

# The relationship between corporate culture of SMEs and crisis response ability under the cross-cultural background

Fengyu Zhao\*, Vesarach Aumeboonsuke

International College, National Institute of Development Administration, Bangkok 10240, Thailand

\* **Corresponding author:** Fengyu Zhao, [fengyu.zhao@stu.nida.ac.th](mailto:fengyu.zhao@stu.nida.ac.th)

## CITATION

Zhao F, Aumeboonsuke V. (2024). The relationship between corporate culture of SMEs and crisis response ability under the cross-cultural background. *Journal of Infrastructure, Policy and Development*. 8(10): 6684.  
<https://doi.org/10.24294/jipd.v8i10.6684>

## ARTICLE INFO

Received: 27 May 2024  
Accepted: 13 June 2024  
Available online: 30 September 2024

## COPYRIGHT



Copyright © 2024 by author(s).  
*Journal of Infrastructure, Policy and Development* is published by EnPress Publisher, LLC. This work is licensed under the Creative Commons Attribution (CC BY) license.  
<https://creativecommons.org/licenses/by/4.0/>

**Abstract:** This research explores the critical influence of corporate culture on small and medium-sized enterprises' (SMEs) crisis response abilities under varied cross-cultural environments. Amid the disruptive backdrop of the COVID-19 pandemic, SMEs globally have faced unprecedented challenges. This study addresses a gap in the existing literature by conducting a cross-cultural analysis of SMEs in China, Thailand, and Germany to understand how corporate culture affects crisis management. Utilizing a competitive cultural value model, the research categorizes corporate culture into four dimensions: group culture, development culture, hierarchy culture, and rational culture. These cultural dimensions are investigated in relation to their impact on crisis response abilities. Additionally, national cultural dimensions such as individualism and uncertainty avoidance are examined as moderating variables. The findings reveal that group and development cultures positively influence crisis response abilities, enhancing organizational resilience and adaptability. Conversely, hierarchy culture negatively affects crisis management, hindering flexible response strategies. Rational culture supports structured crisis response through goal-oriented practices. National culture significantly moderates these relationships, with individualism and high uncertainty avoidance impacting the effectiveness of organizational cultural dimensions in crisis scenarios. This study offers theoretical advancements by integrating cultural dimensions with crisis response strategies and provides practical implications for SMEs striving to enhance their resilience and adaptability in a globalized business environment.

**Keywords:** corporate culture; crisis response ability; cross-cultural; SMEs; competitive cultural value model

## 1. Introduction

In today's global economic environment, rivalry extends beyond traditional measures of product quality and technological advancement and instead focuses on the dominance of corporate soft power (Ladzani, 2022). The ability of a business to effectively navigate problems and maintain a strong culture becomes crucial in creating value for consumers, reducing risks, and assuring sustainable returns (Bhaduri, 2019). Nevertheless, the emergence of the COVID-19 pandemic in 2019 caused significant disruptions to global dynamics, leading to widespread health problems and economic downturns around the globe (Corral de Zubielqui and Harris, 2024). The consequences had a widespread impact on trade, investment, and employment, posing a threat to the achievement of sustainable development targets (Kumar et al., 2021; Obi et al., 2020). During the crisis, enterprises, especially small and medium-sized ones (SMEs), faced many severe consequences. The SMEs had to deal with more interrupted supply chains, reduced demand, and financial difficulties (Lu et al., 2020). Given the current circumstances, the importance of crisis management becomes

evident. The different responses to crises by small and medium-sized enterprises in different cultural backgrounds is a key area of interest.

The resilience of businesses during times of crisis depends on their capacity to adjust to new circumstances, with corporate culture playing a crucial role in this effort (Alkhawlan et al., 2021). Prior research highlights strategic transformation, organizational capability, and enterprise culture as essential variables for adapting to crises and maintaining resilience (Deverell and Olsson, 2010). The enterprise culture, which consists of the underlying beliefs and principles that guide daily operations, plays a crucial role in determining how a company responds to a crisis (Maull et al., 2001). It determines how employees behave and their attitudes, which affects how strategies are carried out and the demonstration of the company's strengths (Deverell and Olsson, 2010). An optimistic culture promotes collaboration, confidence, creativity, and honesty, enhancing the ability to handle crises and adapt to new situations (Williams et al., 2017). However, not all businesses possess this ability to adjust and change. Despite previous achievements, certain individuals struggle when faced with emergencies, as they are bound to obsolete management models and competitive advantages that are not suitable for current difficulties (Hafeez et al., 2002). Hence, the flexibility and effectiveness of organizational culture during crises become of utmost significance (Graham et al., 2022). Furthermore, the interaction between corporate culture and crisis response differs among various cultural environments. The intersection of organizational and national cultures influences individual behaviors and strategic outcomes (Hofstede, 1986). Comprehending this connection is crucial in determining the effectiveness of corporate culture in handling crises in various situations. Essentially, a strong corporate culture serves as the foundation for successfully navigating through crises. It provides guidance for making decisions, promotes employee involvement, and enables proactive reactions to emergencies (Boin and Hart, 2010). Cultures that place a high value on adaptation, creativity, and resilience not only endure crises but also become stronger, highlighting the crucial importance of culture in managing crises and ensuring the long-term survival of organizations. The alignment of corporate culture with crisis response capabilities is crucial for developing resilient strategies that improve organizational agility and fortitude. This highlights the essential connection between culture and crisis management.

This study makes a cross-cultural analysis of how small and medium-sized firms (SMEs) handle crisis situations. This study is the first in-depth discussion of the cross-cultural crisis. It aims to fill important gaps in current research and present new and creative viewpoints. The research provides useful insights into the challenges of managing crises in varied cultural contexts by taking into account the interaction between company culture, country culture, and crisis response abilities (CRA). The study offers small and medium-sized enterprises (SMEs) a systematic framework, known as the competitive value model, to evaluate and improve their crisis response capabilities in important areas.

In addition to its theoretical contributions, this research provides practical solutions that small and medium-sized enterprises (SMEs) can use to enhance their crisis management capacities and maintain long-term competitiveness. The study offers SMEs a guide for efficiently managing crises and developing organizational

resilience by focusing on the development of flexible corporate cultures that are in line with national cultural settings. The research provides practical suggestions for SMEs to succeed in the face of challenges and take advantage of possibilities for growth and expansion. This includes incorporating crisis response abilities into routine operations and promoting a culture of creativity and adaptation. SMEs may achieve success in the future by adopting cultural sensitivity and adaptive leadership concepts. This will enable them to maintain resilience and competitiveness in a business environment that is becoming more linked and diverse.

## **2. Literature review and hypotheses development**

### **2.1. Literature review**

The concept of corporate culture has gained significant traction within academic discourse since the early 1980s, evolving alongside the burgeoning field of organizational research. Initially, the notion of corporate culture was met with various interpretations, leading Williams (1983) to describe culture as one of the most complex concepts in the English language. Corporate culture encompasses the fundamental assumptions, attitudes, and ideas shared within a company, which are pivotal in shaping behaviors and distinguishing one company from another (Levin, 2000). These cultural elements are developed from the founders' perspectives, team experiences, and the assimilation of new members, as elucidated by Schein (1993). Corporate culture serves a critical role in management by guiding, unifying, inspiring, and setting boundaries within organizational behavior (Flamholtz and Randle, 2012).

Despite its recognized importance, the impact of corporate culture is contingent on its continuous evolution to remain relevant amid changing organizational dynamics (Freiling, 2015). The body of literature underscores the vital role of corporate culture in guiding organizational development, enhancing employee engagement, fostering unity, and regulating behavior. However, the evaluation of its effectiveness and practical application remains debated (Schneider et al., 2013). Corporate culture not only structures regulatory behavior and instills meaning within the workplace but also addresses uncertainties, which are increasingly prevalent due to globalization and technological advancements (Bao et al., 2023).

Further examination reveals that corporate culture profoundly influences organizational behavior and performance, with functions that include guiding, constraining, coagulating, incentivizing, adapting, and radiating within the enterprise (Groysberg et al., 2018). However, the literature also points to significant deficiencies and contradictions, particularly within small and medium-sized enterprises (SMEs). Challenges such as the absence of robust core values, the predominance of family-centric cultures that stifle innovation, and issues of cultural continuity due to founder dominance and high turnover rates are notable (Peeters et al., 2020).

Moreover, discrepancies in the perceptions of corporate culture between employees and founders complicate its implementation and effectiveness. While some studies highlight a positive correlation between a robust corporate culture and organizational success, others present mixed results influenced by industry context and organizational size (Sousa-Poza et al., 2001).

While the existing literature provides comprehensive insights into the

multifaceted nature of corporate culture and its critical role within organizations, there remains a clear need for targeted strategies and further empirical research to address the observed gaps and inconsistencies, especially in SME contexts. Such efforts will enhance our understanding of how corporate culture impacts organizational dynamics and outcomes, thereby promoting sustained growth and resilience in an ever-evolving business landscape.

## **2.2. Hypotheses development**

This study will refer to a universal model of corporate culture, the Competitive Culture Value Model (CCVM), as an important theoretical framework for analyzing corporate culture. It was proposed by Quinn in 1988 and has gradually developed into a widely recognized model. This model is based on two dimensions: the vertical axis of flexibility and control, and the horizontal axis of internal focus and external direction, forming four quadrants and meticulously depicting the multidimensional nature of organizational culture (Quinn et al., 1991). CCVM has been widely used worldwide since the 1990s and has become an internationally authoritative tool for analyzing corporate culture. Because in this model, organizational culture is not a single dimension, but a combination of four cultural dimensions. They complement and restrict each other, prompting enterprises to make adjustments in the face of market changes. The diversity and complexity of corporate culture means that the intensity of each cultural orientation varies in different historical conditions and stages of the enterprise. CCVM is particularly important for small and medium-sized enterprises as it provides a comprehensive approach to studying organizational culture, analyzing cultural aspects that directly affect the operational efficiency, flexibility, and competitive positioning of small and medium-sized enterprises. Small and medium-sized enterprises can improve their performance and competitive advantage by strategically combining cultural practices with business goals. The cross-cultural applicability of CCVM is crucial for small and medium-sized enterprises in the global market, providing solutions to address cultural differences and enhance international competitiveness.

The group culture, characterized by consensus, trust, and decentralized decision-making, enhances crisis response ability through effective communication and collaboration (Deshpandé and Farley, 2004; Iivari and Huisman, 2007). High trust fosters information flow and employee commitment, facilitating cross-departmental cooperation and adaptive crisis management. This culture promotes employee involvement, reducing ambiguity and enhancing organizational resilience (Brettel et al., 2015).

Group culture fosters consensus, trust, and teamwork, enhancing crisis response through effective communication and decentralized decision-making (Iivari and Huisman, 2007). Development culture promotes innovation and employee participation, facilitating adaptive crisis management (Karvonen et al., 2018). Conversely, hierarchy culture's rigid structure inhibits cooperation and agility in crisis situations (Cameron, 1985). Rational culture prioritizes efficiency and competition, potentially improving crisis response through goal-oriented cooperation (Quinn and Rohrbaugh, 1983; Simboli et al., 2014).

Hypothesis 1: Group culture is positively related to crisis response ability.

Hypothesis 2: Development culture is positively related to crisis response ability.

Hypothesis 3: Hierarchy culture is negatively related to crisis response ability.

Hypothesis 4: Rational culture is positively related to crisis response ability.

Previous research has mainly focused on crisis management within a single cultural context, neglecting the impact of national culture on organizational behavior. However, enterprises operate within diverse cultural environments, influencing their crisis response strategies (Hillary, 2017). National culture shapes organizational culture, impacting organizational outcomes (Fey and Denison, 2003). Individualism and uncertainty avoidance, prominent dimensions in cross-cultural studies, influence crisis response (Taras et al., 2011). Individualistic cultures prioritize self-reliance, potentially hindering group-oriented crisis management efforts (Hofstede, 2011). Conversely, development culture aligns with individualism, potentially enhancing crisis coordination (Smith et al., 1996). Hierarchical cultures may benefit from collectivist values, fostering stability and cooperation (Triandis, 1994). Rational cultures, emphasizing efficiency, may synergize with individualism, promoting creative problem-solving during crises (Hofstede, 1984). These findings suggest that national culture moderates the relationship between organizational culture and crisis response, influencing organizational outcomes (Hillary, 2017).

Hypothesis 5: Individualism weakens the positive relationship between group culture and crisis response ability.

Hypothesis 6: Individualism strengthens the positive relationship between development culture and crisis response ability.

Hypothesis 7: Individualism strengthens the negative relationship between hierarchical culture and crisis response ability.

Hypothesis 8: Individualism strengthens the positive relationship between rational culture and crisis response ability.

Uncertainty avoidance in national culture describes the extent to which individuals are uncomfortable with ambiguity or unpredictability (Taras et al., 2011). High uncertainty avoidance cultures prioritize adherence to strict rules and formal guidelines to mitigate uncertainty (Hofstede, 1986). Such cultures may hinder crisis response in group-oriented organizational cultures, as employees may be less inclined to innovate or deviate from established norms (Cannon and Edmondson, 2005). Conversely, development cultures, emphasizing innovation and entrepreneurial freedom, may clash with high uncertainty avoidance values, inhibiting adaptive responses to crises (Fleming, 2009). Hierarchical cultures, emphasizing order and stability, align with high uncertainty avoidance, potentially deepening their negative impact on crisis response (Taras et al., 2011). Similarly, high uncertainty avoidance may diminish the positive effects of rational cultures on crisis response, as they prioritize flexibility and adaptability (Cameron, 1985). These findings suggest that national uncertainty avoidance moderates the relationship between organizational culture and crisis response (Taras et al., 2011).

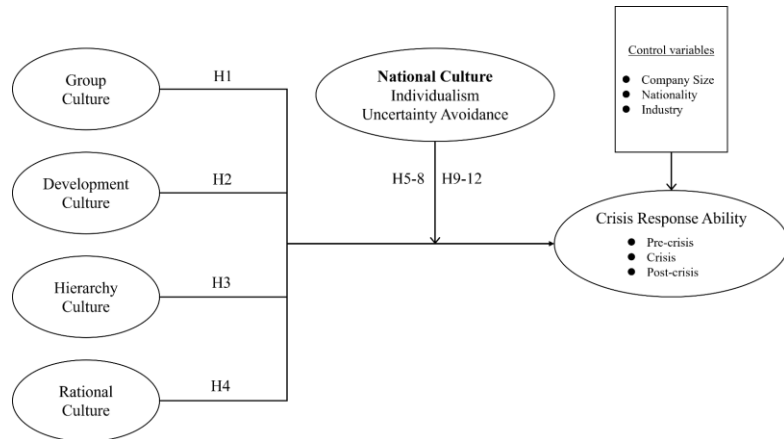
Hypothesis 9: High uncertainty avoidance weakens the positive relationship between group culture and crisis response ability.

Hypothesis 10: High uncertainty avoidance weakens the positive relationship between development culture and crisis response ability.

Hypothesis 11: High uncertainty avoidance strengthens the negative relationship between hierarchical culture and crisis response ability.

Hypothesis 12: High uncertainty avoidance weakens the positive relationship between rational culture and crisis response ability.

Conceptual model is shown in the **Figure 1**.



**Figure 1.** Conceptual model.

### 3. Methodology

#### 3.1. Research context

This section may be divided by subheadings. It should provide a concise and precise description of the experimental results, their interpretation, as well as the experimental conclusions that can be drawn.

Considering that there are obvious differences between lower-level employees and founders (business owners) in the cognition and attitude towards the corporate culture of small and medium-sized enterprises found in the previous literature (Çakar and Ertürk, 2010). This difference is reflected not only in the subjective dimension, but also in the business implementation of corporate culture (Gallato et al., 2012). Therefore, in this study, the researcher selected the management staffs who are most involved in business execution and corporate decision making as the final target for questionnaire distribution to ensure that the study is not influenced by the perspective of the average bottom-feeder employees or the founder’s personal style perspective to reflect a more realistic enterprise culture (Shuaib and He, 2021).

The target population of this study is small and medium-sized enterprises (SMEs) from different countries with different cultural backgrounds.

From the perspective of management, to judge whether an enterprise is a large enterprise or a small and medium-sized enterprise, it needs to refer to a variety of factors, including the number of employees, sales, added value of the enterprise, the complexity and diversity of product categories, the number of operating markets and the complexity of technology (Jiang and Li, 2010).

According to the commonly used definitions (Ketprapakorn and Kantabutra, 2019), in this study, small and medium-sized enterprises are defined as economic units that are relatively small compared with large enterprises in their industry in terms of personnel size, asset size and operation scale. Considering that different countries,

different stages of economic development and different industries have different definition standards, this study defines the concept of small and medium-sized enterprises in this study with reference to the minimum number of employees commonly used in various countries: The number of employees of SMEs does not exceed 500 (Tang et al., 2020).

### **3.2. Sample selection**

In terms of country selection, three countries with national cultural representativeness and differences are selected with reference to Hofstede (2011): China, Thailand and Germany. This number of countries is in line with the recommendations of cross-cultural research (Tung and Verbeke, 2010). This study selected these countries according to their geographical distribution, regional economic importance and different cultural backgrounds. For example, Germany scored high in individualism, while Thailand scored low. According to the currently available data, the number of target companies exceeds 56 million and the number of employees exceeds 0.5 billion (Clampit et al., 2022).

Based on such a large number of target population, this study uses non-probability sampling, especially the convenient sampling method. By using this method, researchers can easily obtain samples in a fast and cheap way without listing all population elements that cannot be randomly assigned. Convenient sampling refers to a sampling technique in which the selection of samples takes into account the convenience of researchers. Convenient sampling can obtain a large number of respondents in a limited time (Acharya et al., 2013). In addition, it is cost-effective compared to other technologies (Etikan and Bala, 2017). When the population is so large that randomization is impossible, convenient sampling is feasible.

This study selected 15 enterprises in each of the three countries. These enterprises cover the industry of 15 internationally recognized small and medium-sized enterprises, namely, agriculture, industry, construction, wholesale, retail, transportation, accommodation, catering, telecommunications, Internet and related services, property management, business services, social work, culture, sports and entertainment (Pech and Vrchota, 2020).

The researchers contacted and identified eligible SMEs in three countries through the enterprise directory and relevant website rankings. This study chooses 2–3 representative SMEs for each industry so that there were at least 90 SMEs in different countries and cultures.

In order to have a more scientific response to the same company, the researcher chose 5 management employees from each company to conduct the questionnaire survey. During the actual implementation, i.e., when it was not possible to select enough 5 management employees from the same company, the researcher carried out the operation that the same operation was carried out by choosing another SME in this country and industry, which ensures that the same industry had There were not less than 5 respondents. This will make the total number of respondents not less than 450.

In similar cross-cultural studies, the sample sizes have been over 150 with a 95% confidence level. In order to maximize the richness and validity of the data, considering the difficulty of data collection and referring to similar studies, this study

set the sampling error at 5%. According to the formula for sample size (Cochran, 1977):

$$n \approx \frac{(Z_{\alpha/2})^2 \sigma^2}{E^2}$$

With a confidence level of 95%,  $n = 384.16$ . In business surveys, researchers increased the sample size typically by 10%–30% as well to compensate for nonresponse (Israel, 1992). This means that 422–499 questionnaires need to be distributed for this study. Therefore, the sample size of this study is set in the range of 450–675 according to the sampling method, which meets the relevant conditions of sample capacity and, at the same time, can largely take into account the problem of some invalid questionnaires that may occur in the actual questionnaire collection process (Louangrath, 2017).

### **3.3. Questionnaire development and variable measurement**

This study used the scales used in previous studies because the reliability and validity of the existing scales have been tested (Margherita and Heikkilä, 2021).

Researchers used established measures in the existing literature to improve the quality of results. All items were measured using the seven-point Likert scale (1 = strongly disagree, 7 = strongly agree). Due to the divergence of views on the reverse coding project (Podsakoff et al., 2003), researchers restated the reverse coding project as a positive statement.

#### **3.3.1. Corporate culture (independent variables)**

The corporate culture in this study is evaluated through the organizational culture dimension of Iivari and Huisman (2007) and measured by the competitive cultural value model, including group culture (3 items), development culture (3 items), hierarchical culture (3 items) and rational culture (3 items).

#### **3.3.2. Crisis response ability (dependent variables)**

In this study, the measurement method of the crisis response ability (CRA) of small and medium-sized enterprises is different from that of large companies. In previous studies, economic indicators and financial data are used to evaluate the crisis handling results of large companies (Kudej et al., 2021), while the financial data of some small enterprises often cannot reflect the real situation in a crisis, because they lack strict financial record specifications or data (Halabi et al., 2010).

This study uses the research tools of Margherita and Heikkilä (2021) to measure CRA. The tool is a crisis response model for corporate business (in crisis and emergency situations) and value creation (through model innovation). The model includes five areas in the enterprise's crisis management activities:

- Operation and value system—OVS
- Customer experience and support—CES
- Workforce and human capital—WHC
- Leadership and change management—LCM
- Community and social engagement—CSE

Considering that the whole process of crisis response includes many links and contents, the researchers cannot summarize the overall ability of crisis response through a simple score (Wu and McGoogan, 2020), so the researchers measure the enterprise's crisis response ability by scoring in five fields and converting the average



score.

At the same time, this study divides the crisis response process according to the classic syllogism (Coombs and Holladay, 2015), including pre crisis stage, crisis response stage and post crisis stage, and designs the problems of different business aspects corresponding to the three stages with reference to the scales in the previous literature.

### 3.3.3. National culture (moderating variables)

In this study, the cultural values scale (CVSCALE) shown in the **Table 1**, was used to compare culturally-influenced values and to measure the national cultural dimensions of individualism/collectivism and high/low uncertainty avoidance among respondents (Yoo and Shin, 2017).

**Table 1.** The cultural values scale (Yoo and Shin)

<b>Individualism</b>
1) Employees should NOT sacrifice their own interests for the group (company). 2) Employees should NOT be united with the team even when there are difficulties. 3) The success and rewards of individual employees is more important than the success and welfare of the group. 4) The company should NOT encourage organizational loyalty even if the employee's personal goals are compromised.
<b>High uncertainty avoidance</b>
1) It is important that the company has detailed instructions so that employees always know what is expected of them. 2) It is important that employees follow instructions and procedures to the letter in the company. 3) Rules and regulations are important because they tell employees what is expected. 4) Standardized work procedures are helpful in running a company.

Based on the specific research application of questionnaires in the field of management, researchers have improved the relevant content and presentation methods (Prasongsukarn, 2009). The reverse coding questions in the original questionnaire have been adjusted to positive narratives, and the out of order questions have been unified according to the research content. In addition, the questionnaire has been standardized using a seven-level scale, and score conversion has been performed when calculating the national cultural score, with a specific ratio of 5/7.

### 3.3.4. Control variables

The level of concern of this study is at the company level, so based on previous studies, the private related variables of individual respondents were ignored, and instead, control variables that may affect enterprise culture and crisis response ability were selected.

In this study, company size, nationality and industry were selected as control variables.

The company size (number of employees) may also affect the enterprise's crisis response ability. The size of the company will affect the cooperation and competition among internal departments of the enterprise. The number of enterprises to a certain extent represents the sales channels and risk resistance of the enterprise, and is also related to the financial pressure and budget tension of small and medium-sized enterprises (Foster, 2017). The measurement of company size uses the natural

logarithm of the number of employees to correct for skewness.

Different countries have different cultures and business environments, and these factors are likely to affect the crisis response ability of enterprises to a certain extent. Differences in national culture, language, management style, politics, regulations, business habits, etc. in different countries or regions may affect the enterprises in them (Khan and Panarina, 2017), which makes them face different problems in crisis management and crisis response, and make corresponding countermeasures.

In the face of crisis, in addition to the widely discussed national cultural factors, the flexibility and effectiveness of enterprises' response to the crisis will also be affected by the legal environment of the country where they are located, the degree of social stability (Mao, 2021), the degree of government centralization (Zhong et al., 2022) Political system and other factors, thus showing different crisis response capabilities. In addition, many literatures point out that the differences in economic systems and labor resources in different countries will affect the operating capacity of enterprises, thus affecting the viability and flexibility of enterprises in the face of crisis. Based on this, this study predicts that national differences may lead to different levels of enterprise crisis response ability. Considering that 3 countries have been selected in this study, this variable will be measured by using dummy variable (China codes initial value; Germany and Thailand as 2 dummy variables).

The industry variables are often mentioned in the research of crisis management and response. When facing the same crisis, enterprises in different industries often show differences in efficiency and methods (Lu et al., 2021). Compared with companies in traditional industries (agriculture), companies in emerging industries (Internet enterprises) have great differences in personnel composition, organizational structure and business form, which will make them adopt completely different strategies in dealing with the crisis to some extent, and showed a differentiated level of risk management (Alves et al., 2020). In addition, the differentiated scientific and technological innovation and institutional innovation ability between different industries will affect the speed of enterprises' adjustment of production plans and strategies to a certain extent (Ni et al., 2020), thus affecting the strategic transformation of enterprises in the face of crisis. In previous literature, the difference between high-tech industry, low-tech industry or primary industry, secondary industry, tertiary industry is often cited as a key variable in crisis management research (Lu et al., 2020). Based on these evidences, this study predicts that industry differences may lead to different levels of enterprise crisis response ability. Considering that 15 industries have been selected in this study, this variable will be measured by using dummy variable (agriculture codes initial value; industry, construction, wholesale, retail, transportation, accommodation, catering, telecommunications, internet and related services, property management, business services, social work, culture, sports and entertainment code as dummy 14 variables).

### **3.4. Estimation method**

To test the hypotheses, the statistical technique of Partial Least Squares Structural Equation Modeling (PLS-SEM) regression will be used for data analysis.

PLS analysis was chosen for this study because it provides many benefits. For

example, through PLS analysis, researchers can analyze multiple hypotheses at the same time, that is, the measurement of single or multiple items (Lowry and Gaskin, 2014). PLS analysis does not require data to be normally distributed. In addition, PLS analysis requires less sample size than other techniques.

In the process of testing the moderating effect, this study collates (standardizes) the independent variables and moderating variables (Jaccard and Turrisi, 2003), constructs the product variables ( $XM$ ), and puts the independent variables ( $X$ ), dependent variables ( $Y$ ) and product variables ( $XM$ ) into the multiple regression equation to test the moderating effect (Stolzenberg, 2004). In addition, this study uses IBM SPSS statistics (version 25) and SmartPLS 4.0 version for data statistics and analysis.

#### 4. Data

Data were gathered from Germany, China, and Thailand using online questionnaires on the internet. Data collecting was undertaken between May and July 2024 in the three aforementioned countries. A grand total of 725 questionnaires were disseminated to managerial workers of small and medium-sized enterprises (SMEs) in these nations, resulting in the acquisition of 605 valid questionnaires. This corresponds to a return rate of 83.44%.

##### 4.1. Demographic characteristics

Table 2 contains the demographic data and specific details.

**Table 2.** Demographic characteristics of company size and nationality.

Categories	Frequency	Percentage	Effective percentage	Cumulative percentage
Company size	<100	198	32.7	32.7
	101–200	178	29.4	62.1
	201–300	116	19.2	81.3
	201–400	71	11.7	93.1
	401–500	42	6.9	100.0
	Total	605	100.0	100.0
Nationality	China	225	37.2	37.2
	Thailand	190	31.4	68.6
	Germany	190	31.4	100.0
	Total	605	100.0	100.0

According to the data, the organization has the highest number of respondents, 198 or 32.7%, who have less than 100 employees. This is followed by 178 respondents or 29.4% who have 101–200 employees, 116 respondents or 19.2% who have 201–300 employees, 71 respondents or 11.7% who have 301–400 employees, and 42 respondents or 6.9% who have 401–500 employees.

According to the nationality data, there are 225 individuals from China, accounting for 37.2% of the total, while there are 190 individuals each from Thailand and Germany, making up 31.4% each.

Shown in the Table 3, this diverse demographic composition ensures the analysis

is well-rounded, incorporating multiple perspectives that reflect different aspects of corporate culture and its influence on crisis response capabilities, enhancing the validity of the study and ensures the findings are robust, aligning closely with real-world organizational and national cultural impacts on crisis management strategies.

**Table 3.** Demographic characteristics of respondents.

Categories		Frequency	Percentage	Mean	S.D.
Gender	Male	58.7	355		
	Female	41.3	250		
Age				41.9	8.5663
Departments	Administration	27.9	169		
	Sales	25.6	155		
	Human resources	20.0	121		
	Technical	17.9	108		
	Others	8.6	52		

The demographic data from the non-probability convenience sampling method used in the study provides a rich insight into the profile of respondents, which is essential for a nuanced understanding of organizational culture and its impact on crisis management. The sample is predominantly male, constituting 58.7% (355 individuals), while females make up 41.3% (250 individuals). This gender skew might influence the findings, as male and female perspectives can differ significantly in workplace dynamics and crisis response.

Respondents have an average age of 41.9 years, with a standard deviation of 8.5663, indicating a mature respondent base likely holding mid to senior-level positions. This maturity is vital as it suggests that the insights gained are grounded in substantial professional experience, particularly in handling organizational crises.

In terms of departmental representation, the sample covers a broad spectrum of corporate roles. Administration leads with 27.9% (169 individuals), providing a strategic and decision-making perspective to the study. The sales department follows closely at 25.6% (155 individuals), offering insights into customer relations and market dynamics during crises. Human Resources, representing 20.0% (121 individuals), adds depth to the understanding of internal policies and employee relations. Technical department respondents, making up 17.9% (108 individuals), provide perspectives on operational challenges and technological implementations during crises. Lastly, a smaller segment labeled ‘others’ at 8.6% (52 individuals) includes various specialized roles, enriching the data with diverse niche insights.

Shown in the **Table 4**, in terms of industry distribution, agriculture, construction, wholesale, and Internet and related services each had 45 people, accounting for 7.4% of the total, the largest number; followed by industry, retail, accommodation, telecommunication, property management, social work, culture, and sports and entertainment each with 40 people, accounting for 6.6% of the total; and finally transportation, catering, and business services each with 35 people, accounting for 5.8% of the total, the smallest number of people.

**Table 4.** Demographic characteristics of industry.

Categories	Frequency	Percentage	Effective percentage	Cumulative percentage	
Industry	Agriculture	45	7.4	7.4	7.4
	Industry	40	6.6	6.6	14.0
	Construction	45	7.4	7.4	21.5
	Wholesale	45	7.4	7.4	28.9
	Retail	40	6.6	6.6	35.5
	Transportation	35	5.8	5.8	41.3
	Accommodation	40	6.6	6.6	47.9
	Catering	35	5.8	5.8	53.7
	Telecommunications	40	6.6	6.6	60.3
	Internet and related services	45	7.4	7.4	67.8
	Property management	40	6.6	6.6	74.4
	Business services	35	5.8	5.8	80.2
	Social work	40	6.6	6.6	86.8
	Culture	40	6.6	6.6	93.4
	Sports and entertainment	40	6.6	6.6	100.0
	Total	605	100.0	100.0	-

**Table 5.** Variable-related indicators.

Variables	N	Min	Max	Mean	SD	Skewness	Kurtosis
GC	605	1.330	7.000	5.210	1.211	-1.382	1.526
DC	605	1.000	7.000	5.226	1.237	-1.493	1.842
HC	605	1.000	7.000	5.035	1.162	-1.352	1.641
RC	605	1.000	7.000	5.125	1.225	-1.418	1.700
CRA	605	1.740	6.360	5.181	1.073	-1.991	2.547
OVS	605	1.000	7.000	5.230	1.196	-1.507	1.737
CES	605	1.000	7.000	5.159	1.169	-1.408	1.635
WHC	605	1.000	7.000	5.214	1.241	-1.463	1.722
LMC	605	1.000	7.000	5.142	1.199	-1.344	1.479
CSE	605	1.000	7.000	5.159	1.215	-1.494	1.813
IND	605	1.500	7.000	5.172	1.162	-1.531	1.833
HUA	605	1.500	7.000	5.223	1.213	-1.480	1.499

**Table 5** shows that the mean value of each question item falls within the range of 5.035–5.230, indicating a relatively balanced distribution. The standard deviation of each question item is between 1.073–1.241, suggesting that the sample data has low dispersion. According to Kettaneh et al. (2005), when the absolute value of skewness is less than 3 and the absolute value of kurtosis is less than 10, the observed variables can be considered to conform to the normal distribution. However, based on the information provided above. Based on the statistical results provided above, it can be inferred that the absolute values of skewness (<3) and kurtosis (<10) for all items are significantly smaller than the reference values suggested by. Therefore, it can be assumed that the pattern of the large sample data largely adheres to the normal

distribution, which fulfills the fundamental requirements for analyzing the data.

Pearson’s correlation coefficient, often used in the social sciences to measure the correlation between things or variables, reveals and reflects the strength of the correlation between different things or variables through numerical quantification (Asuero et al., 2006). From the **Table 6**, it can be seen that the seven variables GC, DC, HC, RC, CRA, IND, and HUA show significant correlations between the two, with correlation coefficients ranging from  $-0.500$  to  $0.594$ .

**Table 6.** Correlation coefficient between variables.

		GC	DC	HC	RC	CRA	IND	HUA
GC	Pearson correlation	1						
	Sig. (two-tailed)							
	N	605						
DC	Pearson correlation	0.161**	1					
	Sig. (two-tailed)	0.000						
	N	605	605					
HC	Pearson correlation	$-0.140^{**}$	$-0.215^{**}$	1				
	Sig. (two-tailed)	0.001	0.000					
	N	605	605	605				
RC	Pearson correlation	0.226**	0.158**	$-0.386^{**}$	1	0.524**	0.312**	0.268**
	Sig. (two-tailed)	0.000	0.000	0.000		0.000	0.000	0.000
	N	605	605	605	605	605	605	605
CRA	Pearson correlation	0.464**	0.469**	$-0.500^{**}$	0.524**	1		
	Sig. (two-tailed)	0.000	0.000	0.000	0.000			
	N	605	605	605	605	605		
IND	Pearson correlation	0.190**	0.298**	$-0.280^{**}$	0.312**	0.547**	1	
	Sig. (two-tailed)	0.000	0.000	0.000	0.000	0.000		
	N	605	605	605	605	605	605	
HUA	Pearson correlation	0.228**	0.255**	$-0.191^{**}$	0.268**	0.594**	0.258**	1
	Sig. (two-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	
	N	605	605	605	605	605	605	605

Notes: \* $p$ -value < 0.05, \*\* $p$ -value < 0.01, \*\*\* $p$ -value < 0.001.

## 4.2. Model assessment

### 4.2.1. Construct reliability and validity

Shown in the **Table 7**, the analysis results indicate that the variables CRA, DC, GC, HUA, HC, IND, and RC have excellent reliability and good stability and consistency. This is supported by Cronbach’s alpha values ranging from 0.733 to 0.935, all of which are greater than the threshold of 0.7 (Hair et al., 2012).

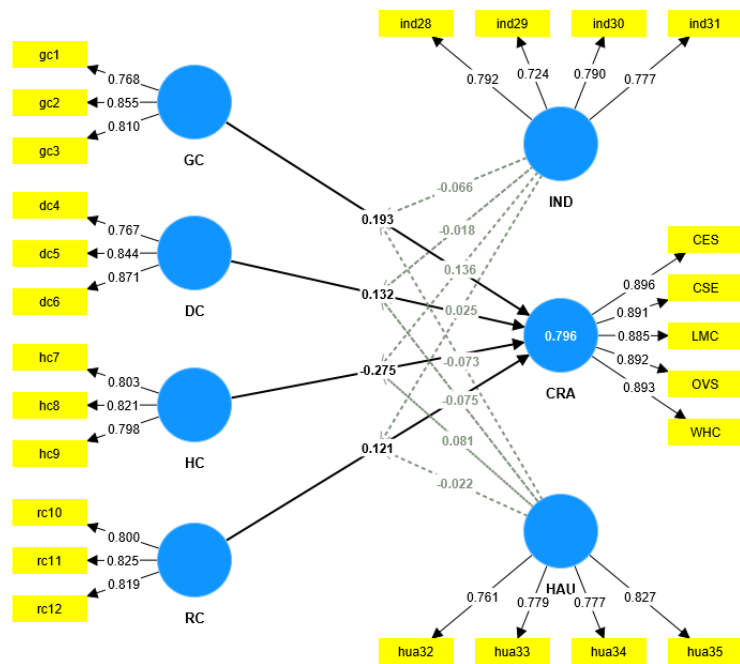
The composite reliability ( $\rho_a$ ) of variables CRA, DC, GC, HUA, HC, IND, and RC ranged from 0.734 to 0.936. All of these values were over 0.7, indicating a high level of dependability in the model combination. The Composite reliability ( $\rho_c$ ) of the variables CRA, DC, GC, HUA, HC, IND, and RC falls within the range of 0.849 and 0.951, surpassing the threshold of 0.7. This suggests that the

dependability of the model combination is excellent. The variables CRA, DC, GC, HUA, HC, IND, and RC had an average variance extracted (AVE) ranging from 0.595 to 0.795. All of these values were larger than 0.5, showing a strong convergent validity of the model.

**Table 7.** Construct reliability and validity.

Variables	Cronbach’s alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
CRA	0.935	0.936	0.951	0.795
DC	0.772	0.795	0.867	0.686
GC	0.742	0.756	0.852	0.659
HUA	0.794	0.799	0.866	0.618
HC	0.733	0.734	0.849	0.652
IND	0.774	0.779	0.855	0.595
RC	0.747	0.747	0.855	0.664

**Figure 2** shows the various path coefficients of the model.



**Figure 2.** Model of measurement.

Notes: GC = Group culture, DC = Development culture, HC = Hierarchy culture, RC = Rational culture, CRA = Crisis response ability, IND = Individualism, HUA = High uncertainty avoidance, CES = Customer experience and support, CSE = Community and social engagement, LMC = Leadership and change management, OVS = Operation and value system, WHC = Workforce and human capital.

**4.2.2. Discriminant validity**

Shown in the **Table 8**, the analysis results indicated that the HTMT values for the variables CRA, DC, GC, HUA, HC, IND, and RC are all below 0.90, which suggests that the variables demonstrated satisfactory discriminant validity (Fornell and Larcker, 1981).

**Table 8.** Heterotrait-Monotrait ratio (HTMT).

Variables	CRA	DC	GC	HUA	HC	IND	RC
DC	0.553						
GC	0.558	0.217					
HUA	0.689	0.327	0.299				
HC	0.604	0.289	0.189	0.251			
IND	0.643	0.387	0.252	0.328	0.373		
RC	0.627	0.209	0.304	0.347	0.521	0.411	

**4.2.3. Fornell-Larcker criterion**

**Table 9.** Fornell-Larcker criterion.

Variables	CRA	DC	GC	HUA	HC	IND	RC
CRA	<b>0.891</b>						
DC	0.477	<b>0.828</b>					
GC	0.469	0.172	<b>0.811</b>				
HUA	0.596	0.262	0.229	<b>0.786</b>			
HC	-0.501	-0.222	-0.140	-0.192	<b>0.807</b>		
IND	0.551	0.305	0.196	0.260	-0.285	<b>0.772</b>	
RC	0.524	0.163	0.225	0.269	-0.385	0.315	<b>0.815</b>

Notes: Bolded bold is the arithmetic square root of the variable AVE.

Shown in the **Table 9**, the analysis results clearly demonstrate that the root mean square of CRA is 0.891, while the correlation coefficients with the variables DC, GC, HUA, HC, IND, and RC range from -0.501 to 0.596. These coefficients are all lower than 0.892, suggesting that the variable CRA demonstrates strong discriminant validity. The variable DC exhibited a root mean square of 0.828 and correlation values ranging from -0.222 to 0.477 with variables CRA, GC, HUA, HC, IND, and RC. All correlation coefficients were below 0.829, indicating that the variable DC demonstrated strong discriminant validity. The root mean square of the average of variable GC is 0.811. The correlation coefficients between variable GC and variables CRA, DC, HUA, HC, IND, and RC ranged from -0.014 to 0.469. These coefficients are all lower than 0.811, which suggests that variable GC has good validity. The AVE of HUA has a root mean square of 0.786, and its correlation coefficients with variables CRA, DC, GC, HC, IND, and RC range from -0.192 to 0.596, all of which are lower than 0.787. This suggests that variable HUA has good discriminant validity. Similarly, the AVE of HC has a root mean square of 0.807, and its correlation coefficients with variables CRA, DC, GC, HUA, IND, and RC range from -0.501 to -0.140, all of which are lower than 0.808. This indicates that variable HC also has good discriminant validity. The root mean square of the average variance extracted (AVE) for the variable IND was 0.772. The correlation coefficients between IND and the variables CRA, DC, GC, HUA, HC, and RC ranged from -0.285 to 0.551. All of these correlations were lower than 0.773, showing that the variable IND demonstrated strong discriminant validity. The root mean square of the average variance extracted (AVE) for the variable RC was 0.815. The correlation coefficients between RC and



the variables CRA, DC, GC, HUA, HC, IND ranged from  $-0.385$  to  $0.524$ . All of these correlation coefficients were lower than  $0.815$ , which suggests that RC has strong discriminant validity (Fornell and Larcker, 1981).

### 4.3. Model fit indices

#### 4.3.1. R-square

R-squared quantifies the proportion of the variability in the response variable that can be accounted for by a linear model (Chatterjee and Hadi, 2015). Furthermore, the R-square metric quantifies the proportion of the dependent variable that may be anticipated or elucidated by the independent variables in the model of the study. The R-squared results are shown in **Table 10** and **Figure 3**. The R-square of the model is  $0.796$ , which indicates a level of explanation for the CRA of  $79.6\%$ .

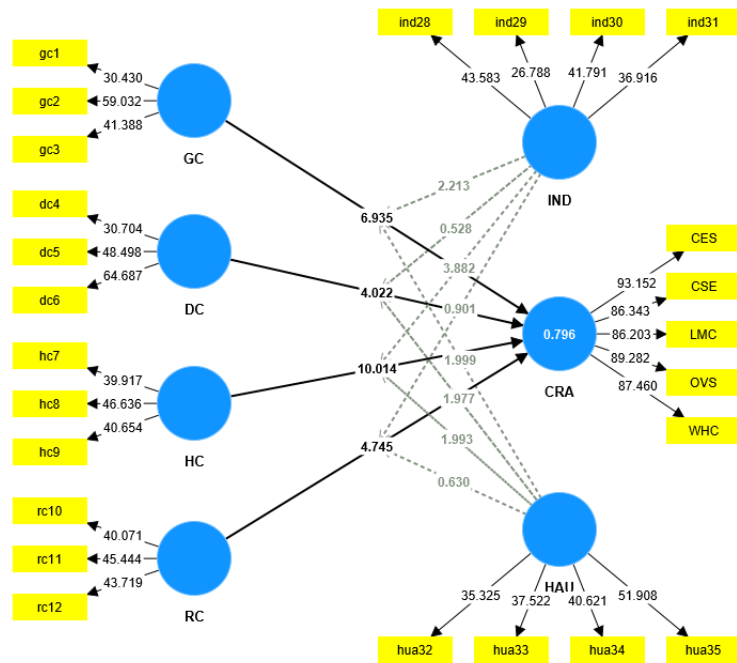


Figure 3. Structural model.

Table 10. R-square.

Variables	R-square	R-square adjusted
CRA	0.796	0.791

#### 4.3.2. Collinearity statistics (VIF)

As seen in the **Tables 11** and **12**, the VIF for all the variables is less than 10 in inner and outer model, indicating that there is no multicollinearity (Midi et al., 2010).

**Table 11.** Outer model.

<b>Variables</b>	<b>VIF</b>
CES	3.298
CSE	3.138
LMC	3.019
OVS	3.220
WHC	3.230
dc4	1.463
dc5	1.674
dc6	1.684
gc1	1.404
gc2	1.556
gc3	1.493
hc7	1.438
hc8	1.478
hc9	1.430
hua32	1.534
hua33	1.582
hua34	1.536
hua35	1.712
ind28	1.523
ind29	1.421
ind30	1.549
ind31	1.560
rc10	1.431
rc11	1.526
rc12	1.526
IND × RC	1.000
IND × GC	1.000
HUA × RC	1.000
HUA × DC	1.000
IND × HC	1.000
IND × DC	1.000
HUA × GC	1.000
HUA × HC	1.000

**Table 12.** Inner model.

<b>Variables</b>	<b>CRA-VIF</b>
CRA	-
DC	1.368
GC	1.300
HUA	1.394
HC	1.440

**Table 12.** (Continued).

Variables	CRA-VIF
IND	1.716
RC	1.514
HUA × RC	2.205
HUA × DC	1.956
IND × GC	1.951
IND × HC	2.295
HUA × GC	1.746
IND × RC	2.283
HUA × HC	1.600
IND × DC	2.119

### 4.3.3. Q square

Referring to the study of Ifinedo (2014), the results obtained in this study show that the *Q* square is 0.618, which is greater than 0, indicating that the model has a predictive effect, shown in the **Table 13**.

**Table 13.** *Q* square.

Variables	SSO	SSE	$Q^2 (=1 - SSE/SSO)$
CRA	3025.000	1154.481	0.618

### 4.4. Hypotheses test

Twelve hypotheses were proposed by the researchers and the results of the PLS-SEM analysis are reported in this section. Key statistical indicators were used to determine whether the hypotheses were supported. A positive beta coefficient indicates that the two variables are positively correlated. Conversely, a negative beta coefficient indicates a negative correlation between the two variables. Secondly, the *p*-value is used to determine whether the null hypothesis is accepted or rejected (Klein, 2005). If the *p*-value is less than 0.05, the alternative hypothesis is accepted and the null hypothesis is rejected. Therefore, the hypothesis is considered statistically significant. Conversely, when the *p*-value is greater than 0.05, the null hypothesis cannot be rejected. Therefore, the hypothesis can be judged as statistically unsound.

Shown in the **Table 14**, group culture has a significant positive effect on crisis response ability ( $\beta = 0.193$ , *p*-value < 0.001). The PLS-SEM analysis results demonstrate that group culture has a significant positive effect on crisis response ability. This indicates that companies with high scores in group culture dimension have a positive impact on crisis response ability. This result is statistically significant. Therefore, hypothesis 1 is supported.

Development culture has a significant positive effect on crisis response ability ( $\beta = 0.132$ , *p*-value < 0.001). The analysis shows a significant positive effect of development culture on crisis response ability. Therefore, hypothesis 2 is supported.

**Table 14.** Path coefficients.

Variables	Original sample ( <i>O</i> )	Sample mean ( <i>M</i> )	Standard deviation (STDEV)	T statistics ( $ O/STDEV $ )	P values
DC → CRA	0.132	0.130	0.033	4.022	0.000
GC → CRA	0.193	0.188	0.028	6.935	0.000
HUA → CRA	0.270	0.265	0.038	7.175	0.000
HC → CRA	-0.275	-0.274	0.027	10.014	0.000
IND → CRA	0.116	0.114	0.027	4.323	0.000
RC → CRA	0.121	0.120	0.026	4.745	0.000
HUA × RC → CRA	-0.022	-0.021	0.035	0.630	0.529
HUA × DC → CRA	-0.075	-0.079	0.038	1.977	0.048
IND × GC → CRA	-0.066	-0.068	0.030	2.213	0.027
IND × HC → CRA	-0.136	0.133	0.035	3.882	0.000
HUA × GC → CRA	-0.073	-0.076	0.036	1.999	0.046
IND × RC → CRA	0.025	0.023	0.028	0.901	0.368
HUA × HC → CRA	-0.081	0.082	0.041	1.993	0.046
IND × DC → CRA	-0.018	-0.019	0.033	0.528	0.597

Hierarchy culture has a significant negative effect on crisis response ability ( $\beta = -0.275$ ,  $p$ -value  $< 0.01$ ). The analysis reveals a significant negative effect of hierarchy culture on crisis response ability. Thus, hypothesis 3 is supported.

Rational culture has a significant positive effect on crisis response ability ( $\beta = 0.121$ ,  $p$ -value  $< 0.001$ ). The findings indicate a significant positive effect of rational culture on crisis response ability. Hence, hypothesis 4 is supported.

The interaction of individualism with group culture had a significant negative effect on crisis response ability ( $\beta = -0.066$ ,  $p$ -value  $< 0.05$ ). This suggests that individualism weakens the positive relationship between group culture and crisis response ability. Therefore, hypothesis 5 is supported.

The interaction of individualism with development culture had no effect on crisis response ability ( $\beta = -0.018$ ,  $p$ -value  $> 0.05$ ). This indicates that individualism cannot strengthen the positive relationship between development culture and crisis response ability. Hence, hypothesis 6 is not supported.

The interaction of individualism with hierarchical culture had a significant positive effect on crisis response ability ( $\beta = -0.136$ ,  $p$ -value  $< 0.001$ ). This shows that individualism strengthens the negative relationship between hierarchical culture and crisis response ability. Therefore, hypothesis 7 is supported.

The interaction of individualism with rational culture had no effect on crisis response ability ( $\beta = 0.025$ ,  $p$ -value  $> 0.05$ ). The analysis suggests that a moderating effect of individualism on the relationship between rational culture and crisis response ability was not present. Therefore, hypothesis 8 is not supported.

The interaction of high uncertainty avoidance with group culture had a significant negative effect on crisis response ability ( $\beta = -0.073$ ,  $p$ -value  $< 0.05$ ). This suggests that high uncertainty avoidance weakens the positive relationship between group culture and crisis response ability. Therefore, hypothesis 9 is supported.

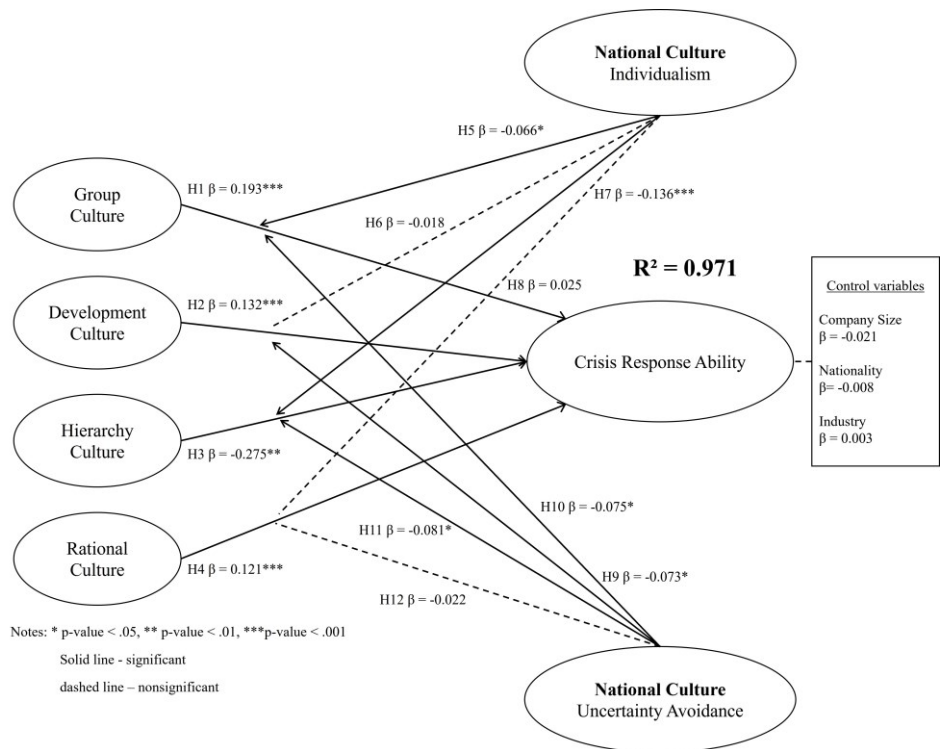
The interaction of high uncertainty avoidance with development culture had a significant negative effect on crisis response ability ( $\beta = -0.075$ ,  $p$ -value  $< 0.05$ ). This

indicates that high uncertainty avoidance weakens the positive relationship between development culture and crisis response ability. Hence, hypothesis 10 is supported.

The interaction of high uncertainty avoidance with hierarchical culture had a significant positive effect on crisis response ability ( $\beta = -0.081, p\text{-value} < 0.05$ ). This shows that high uncertainty avoidance strengthens the negative relationship between hierarchical culture and crisis response ability. Therefore, hypothesis 11 is supported.

The interaction of high uncertainty avoidance with rational culture had no effect on crisis response ability ( $\beta = -0.022, p\text{-value} > 0.05$ ). The analysis suggests that the moderating effect of high uncertainty avoidance on the relationship between rational culture and crisis response ability was not present. Therefore, hypothesis 12 is not supported.

Estimate results of the structural model are shown in the **Figure 4**.



**Figure 4.** Estimate results of the structural model.

#### 4.5. Cross-country analysis

Shown in the **Table 15**, the comparative analysis across China, Thailand, and Germany provides insightful distinctions in how corporate cultural dimensions influence crisis response abilities (CRA) due to variations in national cultural influences and organizational practices. In China, group culture exhibits a strong positive influence on CRA ( $\beta = 0.344, p < 0.001$ ), signifying the importance of collective and collaborative norms in enhancing crisis management capabilities. In contrast, Thailand shows a moderate positive effect ( $\beta = 0.194, p < 0.001$ ), suggesting collaboration is valued but not as critical as in China, while Germany demonstrates a much lower impact ( $\beta = 0.083, p < 0.001$ ), indicating a preference for individualistic approaches within organizations.

Development culture impacts CRA most significantly in Germany ( $\beta = 0.167, p$

< 0.001), highlighting the emphasis on innovation and adaptability in German SMEs during crises. The influence is less pronounced in China ( $\beta = 0.103, p < 0.001$ ) and Thailand ( $\beta = 0.094, p < 0.001$ ), which may reflect differences in prioritization or execution of organizational development in response to crises.

Regarding high uncertainty avoidance (HUA), all three countries show a significant positive relationship with CRA (China:  $\beta = 0.275$ , Thailand:  $\beta = 0.273$ , Germany:  $\beta = 0.278$ ; all  $p < 0.001$ ), suggesting a universal preference for structured, rule-oriented approaches during uncertain times. Interestingly, the interaction effects of HUA with rational culture and development culture on CRA are non-significant across the board, underscoring the robust influence of HUA regardless of other cultural dimensions.

Hierarchy culture consistently demonstrates a negative effect on CRA in all three countries (China:  $\beta = -0.257$ , Thailand:  $\beta = -0.315$ , Germany:  $\beta = -0.228$ ; all  $p < 0.001$ ), with the strongest adverse impact seen in Thailand. This reflects the potentially restrictive nature of hierarchical structures on effective crisis response in a cultural context where such constraints are particularly binding.

Lastly, interactions of individualism with group culture and hierarchy culture reveal that individualistic tendencies generally diminish the effectiveness of group-oriented and hierarchical cultures in managing crises, with slight variations in magnitude across the countries. This reinforces the nuanced role of individualism in different cultural settings and emphasizes the need for crisis management strategies that are tailored to the cultural and organizational frameworks specific to each country.

**Table 15.** Path coefficients for different countries.

Variables	China				Thailand				Germany			
	O	M	STDEV	P	O	M	STDEV	P	O	M	STDEV	P
DC → CRA	0.103	0.100	0.039	0.000	0.094	0.092	0.034	0.000	0.167	0.165	0.037	0.000
GC → CRA	0.344	0.335	0.037	0.000	0.194	0.188	0.037	0.000	0.083	0.078	0.032	0.000
HUA → CRA	0.275	0.274	0.039	0.000	0.273	0.271	0.044	0.000	0.278	0.273	0.039	0.000
HC → CRA	-0.257	-0.255	0.036	0.000	-0.315	-0.311	0.028	0.000	-0.228	-0.225	0.033	0.000
IND → CRA	0.108	0.105	0.030	0.000	0.120	0.122	0.035	0.000	0.110	0.106	0.033	0.000
RC → CRA	0.121	0.119	0.028	0.000	0.104	0.101	0.033	0.000	0.155	0.152	0.032	0.000
HUA × RC → CRA	-0.020	-0.017	0.044	0.533	-0.024	-0.027	0.037	0.546	-0.026	-0.023	0.044	0.435
HUA × DC → CRA	-0.075	-0.070	0.043	0.027	-0.081	-0.082	0.042	0.051	-0.083	-0.087	0.040	0.055
IND × GC → CRA	-0.063	-0.066	0.033	0.022	-0.068	-0.074	0.038	0.028	-0.072	-0.075	0.035	0.031
IND × HC → CRA	-0.131	0.140	0.038	0.000	-0.142	0.133	0.039	0.000	-0.141	0.128	0.039	0.000
HUA × GC → CRA	-0.072	-0.074	0.042	0.033	-0.078	-0.077	0.037	0.054	-0.077	-0.083	0.038	0.052
IND × RC → CRA	0.028	0.026	0.032	0.368	0.018	0.021	0.031	0.368	0.025	0.014	0.028	0.368
HUA × HC → CRA	-0.071	0.082	0.048	0.049	-0.090	0.081	0.043	0.041	-0.090	0.075	0.044	0.042
IND × DC → CRA	-0.009	-0.014	0.037	0.612	-0.025	-0.028	0.041	0.581	-0.020	-0.027	0.037	0.577

Notes: O = Original sample, M = Sample mean, STDEV = Standard deviation, P = P values.

## 5. Discussion and conclusion

The presented research delves into the intricate relationship between corporate

culture, national culture, and corporate crisis response ability (CRA). By investigating four key dimensions of corporate culture—group culture, development culture, hierarchy culture, and rational culture—and examining how they interact with individualism and high uncertainty avoidance as moderating variables, the study provides valuable insights into organizational resilience in the face of crises.

The findings highlight the pivotal role of corporate culture in shaping organizations' responses to crises. Group culture emerges as a significant contributor to CRA, fostering collaboration, resource sharing, and collective sensemaking. This resonates with resource dependence theory and social capital theory, emphasizing the importance of effective resource utilization and strong internal networks in crisis management. Additionally, the study underscores the significance of psychological safety and adaptive leadership theory in facilitating open communication and mobilizing team resources during crises.

Development culture is identified as another positive influence on CRA, promoting innovation, adaptability, and resilience. This culture's emphasis on continuous learning and skill enhancement aligns with the resource-based view and resilience theory, emphasizing the role of intangible resources and organizational learning in crisis mitigation and recovery.

In contrast, hierarchy culture is found to have a negative impact on CRA due to its emphasis on authority, norms, and centralized decision-making. The study underscores how hierarchical cultures may impede communication, innovation, and psychological safety, hindering rapid adaptation and problem-solving during crises.

Rational culture, on the other hand, emerges as positively related to CRA by promoting goal clarity, data-driven decision-making, and standardized workflows. This culture's focus on efficiency and systematic processes enhances organizations' ability to prioritize responses and allocate resources effectively during crises.

Moreover, the study delves into the moderating effects of national culture, revealing how individualism and high uncertainty avoidance shape the relationship between corporate culture dimensions and CRA. While individualism weakens the positive effects of group culture and enhances the negative effects of hierarchy culture on CRA, high uncertainty avoidance attenuates the positive effects of group and development cultures while reinforcing the negative impact of hierarchy culture. Notably, high uncertainty avoidance does not diminish the positive effect of rational culture on CRA, suggesting its compatibility with structured decision-making and risk management in crisis situations.

These findings contribute to a nuanced understanding of how corporate and national cultural contexts intersect to influence organizational resilience in crisis situations. By considering both dimensions, organizations can better tailor their crisis management strategies to foster adaptive cultures and enhance their ability to navigate uncertainties effectively.

Theoretical contributions are substantial, as the study extends the application of the competitive cultural values model and national culture theory to analyze the impact of corporate culture on crisis response ability, particularly in the SME context. By integrating multiple theoretical perspectives, the study offers a comprehensive understanding of how corporate culture influences crisis management strategies and outcomes. Additionally, it provides empirical evidence supporting the relationship

between corporate culture dimensions and SMEs' CRA, emphasizing the nuanced role of national culture in moderating this relationship.

Academic contributions are manifold, enriching theoretical frameworks and empirical evidence in crisis management, cross-cultural management, and organizational behavior. The study offers insights into how cultural diversity and corporate culture-specific characteristics influence crisis management strategies, providing valuable guidance for organizational resilience. Furthermore, it proposes innovative approaches to crisis management, capitalizing on the strengths of different cultural dimensions while mitigating their negative effects.

Despite its contributions, the study acknowledges several limitations, including the reliance on a limited number of countries for data collection, potential biases in assessing moderating variables, and the complexity of quantifying organizational culture in SMEs. Future research recommendations focus on expanding data collection, considering the impact of cultural diversity and globalization on organizational culture, exploring differences in crisis response among different organizational groups, and including additional national cultural dimensions for analysis.

In conclusion, the study offers valuable insights into the interplay between corporate culture, national culture, and organizational resilience in crisis situations. By addressing its limitations and embracing future research recommendations, scholars can further deepen our understanding of these dynamics, ultimately enhancing the effectiveness of crisis management strategies for SMEs.

Considering the actual management recommendations, managers must recognize how cultural variations shape organizational structures and strategies, tailoring management approaches accordingly. Managers should adopt customized crisis management strategies that align with the cultural identities and values of their employees. This entails fostering a balance between group culture and individualism, encouraging teamwork and innovation while providing space for individual growth and creativity. Addressing the limitations of hierarchical cultures, managers should promote flexibility and participatory decision-making to enhance crisis response effectiveness. Moreover, leveraging cultural diversity as a resource is paramount. By investing in employee development, establishing open communication channels, and encouraging cross-cultural collaboration, firms can harness the strengths of diverse cultural perspectives to improve crisis response ability. Practically, SMEs can enhance their crisis response ability through various strategies, including promoting continuous learning and development, incentivizing innovation, fostering cross-departmental collaboration, ensuring transparent communication, developing adaptive leadership, and strengthening organizational resilience.

**Author contributions:** Conceptualization, FZ and VA; methodology, FZ; software, FZ; validation, FZ and VA; formal analysis, FZ; investigation, FZ; resources, FZ; data curation, FZ; writing—original draft preparation, FZ; writing—review and editing, FZ; visualization, FZ; supervision, FZ; project administration, VA; funding acquisition, VA. All authors have read and agreed to the published version of the manuscript.

**Conflict of interest:** The authors declare no conflict of interest.



## References

- Acharya, A. S., Prakash, A., Saxena, P., & Nigam, A. (2013). Sampling: Why and how of it. *Indian Journal of Medical Specialties*, 4(2), 330–333. <https://doi.org/10.7713/ijms.2013.0032>
- Albulescu, C. T. (2021). COVID-19 and the United States financial markets' volatility. *Finance research letters*, 38, 101699. <https://doi.org/10.1016/j.frl.2020.101699>
- Alkhawlan, M. A. S., Bohari, A. M., & Shamsuddin, J. (2021). The moderating effect of crisis experience on the relationship between transformational leadership, decision-making styles and crisis management in Yemen organisations. *International Journal of Business Continuity Risk Management*, 11(2–3), 156–171. <https://doi.org/10.1504/IJBCRM.2021.116277>
- Alves, J. C., Lok, T. C., Luo, Y., & Hao, W. (2020). Crisis management for small business during the COVID-19 outbreak: Survival, resilience and renewal strategies of firms in Macau. *Research Square*. <https://doi.org/10.21203/rs.3.rs-34541/v1>
- Asuero, A. G., Sayago, A., & González, A. (2006). The correlation coefficient: An overview. *Critical reviews in analytical chemistry*, 36(1), 41–59. <https://doi.org/10.1080/10408340500526766>
- Bao, X., Sun, B., Han, M., et al. (2023). Corporate integrity culture on environmental, social, and governance (ESG) performance. *Corporate Social Responsibility and Environmental Management*, 31(2), 1399–1417. <https://doi.org/10.1002/csr.2637>
- Bhaduri, R. M. (2019). Leveraging culture and leadership in crisis management. *European Journal of Training and Development*, 43(5/6), 554–569. <https://doi.org/10.1108/ejtd-10-2018-0109>
- Boin, A., & Hart, P. T. (2010). Organising for effective emergency management: Lessons from research 1. *Australian Journal of Public Administration*, 69(4), 357–371. <https://doi.org/10.1111/j.1467-8500.2010.00694.x>
- Brettel, M., Chomik, C., & Flatten, T. C. (2015). How organizational culture influences innovativeness, proactiveness, and risk-taking: Fostering entrepreneurial orientation in SMEs. *Journal of Small Business Management*, 53(4), 868–885. <https://doi.org/10.1111/jsbm.12108>
- Çakar, N. D., & Ertürk, A. (2010). Comparing innovation capability of small and medium-sized enterprises: examining the effects of organizational culture and empowerment. *Journal of Small Business Management*, 48(3), 325–359. <https://doi.org/10.1111/j.1540-627x.2010.00297.x>
- Cameron, K. S. (1985). Cultural Congruence, Strength, and Type: Relationships to Effectiveness. *The Review of Higher Education*, 9(1), 121–121. <https://doi.org/10.1353/rhe.1985.0034>
- Cannon, M. D., & Edmondson, A. C. (2005). Failing to learn and learning to fail (intelligently): How great organizations put failure to work to innovate and improve. *Long Range Planning*, 38(3), 299–319. <https://doi.org/10.1016/j.lrp.2005.04.005>
- Chatterjee, S., & Hadi, A. S. (2015). *Regression analysis by example*. John Wiley & Sons. <https://doi.org/10.1080/02664763.2013.817041>
- Clampit, J. A., Lorenz, M. P., Gamble, J. E., & Lee, J. (2022). Performance stability among small and medium-sized enterprises during COVID-19: A test of the efficacy of dynamic capabilities. *International Small Business Journal*, 40(3), 403–419. <https://doi.org/10.1177/02662426211033270>
- Cochran, W. G. (1977). *Sampling Techniques*, 3rd ed. John Wiley & Sons, New York.
- Coombs, T., & Holladay, S. (2015). CSR as crisis risk: expanding how we conceptualize the relationship. *Corporate Communications: An International Journal*, 20(2), 144–162. <https://doi.org/10.1108/ccij-10-2013-0078>
- Corral de Zubielqui, G., & Harris, H. (2024). Why the COVID-19 Crisis Is an Ethical Issue for Business: Evidence from the Australian JobKeeper Initiative. *Journal of Business Ethics*, 190(1), 123–136. <https://doi.org/10.1007/s10551-023-05392-2>
- Deshpandé, R., & Farley, J. U. (2004). Organizational culture, market orientation, innovativeness, and firm performance: an international research odyssey. *International Journal of research in Marketing*, 21(1), 3–22. <https://doi.org/10.1016/j.ijresmar.2003.04.002>
- Deverell, E., & Olsson, E. K. (2010). Organizational culture effects on strategy and adaptability in crisis management. *Risk Management*, 12(2), 116–134. <https://doi.org/10.1057/rm.2009.18>
- Etikan, I., & Bala, K. (2017). Sampling and sampling methods. *Biometrics & Biostatistics International Journal*, 5(6), 00149. <https://doi.org/10.15406/bbij.2017.05.00149>
- Fey, C. F., & Denison, D. R. (2003). Organizational culture and effectiveness: Can American theory be applied in Russia? *Organization science*, 14(6), 686–706. <https://doi.org/10.1287/orsc.14.6.686.24868>
- Flamholtz, E. G., & Randle, Y. (2012). Corporate culture, business models, competitive advantage, strategic assets and the bottom line: Theoretical and measurement issues. *Journal of Human Resource Costing & Accounting*, 16(2), 76–94.

- Fleming, P. (2009). *Authenticity and the cultural politics of work: New forms of informal control*. Oxford University Press.  
<https://doi.org/10.1093/acprof:oso/9780199547159.001.0001>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39–50. <https://doi.org/10.1177/002224378101800104>
- Foster, T. A. (2017). Budget planning, budget control, business age, and financial performance in small businesses. Available online: <https://scholarworks.waldenu.edu/cgi/viewcontent.cgi?article=4708&context=dissertations> (accessed on 17 March 2024).
- Freiling, J. (2015). Business model innovation—A concept between organizational renewal and industry transformation. *Journal of Entrepreneurship, Management and Innovation*, 11(1), 3–10. <https://doi.org/10.7341/20151111>
- Gallato, C. G., Rashid, S., Warokka, A., et al. (2012). Fostering niches among SMEs in Malaysia through organizational commitment, leadership, organizational culture and job satisfaction. *Journal of Innovation Management in Small & Medium Enterprises*, 1–12. <https://doi.org/10.5171/2012.511352>
- Graham, J. R., Grennan, J., Harvey, C. R., & Rajgopal, S. (2022). Corporate culture: Evidence from the field. *Journal of Financial Economics*, 146(2), 552–593. <https://doi.org/10.1016/j.jfineco.2022.07.008>
- Groysberg, B., Lee, J., Price, J., & Cheng, J. (2018). The leader’s guide to corporate culture. *Harvard Business Review*, 96(1), 44–52.
- Hafeez, K., Zhang, Y., & Malak, N. (2002). Core competence for sustainable competitive advantage: a structured methodology for identifying core competence. *IEEE Transactions on Engineering Management*, 49(1), 28–35.  
<https://doi.org/10.1109/17.985745>
- Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science*, 40, 414–433.  
<https://doi.org/10.1007/s11747-011-0261-6>
- Halabi, A. K., Barrett, R., & Dyt, R. (2010). Understanding financial information used to assess small firm performance: An Australian qualitative study. *Qualitative Research in Accounting & Management*, 7(2), 163–179.  
<https://doi.org/10.1108/11766091011050840>
- Hillary, R. (2017). *Small and medium-sized enterprises and the environment: business imperatives*. Routledge.
- Hofstede, G. (1984). Cultural dimensions in management and planning. *Asia Pacific Journal of Management*, 1, 81–99.  
<https://doi.org/10.1007/bf01733682>
- Hofstede, G. (1986). The usefulness of the ‘organizational culture’ concept. *Journal of Management Studies*, 23(3), 253–257.  
<https://doi.org/10.1111/j.1467-6486.1986.tb00952.x>
- Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. *Online readings in psychology and culture*, 2(1), 8. <https://doi.org/10.9707/2307-0919.1014>
- Ifinedo, P. (2014). Information systems security policy compliance: An empirical study of the effects of socialisation, influence, and cognition. *Information & Management*, 51(1), 69–79. <https://doi.org/10.1016/j.im.2013.10.001>
- Iivari, J., & Huisman, M. (2007). The relationship between organizational culture and the deployment of systems development methodologies. *Mis Quarterly*, 35–58. <https://doi.org/10.2307/25148780>
- Israel, G. D. (1992). Determining Sample Size. Available online: [https://www.researchgate.net/profile/Subhash-Basu-3/post/how\\_could\\_i\\_determine\\_sample\\_size\\_for\\_my\\_study/attachment/5ebaa4924f9a520001e613b6/AS:890361492811785@1589290130539/download/sample\\_size1.pdf](https://www.researchgate.net/profile/Subhash-Basu-3/post/how_could_i_determine_sample_size_for_my_study/attachment/5ebaa4924f9a520001e613b6/AS:890361492811785@1589290130539/download/sample_size1.pdf) (accessed on 17 March 2024).
- Jaccard, J., & Turrisi, R. (2003). *Interaction effects in multiple regression*. SAGE.
- Jiang, L., & Li, X. (2010). Discussions on the Improvement of the Internal Control in SMEs. *International Journal of Business and Management*, 5(9), 214. <https://doi.org/10.5539/ijbm.v5n9p214>
- Karvonen, T., Sharp, H., & Barroca, L. (2018). Enterprise agility: Why is transformation so hard? In: *Proceedings of the Agile Processes in Software Engineering and Extreme Programming: 19th International Conference; 21–25 May 2018; Porto, Portugal*.
- Ketprapakorn, N., & Kantabutra, S. (2019). Culture development for sustainable SMEs: Toward a behavioral theory. *Sustainability*, 11(9), 2629. <https://doi.org/10.3390/su11092629>
- Kettaneh, N., Berglund, A., & Wold, S. (2005). PCA and PLS with very large data sets. *Computational Statistics & Data Analysis*, 48(1), 69–85. <https://doi.org/10.1016/j.csda.2003.11.027>

- Khan, M. A., & Panarina, E. (2017). The role of national cultures in shaping the corporate management cultures: A four countries theoretical analysis. *Journal of Eastern European and Central Asian Research*, 4(1). <https://doi.org/10.15549/jeeecar.v4i1.152>
- Klein, D. F. (2005). Beyond significance testing: Reforming data analysis methods in behavioral research. *American Journal of Psychiatry*, 162(3), 643–644. <https://doi.org/10.1176/appi.ajp.162.3.643-a>
- Kudej, M., Gavurova, B., & Rowland, Z. (2021). Evaluation of the selected economic parameters of Czech companies and their potential for overcoming global crises during the Covid-19 pandemic. *Journal of International Studies*, 14(1), 258–275. <https://doi.org/10.14254/2071-8330.2021/14-1/18>
- Kumar, V., Alshazly, H., Idris, S. A., & Bourouis, S. J. S. (2021). Evaluating the impact of covid-19 on society, environment, economy, and education. 13(24), 13642. <https://doi.org/10.3390/su132413642>
- Ladzani, M. W. (2022). The impact of COVID-19 on small and micro-enterprises in South Africa. *International Journal of Global Environmental Issues*, 21(1), 23–38. <https://doi.org/10.1504/IJGENVI.2022.122935>
- Levin, D. T. (2000). Race as a visual feature: using visual search and perceptual discrimination tasks to understand face categories and the cross-race recognition deficit. *Journal of Experimental Psychology: General*, 129(4), 559. <https://doi.org/10.1037/0096-3445.129.4.559>
- Louangrath, P. (2017). Minimum sample size method based on survey scales. *International Journal of Research & Methodology in Social Science*, 3(3), 44–52. <https://doi.org/10.5281/zenodo.1322593>
- Lowry, P. B., & Gaskin, J. (2014). Partial least squares (PLS) structural equation modeling (SEM) for building and testing behavioral causal theory: When to choose it and how to use it. *IEEE Transactions on Professional Communication*, 57(2), 123–146. <https://doi.org/10.1109/TPC.2014.2312452>
- Lu, L., Peng, J., Wu, J., & Lu, Y. (2021). Perceived impact of the Covid-19 crisis on SMEs in different industry sectors: Evidence from Sichuan, China. *International Journal of Disaster Risk Reduction*, 55, 102085. <https://doi.org/10.1016/j.ijdrr.2021.102085>
- Lu, Y., Wu, J., Peng, J., & Lu, L. (2020). The perceived impact of the Covid-19 epidemic: evidence from a sample of 4807 SMEs in Sichuan Province, China. *Environmental Hazards*, 19(4), 323–340. <https://doi.org/10.1080/17477891.2020.1763902>
- Mao, Y. (2021). Political institutions, state capacity, and crisis management: A comparison of China and South Korea. *International Political Science Review*, 42(3), 316–332. <https://doi.org/10.1177/0192512121994026>
- Margherita, A., & Heikkilä, M. (2021). Business continuity in the COVID-19 emergency: A framework of actions undertaken by world-leading companies. *Business Horizons*, 64(5), 683–695. <https://doi.org/10.1016/j.bushor.2021.02.020>
- Maull, R., Brown, P., & Cliffe, R. (2001). Organisational culture and quality improvement. *International Journal of Operations & Production Management*, 21(3), 302–326. <https://doi.org/10.1108/01443570110364614>
- Midi, H., Sarkar, S. K., & Rana, S. (2010). Collinearity diagnostics of binary logistic regression model. *Journal of interdisciplinary mathematics*, 13(3), 253–267. <https://doi.org/10.1080/09720502.2010.10700699>
- Ni, G., Xu, H., Cui, Q., et al. (2020). Influence mechanism of organizational flexibility on enterprise competitiveness: The mediating role of organizational innovation. *Sustainability*, 13(1), 176. <https://doi.org/10.3390/su13010176>
- Obi, C. N., Leggett, C., & Harris, H. (2020). National culture, employee empowerment and advanced manufacturing technology utilisation: A study of Nigeria and New Zealand. *Journal of Management & Organization*, 26(4), 460–482. <https://doi.org/10.1017/jmo.2017.70>
- Pech, M., & Vrchota, J. (2020). Classification of small-and medium-sized enterprises based on the level of industry 4.0 implementation. *Applied Sciences*, 10(15), 5150. <https://doi.org/10.3390/app10155150>
- Peeters, M., Denkers, A., & Huisman, W. (2020). Rule violations by SMEs: The influence of conduct within the industry, company culture and personal motives. *European Journal of Criminology*, 17(1), 50–69. <https://doi.org/10.1177/1477370819874447>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879. <https://doi.org/10.1037/0021-9010.88.5.879>
- Prasongsukarn, K. (2009). Validating the cultural value scale (CVSCALE): A case study of Thailand. *ABAC Journal*, 29(2).
- Quinn, R. E., Hildebrandt, H. W., Rogers, P. S., & Thompson, M. P. (1991). A competing values framework for analyzing presentational communication in management contexts. *The Journal of Business Communication*, 28(3), 213–232. <https://doi.org/10.1177/002194369102800303>

- Quinn, R. E., & Rohrbaugh, J. (1983). A spatial model of effectiveness criteria: Towards a competing values approach to organizational analysis. *Management Science*, 29(3), 363–377. <https://doi.org/10.1287/mnsc.29.3.363>
- Schein, E. H. (1993). How Can Organizations Learn Faster? The Problem of Entering the Green Room. *Sloan Management Review*, 34(2), 85.
- Schneider, B., Ehrhart, M. G., & Macey, W. H. (2013). Organizational climate and culture. *Annual Review of Psychology*, 64, 361–388. <https://doi.org/10.1146/annurev-psych-113011-143809>
- Shuaib, K. M., & He, Z. (2021). Impact of organizational culture on quality management and innovation practices among manufacturing SMEs in Nigeria. *Quality Management Journal*, 28(2), 98–114. <https://doi.org/10.1080/10686967.2021.1886023>
- Simboli, A., Taddeo, R., & Morgante, A. (2014). Value and wastes in manufacturing. An overview and a new perspective based on eco-efficiency. *Administrative Sciences*, 4(3), 173–191. <https://doi.org/10.3390/admsci4030173>
- Smith, P. B., Dugan, S., & Trompenaars, F. (1996). National culture and the values of organizational employees: A dimensional analysis across 43 nations. *Journal of cross-cultural psychology*, 27(2), 231–264. <https://doi.org/10.1177/0022022196272006>
- Sousa-Poza, A., Nystrom, H., & Wiebe, H. (2001). A cross-cultural study of the differing effects of corporate culture on TQM in three countries. *International Journal of Quality and Reliability Management*, 18(7), 744–761. <https://doi.org/10.1108/eum000000005778>
- Stolzenberg, R. M. (2004). Multiple regression analysis. In: *Handbook of Data Analysis*. Sage Publications Ltd.
- Tang, G., Park, K., Agarwal, A., & Liu, F. (2020). Impact of innovation culture, organization size and technological capability on the performance of SMEs: The case of China. *Sustainability*, 12(4), 1355. <https://doi.org/10.3390/su12041355>
- Taras, V., Steel, P., & Kirkman, B. L. (2011). Three decades of research on national culture in the workplace: Do the differences still make a difference? *Organizational Dynamics*, 40(3), 189–198. <https://doi.org/10.1016/j.orgdyn.2011.04.006>
- Triandis, H. C. (1994). Cross-cultural industrial and organizational psychology. *International Business Review*, 23(1), 27–31.
- Tung, R. L., & Verbeke, A. (2010). Beyond Hofstede and GLOBE: Improving the quality of cross-cultural research. *Journal of International Business Studies*, 41, 1259–1274. <https://doi.org/10.1057/jibs.2010.41>
- Williams, R. (1983). *Writing in society*. Verso.
- Williams, T. A., Gruber, D. A., Sutcliffe, K. M., et al. (2017). Organizational response to adversity: Fusing crisis management and resilience research streams. *Academy of management annals*, 11(2), 733–769. <https://doi.org/10.5465/annals.2015.0134>
- Wu, Z., & McGoogan, J. M. (2020). Characteristics of and important lessons from the coronavirus disease 2019 (COVID-19) outbreak in China: summary of a report of 72314 cases from the Chinese Center for Disease Control and Prevention. *Jama*, 323(13), 1239–1242. <https://doi.org/10.1001/jama.2020.2648>
- Yoo, B., & Shin, G. C. (2017). Invariant effect of individual cultural orientations: an application of CVSCALE. *International Marketing Review*, 34(6), 735–759. <https://doi.org/10.1108/imr-03-2015-0055>
- Zhong, K., Liu, Y., & Christensen, T. (2022). Crisis coordination in centralized regimes: Explaining China’s strategy for combatting the COVID-19 pandemic. *International Public Management Journal*, 25(7), 1131–1150. <https://doi.org/10.1080/10967494.2022.2073411>