with the inability of culture- as it has been measured in the study- to predict differences in entrepreneurship. However, cross-national differences in entrepreneurship might be best explained by a broader set of institutions in addition to culture (Busenitz, Gomez, and Spencer 2000). In that case, diversity in cultural norms without institutional diversity may not be sufficiently powerful to influence behaviour.

Comparative studies suggest that the three motivational antecedents (personal attitude, subjective norm, and perceived behavioural control) explain the formation of entrepreneurial intention in different countries, with cultural values determining the strength of the relationships (Linan and Chen 2009; Moriano et al. 2012; Engle et al. 2010). In a twist on the standard TPB framework, Linan and Chen found that subjective norms have only an indirect effect, influencing intention through personal attitude and perceived behavioural control. Linan and Chen suggest that culture and social differences may influence perceptions of the three motivational antecedents. The way we see the world may be culturally influenced, while the internal cognitive mechanisms through which we elaborate our views are universal.



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Moriano et al. (2012) found that subjective norms are the least important predictors of students' entrepreneurial intentions across cultures and the only predictors whose influence varies across cultures. However, contrary with their expectations, the influence of subjective norms did not vary along the countries' collectivism-individualism. Like Urban (2006), Moriano and colleagues attribute these findings to the operational definition of culture through country data collection (House et al. 2004), and advocate the use of direct measures of culture (e.g., Stephan and Uhlaner 2010).

Nguyen et al. (2009) examined variations in entrepreneurial potential in three countries: Vietnam, Taiwan, and US. They defined entrepreneurial potential as the desire to create new venture, the intention to create new ventures, and the confidence in creating new venture. The construct therefore represents an elaboration of the TPB framework. Their results suggest that the interaction between culture and institutional factors explain cross-national differences in entrepreneurship. However, contrary to their hypotheses, Vietnam scored higher on intention to create new ventures than both US and Taiwan. It was also higher that Taiwan on the confidence in creating new ventures. Nguyen and colleagues argued that these findings could be explained by considering both institutional and cultural factors. In Vietnam, renovation policies brought institutional development that encouraged new venture creation. Moreover, these policies increased the levels of uncertainty, which were perceived as opportunities by Confucian entrepreneurs.

### **3.1.4 Cognitions**

Empirical research linking national culture to the cognitive processes of entrepreneurs is limited and offers mixed results (Goktan and Gunay 2011; Mitchell et al. 2000). One of the earlier contributions by Mitchell et al. (2000) examined whether entrepreneurial cognitive scripts vary across cultures. They report that cognitive scripts that vary across cultures according to individualism and power-distance, are associated with the venture-creation. However, they found that the direction of association was not consistent across specific scripts. A script describing knowledge of

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appropriable ideas was negatively associated with individualism and positively associated with power-distance. In contrast, a script describing access to resources was positively associated with individualism and negatively associated with power-distance. Thus while entrepreneurial cognitive scripts were associated with cultural variation, this research does not support the notion that one culture is superior to another.

Notwithstanding their empirical contributions on the interrelation between culture and entrepreneurial cognition, neither of these two studies (Goktan and Gunay 2011; Mitchell et al. 2000) disentangles the effect of culture and nation on entrepreneurial cognition. Such limitation is addressed by Tan (2002), who compared the influence of cultural and national context on the perceptions and orientations of mainland Chinese, Chinese-American, and Caucasian-American entrepreneurs. He found that, while mainland Chinese entrepreneurs differed significantly in perceptions and orientations from both Chinese-American and Caucasian Americans, the latter two groups did not differ significantly. This led Tan to suggest that differences normally attributed to culture might actually stem from differences in the national environment.

### **3.2 Entrepreneurial mindset across cultures**

A question that has received limited empirical evaluation is whether there is an entrepreneurial culture that distinguishes entrepreneurs from non-entrepreneurs (Baum et al. 1993; McGrath et al. 1992; McGrath and MacMillan 1992; Tan 2002; Mitchell et al. 2002). These studies are summarised in Table 3.

Baum et al. (1993) compared entrepreneurs and managers in the United States and Israel in terms of motivation. They found that, across both countries, both the need for autonomy and surprisingly, need for affiliation are higher in entrepreneurs than non-entrepreneurs, although the latter was only marginally significant. Thus, the findings for an entrepreneurial 'type' across cultures were only weakly supported in this study.

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**Table 3. Studies of national culture and characteristics of entrepreneurs and non-entrepreneurs.**

Authors	Research Question	Major Variables (Independent/Dependent)	Sample/Data Source(s)	Major Findings
McGrath and MacMillan (1992)	Across cultures, do entrepreneurs share the common perceptions about nonentrepreneurs?	National Culture / Shared perception among entrepreneurs about non-entrepreneurs	770 entrepreneurs: 14 countries / Survey	Across diverse cultures there is a common set of perceptions held by entrepreneurs about nonentrepreneurs.
McGrath et al. (1992)	Is there a set of values that are held by entrepreneurs versus nonentrepreneurs across cultures?	Entrepreneur, non-entrepreneur / Power-distance, individualism, uncertainty, avoidance, masculinity-femininity	1.217 entrepreneurs, 1206 non entrepreneurs: 9 countries / Survey	Across cultures, entrepreneurs score high in power-distance, individualism, and masculinity and low in uncertainty avoidance.
Baum et al. (1993)	Does National Culture moderate the association between individual needs and chosen work role (entrepreneur versus manager)?	Individual needs, National culture / Chosen work role (entrepreneur versus manager)	370 Israeli and U.S. entrepreneurs and managers / Survey	Israeli entrepreneurs report higher need for achievement and affiliation and lower need for dominance than do Israeli managers. U.S. entrepreneurs do not differ significantly from U.S. managers.
Tan (2002)	Do the cultural and national effect differ in their influence on entrepreneurs' perception of the environment and their strategic orientation?	Hofstede's Cultural Values / Entrepreneurs' perception of the environment and their strategic orientation	53 mainland Chinese entrepreneurs; 62 Chinese-American entrepreneurs; 85 Caucasian-American entrepreneurs / Survey	National differences have a more significant impact than cultural differences on entrepreneurial beliefs.
Mitchell et al. (2002)	Are entrepreneurial cognitions universal? (to what extent do entrepreneurial cognitions differ by national culture?)	National Culture / Entrepreneurial cognitions	990 respondents; 11 Countries (418 entrepreneur and 572 non-entrepreneurs) / Survey	There are country-based differences for eight of the ten proposed cognition constructs. Individuals who possess "professional entrepreneurial cognition" have cognitions that are distinct from non-entrepreneurs. Moreover, the pattern of country representation within an empirically developed set of entrepreneurial archetypes differs among countries.

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While it makes a very interesting contribution in terms of the universality of motives, a limitation of Baum et al.'s study is that the authors do not make a strong connection between dimensions of national culture and the entrepreneurial traits. In contrast, McGrath et al. (1992) examine whether entrepreneurs and non-entrepreneurs differ in terms of Hofstede's dimensions of culture. McGrath et al. (1992) compared entrepreneurs to non-entrepreneurs in 13 countries. They found that entrepreneurs were comparatively higher in power-distance, individualism, and masculinity and lower in uncertainty avoidance than non-entrepreneurs, suggesting the possibility of an 'entrepreneurial culture'. In a related study, McGrath and MacMillan (1992) report that entrepreneurs were more likely to believe in taking the initiative and control of their destiny, were willing to take charge and direct others, and were positively oriented toward adaptation and change. Mitchell et al. (2002) surveyed 990 individuals in 11 countries to explore differences in cognitions between entrepreneurs and non-business people, the universality of entrepreneurs' ways of thinking, and influence of national culture on these cognitions. Their analysis shows that entrepreneurs and business non-entrepreneurs differ on arrangements, willingness, and ability cognitions across countries. This was in addition to country-based differences in cognitive scripts among entrepreneurs.

This collection of studies suggests there may be a common entrepreneurial 'culture' or 'type' that transcends national culture. However, national culture may moderate the strength of traits, beliefs and perceptions related to entrepreneurship. This is consistent with the work of Tan (2002), which has shown how culture can be displaced in favour of entrepreneurial beliefs in some contexts, but not others.

### 3.3 Summary

In contrast to research seeking cultural explanations for different entrepreneurial outcomes, this literature compares whether entrepreneurs are different, from non-entrepreneurs and from other entrepreneurs, across countries.

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The literature on entrepreneurial motives and traits across cultures has revealed one fact quite consistently: self-reported motives vary consistently across countries (e.g., Pruett et al. 2009; Scheinberg and MacMillan 1988; Shane 1991; Stewart et al. 2003) and regions within countries (e.g., Aoyama 2009). A criticism raised previously by Hayton, George, and Zahra (2002, 47) was that if culture is assumed to be 'an aggregation of individual values and beliefs, it is not surprising that measures of cultural values are correlated with measures of individual values...' The same argument applies to traits. The result is a tautology: when differences in the national level are derived from the aggregation of individual differences, it is hardly surprising that conceptually related individual differences are predicted based on nationality.

Work on entrepreneurial intentions only partially overcomes this problem. The theory of planned behaviour represents a dominant approach to theorising about entrepreneurial motivation. In principle, we would expect that the components of the TPB to be subject to influence by both cultural and institutional factors. That is, beliefs concerning the social desirability and personal desirability of entrepreneurship are plausibly influenced by the cultural environment. Both culture and institutions would also be expected to influence entrepreneurial self-efficacy, or at least moderate the influence of such perceived behavioural control upon intentions. Despite this conceptual plausibility, due to methodological shortcomings, the studies in this area have yet to fulfil the promise of explaining the process through which culture influences intentions to behave entrepreneurially (e.g., Engle et al. 2010; Urban 2006).

Research on variations in cognitions across cultures holds promise similar to that of the intentions view. That is, by examining how culture as an exogenous factor influences perceptions and cognitions, it is possible to develop plausible, testable, and non-tautological models of culture's influence. This may be direct or indirect. Interestingly, very limited research has been conducted on the influence of culture on cognition. That which

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has been conducted suggests systematic differences, although so far no coherent framework has been worked out and successfully tested.

The question of mindset appears to have largely fallen out of fashion, with the most recent study by Tan (2002) representing the only new contribution since Hayton, George, and Zahra's (2002) review. The evidence suggests that entrepreneurs as a group do share a number of common traits. McGrath et al. (1992) find higher individualism, masculinity and less uncertainty avoidance. This suggests that entrepreneurs' individual values therefore differ from the dominant culture in the way suggested by Baum et al. (1993). Furthermore, there may be some commonality in traits such as achievement, control, flexibility and tolerance of risk (Baum et al. 1993; McGrath et al. 1992). Little is known however, about the process of this interaction between individual differences and national norms, or the cognitive processes through which these elements interact, or indeed the outcomes of these cognitive processes. For example, if being an entrepreneur involves extreme deviation from national cultural norms, what is the impact of such deviation for individuals, or the achievement of entrepreneurial objectives? A further question that arises is whether the 'entrepreneurial mindset' is converging globally, or whether there may be different forms of this mindset according to temporal (Shane 1993; Wennekers et al. 2007), economic (Pinillos and Reyes 2011; Wennekers et al. 2007), and geographic contexts (e.g., Stephan and Uhlaner 2007). Rather than abandoning this question, work is needed to integrate these moderators and also to consider the processes through which individual differences and collective values interact.

## 4. REVISITING THE MODEL OF NATIONAL CULTURE AND ENTREPRENEURSHIP

Hayton, George, and Zahra (2002) proposed a framework linking culture with entrepreneurship. In that model, cultural values, needs and motives, cognitions, beliefs and behaviours were each treated as correlated, but independent, factors that moderate the influence of institutional and economic context variables on entrepreneurial outcomes. To some extent,

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recent evidence provides support for the moderating role of culture on this relationship (e.g., Wennekers et al. 2007; Pinillos and Reyes 2011). We therefore do not want to dismiss this model as incorrect. However, it is designed to serve a specific purpose: to more completely account for contextual factors in understanding rates of entrepreneurship. A weakness of that model is that it does not account for the internal psychological, and particularly cognitive processes, through which culture, institution, and economy influence individual decision-making and action. The studies reviewed show that national cultural values do influence, or at least correlate with individual motives, motive dispositions, traits and cognitions that are associated with being an entrepreneur. What is now required are studies that successfully connect the causal chain from cultural values through individual motives, traits and cognitions, to behaviours and aggregate measures of behavioural outcomes. Unfortunately, the literature may be referred to conservatively as 'messy'. A clean-up is in order before such connections may be made in a coherent fashion. Such a clean-up would involve a systematic consideration of culture along with dimensions of institutional environments (Busenitz, Gomez, and Spencer 2000) and connections with one or more of the sets of variables identified above. Entrepreneurial cognitions may be the most precise of these variables, although behavioural intentions are an alternative, and well-established framework, to employ.

The path forward should begin without the encumbrance of the 'standard entrepreneurial model': i.e., that need for achievement, locus of control and risk taking represent the meaningful differentiators. The evidence for this perspective is at best mixed, especially when it comes to differentiating entrepreneurs from managers. The standard model also implies that there is one best way regardless of institutional and economic contexts. This view is clearly contradicted by empirical reality. It is important to understand how individual difference variables or individual cognitions are influenced by both culture and institutions and how these factors interact. Once these relationships have been framed and tested, a fully mediated model becomes a realistic possibility. A starting point for such an integration may

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be the framework suggested by Busenitz and Lau (1996). Their framework, reproduced in Figure 1 below, places cognitions at the centre of a process, mediating between the combined main effects of culture, individual differences, and contextual factors. To our knowledge, this conceptual framework has yet to be subjected to empirical examination.

### 5. CONCLUSION

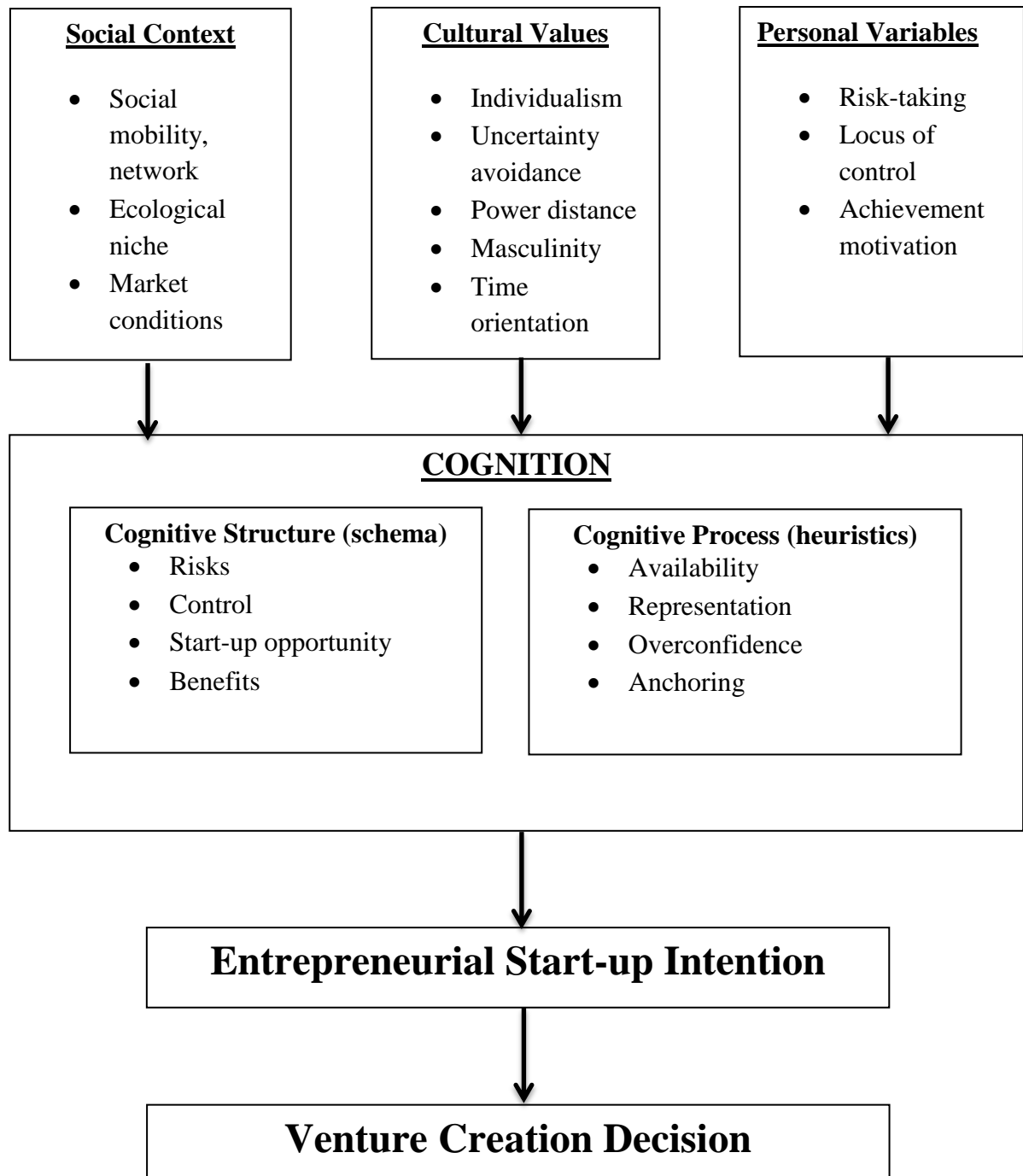
This review has revealed a number of significant challenges. First, evidence has begun to accumulate that individualism and low uncertainty avoidance are not always positively associated with entrepreneurial behaviour. It is essential to look beyond and consider the types of entrepreneurship and the economic context for action. There remains a dearth of studies that examine the interactions among culture and institutions. Yet these and other variables, such as rates of inward investment, national innovation or entrepreneurship policies can be expected to interact with cultural factors. However, such associations are highly complex and potentially challenging to study using macro-level data.

We believe that the next stage in the evolution of this literature should be the development of more rigorous theoretical frameworks. Firstly, future research needs to clarify the distinctions and connections among traits and dispositional motives, values, cognitions and cognitive processes. The conceptual framework provided in the previous section provides a logical foundation for this integration (Busenitz and Lau 1996). Such an approach holds the possibility of sidestepping problems caused by taking a more macroscopic view. That is, if the focus of research shifts towards an explanatory model of when and how specific cognitions (e.g., schema, scripts, perceptions or preferences) arise in contexts characterised by known institutional contexts and measured cultural values, then the currently observed inconsistencies across studies may be explained. It is evident that the role of individualism may be contingent on economic development; uncertainty avoidance may be expressed in different ways (sometimes approaching and sometimes avoiding entrepreneurship). Thus a focus on cognitions, and cross-cultural cognitive studies, may help



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**Figure 1. A cross-cultural cognitive model of venture creation (Busenitz and Lau, 1996).**



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overcome these observed 'inconsistencies' or rather nuances in what was once a taken for granted view of culture's consequences.

It is important that researchers in the future provide a more coherent framing of the distinctions among cultural values, and individually held values, individual difference variables, and subjective norms. In addition to coherent framing, variables must be operationalised in a way which avoids the tautology of asking individuals questions about values that are expected to reflect cultural values for entrepreneurship, when those cultural values are hypothesised to represent aggregations of individual values. Taking a cognitive approach holds the possibility for better distinguishing between the exogenous factors (internal and external) and the processes by which these factors influence behaviour. Whether it is by examining knowledge structures (Mitchell et al. 2000), expectancies or other cognitive elements, this distinction needs to be maintained.

Secondly, future research needs to address the reasons for some inconsistencies in findings. While the intuition that culture matters is still a powerful one, the evidence of predictable associations between culture and entrepreneurial outcomes at regional and national levels is remarkably mixed, perhaps more so now than ten years earlier. This might be due to the use of different samples, different measures of entrepreneurship, and/or the way national culture is operationalised. Future studies need to take account of at least two generic forms of entrepreneurship: necessity and opportunity. These reflect differences in context as well as differences in motive. It has become apparent that old distinctions thought to predict national rates of entrepreneurial activity do not hold up when that activity is broadly conceived. One way to address this would be to use type of activity as a boundary condition. An alternative is to include stage of economic development as a moderator and attempt to incorporate both types of entrepreneurship in a single framework. This latter approach would rest on an assumption that the same intermediate variables are relevant to both outcomes. Such an assumption might be most tenable with cognitive variables. Lastly, we suggest that researchers speculate on the use of

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different measures of national culture (e.g. cultural values vs. cultural norms). If the problem is in the way culture is operationalised, perhaps the use of cultural norms rather than cultural values will help solve inconsistencies in findings.

We have come a long way in understanding culture's consequences for entrepreneurship. However, as with any complex phenomenon, the closer we look, the more complexity we see. Unravelling this complexity is essential, not least because cultural contexts may moderate the impact of policies intended to influence entrepreneurial behaviours.

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