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The Simultaneous Influence of National Culture and Market Turbulence on Entrepreneurial Orientation: A Nine-country Study

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ABSTRACT

Building on research that has shown that a firm's entrepreneurial orientation (EO) depends on environmental factors, we argue that EO is a firm's reaction to its institutional environment and use the dimensions of individualism and uncertainty avoidance to investigate the single and combined effects on EO of market turbulence and national culture. We test our hypotheses by generating survey data from top management team members across a broad nine-country sample, which support our hypotheses regarding the direct effect of environmental turbulence and national culture on EO. We also find that the interplay of turbulent markets with individualistic cultures increases EO, while the interaction of market turbulence and uncertainty avoidance does not.

1. Introduction and objective

That the choice of entrepreneurial orientation (EO) as a firm's strategic behavior positively influences firm performance has been confirmed across a broad range of contingency contexts (Rauch et al., 2009; Saeed et al., 2014). Consequently, much research has been devoted to identify antecedents of EO (Wales et al., 2013). As such, Engelen et al. (2014) find that the CEO's personality drive EO. However, Miller and Friesen (1983, p. 222) note that the success of a firm's strategy depends on the nature of the environmental challenges the firm faces and stress the "importance of tailoring the content of strategies to the nature of the environment." Similarly, research has shown that firms are embedded in an institutional context (Ang et al., 2014) and that it is the environmental institutions that determine the strategy a firm adopts (Ingram and Silverman, 2002). In line with institutional theory research, Rosenbusch et al. (2013) show the need for a firm to adopt a strategic behavior that is consistent with its environment's requirements.

Researchers have identified two environmental institutional factors in particular as drivers of EO: environmental turbulence (Rosenbusch et al., 2013) and national culture (e.g., Jones and Davis, 2000; Kreiser et al., 2010). The importance of aligning a firm's strategic behavior with institutional factors is also reflected in business cases. For example, Microsoft's takeover of Nokia's cell phone business in 2013 can be attributed to Nokia's lack of innovation when consumer demand evolved toward smartphones, and the US retailer Walmart had to close its stores in Germany and South Korea after neglecting to adapt its strategy and leadership to the cultural differences in those countries.

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While the individual effect of both environmental turbulence and national culture has been examined empirically, to our knowledge their interaction effect has not, although studies have acknowledged that firms are influenced by multiple institutional factors simultaneously and that the concurrent presence of both factors may affect a firm's strategic behavior (Ang et al., 2014). Market turbulence creates opportunities to be entrepreneurial, but it is the national culture that determines whether a company can leverage those opportunities. Therefore, environmental turbulence and national culture are interdependent institutional factors that may be examined jointly.

Research has shown that the cultural dimensions of individualism and uncertainty avoidance are major drivers of EO (Kreiser et al., 2010; Shane, 1993). In addition, firms whose levels of these two cultural dimensions differ may deal with environmental turbulence differently, such as in how they address the risk associated with new opportunities. Therefore, we concentrate on these two cultural dimensions in our study.

The present study empirically re-examines the direct effect on EO of market turbulence and national culture, represented by individualism and uncertainty avoidance, as well as the interplay of these two institutional factors based on a survey of 905 small and medium-sized firms across nine national cultures (Australia, Austria, China, Germany, India, Singapore, Spain, the UK, and the US). Thus, we extend previous findings on the direct effect on EO of either environmental turbulence or national culture to an international setting.

Our study contributes to EO and institutional theory by providing insights into the interplay of two institutional factors that extant EO research has studied only separately. Since firms operate in environments with multiple institutional factors, the interplay of these factors affects the strategic behavior that firms must adopt if they are to realize fully the potential of those environments. Further, we re-examine the direct effect of the institutional factors of environmental turbulence and national culture across a broad international sample, thereby instilling confidence in the general applicability of our findings to both EO and institutional theory. These fields of study have called for broader international studies since many of their studies have examined single countries (Bruton et al., 2010).

Our paper proceeds as follows. First, we introduce institutional theory and provide an overview of environmental turbulence, national culture, and the conceptualization of EO. We continue by deriving our hypotheses and then introducing our study method and findings. We close with a discussion of our results, management implications, limitations, and avenues for future research.

2. Theory and hypotheses

Firms are rooted in the environment in which they operate, so they are influenced by environmental factors like the market's culture, dynamism, and competition and its legal, social, and political system (DiMaggio and Powell, 1983). Specifically, institutional factors have a "rule-like status" (Bruton et al., 2010, p. 423) that legitimizes certain actions while limiting others (Bruton et al., 2010; Kreiser et al., 2010). Consequently, firms either "play by the rules of the game" and conform to institutional factors or face eventual demise. This situation may affect various aspects of a firm, such as its organizational structure, its resource allocation, and its strategic orientation. Specifically, its internal and external resources may be allocated only to those projects that are in line with the institutional environment, so the decision to allocate internal and external resources to entrepreneurial/innovative activity (EO) is also driven by institutional factors (Peng, 2003; Peng and Heath, 1996). Therefore, institutional factors are "enabling and constraining entrepreneurship in the environment" (Bruton et al., 2010, p. 423).

Extant research has examined a variety of institutional factors and identified two factors in particular as influential in connection with EO: environmental turbulence (Rosenbusch et al., 2013) and national culture (e.g., Jones and Davis, 2000; Kreiser et al., 2010). Sections 2.1 and 2.2 describe these factors and elaborate on how they influence EO.

2.1. Market turbulence

A firm's industry environment can range from stable to highly turbulent (Danneels and Sethi, 2011). Turbulence results in uncertainty regarding future states of the environment (Buganza et al., 2009), which constrains a firm's "ability to anticipate changes in competitors' strategies, consumers' new product requirements, technology, emergence of new competitive forces in the market, and new regulatory constraints on product performance and design" (Gupta et al., 1986, p. 9).

Commonly used to describe the degree of turbulence in a firm's environment (e.g., Akgün et al., 2012; Calantone et al., 2003), market turbulence refers to the rate at which a firm's customer base and its customers' preferences change (Jaworski and Kohli, 1993). Since turbulent markets exhibit "rapidly changing buyer preferences, wide-ranging needs and wants, ongoing buyer entry and exit from the marketplace, and constant emphasis on offering new products" (Hult et al., 2004, p. 436), firms in highly turbulent markets must continually adjust their products and services to meet customers' new needs. However in stable markets, where the rate at which customers change and customer demand is low, a firm's product and service portfolio can remain largely stable without violating customers' expectations (Jaworski and Kohli, 1993).

2.2. National culture

Culture, an informal institution, refers to "shared, taken-for-granted assumptions that a group holds and that determine how it perceives, thinks about, and reacts to its various environments" (Schein, 1996, p. 236). Culture exists on multiple levels, including the national, industry, and organizational levels (Fayolle et al., 2010), that mutually influence one another (Leung et al., 2005). A

society's culture determines norms not only for individuals in a society but also for corporations, which norms determine a firm's behavior and strategic orientation (Schneider and De Meyer, 1991; Stephan and Uhlaner, 2010).

Having been extensively tested in numerous studies across various disciplines of management research, the work of Hofstede (1980, 2001) takes a prominent role in attempts to describe and quantify the dimensions of national culture (Hofstede, 1980, 2001; House et al., 2004; Schwartz, 2006). Hofstede's cultural theory is based on four cultural dimensions: power distance, uncertainty avoidance, individualism/collectivism, and masculinity/femininity (Hofstede, 1980). The analysis in the present study focuses on the individualism and uncertainty avoidance dimensions as especially germane to our examination of entrepreneurial behavior, which relies on individual initiative as a response to the uncertainty and the opportunities created by a turbulent market. Other extant research has shown that these two dimensions are linked to organizational and individual entrepreneurial behavior (e.g., Kreiser et al., 2010; Mueller et al., 2013; Rosenbusch et al., 2013; Shane, 1993).

Individualist societies exhibit "a loosely knit social framework in which people are supposed to take care of themselves and of their immediate families only" (Hofstede, 1980, p. 45). In such societies, "autonomy, variety, pleasure, and personal financial security take precedent over group loyalty" (Mueller and Thomas, 2001, p. 59), with society being generally accepting of individuals' following their own ambitions and goals. The uncertainty avoidance dimension "indicates the extent to which a society feels threatened by uncertain and ambiguous situations and tries to avoid these situations by providing greater career stability, establishing more formal rules, not tolerating deviant ideas and behaviors, and believing in absolute truths and the attainment of expertise" (Hofstede, 1980, p. 45). In contrast, individuals in low uncertainty-avoidant cultures can handle uncertainty (Mueller and Thomas, 2001).

2.3. Entrepreneurial orientation

EO is a strategic positioning that is characterized by the simultaneous presence of proactive, innovative, and risk-taking behavior (Covin and Slevin, 1988; Covin and Slevin, 1989; Miller, 1983). According to Miller (1983), "theorists would not call a firm entrepreneurial if it changed its technology or product line simply by directly imitating competitors while refusing to take any risks. Some proactiveness would be essential as well. By the same token, risk-taking firms that are highly leveraged financially are not necessarily entrepreneurial. They must also engage in product-market or technological innovation." (Miller, 1983, p. 780)

Rauch et al.'s (2009) meta-analysis shows that EO drives firm performance, as firms with high levels of EO identify market opportunities ahead of their competitors and enter these markets first, thereby generating positive cash flows ahead of their competitors and possibly establishing entry barriers by, for example, setting industry standards (Covin and Slevin, 1991).

2.4. Hypotheses on direct relationships between institutions and EO

Turbulent markets continually create new business opportunities because of the rapid shifts in customer bases and customers' expectations. Consequently, the window of opportunity through which a firm can attain a competitive advantage is narrower than it is in stable markets, and the variance in terms of possible outcomes is wider (Danneels and Sethi, 2011). These conditions increase uncertainty and demand a risk-taking, innovative, and proactive approach in order to stay competitive, as top managers and firms in these markets must recognize and exploit new opportunities before their competitors do without fearing the uncertain outcomes of investing in risky, innovative projects (Rosenbusch et al., 2013). A firm's acceptance of this high level of variance in possible outcomes and its flexibility in reacting to unanticipated environmental conditions quickly is a sign of a high level of EO. Numerous studies have found evidence that supports this positive effect of turbulence on EO, as summarized in the meta-analysis from Rauch et al. (2009). Therefore, we state:

H1. Market turbulence and EO are positively associated.

Research has broadly noted the need to understand the impact of national culture on entrepreneurship (Engelen, 2010; Hayton et al., 2002; Kreiser et al., 2010). National culture influences a firm's level of EO by indicating "the degree to which a society considers entrepreneurial behavior, such as risk-taking and independent thinking, to be desirable" (Hayton et al., 2002, p. 33).

We expect firms that operate in individualist societies to demonstrate more EO than do firms that operate in collectivist societies. The ability and willingness to make independent decisions in individualist societies encourages entrepreneurial behavior and generates EO since individuals can make innovative decisions, which are often risky, proactively and on their own (Kreiser et al., 2010). Consequently, top managers and their firms in individualist cultures use business opportunities that may arise in the market more effectively than do those in collectivist societies. Therefore, we hypothesize:

H2a. Individualism is positively associated with EO.

We expect firms in cultures with high levels of uncertainty avoidance to have less EO than do firms in less uncertainty-avoidant cultures. In uncertainty-avoidant cultures, entrepreneurial initiatives face organizational resistance and lethargy in the form of a general hesitance to change established processes and procedures and a widespread inability to imagine the benefits of innovative ideas, which slow down or stop entrepreneurial activities (Shane, 1995). Consequently, new business opportunities may not be recognized, inhibiting EO. Even if they are recognized, members of uncertainty-avoidant societies are unlikely to pursue them because of organizational restrictions that are rooted in the organization's uncertainty-avoidant structure. Therefore, we hypothesize:

H2b. Uncertainty avoidance is negatively associated with EO.

2.5. Hypotheses on interaction effects

Ang et al. (2014) argue that a firm's strategic orientation does not depend on only one institutional factor but that various factors that are simultaneously present in a market jointly influence the firm's actions. In our context, the market in which each firm operates is characterized by a certain degree of turbulence and by a specific national culture, so firms are affected by two factors at the same time. We hypothesize that certain combinations of institutional factors are more supportive of a firm's EO than others. Specifically, we contend that high levels of individualism drive the positive influence of market turbulence on EO, while uncertainty avoidance weakens this effect.

Since turbulent markets are characterized by quickly changing customer needs, existing products become obsolete and new products enter the market quickly and are adopted by an ever-changing customer base (Hult et al., 2004; Jaworski and Kohli, 1993). The characteristics of individualist cultures, such as independent decision-making and individual achievement, help top managers and their firms to recognize and exploit opportunities more quickly than do those in collectivist cultures (Kreiser et al., 2010). Specifically, since more value is placed on personal achievement in individualist societies than it is in collectivist cultures (Hofstede, 1980), members of individualist societies tend to be confident in their own abilities and to be in search of personal rewards (Kreiser et al., 2010). Consequently, firms in individualist societies and their top managers have more autonomy to make decisions than their collectivist counterparts do (Hofstede, 1980), enabling them to make risky decisions quickly and on their own. Furthermore, rewarding personal achievement in individualist cultures encourages top managers and their firms to seek opportunities with high innovative potential and to pursue these opportunities much more quickly than do individuals in collectivist cultures. The resulting decision speed matches the fast-moving nature of turbulent markets, multiplying the effect on EO. If markets are stable, however, firms in individualist societies and their top managers will not be able to reap the full potential of EO, since decision speed and proactively pursuing risky innovative projects (resulting in EO) is not necessary for firms to be successful.

On the other hand, firms and their top management in collectivist cultures are more likely to wait to defer to the group and to fail to support individual decisions and actions (Hofstede, 1980). Decisions are based on group consensus, thus slowing down initiatives even if opportunities for innovation are recognized. In addition, there is less emphasis on individual achievement than on group achievement, so individual success tends not to be rewarded as often as group success is (Hofstede, 1980). Consequently, new opportunities may be missed or not followed. Hence, firms and their top management may not keep up with changing customer needs, which hinders the effect of market turbulence on EO.

We believe that firms in individualist cultures will reap their full potential for generating EO in turbulent markets. The simultaneous presence of turbulent markets and individualist cultures has a multiplying effect that increases the level of EO because the advantages of both institutional factors—that is, a high number of opportunities and a high rate of recognizing and pursuing these opportunities—are combined. Therefore, we state:

H3a. The effect of market turbulence on EO is stronger in individualist cultures than it is in collectivist cultures.

We expect uncertainty avoidance to decrease the effect of turbulence on EO. Individuals in uncertainty-avoidant cultures have "higher levels of anxiety and aggressiveness that create, among other things, a strong inner urge in people to work hard" (Hofstede, 1980, p. 45), and this urge is likely to be focused on behavior that reduces uncertainty (Hofstede, 2001). Therefore, resources are not allocated to risky, explorative innovations but to incremental innovations for which the outcome is more predictable. Consequently, in uncertainty-avoidant cultures individuals' willingness to face the challenges presented by the turbulent environment is reduced since these challenges are often outside the individuals' comfort zone. However, members of uncertainty-accepting societies tend to be willing to interact with their environments when faced with the same challenges (Kreiser et al., 2010).

In a turbulent environment, then, firms in uncertainty-avoidant societies and their top managers are inclined to avoid additional uncertainties, so they tend not to pursue the high number of risky opportunities offered in turbulent markets. They also tend to reduce the uncertainty created by turbulent markets, ignoring new opportunities and allocating even fewer resources to risky, innovative projects, thereby decreasing EO even more.

Since top managers and firms in uncertainty-avoidant cultures try to reduce the risk that comes with a turbulent market, they may even introduce structures and organizational forms that decrease uncertainty (Mueller and Thomas, 2001) but are not beneficial to EO or to the process of creating innovations that take advantage of the market's opportunities. Organizational resistance and lethargy will result in failure to recognize or pursue the high number of opportunities generated by turbulent markets, so these opportunities tend to evaporate in uncertainty-avoidant cultures.

Uncertainty-accepting societies, on the other hand, are "more willing to take risks and less in need [of] security and stability" (Shane, 1995, p. 53). Top managers and firms in societies with low levels of uncertainty avoidance tend to take risks and to accept uncertainty as part of an innovative process. Since they tend to be rewarded for pioneering behavior, firms and their top management focus on finding new opportunities (Mueller and Thomas, 2001). In addition, they tend not to be afraid to initiate change when needed (Hofstede, 1980). In sum, top managers and firms in uncertainty-accepting societies tend to approve of deviant behavior (Hofstede, 1980), to be open to pursuing new and risky opportunities, to think "outside the box" in order to be innovative, and to push their ideas despite uncertainties.

Because of the constantly changing creation and disappearance of new opportunities in turbulent markets, firms have to adapt to new situations quickly and sometimes must even break up old structures in order to pursue these opportunities. Uncertainty-accepting societies are more likely to undertake such efforts than are uncertainty-avoidant cultures. Therefore, we state:

H3b. The effect of market turbulence on EO is stronger in cultures with low uncertainty avoidance than it is in cultures with high uncertainty avoidance.

3. Study design

3.1. Sample composition and data collection

Consistent with a wide body of empirical research on EO and its antecedents, consequences, and contingency contexts (Wales et al., 2013), we follow a cross-sectional research methodology. As part of a broader data collection effort (Schneider and Engelen, 2014), we collected self-reported responses from a large sample of top management team members across a wide variety of small and medium-sized enterprises from a diverse set of cultural backgrounds (Austria—44 firms; Australia—56 firms; China—42 firms; Germany—265 firms; India—147 firms; Singapore—37 firms; Spain—39 firms; the UK—159 firms; and the US—116 firms).

The process of preparing the survey consisted of selecting proven measurement constructs; pretesting the questionnaire with practitioners for relevance, comprehensibility, and ease of use; and translating the English-language master questionnaire into German, Spanish, and simplified Chinese by native speakers of the target languages. A second translator then reviewed the translated versions to ensure consistency with the original constructs. The questionnaire was distributed via an email addressed to the boards of management of firms we randomly selected from business databases for small and medium-sized enterprises in the target countries. The email explained the purpose of the study and included a link to the online survey. The respondents were asked to return the survey via regular mail, facsimile, or email. As an incentive, we offered a report on our findings that would include descriptive statistics and an anonymous benchmark with participating companies. The overall response rate to the online questionnaire was 21%, for a total of 905 usable responses. As Table 1 shows, the resulting sample consists of firms of various sizes, and the participating firms are spread across a range of industries and countries. A great majority of respondents were CEOs (71%), while 18% held other board-level positions.

3.2. Tests of biases

We gathered our data using self-reported assessments of top management team members from small and medium-sized enterprises in nine countries. Extant empirical research across disciplines has acknowledged that concerns regarding key-informant, non-response, and common method biases require additional analysis when this research approach is employed (Brettel and Rottenberger, 2013; Jansen et al., 2005; Keh et al., 2007).

3.2.1. Key informant bias

In filling out the online questionnaire, the initial respondents had the option to nominate a second top-management team member to provide a complementary perspective on their firms. Following this approach, we collected 39 dyadic responses from the US, India, and Germany, the analysis of which indicated adequate inter-rater reliability (Bliese, 1998) (ICC for EO: 0.68; ICC for market turbulence: 0.24). As previous research has recommended (Jansen et al., 2005), verbiage in both the initial email and the questionnaire emphasized the confidentiality and anonymity of responses to help motivate truthful assessments. We also re-estimated our regression models without responses from individuals who reported lower levels of knowledge about the topics the questionnaire covered.

Responses were dropped if the self-reported knowledge index was lower than 4.5 on a 7-point Likert scale, resulting in 37 dropped observations. The resulting significance levels and coefficients remained generally stable compared to the original model. We concluded that key informant bias is unlikely to have influenced our findings.

3.2.2. Non-response bias

The extrapolation procedure Armstrong and Overton (1977) describe is often used to assess the presence of non-response bias (Auh and Menguc, 2005; Engelen, 2010; Hult et al., 2004; Simsek et al., 2007). Following this technique, we used t-tests to find significant differences in the main constructs' mean values between early and late respondents and found that none of the means were significantly different from zero at the .05 level. Therefore, we concluded that non-response bias is unlikely to be a concern in our study.

3.2.3. Common-method bias

The Lindell–Whitney marker variable technique (Lindell and Whitney, 2001) is often employed to investigate common-method bias (e.g., Welpe et al., 2012), a systematic error that "provides an alternative explanation for the observed relationships between measures of different constructs that is independent of the one hypothesized" (Podsakoff et al., 2003, p. 879). Partial correlations between the predictor and dependent variables while controlling for a theoretically unrelated marker variable yielded stable significance levels and coefficients. This result and the design of the questionnaire, which introduced unrelated items between the main constructs of our study to prevent common method bias (Wiklund and Shepherd, 2005), gives us confidence that common method bias is unlikely to affect the explanatory power of our study.

Table 1
Sample composition.

	Total
Firm employees	%
Number of full-time employees	
<10	10
10–50	37
51–100	15
101–250	17
251–500	8
501–1000	4
>1000	8
Firm age	%
Years since foundation	
<5	3
5–10	13
11–15	15
16–20	13
21–50	34
>50	23
Customer focus	%
Share of total revenue	
B2B	53
B2C	47
Industry sector	%
Building and construction	6
IT, Software, Internet	7
Manufacturing–high tech	22
Manufacturing–low tech	16
Services	36
Trade	9
Others	5
Respondent's position	%
CEO	71
Board member (except CEO)	18
Direct report to the board	9
Other TMT member	2
Respondent's age	%
<25	18
25–34	42
35–44	29
45–54	10
>55	1
Respondent's gender	%
Male	87
Female	13
Respondent's tenure	%
<5	8
5–10	23
11–20	35
21–30	22
>30	12
N	905

3.3. Measurement models

EO, market turbulence, and national culture are complemented by firm-level control variables and operationalized in alignment with prominent research. We asked survey participants to state their responses using 7-point Likert-type scales. Except for national culture, the main constructs are the means of multiple items, as defined by the constructs' original authors. The Appendix provides information on each construct, including the item list and scale reliability and validity measures.

3.3.1. Entrepreneurial orientation

Most extant research on EO has investigated firm-level entrepreneurial behavior and its antecedent, moderating, and mediating relationships by conceptualizing EO as Miller (1983) proposes in terms of the dimensions of proactiveness, innovativeness, and risk-taking. Recognizing that departures from this traditional view of EO, such as those Lumpkin and Dess (1996) propose, are likely to have value in more specific applications (George and Marino, 2011), we followed the original conceptualization of EO (Covin and

Slevin, 1988; Covin and Slevin, 1989; Miller, 1983) as a unidimensional, reflective construct in order to ensure alignment and comparability with previous research. Therefore, we operationalized EO by aggregating the three dimensions of proactiveness (three items), innovativeness (three items), and risk-taking (three items).

3.3.2. Market turbulence

We captured the constructs of market turbulence by using the scales (Jaworski and Kohli, 1993) develop, which are widely used in prominent research (Danneels and Sethi, 2011; Dayan and Di Benedetto, 2011; Paladino, 2008; Zhou and Li, 2010). The market turbulence construct captures "the extent to which the composition and preferences of an organization's customers [tend] to change over time" (Jaworski and Kohli, 1993, p. 59). This construct originally consisted of six items, but we reduced them to five items following Jaworski and Kohli's (1993) recommendations. In order to obtain a satisfactory scale reliability value for the market turbulence scale, we removed an additional item from our scale. We obtained an alpha value of .62, which is comparable to the .67 value Jaworski and Kohli (1993) report and the .71 value Paladino (2008) reports. Our final market turbulence construct consists of four items.

National culture

We relied on Hofstede's (1980) national culture scores to measure the degree of individualism and uncertainty avoidance present in a national culture. Information on the degree of individualism and uncertainty avoidance was based on the Hofstede data, which were matched with the national culture in which the firm is based. Table 2 shows the national culture scores for each country included in this study. Other noteworthy attempts to identify and quantify dimensions of national culture include the GLOBE study (House et al., 2004). Without entering the debate on the comparative merits of the two approaches (Hofstede, 2006; Javidan et al., 2006; Smith, 2006), we chose the Hofstede dimensions primarily to ensure comparability with extant cross-cultural research on entrepreneurial firm behavior (Engelen, 2010; Engelen et al., 2013; Kreiser et al., 2010; Mueller and Thomas, 2001).

Control variables

In all models we controlled for variables that could affect the main relationships that are the focus of this study. We added ownership type, firm size as the log of the number of employees, firm age as the log of the years since founding, customer focus as the share of revenues generated with end customers, and industry affiliation through dummy variables as a control. After collecting the data, we grouped industry affiliation into the six categories of construction, IT/software/internet, high-tech manufacturing, low-tech manufacturing, services, and trade. In order to exclude alternate explanations for the relationships in our study, we added secondary data (GDP volatility and country risk premium). Finally, we added as control variables individual factors: the respondents' age, gender, and tenure with the firm.

3.4. Measurement equivalence

We examined measurement equivalence for EO and industry turbulence, the multi-item constructs in our survey, over all nine countries in our sample. Following Steenkamp and Baumgartner (1998) and Vandenberg and Lance (2000), we tested for metric and scalar equivalence and found full metric and scalar equivalence for EO ($p > .5$) and full metric and partial scalar invariance (with one item relaxed) for industry turbulence ($p > .5$, Item 5 relaxed). These results support the comparability of our measurement constructs across the countries in our sample.

Table 2
Hofstede country scores.

Nation	Individualism/collectivism[a]	Uncertainty avoidance
Austria	55	70
Australia	90	51
China	20	30
Germany	67	65
India	48	40
Singapore	20	8
Spain	51	86
UK	89	35
US	91	46

[a] High values reflect strong individualism.

Table 3
Descriptive statistics.

	Construct	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1	EO	4.47	1.02	**.81**											
2	Gender	.87	.33	.01											
3	Age (in years)	3.48	.25	.01	.02										
4	Tenure (in years)	16.55	9.86	.03	.05	.37									
5	Firm size (in employees)	4.31	1.83	−.00	−.01	.00	.03								
6	Customer focus (B2B share)	37.43	40.72	−.01	.02	.08	.01	−.11							
7	Ownership (publicly traded)	.08	.28	−.01	.05	.01	−.06	.33	−.07						
8	Firm age (in years)	3.22	.93	−.18	−.01	.14	.35	.40	−.07	.11					
9	Individualism	66.47	21.30	.09	−.09	.26	.09	.01	−.11	.01	.17				
10	Uncertainty avoidance	49.81	17.19	−.02	−.03	−.17	.10	−.05	−.16	−.14	.20	.13			
11	Market turbulence	4.53	1.19	.33	.08	−.02	.02	−.08	−.01	−.00	−.11	−.09	−.05	**.69**	
12	GDP volatility	5.98	3.31	−.14	.04	−.01	.03	.01	−.03	.02	.08	−.40	−.33	−.03	
13	Country risk premium	.83	1.29	.06	.12	−.08	−.07	−.01	.16	.09	−.18	−.42	−.11	.12	−.12

Note: Square root of AVE for multi-item constructs on diagonal in bold. Industry sector dummies not shown; GDP in thousands. Unstandardized values of independent variables.

4. Findings

4.1. Results from hypothesis testing

Before analyzing our hypotheses in detail, we ran some tests for the presence of multicollinearity. We found the variance inflation factors of all regression models to be smaller than 10, indicating that multicollinearity is unlikely to have distorted our estimation

Table 4
Results of four multilevel regression models with EO as the dependent variable.

Variable	Model 1	Model 2	Model 3	Model 4
Individual-level controls				
Gender	−.028	−.041	−.036	−.036
Age	−.000	−.000	−.002	−.002
Tenure	.010*	.009*	.009*	.009*
Organizational-level controls				
Firm size (in employees)	.054*	.062**	.066**	.066**
Firm age (in years)	−.266***	−.240***	−.255***	−.257***
Customer focus (B2C share)	.012	.021	.030	.034
Ownership (publicly traded)	−.090	−.124	−.129	−.128
Industry: construction	−.200	−.160	−.176	−.192
Industry: IT Software Internet	.351T	.281	.267	.261
Industry: manufacturing high-tech	.162	.124	.115	.094
Industry: manufacturing low-tech	.119	.031	.023	.001
Industry: services	−.033	−.093	−.121	−.144
Industry: trade	−.089	−.171	−.179	−.160
National level controls				
GDP volatility	−.038**	−.037**	−.016	−.018
Country risk premium	−.025	−.041	−.006	−.004
Environmental turbulence				
Market turbulence		.248***	.249***	.249***
National culture				
Individualism			.005T	.005T
Uncertainty avoidance			.002	.001
Moderating effect				
Individualism × market turbulence				.004**
Uncertainty avoidance × market turbulence				.001
Wald Chi^2	60.26	132.43	142.66	153.83
p	.000	.000	.000	.000

T p < .10.
* p < .05.
** p < .01.
*** p < .001.

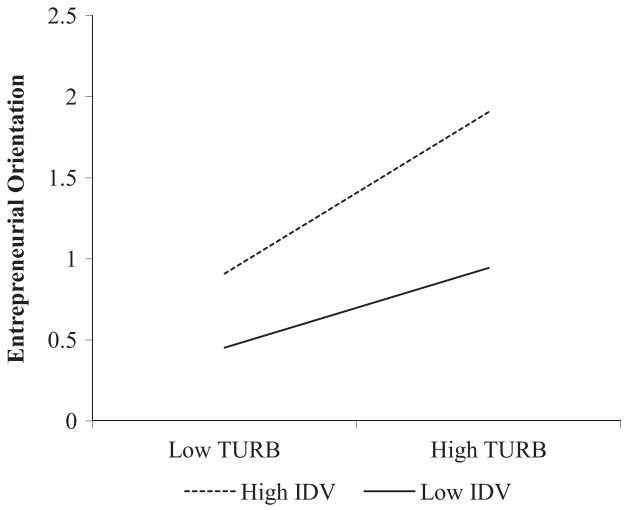

Fig. 1. Interaction plots for individualism with market turbulence on EO.

results (Brettel et al., 2010; Patel and Conklin, 2012). We confirmed this result by re-estimating our main model twenty times using random 95-percent sections of our sample data, which yielded stable coefficients (Echambadi et al., 2006). These two tests, combined with the finding of stable coefficients across our increasingly complex regression models, gave us confidence that multicollinearity is unlikely to have influenced our data. As Table 3 shows, we established the discriminant validity of our main constructs by showing that the square root of the average variance extracted (AVE) is greater than its correlation with each of the other constructs (Fornell and Larcker, 1981).

Because of the nested structure of our data, we conducted multilevel modeling to analyze our hypotheses. We used a two-level random slope model with national culture as the higher-order construct and tested the antecedent and moderating hypotheses using four regression models (shown in Table 4). Our findings show that market turbulence is a strongly significant antecedent of EO at $p < .001$, which is in line with H1. While individualism is marginally significant as a positive determinant of EO at $p < .10$, which is in line with H2a, the relationship between uncertainty avoidance and EO remains insignificant, lending no support to H2b. Model 4, the main model of our study, introduces the two interacting effects of hypotheses H3a and H3b. Only the interaction effect between market turbulence and individualism on EO is significant ($p < .01$), showing a positive enhancing effect of market turbulence on EO (see Fig. 1).

5. Discussion

5.1. Theoretical implications

Extant research has repeatedly confirmed that firms' performance benefits from the firm's adopting EO (Rauch et al., 2009). A wide range of contingency contexts have been examined (Wales et al., 2013) in various cultural settings (Kreiser et al., 2010), but scholarship has also noted the need to identify the forces that drive EO (Wales et al., 2013), a research gap that the present article helps to fill. Based on institutional theory, we expand on previous investigations of environmental factors as antecedents of EO. These previous investigations include Rosenbusch et al. (2013), who explore the impact of a set of environmental factors on EO and firm performance and who call for a more detailed investigation of context-related moderators. Extant research has examined the individual effect of several institutional factors, but little has been published that considers the effect of combinations of institutional factors. Our contribution to extant theory centers on an examination of the effect on EO of the combination of two institutional factors, market turbulence and national culture. We contribute to the institutional view of the firm by shedding light on how environmental and cultural forces interact to influence firm outcomes, thereby defining "what is appropriate in an objective sense, and thus render[ing] other actions unacceptable or even beyond consideration" (Bruton et al., 2010, p. 422).

Our initial regression analyses confirm that market turbulence and, in part, national culture are antecedents of a firm's EO. By reacting to rapid environmental change with an EO strategy, firms' behavior is sufficiently nimble and creative to extract benefit from changing competitive environments. Our data strongly supports our hypotheses regarding the positive interaction effect of market turbulence and individualism on EO. These findings show that individualism shapes how well firms react to market turbulence, thereby extending earlier assertions that "there needs to be a supportive culture to cultivate the mind and character of the potential entrepreneur" (Mueller and Thomas, 2001, p. 52).

We found no empirical support for the interaction effect on EO of market turbulence and uncertainty avoidance; although we had anticipated that uncertainty avoidance would significantly discourage the uptake of EO as a response to environmental

turbulence. The reason for this outcome may lie in counteracting factors, such as the characteristics of turbulent markets themselves. Turbulent markets always carry risk, and firms that operate in these markets must embrace this risk in order to leverage the opportunities the turbulent market offers and undertake the kind of strategic behavior that facilitates a positive reaction to turbulence. Therefore, regardless of the degree to which a culture is uncertainty-avoidant, firms in turbulent markets must embrace risk if they want to compete, and there may be no significant effect on EO of uncertainty avoidance when it interacts with market turbulence.

Apart from content-related reasons, the missing interaction effect of uncertainty avoidance may also result from methodological factors. For example, although we have gathered data over nine countries, this number may still be too small to determine the effects of uncertainty avoidance, as the variance in the uncertainty avoidance scores across those countries may be too small to yield significant results.

The results show that institutional factors can function as multipliers for a strategic orientation if the institutional factor and the strategic orientation have a similar focus. As such, the combination of turbulent markets and individualist behavior has a multiplying effect on EO, as the focus of both factors, business opportunities, is the same: turbulent markets create opportunities, while individualist behavior helps firms recognize and pursue these opportunities. Therefore, the combination of matching institutional factors has a larger effect than does each factor individually. Our study researches the interplay between several institutional factors on EO, so we not only contribute to EO research but also extend previous studies on institutional factors and add comprehensiveness to the understanding of institutional theory.

5.2. Limitations and opportunities for further research

This study has several limitations that may be used as starting points for further research. The cross-sectional design of our study leaves open some questions regarding causality that may be addressed by means of an analysis of time-series data. In addition, our large sample size necessitated self-reported data from single informants, so future research may complement primary with more secondary data on industry characteristics and business performance metrics. A specification of culture on multiple levels would also help to clarify the influence of the various layers of culture on the relationship between the environment and EO. As Leung et al. (2005) argue, cultural layers mutually interact in influencing individual behavior. For example, the introduction of organizational culture would help theorists and practitioners differentiate between cultural layers they can hope to influence or manage and those that they must simply accept.

Finally, McCann et al. (2009) identify other factors that individualism may drive in support of an EO in a turbulent environment. These authors associate high levels of agility and flexibility with high performance in turbulent environments and break agility and flexibility into five dimensions: being purposeful, aware, action-oriented, resourceful, and networked. Three of these dimensions are likely to be driven by individualism and to be supportive of an EO, as "action-oriented" implies a readiness to be proactive, "resourceful" implies the creative use of assets, and "networked" implies the ability to leverage relationships to attain goals. These capabilities are promising candidates for future empirical analysis that focuses on how individualism stimulates the uptake of EO in response to environmental turbulence.

5.3. Managerial implications

In addition to its contribution to entrepreneurship and institutional theory, the present study has implications for management practice. We find that EO is strongly driven by the degree of market turbulence and national culture to which a firm is subject. Lack of stability in the environment requires firms to shape their paths through uncertain environments, a need that adopting EO as a strategic positioning can help fill. Business leaders are advised to monitor the market environment closely for changes in the degree of turbulence and to recognize EO as a promising path by which to translate the opportunities that such turbulence affords into improved performance.

Managers should also recognize that institutional factors like market turbulence and national culture interact, affecting EO in combination rather than separately. Firms should choose market environments with institutional factors whose underlying focus is similar to that of their strategic orientation in order to meet their full potential. In the context of EO, firms that are located in societies with high degrees of individualism, such as the US and Australia, are more likely than those located in collectivist societies to be able to seize the opportunities offered by turbulent markets and leverage them into pronounced levels of EO.

6. Conclusion

The present study contributes to entrepreneurship research and institutional theory by expanding on the role of market turbulence in connection with national culture. The analysis of EO's antecedents and the comprehensive investigation of two institutional factors' interaction effects respond to multiple calls for research (Bruton et al., 2010; Wales et al., 2011). Survey responses from 905 small and medium-sized enterprises across nine countries identify market turbulence and individualism as significant antecedents of firms' EO. Firms in individualist national cultures are shown to interact with market turbulence to affect higher levels of EO than that which firms in collectivist national cultures can affect. The data do not support analogous hypotheses regarding the effect on EO of the interplay between market turbulence and uncertainty avoidance or the hypothesis that uncertainty avoidance is an antecedent of EO. Recommendations for management practice stress the need to manage EO adoption actively in response to environmental turbulence in collectivist countries, whose national values discourage the kind of behavior than enhances EO.

Appendix A

Construct inspiration or basis (reflective versus formative items in multi-item scale)	Items	Alpha	CR	AVE
Entrepreneurial orientation (Covin and Slevin, 1989)	In general, the top managers of my firm favor …	.73	.85	.65
	— A strong emphasis on the marketing of tried-and-true product and services. — A strong emphasis on R&D, technological leadership, and innovations. How many new lines of products or services has your firm marketed in the past five years (or since its establishment)?			
	— No new lines of products or services. — Very many new lines of products or services. — Changes in product or service lines have been mostly of a minor nature. — Changes in product or service lines have usually been quite dramatic. In dealing with its competitors, my firm …			
	— Typically responds to actions which competitors initiate. — Typically initiates actions to which competitors then respond. — Is very seldom the first business to introduce new products/services, administrative techniques, operating technologies, etc. — Is very often the first business to introduce new products/services, administrative techniques, operating technologies, etc. — Typically seeks to avoid competitive clashes, preferring a "live-and-let-live" posture. — Typically adopts a very competitive, "undo-the-competitors" posture. In general, the top managers of my firm have…			
	— A strong proclivity for low-risk projects (with normal and certain rates of return) — A strong proclivity for high-risk projects (with chances of very high return) In general, the top managers of my firm believe that…			
	— Owning to the nature of environment, it is best to explore it gradually via cautious, incremental behavior — Owning to the nature of the environment, bold, wide-ranging acts are necessary to achieve the firm's objectives When confronted with decision-making situations involving uncertainty, my firm …			
	— Typically adopts a cautious, "wait-and-see" posture in order to minimize the probability of making costly decisions — Typically adopts a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities			
Market turbulence (reflective) (Jaworski and Kohli, 1993)	To what extent do you agree with the following statements?	.62	.48	.77
	— In our kind of business, customers' product preferences change quite a bit over time — Our customers tend to look for new products all the time. — Sometimes our customers are very price-sensitive, but on other occasions, price is relatively unimportant (Item eliminated as recommended by Jaworski and Kohli, 1993) — We are witnessing demand for our products and services from customers who never bought them before (Item eliminated to achieve satisfactory scale reliability) — New customers tend to have product-related needs that are different from those of our existing customers. — We cater to many of the same customers that we used to in the past.			
National culture	Individualism and uncertainty avoidance from Hofstede	N.A.	N.A.	N.A.
Firm ownership structure	What is the ownership structure of your company? (publicly listed, family owned, private, state owned)	N.A.	N.A.	N.A.
Firm age	In which year has your company been founded?	N.A.	N.A.	N.A.
Firm size	What is the total number of full time employees?	N.A.	N.A.	N.A.
Respondent level	What is the official title of your current position?	N.A.	N.A.	N.A.
Respondent location	In which country is your current official place of employment?	N.A.	N.A.	N.A.
Respondent age	Please indicate your age in years	N.A.	N.A.	N.A.
Respondent tenure	For how long have you worked for your current employer?	N.A.	N.A.	N.A.
Respondent gender	Please indicate your gender	N.A.	N.A.	N.A.
GDP volatility	Variance of GDP growth (2003–2013)	N.A.	N.A.	N.A.
Country risk premium (Damodaran, 2014)	–	N.A.	N.A.	N.A.

References

Akgün, A.E., Keskin, H., Byrne, J., 2012. Antecedents and contingent effects of organizational adaptive capability on firm product innovativeness. J. Prod. Innov. Manag. 29, 171–189.
Ang, S.H., Benischke, M.H., Doh, J.P., 2014. The Interactions Of Institutions On Foreign Market Entry Mode. Strat. Manag. J. http://dx.doi.org/10.1002/smj.2295.
Armstrong, J., Overton, T., 1977. Estimating nonresponse bias in mail surveys. J. Mark. Res. 14, 396–402.
Auh, S., Menguc, B., 2005. Balancing exploration and exploitation: the moderating role of competitive intensity. J. Bus. Res. 58, 1652–1661.
Bliese, P., 1998. Group size, ICC values, and group level correlations: a simulation. Organ. Res. Methods 1, 355–373.
Brettel, M., Rottenberger, J.D., 2013. Examining the link between entrepreneurial orientation and learning processes in small and medium-sized enterprises. J. Small Bus. Manag. 51, 471–490.
Brettel, M., Engelen, A., Voll, L., 2010. Letting go to grow-empirical findings on a hearsay. J. Small Bus. Manag. 48, 552–579.
Bruton, G.D., Ahlstrom, D., Li, H.L., 2010. Institutional theory and entrepreneurship: where are we now and where do we needto move in the future? Enterp. Theory Pract. 34, 421–440.
Buganza, T., Dell'Era, C., Verganti, R., 2009. Exploring the relationships between product development and environmental turbulence: the case of mobile TLC services*. J. Prod. Innov. Manag. 26, 308–321.
Calantone, R., Garcia, R., Dröge, C., 2003. The effects of environmental turbulence on new product development strategy planning. J. Prod. Innov. Manag. 20, 90–103.
Covin, J., Slevin, D., 1988. The influence of organization structure on the utility of an entrepreneurial top management style. J. Manag. Stud. 25, 217–234.
Covin, J.G., Slevin, D., 1989. Strategic management of small firms in hostile and benign environments. Strateg. Manag. J. 10, 75–87.
Covin, J.G., Slevin, D., 1991. A conceptual model of entrepreneurship as firm behavior. Enterp. Theory Pract. 16, 7–25.
Damodaran, A., 2014. Country Default Spreads and Risk Premiums.
Danneels, E., Sethi, R., 2011. New product exploration under environmental turbulence. Organ. Sci. 22, 1026–1039.
Dayan, M., Di Benedetto, C.A., 2011. Team intuition as a continuum construct and new product creativity: the role of environmental turbulence, team experience, and stress. Res. Policy 40, 276–286.
DiMaggio, P., Powell, W., 1983. The iron cage revisited: institutional isomorphism and collective rationality in organizational fields. Am. Sociol. Rev. 48, 147–160.
Echambadi, R., Arroniz, I., Reinartz, W., Lee, J., 2006. Empirical generalizations from brand extension research: how sure are we? Int. J. Res. Mark. 23, 253–261.
Engelen, A., 2010. Entrepreneurial orientation as a function of national cultural variations in two countries. J. Int. Manag. 4, 354–368.
Engelen, A., Flatten, T.C., Thalmann, J., Brettel, M., 2014. The Effect of Organizational Culture on Entrepreneurial Orientation: A Comparison between Germany and Thailand. J. Small Bus. Manag. 52 (4), 732–752.
Engelen, A., Neumann, C., Schwens, C., 2014. "Of course I can": the effect of CEO overconfidence on entrepreneurially oriented firms, Entrepreneurship Theory and Practice. http://dx.doi.org/10.1111/etap.12099.
Fayolle, A., Basso, O., Bouchard, V., 2010. Three levels of culture and firms' entrepreneurial orientation: a research agenda. Entrep. Reg. Dev. 22, 707.730.
Fornell, C., Larcker, D., 1981. Evaluating structural equation models with unobservable variables and measurement error. J. Mark. Res. 18, 39–50.
George, B., Marino, L., 2011. The epistemology of entrepreneurial orientation: conceptual formation, modeling, and operationalization. Entrep. Theory Pract. 989–1024.
Gupta, A., Raj, S., Wilemon, D., 1986. A model for studying R&D–marketing interface in the product innovation process. J. Mark. 50, 7–17.
Hayton, J., George, G., Zahra, S., 2002. National culture and entrepreneurship: a review of behavioral research. Enterp. Theory Pract. 26, 33–52.
Hofstede, G., 1980. Motivation, leadership, and organization: do American theories apply abroad? Organ. Dyn. 9, 42–63.
Hofstede, G., 2001. Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations, Thousand Oaks.
Hofstede, G., 2006. What did GLOBE really measure? Researchers' minds versus respondents' minds. J. Int. Bus. Stud. 37, 882–896.
House, R., Hanges, P., Javidan, M., Dorfman, P., Gupta, V., 2004. Culture, Leadership, and Organizations, Thousand Oaks.
Hult, G., Hurley, R., Knight, G., 2004. Innovativeness: its antecedents and impact on business performance. Ind. Mark. Manag. 33, 429–438.
Ingram, P.L., Silverman, B.S., 2002. The New Institutionalism in Strategic Management. Elsevier.
Jansen, J.J., Van Den Bosch, F.A., Volberda, H.W., 2005. Managing potential and realized absorptive capacity: how do organizational antecedents matter? Acad. Manag. J. 48, 999–1015.
Javidan, M., House, R., Dorfman, P., Hanges, P., Luque, M.d, 2006. Conceptualizing and measuring culture and their consequences: a comparative review of GLOBE's and Hofstede's approaches. J. Int. Bus. Stud. 37, 897–914.
Jaworski, B., Kohli, A., 1993. Market orientation: antecedents and consequences. J. Mark. 57, 53–70.
Jones, G.K., Davis, H.J., 2000. National culture and innovation: implications for locating global R& D operations. MIR: Manag. Int. Rev. 11–39.
Keh, H.T., Nguyen, T.T.M., Ng, H.P., 2007. The effects of entrepreneurial orientation and marketing information on the performance of SMEs. J. Bus. Ventur. 22, 592–611.
Kreiser, P.M., Marino, L.D., Dickson, P., Weaver, M.K., 2010. Cultural influences on entrepreneurial orientation: the impact of national culture on risk taking and proactiveness in SMEs. Enterp. Theory Pract. 34, 959–983.
Leung, K., Bhagat, R.S., Buchan, N.R., Erez, M., Gibson, C.B., 2005. Culture and international business: recent advances and their implications for future research. J. Int. Bus. Stud. 36, 357–378.
Lindell, M.K., Whitney, D.J., 2001. Accounting for common method variance in cross-selectional research designs. J. Appl. Psychol. 86, 114–121.
Lumpkin, G., Dess, G., 1996. Clarifiying the entrepreneurial orientation construct and linking it to performance. Acad. Manag. Rev. 21, 135–172.
McCann, J., Selsky, J., Lee, J., 2009. Building agility, resilience and performance in turbulent environments. People Strateg. 32, 44–51.
Miller, D., 1983. The correlates of entrepreneurship in three types of firms. Manag. Sci. 29, 770–791.
Miller, D., Friesen, P., 1983. Strategy-making and environment: the third link. Strateg. Manag. J. 4, 221–235.
Mueller, S., Thomas, A., 2001. Culture and entrepreneurial potential: a nine country study of locus of control and innovativeness. J. Bus. Ventur. 16, 51–75.
Mueller, V., Rosenbusch, N., Bausch, A., 2013. Success patterns of exploratory and exploitative innovation a meta-analysis of the influence of institutional factors. J. Manag. 39, 1606–1636.
Paladino, A., 2008. Analyzing the effects of market and resource orientations on innovative outcomes in times of turbulence*. J. Prod. Innov. Manag. 25, 577–592.
Patel, P.C., Conklin, B., 2012. Perceived labor productivity in small firms—the effects of high-performance work systems and group culture through employee retention. Enterp. Theory Pract. 36, 205–235.
Peng, M.W., 2003. Institutional transitions and strategic choices. Acad. Manag. Rev. 28, 275–296.
Peng, M.W., Heath, P.S., 1996. The growth of the firm in planned economies in transition: institutions, organizations, and strategic choice. Acad. Manag. Rev. 21, 492–528.
Podsakoff, P., MacKenzie, C., Lee, J., Podsakoff, N., 2003. Common method biases in behavioral research: a critical review of the literature and recommended remedies. J. Appl. Psychol. 88, 879–903.
Rauch, A., Wiklund, J., Lumpkin, G.T., Frese, M., 2009. Entrepreneurial orientation and business performance: an assessment of past research and suggestions for the future. Enterp. Theory Pract. 33, 761–787.
Rosenbusch, N., Rauch, A., Bausch, A., 2013. The mediating role of entrepreneurial orientation in the task environment–performance relationship a meta-analysis. J. Manag. 39, 633–659.
Saeed, S., Yousafzai, S.Y., Engelen, A., 2014. On cultural and macroeconomic contingencies of the entrepreneurial orientation–performance relationship. Enterp. Theory Pract. 38, 255–290.
Schein, E.H., 1996. Culture: the missing concept in organization studies. Adm. Sci. Q. 229–240.
Schneider, S.C., De Meyer, A., 1991. Interpreting and responding to strategic issues: the impact of national culture. Strateg. Manag. J. 12, 307–320.
Schneider, M., Engelen, A., 2014. Enemy or friend? The cultural impact of cross-functional behavior on the EO–performance link. J. World Bus. http://dx.doi.org/10.1016/j.jwb.2014.06.001.
Schwartz, S.H., 2006. A theory of cultural value orientations: explication and applications. Int. Stud. Sociol. Soc. Anthropol. 104, 33.
Shane, S., 1993. Cultural influences on national rates of innovation. J. Bus. Ventur. 8, 59–73.

Shane, S., 1995. Uncertainty avoidance and the preference for innovation championing roles. J. Int. Bus. Stud. 47–68.
Simsek, Z., Veiga, J.F., Lubatkin, M.H., 2007. The impact of managerial environmental perceptions on corporate entrepreneurship: towards understanding discretionary slack's pivotal role. J. Manag. Stud. 44, 1398–1424.
Smith, P.B., 2006. When elephants fight, the grass gets trampled: the GLOBE and Hofstede projects. J. Int. Bus. Stud. 37, 915–921.
Steenkamp, J.-B., Baumgartner, H., 1998. Assessing measurement invariance in cross-national consumer. Res. J. Consum. Res. 25, 78–90.
Stephan, U., Uhlaner, L., 2010. Performance-based vs. socially supportive culture: a cross-national study of descriptive norms and entrepreneurship. J. Int. Bus. Stud. 41, 1347–1364.
Vandenberg, R.J., Lance, C.E., 2000. A review and synthesis of the measurement invariance literature: suggestions, practices, and recommendations for organizational research. Organ. Res. Methods 3, 4–70.
Wales, W., Monsen, E., McKelvie, A., 2011. The organizational pervasiveness of entrepreneurial orientation. Entrep.Theory Pract. 895–923.
Wales, W.J., Gupta, V.K., Mousa, F.-T., 2013. Empirical research on entrepreneurial orientation: an assessment and suggestions for future research. Int. Small Bus. J 31, 357–383.
Welpe, I.M., Spörrle, M., Grichnik, D., Michl, T., Audretsch, D.B., 2012. Emotions and opportunities: the interplay of opportunity evaluation, fear, joy, and anger as antecedent of entrepreneurial exploitation. Enterp. Theory Pract. 36, 69–96.
Wiklund, J., Shepherd, D., 2005. Entrepreneurial orientation and small business performance: a configurational approach. J. Bus. Ventur. 20, 71–91.
Zhou, K.Z., Li, C.B., 2010. How strategic orientations influence the building of dynamic capability in emerging economies. J. Bus. Res. 63, 224–231.