

# Cross-cultural entrepreneurship research: Current status and framework for future studies

Andreas Engelen · Florian Heinemann ·  
Malte Brettel

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**Abstract** Although cross-cultural research in the field of entrepreneurship is still in its infancy as a research stream, it offers important inferences for both theory and practice. Some have criticized the relative immaturity of previous survey-based studies' methodology. In order to address this flaw, we analyze existing survey-based studies in the field of cross-cultural entrepreneurship to identify research gaps in content and methodology and then derive the most appropriate analytical approach to fill the gaps for this type of research. Finally, we present a practical framework in which to conduct sound and prudent future studies, integrating the most appropriate analytical approach, general methodological insights, and the particularities of entrepreneurship research in a cross-cultural setting.

**Keywords** Entrepreneurship · National culture · Structural equation modeling · Survey-based studies

## Introduction

There is widespread agreement in the literature that entrepreneurs and entrepreneurial organizations are major drivers of economic growth (e.g., Storey and Thether 1998). This insight has recently been confirmed by Wong et al. (2005) across a broad range of national and cultural settings. Building on cross-sectional data from 37 countries participating in the Global Entrepreneurship Monitor, the authors provide empirical evidence that high-growth entrepreneurship has a significant

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A. Engelen (✉) · F. Heinemann · M. Brettel  
Center for Entrepreneurship, Aachen University (RWTH), Templergraben 64, 52056 Aachen, Germany  
e-mail: engelen@win.rwth-aachen.de

F. Heinemann  
e-mail: heinemann@win.rwth-aachen.de

M. Brettel  
e-mail: brettel@win.rwth-aachen.de

impact on economic development across nations. In order to understand this lever in each individual country, the particularities of each context have to be taken into account. On the country level, studies in the field of entrepreneurship (e.g., McGrath et al. 1992) and literature from related research streams (e.g., Douglas and Craig 2006) emphasize the role of national culture as an important boundary parameter.

Comparative cross-cultural research in entrepreneurship provides important inferences for both theory and practice (Singh 1995). In terms of practical relevance on the macroeconomic level, countries or cultures can only benefit from the full growth potential of entrepreneurship when the mechanisms underlying successful entrepreneurs and entrepreneurial organizations are understood. From an entrepreneurial perspective, experience shows that more and more entrepreneurs launch their ventures in several countries or cultures simultaneously (Mtigwe 2006). For these entrepreneurs, it is essential to know whether proven procedures achieve the same results in various foreign cultures (Adler and Bartholomew 1992). From a theoretical perspective, Triandis (1994) points out that cross-cultural studies show strong similarities to experiments in natural sciences; in fact, “national culture” creates extremely different contexts. When comparative studies yield similar results across different cultures, a high degree of generalizability can be assumed. Hence, cross-cultural studies can advance entrepreneurship research by helping to distinguish relationships that are universally valid and those that are culture-dependent (Tiessen 1997).

The research field of cross-cultural entrepreneurship combines entrepreneurship research with research on national culture. In terms of entrepreneurship, we draw on Low (2001), who defines entrepreneurship as “the process of identifying, valuing and capturing opportunity” (p 21). In parallel with Tiessen (1997), we distinguish between two levels of analysis: (a) the entrepreneur as individual (trait approach) and (b) the entrepreneurial organization (behavioral approach). The most widely accepted definition of culture is that of Kluckhohn (1951): “Culture consists in patterned ways of thinking, feeling and reacting, acquired and transmitted mainly by symbols, constituting the distinctive achievements of human groups, including their embodiment in artifacts; the essential core of culture consists of traditional (i.e., historically derived and selected) ideas and especially their attached values” (p 181).

Literature on cross-cultural entrepreneurship offers only a limited number of survey-based studies compared to more developed research streams such as cross-cultural marketing and management. Studies on cross-cultural entrepreneurship have recently been criticized for their lack of methodological maturity. Coviello and Jones (2004), for example, state that “IE [International Entrepreneurship] research falls short in ensuring sample, instrument, and data collection equivalence across countries” (p 486). George and Zahra (2002) assert that “these studies need to pay closer attention to methodological issues in data collection and analyses” (p 7). In order to address this shortcoming and to lay the foundation for advancing research in this area, we conduct a two-step analysis.

First, we provide an overview of existing survey-based cross-cultural entrepreneurship studies and analyze these studies in terms of their research gaps in content and methodology. Addressing the demand for a stronger focus on methodological aspects (e.g., George and Zahra 2002), we offer a suitable analytical approach for future research, incorporating consideration for popular approaches (e.g., regression analysis, structural equation modeling) on behalf of their capabilities to fill the

identified research gaps. Hence, the first research question addressed by this paper is:

1. What is the current status of cross-cultural entrepreneurship research and which analytical approach is best suited for future advancement?

Second, as cross-cultural research is necessarily more complex than research that focuses on only one nation or culture, we develop a guideline for conducting sound cross-cultural entrepreneurship research that combines the analytical approach evaluated as most appropriate with the particularities unique to the entrepreneur and the entrepreneurial organization. We build upon additional conceptual insights into cross-cultural research from related research streams such as cross-cultural marketing (Lytle et al. 1995). Therefore, the second research question addressed by this paper is:

2. What should a sound process in cross-cultural entrepreneurship research look like?

The present paper contributes significantly to the literature of cross-cultural entrepreneurship and paves the way for methodologically sound survey-based future studies. It offers researchers of cross-cultural entrepreneurship an overview of existing work and a potential starting point for the selection of interesting and relevant future research topics. To date, the landscape of methodology in survey-based cross-cultural entrepreneurship is relatively uncharted. The present paper provides researchers with a clear, logical framework of state-of-the-art methodologies that may be applied in empirical survey-based studies on cross-cultural entrepreneurship. Researchers are encouraged to draw on the derived framework to conduct methodologically sound research on this important subject.

The remainder of the article is divided into three main sections: The first section gives an overview of survey-based empirical studies in the field of cross-cultural entrepreneurship research and the various research gaps identified. In the second section, the most appropriate analytical approach to address these gaps is selected. Finally, we present the framework for future sound cross-cultural entrepreneurship studies. The first two sections address our first research question, while the third section speaks to our second research question.

## Cross-cultural entrepreneurship: Status and research gaps

### Overview of survey-based empirical studies

Although still in its infancy (Mtigwe 2006), research in cross-cultural entrepreneurship has already produced several survey-based empirical studies<sup>1</sup>. In the course of

<sup>1</sup> The following journals/conference proceedings were taken into account: *Entrepreneurship Theory & Practice*, *Frontiers of Entrepreneurship Research*, *Journal of Business Venturing*, *Journal of Small Business Management*, *Small Business Economics*, and *Entrepreneurship and Regional Development*. According to Katz (2003), these are the most influential entrepreneurship journals/conference proceedings. In addition, we examined the reference sections of these empirical studies and major conceptual articles (e.g., Hayton et al. 2002) to identify articles not published in those entrepreneurship journals listed in this paper. With regard to the microeconomic level of entrepreneurs and entrepreneurial organizations, studies that address either the degree or the consequences of entrepreneurship at the national level are intentionally omitted. Cf. e.g., Davidsson (1995), Shane (1992).

our investigations, we only considered studies that directly integrate the national culture construct with its dimensions in the research model. The studies are systematically summarized in Tables 1 and 2.

Scheinberg and MacMillan (1988) compared the motives of entrepreneurs in starting a business in various countries. They found that the drive to be independent is common in Australia, Sweden, Norway, England, and the USA, while it plays no role in Italy. The authors of these studies primarily discuss the results of their research at the level of countries and only to a limited extent at the level of these countries' cultures. McGrath et al. (1992) point to a set of values that differentiates entrepreneurs from non-entrepreneurs across cultures. More specifically, entrepreneurs share high dimensions of power distance, individualism, and masculinity and low uncertainty avoidance, regardless of national culture. Similarly, the study by McGrath and MacMillan (1992) reveals entrepreneurs' set of beliefs about themselves and non-entrepreneurs transcends cultures. Holt (1997) examines differences between US and Chinese entrepreneurs and managers and detects both similarities and differences between international entrepreneurs, although these differences turn out to be smaller than those between Chinese entrepreneurs and Chinese managers, reinforcing the assumption that entrepreneurs share commonalities across national contexts. A study by Mitchell et al. (2000) discusses the relationship between cross-cultural awareness and the venture creation process; the researchers find links between willingness and ability scripts and the degree of individualism, as well as between ability scripts and the intensity of power distance. Mueller and Thomas (2000) elaborate on variations in entrepreneurial traits across cultures and discover an increased likelihood of strong internal locus of control orientation in individualistic cultures. Overall, according to their survey-based study, entrepreneurial orientation is more likely to be found in individualistic and uncertainty avoidance cultures. In a similar study, the authors address relationships between culture and four personality characteristics commonly associated with entrepreneurial motivation. Locus of control and striving for autonomy turn out to be more pronounced in individualistic cultures. Risk-taking tends to be more pronounced in cultures that rank low in terms of uncertainty avoidance, whereas there were no differences between cultures in terms of innovativeness. In their comparison of Russian and US entrepreneurs, Stewart et al. (2003) show that achievement orientation and risk propensity are higher for entrepreneurs in individualistic and masculine cultures. Stewart et al. (2008) examine environmental perceptions and scanning behaviors of entrepreneurs in the USA and India and find that entrepreneurs in India tend to scan more frequently than their counterparts in the USA, most likely due to a combination of higher uncertainty avoidance as a cultural trait and the overall operating circumstances. Despite this difference, entrepreneurs of both cultures respond to perceptions of changing environments with intensified scanning activities.

Additional studies have been conducted on the organizational level. Shane (1994a), for example, elaborates on the relationship between national culture and national preferences for innovation championing strategies and finds out that managers in collectivistic cultures prefer champions who make personal appeals in order to ensure cross-functional support for their innovation efforts. In high uncertainty avoidance cultures, managers prefer champions to obey norms, whereas

in high power distance cultures, managers favor champions who closely monitor the innovation process. Shane (1994b) examines the role of national differences relative to the impact of trust on perceptions of transaction costs and the choice of foreign market entry mode. The author finds that cultural differences in trust influence perceptions of transaction costs and the preference for direct foreign investment. Expanding upon Shane (1994a), Shane and Venkataraman (1996) show that managers in individualistic, high power distance, and uncertainty accepting cultures prefer renegade strategies, whereas managers in collectivistic, lower power distance, and uncertainty avoiding societies prefer rational championing. Steensma et al. (2000) examine the influence of national culture on entrepreneurs' attitude toward cooperation and find that masculinity and individualism negatively influence entrepreneurs' acceptance of cooperative strategies. Uncertainty avoidance is found to have a positive impact on appreciation of cooperation. A negative relationship between masculinity and the importance of partner commonality emerges. Individualism has a positive and significant effect on emphasis with regard to contractual safeguards. Makino and Neupert (2000) discover a positive link between high power distance and uncertainty avoidance and the preference for majority ownership when entering a foreign market. Marino et al. (2002) generally find that firms with higher levels of entrepreneurial orientation use strategic alliances more extensively, although this relationship is found to be stronger in countries with a high degree of femininity and collectivism. Overall, studies on the organizational level deal with heterogeneous topics, and their findings allow little generalization, except for the shared result of some differences, which can be traced back to cultural properties.

### Research gaps in cross-cultural entrepreneurship

In order to advance cross-cultural entrepreneurship on the basis of these studies, the following research gaps must be addressed.

#### *Research gaps in terms of content*

We know that entrepreneurs share commonalities and differences across cultures. Although the relevance of cross-cultural research is emphasized, this state of knowledge raises some questions.

1. *How do common values of entrepreneurs develop?* Studies (e.g., McGrath et al. 1992) show that entrepreneurs share values across *cultural* borders. Before making causal inferences, it is necessary to understand the direction of causality. Future studies should analyze whether people become entrepreneurs because they have a certain set of beliefs or because the experience of setting up a business has a positive impact on their value system. Analyses conducted to date do not indicate this direction of causality or the time sequence.
2. *How do common values of entrepreneurs impact behavior?* So far, we know that entrepreneurs share some beliefs across cultures (e.g., lower uncertainty avoidance than non-entrepreneurs, McGrath et al. 1992). Given this knowledge, it would be important to understand how these common values transform into

**Table 1** Survey-based empirical studies in cross-cultural entrepreneurship (level of analysis: the entrepreneur)

Study	Subject	Results	Country	Methodology
Scheinberg and MacMillan (1988), <i>Frontiers of Entrepreneurship Research</i>	Cross-cultural comparison of motives to start a business	Drive to be independent is stronger in Australia, Sweden, Norway, Denmark, England, and the USA, but not significant in Italy.	England, USA, Australia, Puerto Rico, China, Portugal, Italy, Sweden, Finland, Norway, Denmark	Factor analysis
McGrath et al. (1992), <i>Journal of Business Venturing</i>	Identification of a set of values that differentiates entrepreneurs from non-entrepreneurs across cultures	High power distance, high individualism, low uncertainty avoidance, and high masculinity across various national cultures' characteristics of entrepreneurs	Australia, Finland, Portugal, Sweden, USA, Puerto Rico, Canada, Italy, China	Step-wise discriminant analysis
McGrath and MacMillan (1992), <i>Journal of Business Venturing</i>	Entrepreneurs' perceptions across cultures	The set of beliefs that entrepreneurs hold about themselves and non-entrepreneurs transcends cultures	Finland, Kenya, Portugal, Sweden, USA, Canada, England, Italy, Norway, China, Taiwan, Puerto Rico	Step-wise discriminant analysis
Holt (1997), <i>Journal of Business Venturing</i>	Similarities and differences between US and Chinese entrepreneurs	Similarities and differences between Chinese and US entrepreneurs exist. These differences are smaller than differences between Chinese entrepreneurs and managers	USA, China	ANOVA
Mitchell et al. (2000), <i>Academy of Management Journal</i>	Cross-cultural cognitions and the venture creation process	Cultural values affect cognitive scripts. Willingness and ability scripts differ between individualism country groupings. Ability scripts differ between power distance country groupings	Canada, USA, Mexico, China, Japan, Australia, Chile	Discriminant analysis, cluster analysis

Mueller and Thomas (2000), <i>Journal of Business Venturing</i>	Variations in entrepreneurial traits across countries	Increased likelihood of internal locus of control orientation in individualistic cultures Entrepreneurial orientation is more likely to be found in individualistic and uncertainty avoidance cultures Locus of control and the striving for autonomy is higher in individualistic cultures Risk taking is stronger in low uncertainty cultures	USA, Canada, Ireland, Croatia, Czech Republic, Slovenia, Germany, Singapore, some Latin America countries	Multivariate logistic regression
Thomas and Mueller (2000), <i>Journal of International Business Studies</i>	Relationships between culture and four personality characteristics associated with entrepreneurial motivation	No significant difference exists between cultures for innovativeness Achievement orientation and risk propensity are higher in individualistic, masculine cultures	USA, Canada, Ireland, Germany, Belgium, China, Singapore, Croatia, Slovenia	Multivariate logistic regression
Stewart et al. (2003), <i>Journal of Small Business Management</i>	Relationship between achievement motivation, risk-taking propensity and preference for innovation with goal orientation of entrepreneurs from different cultures	Entrepreneurs in high uncertainty cultures scan more often than entrepreneurs in low uncertainty cultures	USA, Russia	Multivariate regression
Stewart et al. (2008), <i>Entrepreneurship Theory and Practice</i>	Relationship between environmental perception and scanning of entrepreneurs	Perception of increasing environmental change leads to increasing scanning activities regardless of cultural background	USA, India	Hierarchical regression

**Table 2** Survey-based empirical studies in cross-cultural entrepreneurship (Level of analysis: the entrepreneurial organization)

Study	Subject	Results	Object of research	Geographical setting	Methodology
Shane (1994a), <i>Entrepreneurship Theory and Practice</i>	National culture and preferences for innovation championing strategies	Managers in collectivistic cultures prefer champions who make personal appeals to gather cross-functional support Managers in high uncertainty avoidance cultures prefer champions who obey norms in high uncertainty avoidance cultures. Managers in high power distance cultures prefer champions who closely monitor the innovation process	National offices of a large financial service company	24 national offices of a financial services company	Factor analysis, correlation analysis
Shane (1994b), <i>Strategic Management Journal</i>	National culture and choice of foreign market entry mode	Perceptions of transactions costs and the preference for direct foreign investment across countries is influenced by cultural differences	Manufacturing companies investing in foreign countries	US-based multinational manufacturing companies	Regression analysis
Shane and Venkataraman (1996), <i>Organization Studies</i>	National cultures and rational championing versus renegade championing	Managers in individualistic, high power distance, and uncertainty accepting societies prefer renegade strategies Managers in collectivistic, lower power distance, and uncertainty	Six organizations in 28 countries; no further information provided	28 countries with nine different languages	Multiple regression analysis

Makino and Neupert (2000), <i>Journal of International Business Studies</i>	National culture and the choice between joint ventures and wholly owned subsidiaries	avoiding societies prefer rational championing Positive association exists between power distance and uncertainty avoidance and majority ownership when entering a foreign market Negative association exists between masculinity and individualism and entrepreneurs' acceptance of cooperative strategies Positive association exists between uncertainty avoidance and appreciation of cooperation Negative association between masculinity and partner commonality emerged Positive association exists between individualism and emphasis on contractual safeguards	Foreign manufacturing subsidiaries in Japan  Small- and medium-sized firms	USA, Japan  Australia, Finland, Greece, Indonesia, Norway, Mexico, Sweden	Logistic regression analysis  Hierarchical regression analysis
Steensma et al. (2000), <i>Journal of International Business Studies</i>	National culture and the entrepreneurs' attitude toward cooperation	Firms with higher levels of entrepreneurial orientation use strategic alliances more extensively This relationship is even stronger in countries with a high degree of femininity and collectivism	Independent small- and medium-sized firms	Finland, Greece, Indonesia, Mexico, Netherlands, Sweden	Hierarchical linear regression
Marino et al. (2002), <i>Entrepreneurship Theory and Practice</i>	National culture and the relationship between entrepreneurial orientation and strategic alliance portfolio extensiveness				

behavior across cultures. The indication that entrepreneurs share the underlying value of low uncertainty avoidance does not *necessarily* mean they cope with it in the same way. Perhaps an entrepreneur in culture A accepts higher financial risks, whereas an entrepreneur in culture B enters more innovative markets with less proven products. Future studies should endeavor to link these identified common values with their behavioral outcomes (e.g., time of foundation, relevance of team foundations, and nature of offered product/service). Cross-cultural psychology offers some studies on how values shape human behavior; these studies might be used as a foundation for theory development in cross-cultural entrepreneurship (e.g., Schwartz 1994 and the literature cited therein).

3. *How do further contextual factors on the national level impact entrepreneurs?* In line with the objective of cross-cultural entrepreneurship, studies to date focus exclusively on the cultural determinant. However, as research on entrepreneurship has shown, further influences on the country level (i.e., the borderlines typically chosen for cultural comparisons) exist. As such, the educational system, political economy, and stage of economic development as socio-economic drivers are shown to have an impact on entrepreneurs. Important questions that might help the researcher to illuminate these interrelations include:
  - How do these influences impact the values of entrepreneurs?
  - Given that entrepreneurs share certain values from birth, how do common entrepreneurial values transform into behavior under different socio-economic circumstances?

On the organizational level, some fragmented studies do exist. Apart from these existing studies, a wide array of topics on nearly all organizational functions have yet to be covered (e.g., entrepreneurial marketing in different cultural contexts). In the following, we concentrate on research gaps in existing studies, assuming that the identified mechanisms apply to a lot of other research topics. In particular, we see three issues as promising avenues for research:

1. *How do cultural values impact organizational relationships?* Past research fosters reason to believe a relationship exists between culture and certain entrepreneurial organizational phenomena (e.g., preference for certain championing strategies, as noted in Shane and Venkataraman 1996). Although they touch upon these relationships, studies have not elaborated on the underlying process that accounts for them. Cultural values are unlikely to be the direct cause of differences in observable organizational phenomena. Research needs to develop a deeper understanding of how cultural values influence organizational values, norms, and routines that, in turn, trigger a certain organizational setup. In other words, more complex research models in the form of “causal chains” that link cultural values and the examined organizational phenomena should be developed. A better understanding of this process should enhance awareness of how far the relationships between culture and the examined organizational phenomena can be actively influenced (e.g., by establishing organizational norms). In this way, entrepreneurship research could build upon insights from

related research streams (e.g., Smircich 1983), thereby partially enabling confirmatory research. Although this is a tempting option, the special nature of entrepreneurs and entrepreneurial organizations means that relationships revealed in other contexts may not be readily transferable without prior adaptation. As such, in most cases, the integration of exploratory research elements is necessary.

2. *How does culture impact organizational performance indicators?* Studies to date concentrate on the difference of certain phenomena across cultures. For instance, we know that different cultures prefer different championing styles or cooperation strategies (Steensma et al. 2000). However, the extent to which an organizational phenomenon exerts an influence on performance indicators across cultures remains unclear. Building on the study of Shane (1994a), a possible next step might be to investigate how a certain championing style impacts organizational innovation rates in a specific culture. The results of Marino et al. (2002) might be extended by analyzing how far the financial consequences of strategic alliances differ across cultures. Whereas, to date, culture has been treated as an antecedent, further advancement can be created by integrating culture as a moderator. This means that analyses have to move from observations of phenomena to an understanding of the effect of these phenomena across cultures. From a practical perspective, managers are understandably more interested in the likely effect of approaches in another culture than in information about what organizations currently look like in other cultures.
3. *How do the effects of antecedents differ across cultures?* Future studies should also examine the culture-dependence of antecedents. Knowing that a championing strategy is widespread and effective in a certain culture, managers need to understand how to go about establishing such a strategy. Again, the construct of national culture moves from being an antecedent to being a moderator of a relationship between an antecedent (e.g., organizational setup, management levers) and an organizational phenomenon, such as a certain championing strategy. Surprisingly, related and mostly further developed research streams face similar problems, although the cross-cultural marketing literature in particular offers some studies on the culture dependence of antecedents and it is possible that these studies could serve as a foundation on which cross-cultural entrepreneurship research could build (e.g., Griffith et al. 2006).

Analysis of the current research progress indicates that cross-cultural entrepreneurship must move from simple research models investigating only one construct (e.g., the motives of an entrepreneur, a preference for a cooperative strategy) to more complex models. These models must integrate endogenous and exogenous variables as well as moderating influences in order to shed light on the root causes and effects of cultural differences. Future studies might, with care, build on agreed-upon knowledge of related research streams, combining confirmatory and exploratory elements.

### *Methodological gaps*

The general low level of methodological maturity in cross-cultural entrepreneurship research is criticized by George and Zahra (2002). More specifically, we see the

following methodological flaws that link directly to the underlying analytical approach:

1. *Reliability and validity evaluation*: Overall, the examined studies conducted to date fail to build upon established measures for reliability and validity testing of latent variables. This flaw constitutes a major shortcoming. The marketing literature in particular offers proven measures for reliability and validity testing of measurement models employing latent variables (Homburg et al. 2005). Missing reliability and validity analyses might lead to the use of constructs that do not accurately capture the underlying theoretical construct. Furthermore, there exists the problem that a proven, typically Western construct, might not work in another culture. Low reliability and validity values are the first indication of this situation.
2. *Measurement equivalence*: Studies to date do not measure the degree of measurement equivalence as a major condition for sound cross-cultural research (Coviello and Jones 2004). Typically, cross-cultural research builds upon emic measures (i.e., the same measurement models in all cultural settings examined). Assuming cultural interconnections in relationships also implies that the constructs themselves underlie cultural dependencies. As studies to date ignore this problem, results must be interpreted against the background of potentially missing measurement equivalence. Valid results in cross-cultural research can only be derived when the underlying constructs share at least a very similar meaning across cultures (Berry 1980).

### Comparison of analytical approaches for future research

From the identified research gaps noted earlier in this study, criteria for a suitable analytical approach can be derived. From the examination with regard to the content of cross-cultural entrepreneurship research, it follows that an appropriate approach should be able to depict complex model structures (i.e., “causal chains,” mediators, and moderators) and to cover, ideally, both exploratory and confirmatory elements. From a methodological point of view, a suitable approach should be able to depict latent variables, measurement errors, and measurement equivalence. To find an appropriate approach, we evaluated the most common univariate and multivariate approaches of analysis based on these criteria<sup>2</sup>. The results are highlighted in Table 3.

Regression analysis, the most widespread approach in cross-cultural entrepreneurship, does not satisfy most criteria, making it highly unsuitable for further advancement of cross-cultural entrepreneurship. In addition to its flaws in terms of methodological requirements, regression analysis would not allow the advancement

<sup>2</sup> In order to guarantee the coverage of all essential univariate and multivariate analytical approaches, we drew upon prominent standard works on statistical methods, in particular Stevens (2002) and Gujarati (1995). All analytical approaches covered in these publications were compared on the identified criteria for advancement of cross-cultural entrepreneurship research.

**Table 3** Evaluation of analytical approaches

	Research gaps in terms of				Research philosophy	
	Contents	Methodology			Confirmatory approach	Exploratory approach
		Measurement equiv.	Latent variables	Measurement errors		
	Complex model structures					
Cluster analysis	–	–	–	–	–	+
Confirmatory factor analysis	–	–	+	+	+	–
Discriminant analysis	–	–	–	–	+	–
Exploratory factor analysis	–	–	+	+	–	+
Logistical regression	–	–	–	–	+	–
Mean comparisons using t-tests	–	–	–	–	+	–
Multivariate variance analysis (MANOVA)	–	–	–	–	+	–
Panel data methods	(+)	–	+	–	+	–
Path analysis	+	–	–	–	+	–
Regression analysis	–	–	–	–	+	–
Structural equation modeling	+	+	+	+	+	+

of cross-cultural entrepreneurship research due to the limitations in its model complexity. Besides, panel data can be used; these are data for which multiple cases (e.g., firms, countries) have been observed at two or more points in time. Panel data are mostly used in combination with regression models and allow these models to control for omitted variable bias, unobservable factors, and factors that vary across entities, such as nations or cultures (Steenkamp and Baumgartner 2006). As such, they alleviate the weakness of regression models in terms of latent variables. Although panel data enable researchers to compare groups (e.g., cultures), they are neither able to capture measurement equivalence nor to depict complex model structures, at least in combination with regression models. However, as panel data cover data gathered at several points in time, they are able to answer the open research question of how common values of entrepreneurs develop. By accepting lower methodological maturity in terms of measurement equivalence and errors, panel data methods are at least partially capable of addressing a relevant research question. Panel data are not limited to regression models; they can also be used in combination with structural equation models (Finkel 1995).

Path analysis allows the researcher to depict complex model structures, whereas exploratory and confirmatory factor analyses are capable of covering measurement errors and latent variables. Combining the advantages of both factor analyses and path analyses, only structural equation models are able to fulfill all criteria, rendering them the most suitable approach. Structural equation modeling (SEM) combines an econometric perspective focusing on prediction and a psychometric view of modeling concepts as latent, non-observable variables (also dubbed constructs) that

are indirectly captured by multiple observable variables (also dubbed indicators, items, measures, and manifest variables). Through covariance-based approaches, SEM supports confirmatory analyses, empirically verifying and falsifying theoretically derived hypotheses (Anderson and Gerbing 1984). For prediction purposes, variance-based approaches are relatively strong, making overall SEM suitable for both confirmatory and exploratory analyses. As a requirement of cross-cultural entrepreneurship, SEM is the only approach that allows the examination of measurement equivalence. McArthur (2007) even holds that “...the gold standard for assessing construct equivalence in international business research...is multiple-group structural equation modeling...” (p 35).

### **Framework of cross-cultural research in entrepreneurship**

Subsequently, we develop a practical framework for cross-cultural entrepreneurship as the second important research question. The framework consists of seven steps, ranging from the selection of a structural model, measurement models and appropriate samples to practical issues, namely, the sample generation, parameter estimation, and model evaluation. The interpretation of the results constitutes the last and seventh step. The framework integrates particularities of the research objects (i.e., entrepreneurs and entrepreneurial organization) and discusses possible applications of SEMs. Insights on prudent data collection process and analysis drawn from related research streams are also integrated. Special attention is given to critical issues in cross-cultural entrepreneurship that exist, regardless of the chosen analytical approach, and have not yet been covered in the article (e.g., selection of cultural dimensions).

#### **Structural model**

##### *Identification of mid-range theory*

The structural model comprises several components. The first is the mid-range theory, which depicts a phenomenon and provides a causal explanation for these relationships (Lytle et al. 1995). A mid-range theory can focus on the individual level (e.g., the entrepreneur) or on organizational behavior (e.g., the entrepreneurial organization). The mid-range theory refers to the relationships to be examined on the level of each individual culture.

Causal relationships must be tailored to the concrete object of research. If, for example, new entrepreneurial ventures (NEVs) as a subset of entrepreneurial organizations are considered in a cross-cultural context, the mid-range theory should reflect the “culture-free” structural characteristics of NEVs that are apparently common to NEVs in all cultural settings. Examples of “universal” characteristics of NEVs are provided in Table 4.

##### *The construct of national culture*

We draw on the construct of national culture, as presented in the introduction. At the heart of the definition is the important role culture plays in shaping the individual's

**Table 4** Structural “culture-free” characteristics of new entrepreneurial ventures

Characteristic	Description	Sources
Newness/low age	Unknown roles, tasks, and processes need to be learned, lacking trust of external institutions	Stinchcombe (1965)
Small size	Lack of personal and financial resources	Aldrich and Auster (1986)
Owner dependence	High dependence on knowledge and experience of founder	Stone and Brush (1996)
Growth orientation	Necessity of continuous adoption of structures and processes according to growth	Tyebjee et al. (1983); Carland et al. (1984)

interpretations and perceptions (Triandis 1994). Differences in interpretations and perceptions will lead to differences in behaviors (Chrisman et al. 2002).

As culture and its underlying values is an inherently complex construct (Lytle et al. 1995), ways of capturing this complexity must be found. The literature offers several frameworks of values or dimensions as aggregations of a set of values. The most prominent schemes are the cultural dimensions taken from Hall (1989) and Hofstede (2001). In particular, power distance, individualism, uncertainty avoidance, and masculinity are widely used in disciplines such as marketing and management (e.g., Nakata and Sivakumar 2001). Studies in entrepreneurship also draw almost exclusively on these dimensions (e.g., Marino et al. 2002), but the undifferentiated use of these dimensions warrants criticism. First, these dimensions were developed in the context of an established, mature company. Hence, it is at least debatable whether they are equally relevant in the context of entrepreneurs and entrepreneurial organizations (Hayton et al. 2002). Second, the classifications of countries along these dimensions stem from data gathered about 35 years ago (Sondergaard 1994).

In order to alleviate these issues, more recent studies drawing on the same, similar, or even different dimensions can be used to classify the countries. The Global Leadership and Organizational Behavior Effectiveness (GLOBE) study explicitly uses dimensions as developed by Hofstede (2001), namely, power distance, uncertainty avoidance, and collectivism (House et al. 2001). The GLOBE study’s main objective is to examine the impact of national culture on leadership. As a part of this research program, a set of nine cultural dimensions was derived from the literature. Further dimension beyond the framework of Hofstede were integrated (e.g., humane orientation, assertiveness). Each participating country is classified on these dimensions based on extensive empirical studies involving 17,300 managers from 62 nations between 1993 and 2004. The results show that national cultures clearly differ on most of the dimensions and confirm most of Hofstede’s classifications. However, some countries, including Thailand, yield divergent ratings on some cultural dimensions such as uncertainty avoidance. Schwartz (1994) theoretically develops a framework of 11 values based on cross-cultural psychology research. Using a survey-based approach, 20 countries are classified along these values. In contrast to Hofstede’s approach, values are derived theoretically at the forefront of the survey and are rooted in psychology research. Whereas some values have commonalities with Hofstede’s dimensions (e.g., power

with power distance), some others are not covered directly in Hofstede's research (e.g., self-direction, stimulation).

Benefit for researches is twofold: In the case of comparable values and dimensions, the GLOBE study and the study by Schwartz (1994) allow substantiating or modifying Hofstede's older (2001) classifications. Furthermore, researchers should examine whether the additional dimensions and values are better suited for the concrete research topic (Ng et al. 2007). As Hofstede's dimensions were empirically derived in the context of a large and mature organization, entrepreneurship research could highly benefit from the broader choice.

### *Generating cross-cultural hypotheses*

The theoretical link between culture and the entrepreneur can easily be established. According to our definition, culture influences perceptions and exerts a behavior-driving effect on individuals, such as the entrepreneur (Steensma et al. 2000).

In terms of the entrepreneurial organization, as the second level of analysis in entrepreneurship, one might argue as follows: In addition to the entrepreneur, employees shape the entrepreneurial organization. Like the entrepreneur, employees are each shaped by the national culture in which they grew up. Socialized individuals integrate into the organization and import their values into these organizations (Smircich 1983). The acquisition of their values occurs mainly prior to their joining the work organization. It follows that these organizations predominantly reflect the values of their employees, which are in turn shaped by the societal environment of their education (Hofstede 2001).

Another way to integrate entrepreneurial organizations and the national culture construct is to build upon institutional theory, which treats how institutions (such as culture) shape economic behavior in organizations (such as entrepreneurial organizations; North 1991). According to institutional theory, organizations adopt structures, values, norms, and routines that are externally legitimized by institutions. Furthermore, organizations draw on institutions' criteria for evaluation of organizational structures and not on their own possibly efficiency-driven criteria. It follows for our purpose that national culture, as an external institution, is a major determinant of organizations' setup and the behavior within these organizations.

Literature contains intensive debate on whether organizational cultures can override the employees' cultural predisposition of their national context (Tayeb 1996). Organizational culture and national culture are two potentially contradictory layers of the culture concept. It can be argued that NEVs, as one subset of entrepreneurial organizations, are especially suited for cross-cultural comparisons. There is widespread belief in the literature that NEVs have not yet normally developed a mature organizational culture (Gruber 2003) because the establishment of an organizational culture is a time-consuming process (Adler and Jelinek 1986). It follows that the problem of whether national culture or organizational culture is measured does not exist to the full extent for NEVs. Aycan (2005) demonstrates that in small ventures—as NEVs typically are—national culture has a stronger effect than in large companies because a lower degree of formalization can be found. This means that the employees have a larger scope for decision power, which they can use according to their cultural predisposition.

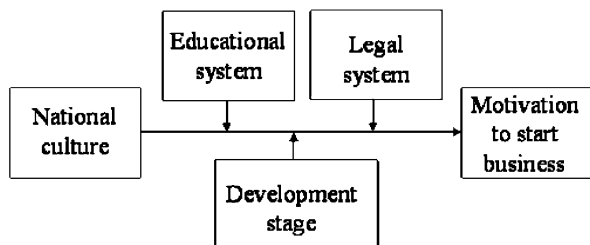
Based on these insights and the research gaps noted previously, examples for concrete structural models can be derived. Two examples are presented in Figs. 1 and 2. Figure 1 refers to the study of Scheinberg and MacMillan (1988) and extends the analysis of a national culture's influence on the motivation to start a business by more influencing factors on the national level, which might have an impact on this relationship. Figure 2 builds on the cross-cultural studies of championing strategies by integrating the construct of organizational culture as mediator between national culture and championing strategies and the innovation performance as success indicator.

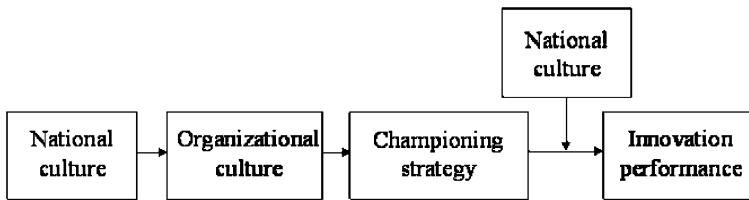
### Measurement models

Measurement models that capture latent constructs through several items build the second component of SEM. Because the same latent constructs will be measured across cultures, the question arises as to whether identical items or adapted items should be used (Berry 1989). The absence of this discussion in survey-based studies of cross-cultural entrepreneurship is criticized by Coviello and Jones (2004) as a major shortcoming. If a construct consists of identical items in all cultures, the approach is *emic*; likewise, a construct consisting of adapted items for each individual culture is an *etic* approach (Triandis 1994). The *emic* approach's main advantage is the high comparability that is, by definition, necessary for a cross-cultural comparison. In contrast to the *etic* approach, the *emic* procedure does not capture to the full extent the specific traits of the construct in each individual culture. In order to resolve this dilemma, Berry (1980) proposes a step-wise procedure by starting a cross-cultural comparison with *emic* measures, gradually adapting them to the characteristics of individual cultures in subsequent studies. Allowing for the generally young age of cross-cultural entrepreneurship, *emic* measures should be more appropriate for most studies.

From a practical perspective, Brislin (1980) proposes a back-translation of the translated questionnaire by a third person into the researcher's native tongue so that the researcher can check whether the meaning of his constructs has been altered during the translation process. As with ordinary research, but even more important because of different cultures, the constructs' content and face validities must be tested (Calantone and Zhao 2000). Even so, the researcher is predetermined by his own culture; this is known as *ethnocentrism* (Boyacigiller and Adler 1991). A means to mitigate this problem is to work closely with researchers from other cultures and to understand the constructs' meaning through a series of expert interviews with academics and practitioners.

**Fig. 1** Example of structural model on level of a single entrepreneur





**Fig. 2** Example of structural model on level of an entrepreneurial organization

### Selection of cultural groups

As culture is inherently a phenomenon at the group level, the problem of defining groups as sources for empirical data emerges. Most commonly, nations are used as an approximation to capture cultural entities. By referring to “national culture,” we have implicitly followed this procedure so far in this manuscript. Hofstede (2001) points out that national borders are the most suitable for cultural comparisons because mechanisms promoting cultural similarities such as the educational and law systems, as well as the language, are usually shared at the national level. Hence, entrepreneurs, as well as entrepreneurial organizations—through the cultural traits of their employees—share similarities at the national level. Other authors criticize this approach by claiming there are sufficient counter-examples of nations with various cultural groups (Tan 2002). In order to test the dominance of either national or cultural influences, Tan (2002) generates three samples (Mainland Chinese, Chinese Americans, and Caucasian Americans) representing two cultures and two nations. By comparing all possible pairs of samples, it is feasible to isolate the national and cultural impact. This seems especially relevant for entrepreneurship topics, as there are studies suggesting an impact of national artifacts (e.g., Wright et al. 2005).

### Sample generation

Samples gathered from the different cultures must be as comparable as possible in other influencing factors. Especially when using the group comparison method, as described later, national culture is treated as a residual because the differences between the groups are exclusively ascribed to national culture (Homburg et al. 2005). This approach is legitimate when the compositions of the samples are comparable (e.g., in terms of industry, age, and size).

It is not always an easy task to create similar sample compositions, especially when treating entrepreneurial organizations or entrepreneurs. Databases in different countries/cultures do not always use comparable classifications (cf. McArthur 2007 for the general potential bias in secondary data from different cultures). Furthermore, the entrepreneurial character of a venture is often captured by its affiliation to a certain industry sector because this sector offers above-average growth possibilities (e.g., Burgel and Murray 2000). It must be recognized that the growth potential of an industry sector is situational; a sector may offer growth prospects in one culture but not in another. This is mainly a function of the underlying economic development stage (Keith 1960).

The researcher should create compositions as similar as possible in criteria that are easy to capture such as age and size of entrepreneurial organizations (Malhotra et al. 1996). The next important task is to identify criteria that are not objectively measurable from existing databases. In the case of the entrepreneur as research object, the question of whether he is really self-employed, bearing the full risk, or whether he is still affiliated with existing businesses could be relevant (McGrath and McMillan 1992). When examining NEVs, two aspects are relevant: First, it may be of interest whether the venture has been created from scratch without any parent institutions or whether it is—as a spin-off—still closely related to other mature businesses (Shrader and Simon 1997). Second, due to the previously mentioned problem of sector affiliation, the entrepreneurial character is difficult to evaluate without further information provided by the respondent. In order to measure these aspects not covered in databases, we recommend integrating these criteria into the questionnaire so that the respondent himself can provide information about the status of his situation or the situation of the venture. Researchers might build upon the prominent scale for entrepreneurial orientation provided by Dess and Lumpkin (2005), which conceptualizes entrepreneurial orientation by autonomy, risk taking, innovativeness, competitive aggressiveness, and proactiveness. For each of these constructs, the authors provide three to five items. According to the underlying research topic, future studies might draw on the entire scale or parts of it.

#### Parameter estimation, optimization algorithms, and moderating effects

The next step is to estimate the measurement models and the structural models. Two algorithms in SEM pursue different optimization objectives (Fornell and Bookstein 1982). The most widely spread covariance-based approach with linear structural relationships (LISREL) as the popular software package aims to minimize the difference between the empirical covariance matrix and the theoretical model-inherent covariance matrix of the parameters to be estimated (Jöreskog 1978). An alternative is the variance-based approach with partial-least-squares (PLS) as most widespread algorithm (e.g., Chin 1998). The objective of the variance-based approach lies in maximizing the explained variance of each dependent variable.

Chin and Newsted (1999) point out criteria that speak in favor of a variance-based procedure: First, due to their prediction orientation, variance-based approaches are particularly suited to relatively new research questions (Chin 1998). Second, variance-based approaches provide even robust results with smaller sample sizes than covariance-based approaches. Whereas the latter require sample sizes larger than 200, even for simple model structures (e.g., Anderson and Gerbing 1984), the variance-based procedures work with samples sizes of about 100<sup>3</sup>. Third, variance-based approaches allow the estimation of more complex model structures. Fourth, variance-based approaches enable the estimation of formative constructs that can be

<sup>3</sup> More specifically, the minimum sample size to ensure a stable estimation process in PLS is derived either from (a) the maximum number of paths leading to any one dependent variable in the model or (b) the number of indicators included in the largest formative construct. The higher of these two numbers is multiplied by ten to establish the minimum number of cases (Chin and Newsted 1999).

estimated only with limitations by covariance-based approaches (MacCallum and Browne 1993).

Considering these criteria against the background of cross-cultural entrepreneurship, variance-based approaches seem, in most cases, more suitable to the task. First, the research stream of cross-cultural entrepreneurship is in its infancy (Oviatt and McDougall 2005). Therefore, the prediction orientation for the exploration of relationships is highly appropriate, especially if there are no proven and transferable insights from related research. Second, if there is no access to large sample sizes in foreign cultures, the PLS approach is less rigid and estimates reliable results even for small samples. Third, the integration of the culture construct renders research models, by definition, more complex. The two alternative algorithms are compared in Table 5.

Regardless of the algorithms, two possibilities exist for evaluating moderating effects with SEM. First, group comparisons can be used to estimate moderating effects (Keil et al. 2000). The sample is split into several groups that differentiate in terms of the moderating variable (i.e., in our case, membership in a culture). The groups are estimated separately, and the path coefficients are subsequently checked for significant differences across cultures. In the case of significant differences, a moderating effect is confirmed. The moderating variable (i.e., in our case, culture) need not be integrated into the questionnaire. First, inferences about a particular culture's scores on cultural dimensions can be drawn from existing literature. Second, a respondent's membership in a culture is evident and does not need to be confirmed empirically, as opposed to alternative group forming criteria that are not directly evident such as environmental uncertainty or industry sector competitiveness (e.g., Homburg and Pflesser 2000).

Second, as an alternative approach, it is possible to use multiplicative interaction terms of the independent and moderating latent variables (Chin et al. 2003). When using interaction terms, the moderating variable must be explicitly integrated as a construct in the questionnaire. However, in our view, there remains one problem: a single respondent answers the questionnaire. There is the danger that the

**Table 5** Comparison of SEM Algorithms

	Variance-based approaches (e.g., PLS)	Covariance-based approaches (e.g., LISREL, EQS)
Optimization criterion	Minimization of residual variance	Minimization of residual covariance
Level of optimization	Local	Global
Focus	Prediction accuracy	Parameter accuracy
Criteria for structural model evaluation	Coefficient of determination ( $R^2$ ), Stone–Geiser criterion ( $Q^2$ )	Chi-square statistic, (adapted) goodness-of-fit index, comparative fit index, RMSEA
Complex model structures?	Yes	No
Reflective constructs?	Yes	Yes
Formative constructs?	Yes	Yes, but with limitations
Multi-group analysis?	Yes	Yes
Small sample sizes?	Yes	No
Local validity criteria?	Yes	Yes
Global validity criteria?	No	Yes

respondent—although belonging to the corresponding cultural group—answers according to his own views, which do not necessarily reflect the cultural properties of the underlying group. Moreover, constructs with multiple items need to be integrated. In order to keep the questionnaire to a reasonable length, other constructs of the mid-range model must be dropped. Ultimately, the group comparison seems more suitable for cross-cultural research and should, therefore, be preferred to interaction terms.

### Model evaluation

Each cultural group is first analyzed in isolation by examining the reliability and validity of the measurement models, thereby differentiating between reflective and formative constructs (Jarvis et al. 2003). In the case of reflective constructs, the literature offers local measurement criteria (for both variance- and covariance-based approaches, e.g., Bagozzi and Yi 1988) and global measurement criteria (only for covariance-based approaches, e.g., Fornell and Larcker 1981). For formative constructs, these common criteria cannot be used because they draw on a desirable high correlation of items in reflective constructs (Bollen and Lennox 1991). Rather, multicollinearity should be checked (Belsley 1984).

Whereas this procedure is common to all research projects using SEM, the second step is special for group comparisons such as those between cultures (Triandis 1994). Several authors point out that reliable results in cross-cultural comparisons can only be gained when the latent constructs have the same meaning across cultures (Douglas and Craig 2006). In order to test this comparability *ex post*, several authors recommend comparing the formal structures of measurement models after having obtained the empirical data (e.g., Smith et al. 1989).

The most common approach is presented by Steenkamp and Baumgartner (1998) who recommend constrained confirmatory factor analyses in the samples. In this constrained model, the factor structure is set to be invariant. If full error invariance between samples is observed, a high comparability between constructs can be assumed (Homburg et al. 2005). Because global measurement criteria (e.g., chi-square, CFI) are used to evaluate the invariance, this procedure is limited to covariance-based approaches only. Because these global criteria do not exist in variance-based approaches, Carte and Russell (2003) propose comparing factor loadings by the coefficient of congruence and testing differences between weights.

Next, the structural models (i.e., the overall models) need to be evaluated. Again, the criteria differ between variance-based and covariance-based approaches. Hulland (1999) points out that “[o]ne consequence of this difference in objectives between LISREL and PLS is that no proper overall goodness-of-fit measures exist for models estimated using the latter” (p 202). On the other hand, several criteria exist for covariance-based approaches (e.g., Jöreskog and Sörbom 1982). PLS as a variance-based approach just uses the coefficient of determination ( $R^2$ ) and the Stone–Geisser criterion ( $Q^2$ ) to capture the prediction quality (Chin 1998).

### Interpretation of results

Testing of the hypotheses is mainly done by interpreting the path coefficients. These parameters link the latent constructs in the structural model. If the culture construct

is integrated as moderator, these moderating effects are in the foreground. If there are significant differences between the models' path coefficients, a moderating effect can be assumed (Keil et al. 2000). If there are no significant differences between the cultural groups (i.e., the moderating effect is not confirmed), a high degree of generalizability of the relationship can be derived (Triandis 1994).

A general aspect when interpreting the results is the so-called phenomenon of ethnocentrism, which has already emerged in the step of operationalization. The researcher himself is a product of a certain cultural education and therefore interprets his observations through his cultural predispositions (Triandis 1994). There are two possibilities for alleviating this problem: First, the researcher is well-advised to cooperate during the whole research process with researchers stemming from the other examined cultures (Douglas and Craig 2006). Second, the measurement models in particular, as described earlier, and the results of the interpretation should be discussed intensively with researchers and practitioners from the foreign cultures. Hofstede (2001) assumes that in this way, the problem of ethnocentrism can be reduced.

## Conclusion

The first research objective was to specify the rather vague call of various researchers such as George and Zahra (2002) for stronger methodological maturity in cross-cultural entrepreneurship. As the appropriate analytical approach is highly dependent on the research progress, we first analyzed existing survey-based comparative studies. Literature offers insights into the culture dependence of various phenomena in entrepreneurship. At the individual level, we know that entrepreneurs share certain beliefs and values across national cultures. At the organizational level, studies to date suggest that culture is likely to have an impact on the setup of organizations across cultures, such as a predilection for championing preferences and cooperative strategies. However, the underlying mechanisms in terms of the causes and effects of differences are still disturbingly unclear. Future studies need to build more complex research models that go beyond mere correlation analyses of certain phenomena and national culture. Furthermore, studies conducted to date fall short in methodological aspects, such as reliability and validity tests, as well as measurement equivalence analyses. Driven by the need for more complex models and the current methodological flaws, SEM seems to be the most appropriate approach for further advancement of cross-cultural entrepreneurship.

The second research question was to design a practical research process building on the particularities of entrepreneurship, state-of-the-art guidelines from related research streams, and the analytical approach considered most appropriate (from the first step). We propose a research process of seven steps that researchers should follow carefully. Cross-cultural entrepreneurship differs mainly in three aspects from ordinary cross-cultural research. First, researchers should reflect on the appropriateness of the most widespread cultural dimensions from Hofstede for their research. These dimensions have been derived empirically in mature organizations, which means that they do not necessarily capture the particularities of entrepreneurs or entrepreneurial organizations. Second, NEVs might also be a favorable research

context for studies outside cross-cultural entrepreneurship. As discussed, these new ventures typically have not yet developed a mature organizational culture. Because organizational culture is a potentially distorting factor when comparing organizations across national cultures, from a practical point of view, new ventures are an appropriate research setting, also for studies in related fields (e.g., examining general marketing or management topics across cultures). Third, due to its prediction orientation and low sample size requirements, PLS as one SEM algorithm seems especially suitable for upcoming survey-based cross-cultural studies in entrepreneurship.

Although it seems to be the most appropriate approach for future survey-based studies, SEM faces some difficulties for researchers. SEM's high potential is mirrored in a highly complex research process that requires stronger statistical understanding than more traditional approaches such as correlation or regression analysis. To alleviate this aspect, we integrated the research process framework in our article. Further references are given throughout the article as a means of offering support to researchers not familiar with SEM. SEM's high sample size requirements are a major obstacle to be overcome, given that large sample sizes are not always accessible in foreign settings. PLS mitigates this particular problem, as it also delivers reliable results for small sample sizes.

From a practical point of view, the present study provides researchers with a systematic overview of existing survey-based research in cross-cultural entrepreneurship. Hence, researchers can easily view a comprehensive picture of the current progress of this research stream. A clear framework that presents methodological components more logically and prudently than elsewhere is provided. The latter aspect needs to be considered important because cross-cultural research is typically more complex than "ordinary" research in just one setting. The comprehensive and systematic framework indicates all relevant aspects, reflecting the high complexity of cross-cultural research. As various research streams (e.g., marketing, psychology, management) investigate the cultural influence, they each advance the methodology of cross-cultural research. Instead of studying all relevant research streams for the current state-of-the-art methodological tools, entrepreneurship researchers can use the present study as an integrated overview and foundation for the design and analysis of their own future survey-based studies.

The framework discusses, at various stages, established, taken-for-granted procedures (e.g., in terms of the concrete selection of cultural dimensions and the borders selected in order to approximate cultures). Researchers are provided guidelines with clearly identified advantages and disadvantages for these options, so that they can easily adapt their survey design to their concrete research project. In this context, researchers are encouraged to assess the appropriateness of Hofstede's dimensions and the relevance of national borders as proxies for cultures.

In terms of the research stream of "cross-cultural entrepreneurship," the present study provides clear guidelines for both content and methodology. The analysis of contents indicates relevant topics that warrant further investigation in the future in order to make clear and continued progress in this research area. We outlined those items of established knowledge that do not need to be revisited. Researchers are encouraged to evaluate which topic is worth considering and has the potential to make a real contribution to the research field. From a methodological perspective,

cross-cultural entrepreneurship can only gain in importance and relevance for overall business administration research if future studies draw on sound, state-of-the-art methods. We believe that the framework presented in this paper is important in order to assure the quality of future survey-based studies.

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