

Maximizing the Sustainability of Firms Through Effective Risk Management: The Moderating Role of Risk Culture

Mbiki Mamai Souleymanou Kadouamai
The University of Maroua, P.O.box 46, Maroua – Cameroon

Abstract

This paper aims to establish whether effective risk management results in increasing the sustainability of SMEs in Cameroon. Using the partial least square - structural equation modeling (PLS-SEM) approach based on a survey from 73 small and medium enterprises (SMEs), we find that governance compliance, risk perception, and leadership improve the firm's sustainability. While, innovation culture has no significant effect on a firm's sustainability, caused by the lack of an innovative leader. The outcome of this study also highlights that risk culture is a moderator of SMEs sustainability and companies that have a strong risk culture have better equipped to deal with risk and to remain sustainable. Overall, the paper casts new light on the contribution of risk perception, governance compliance, leadership engagement on a firm's sustainability, and the importance of creating within the companies a solid risk culture.

Keywords: Effective risk management, Risk culture, Sustainability, SMEs, PLS-SEM.

DOI: 10.7176/EJBM/13-4-10

Publication date: February 28th 2021

1. Introduction

The growing complex environment in which companies nowadays operate has led to an incessant increase in the level of risk in all areas of corporate management. As a result, the practice of risk management has gradually become established in various sectors and industries, as well as across different sizes of a company (Verbano and Venturini, 2013).

For an overall understanding of all risks, opportunities, and their respective interdependencies, companies need to implement enterprise risk management. This enables the management to oversee risk exposure and its potential effect on business objectives. Companies also need to develop new capabilities and practices to face challenges always increasing as the company becomes more sophisticated, which is risks incurred by the companies. So it is suitable for SMEs to implement effective risk management to face the existing weaknesses revealed by the current guidelines of risk management due to the instability of the economic system. In this context SMEs need to change their attitude toward risk, change is urgent and managers need to develop new concepts of risk because of the greater lies in inaction. Because of the instability of these business environments, SMEs managers have to efficiently manage risks within the company for remaining sustainable. To keep up with these changing environments, an increasing number of companies are using sustainability and risk management techniques in their business strategy, not only to mitigate potential loss but also to exploit new business opportunities arising from sustainability (Yilmaz and Floris, 2010). However, SMEs are far from taking a more pro-active approach to risk management, regardless its crucial importance for sustainability and value creation for SMEs (Pereira et al. 2015).

In recent years, risk management has become a key resource in the design of effective risk management systems (Choi et al., 2015). Despite the growing number of research in the field of risk management, only a few have discussed about the topic of risk management in SMEs (Ferreira de Araújo Lima et al., 2020), the field of risk management remains evolving, and Mikes and Kaplan (2014) believe that risk management approaches are still emerging. For this reason, more research in the area of risk management to further extend our knowledge on how to create an effective risk management system within the SMEs. Enterprise-wide risk management promotes risk awareness and risk understanding to all managers and employees throughout the corporate structure. It recognizes the value of the information and suggestions from people at all levels of the company (COSO, 2004). According to the COSO (2017) ERM Framework, ERM is defined as: “*The culture, capabilities, and practices, integrated with strategy-setting and its execution, that organizations rely on to manage risk in creating, preserving, and realizing value*”. ERM definition lay on not only on the capabilities, techniques, and tools but also on the very important aspects of cultural. Vazquez (2014) stipulates that cultural aspects are perhaps even more relevant for effective risk management than the implementation of ERM techniques. Thus, to remain sustainable in complex and constantly changing environments, SMEs must adopt a risk culture within the company in which all employees are empowered and focused on identifying, managing, and reporting any potential risks and opportunities (Sax and Torp, 2015). Another definition of ERM by COSO (2004) reinforces the role of top management and employees in the achievement of company goals. ERM also emphasizes employee participation throughout the entire process of enterprise risk management implementation (Togok et al., 2014) and supporting their willingness to participate in innovative processes that can lead to risk reduction by rapidly and effectively identifying and

hedging risks (Sarpong and Maclean, 2014). According to (Huang et al., 2010), this role of employees depends on manager's ability to demonstrate a leadership style that promotes the participation of all employees in the ERM process and the creation of a safe working environment. To this end, ERM, therefore, integrates all aspects of the risks an organization faces, which requires management to align risk management with corporate governance objectives (Bromiley et al., 2014).

The scope for implementing and maintaining risk management in SMEs about the development of a holistic approach is debated in the literature (Ferreira de Araújo Lima et al., 2020), moreover, there are no common guidelines and norms for company to setting out how to adopt a more comprehensive approach to risk management (Crema, 2017). As a result, risk management can be applied in various ways depending on the size of the company (Henschel, 2010; Rostami et al., 2015). Furthermore, a more detailed understanding of Enterprise Risk Management in SMEs is needed. The purpose of this study aims to examine the sustainability of SMEs in this new holistic paradigm and tries to answer a simple question: Is the implementation of effective risk management increasing the sustainability of the companies involves or not.

2. Theoretical Background and Hypotheses Development

2.1 Risk Culture and Sustainability of SMEs

Most of the risk culture definitions emphasize the employee's behavior and their practices in the process of managing risks (Blanco et al. 2014). IRM (2012) describes risk culture as the values, beliefs, skills, and understanding of risk management that is unique to an organization (such as employees, teams, or groups in a company) with a common objective. Developing a risk culture within the company may encourage employees to identify and discuss risks openly and engaging them in risk management efforts for the company's mission and culture. For Gorzen-Mitka (2018), developing a strong risk culture helps companies proactively manage company-specific risks affecting stakeholder value. This applies to all companies, whether in the private or public sector, regardless of their geographical location. It is therefore obvious to conclude with (Institute of International Finance, 2008) that promoting an effective culture of risk in a company is probably the most essential tool for successful risk management. Nevertheless, risk culture should be the right measure of effective risk management. When management requires the development of risk culture, it helps to establish employee engagement at all levels of management for the implementation of ERM across the organization and it sustainably influences business processes (Boulwood and Dominus, 2014). In support of this assertion, Farrel and Hoon (2015) state that business managers should give more attention to risk culture and also claim that organizations with an inadequate risk culture will be inadvertently found to allow activities that are inconsistent with the stated policies and procedures or to operating outside of these policies. In conclusion, we can say that the integration of risk into the company culture and values is the most important aspect of risk management implementation. In this regard, the implementation of risk culture in a company must be a daily challenge. Therefore, it requires value recognition, a dedicated commitment, and persistent management that remains focused over the years and beyond (Adamson, 2013). The primordial question to be asked was therefore highlighted by IRM (2012) as to know whether risk culture effectively supports or undermines the company's long-term success. It is therefore logical to conclude that risk culture affects the sustainability of companies. Hence we set this hypothesis:

Hypothesis 1: Risk Culture has a positive effect on the Sustainability of SMEs.

2.2 The relationships between Risk Perception and SME's Sustainability

According to the current situation which prevails the instability of the business environment, SMEs have to face more challenges and most of them strive to survive (Oláh et al., 2019). This means managers of SMEs have to manage effectively their risks to assure the survival of the business (Jaroslav et al., 2014). Risk perception may be a key factor in the survival and development of SMEs in this current business environment. In psychology, risk perception has been measured as a personality characteristic of entrepreneurs that may contribute to the success of SMEs (Rauch and Frese, 2000). In the literature review, the research in risk perception has shown that perception is affected by the degree of risk associated with a situation. Most of the empirical studies on risk perception analyzed the impact of risk perception on decision-making, but the relationship between risk perception and SME's sustainability is not very well explored. In their studies, Sitkin and Weingart (1995) reported the influence of risk perception on risk-taking behavior and also the mediating effects of several others on risk behavior. According to Palich and Bagby (1995), entrepreneurs tend to assess business situations more positively than non-entrepreneurs because they are focusing more on business opportunities than on the weaknesses and threats. In this regard, the difference in risk perception among entrepreneurs has an impact on business outcomes. Given the support from prior research, we propose the following hypotheses.

Hypothesis 2: Risk Perception has a positive effect on the Sustainability of SMEs;

Hypothesis 2.a: Risk culture moderates the relationship between Risk Perception and Sustainability in SMEs.

2.3 The relationships between Governance Compliance and SME's Sustainability

In recent years, the discussion concerning corporate governance has been led by the frequent corporate scandals (Enron Corporation and WorldCom in the United States, Parmalat in Italy) caused by fraud and lack of oversight and has essentially focused on transparency and accountability. In 2002 in the United States, the Sarbanes-Oxley Act was approved to restore public confidence in corporate governance. And a new level of transparency, accountability, and responsibilities was articulated to prevent corporate fraud and other unethical practices.

Nowadays corporate governance plays a crucial role in the purpose of business development and how companies should be run. It includes the implementation of business ethics in the value chains, the protection of human rights, the prevention of bribery and corruption (Elkington, 2006). In 1998 the OECD report articulated the principles of corporate governance which refers to the relationships between management, its board of directors, its shareholders, and others stakeholders. Based on the agency theory, the stakeholders as the principal expect returns for the investment they made. Siallagan and Machfoedz (2006) state that corporate governance is a system that regulates and controls a company to provide and improve the company's value to its stakeholders. Therefore, implementing good corporate governance provides a suitable response to solve the agency problems within the company and may assure that the financial statements are issued by the accounting principles (Wahyudin and Solikhah, 2017). Investors may evaluate a company by reading the information presented in the financial statements; therefore a good quality of financial reports reflects the real state of the company life. One of the most challenging corporate governance developments is the poor level of governance compliance. Nevertheless, compliance with corporate governance is vital to business sustainability. Hence, these hypotheses are formulated as follows:

Hypothesis 3: Governance Compliance is positively related to sustainability in SMEs;

Hypothesis 3.a: Risk Culture moderates the relationship between Governance Compliance and Sustainability in SMEs.

2.4 Innovation Culture and SME's Sustainability

Nowadays, innovation has become an essential component of successful companies around the world and Schumpeter et al. (2002) identified innovation as a key factor for the success in economic development. For Brettel and Clevén (2011), the culture of innovation is defined as the degree to which a company is inclined to continuously learn and develop knowledge to detect and fill gaps between market desires and company offerings. Thus, Innovation involves not only the development of a new product or new technology but also includes innovation in organizational design, product design, marketing procedures, and the distribution of resources. Therefore is considered as innovation any strategy adopted by the company to better compete in the emerging market (Salerno et al., 2015; Foss and Saebi, 2017). To be a successful SMEs, innovation must play an important role in these companies. Bakar and Ahmad (2010) argue that a company's ability to innovate is essential to gain a competitive advantage. Besides, several studies have examined the impact of the innovation culture on business performance (Bigliardi, 2013; Martin-De Castro et al., 2013; Verbano and Crema, 2020). Given the importance of innovation for enterprises and the tendency for SMEs to have a flexible corporate culture that encourages innovation, we put forward the following assumptions:

Hypothesis 4: Innovation Culture is positively related to Sustainability in SMEs;

Hypothesis 4.a: Risk Culture moderates the relationship between Innovation and Sustainability in SMEs.

2.5 The link between leadership and SME's Sustainability

Leadership is one of the key factors in the success of the company and it is all about inspiring people, creating a vision, developing and adopting values, and mobilizing people to create value for the company and society (Kohlrieser and Szekely, 2013).

The implementation of the ERM process requires the full involvement and engagement of the managers, which supports the role of leadership in the goal-setting process of the company, and the demonstration of the value of ERM to the company's employees. The literature has shown that a company needs effective leadership to produce long-term results for the sustainability of its business (Longenecker and Neubert, 2003). Bonn and Fisher (2011) also argued that for companies to become more sustainable, business managers should consider the different dimensions of sustainability at both strategic and operational levels. At the strategic level, both in the strategic decision-making process and at the strategy deployment process of the business. For its part, Forbes (2014) observes that leadership requires more leaders who can work in an interdependent and constantly changing global context. According to ISO 31000 (2009), for risk management to be effective, it, therefore, requires strong leadership commitment. In support of this assertion, Hohan et al. (2015) emphasized the role of leadership in setting up an Integrated ERM system in the organization. To this end, we can say that the challenges of sustainability require new values, skills, structures, and, ultimately, a new brand understanding leadership (Burns et al., 2015). Hence we propose the following hypotheses:

Hypothesis 5: Leadership is positively related to Sustainability in SMEs;

Hypothesis 5.a: Risk Culture moderates the relationship between Leadership and Sustainability in SMEs.

The relationships between variables are illustrated in Figure 1 below.

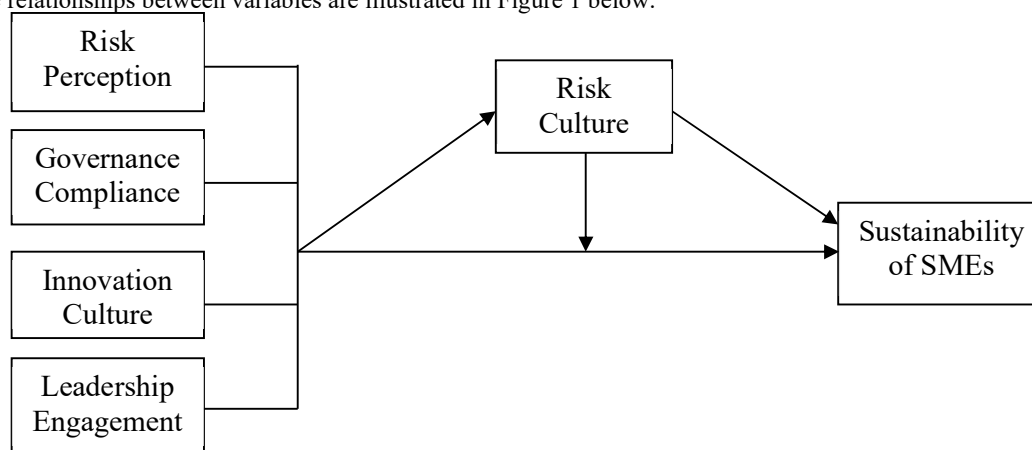


Figure 1: Research Framework

3. Research Methodology

3.1 Design and data collection

This research has adopted a quantitative approach (positivist research paradigm) to obtain data for analysis. This was done through questionnaires that are effective tools for collecting data on the attitudes, values, opinions, or beliefs of the sample (Robson and McCartan, 2016). The questionnaire was based on questions already used in previous work conducted in different contexts and was answered by company managers and risk managers.

The collected data were statistically analyzed using PLS-SEM. The outputs of analysis subsequently serve as evidence for the relevant and reliable findings of the study.

The PLS-SEM consists of two models which are the measurement model that examines the relationship between latent variables and associated variables, and the structural model that examines the relationships between latent variables (Chin, 1998). A total number of 125 questionnaires were distributed to all respondents, 73 companies responded to the questionnaire and deemed it valid for analysis, yielding a response rate of 58.4 percent for the study.

3.2 Measurement of Variables

Sustainability: Given the difficulty for companies to provide the necessary financial information and objective data in the context of Cameroon. That is the reason we based our research on self-reported data. For this purpose, to measure the sustainability of SMEs, we used the scale adopted by Ying et al. (2019). Managers were asked to compare their business performance with that of their competitors in different areas. All responses were given using a five-point Likert scale ranging from extremely poor to extremely good.

Risk perception: To measure risk perception, we used a psychometric instrument developed by Weber et al., (2002). All the respondents were asked to rate the riskiness of each six items using a five-point Likert scale ranging from not at all risky to extremely risky.

Governance Compliance: The variable Governance compliance is a measure of the level of compliance with best practices concerning corporate governance. To measure compliance, respondents were asked to rate the best practices of corporate governance of each element using a five-point Likert scale ranging from higher compliance to lower compliance.

Innovation Culture: Innovation refers to the willingness of management to accept new ways of creating knowledge-based solutions (Liu and Phillips, 2011). To measure the innovation, we used five items developed by West and Anderson (1996) to assess the managers' self-perceptions of innovativeness for each change. All the responses using the five-point Likert scale ranging from highly stable to highly innovative.

Leadership Engagement: Concerning leadership variables, we used the measurement scale developed by Sax and Torp (2015) to measure the leadership of our sample. To measure leadership in this study, it is asked the managers to rate the degree to which their management involves employees or takes into account employees' views and suggestions. This scale consisted of six items using a five-point Likert scale ranging from strongly disagree to strongly agree.

Risk Culture: Risk culture in a modern approach of ERM includes all the values, norms, and behaviors that support, enable, and positively influence management and employees to effectively manage key risks Hunziker (2019). In this study, to measure risk culture, respondents were asked to rate the degree of risk culture within their companies using a five-point Likert scale ranging from extremely poor to extremely good.

4. Research Results

4.1 Measurement Model Assessment

The validation of the measurement model assessment is based on examining the construct reliability and validity which is assessed by Cronbach's alpha, Composite reliability (CR), and Average Variance Extracted (AVE). The scales of internal consistency reliability was evaluated via Cronbach's alpha (Hair et al. 2010) and is considered satisfactory when the CR value is higher than 0.7 (Chin, 2010). According to our result, we can say the Cronbach's alpha and CR values of all the constructs are above the threshold of 0.7, therefore the measurement used in this study is valid and internally consistent (Table1).

Convergent validity was based on reliability and average variance extracted values (Hair et al., 2010). All loading estimates construct were statistically significant when the AVE value is equal to or greater than 0.5. This means that construct factors should explain more than 50% of the variance among their respective indicators (Hair and al., 2012)

In Table1, the values AVE of all the indicators showed supporting evidence for adequate convergent validity for the constructs variable. All loading estimates of the constructs were statistically significant and equal to or greater than .50, lending support for their convergent validity. This means that all construct factors explain more than 50% of the variance among their respective indicators and we have a good convergent validity with all AVE values greater than .50. We can read also in (Table1) that the overall results of the relevant tests supported the discriminant validity of all constructs variables. Hence, the study confirms the convergent validity and reliability of the measurement model.

Table1: Internal consistency reliability and convergent validity

Latent Variable	Cronbach's Alpha	CR	AVE	Discriminant Validity
Firm's Sustainability (FS)	0.847	0.885	0.525	0.724
Governance Compliance (GC)	0.871	0.898	0.558	0.747
Innovation Culture (IC)	0.865	0.895	0.552	0.743
Leadership Engagement (LE)	0.833	0.875	0.541	0.735
Risk Culture (RC)	0.813	0.914	0.842	0.918
Risk Perception (RP)	0.824	0.872	0.534	0.730

4.2 Structural Model and Hypothesis Testing

The structural model focused on testing hypothesized dependence relationships between constructs. In this study, we examined the direct relationships between risk perception, governance compliance, innovation culture, and leadership engagement, and sustainability, and between a firm's sustainability and risk culture as moderating variables.

A bootstrapping technique was utilized to predict the significance of path coefficients. The path coefficient using under the bootstrapping approach allows assessing the significance of PLS coefficients. After running the bootstrapping analysis, the values in the path diagram are values for t-tests of significance. All t values above 1.96 are significant at the 0.05 level and calculation results may also be set to "p Values" to get probability levels in ordinary PLS bootstrapping. If the p-values are 0.000 it means that all paths are significant at better than the 0.001 probability level at 95% confidence level. The bootstrapping results are presented in table2

Table2: Direct path coefficient of the structural model

Path Relationship	Hypothesis	Std Beta (β)	St. Dev	t-Value	p-Value	Results
RC -> FS	H1	-0.394	0.117	3.366	0.001	Accepted
RP-> FS	H2	-0.338	0.087	3.886	0.000	Accepted
GC -> FS	H3	0.170	0.084	2.029	0.043	Accepted
IC -> FS	H4	-0.109	0.070	1.554	0.121	Rejected
LE -> FS	H5	0.247	0.101	2.444	0.015	Accepted

Significant at 5% for the T-value>1.96 (p<0.05)

The results presented in Table2 shows that the relationship between risk culture and sustainability of SMEs is significant (β =-0.394; t =3.366; p = 0.001) at 0.05 level supporting our hypothesis H1. Similarly, the relationship between risk perception and sustainability is significantly related with (β =-0.338; t =3.886; p = 0.000) at 0.05 levels and supporting the hypothesis H2. The findings also show the relationship between leadership and a firm's sustainability is significant (β =0.247; t =2.444; p = 0.015) and confirmed our hypothesis H5. As such the confirmation of the hypothesis H3 with (β =0.170; t =2.029; p = 0.043) stipulated the relationships between governance compliance and sustainability of SMEs. The results do not provide the significant effect of innovation culture on a firm's sustainability (β = -0.109; t =1.554; p =0.121); and do not confirm the hypothesis H4.

Table 3: Indirect Effect path coefficients (Moderating effect of Risk Culture)

Path Relationship	Hypothesis	Std Beta (β)	St. Dev	t-Value >1.96	p-Value <0.05	Results
RP -> RC-> FS	H2a	-0.131	0.053	2.455	0.014	Accepted
GC -> RC-> FS	H3a	0.129	0.055	2.343	0.020	Accepted
IC -> RC-> FS	H4a	0.093	0.046	2.045	0.041	Accepted
LE -> RC-> FS	H5a	0.218	0.086	2.533	0.012	Accepted

Significant at 5% for the T-value>1.96 (p<0.05)

Hypothesis H2a proposed the relationship between risk perception and sustainability is moderated by risk culture. We found that risk culture had an indirect effect on SME's sustainability ($\beta=-0.131$; $t=2.455$) and the interaction between governance compliance and risk culture is significant with sustainability ($\beta=0.129$; $t=2.343$); hence the hypothesis (H3a) is accepted.

The results of the moderating test revealed a positive interaction between leadership and sustainability ($\beta=0.218$; $t=2.533$); as such, H5a is accepted. Similarly, the results also found an indirect effect between innovation culture and sustainability ($\beta=0.093$; $t=2.045$); as such, H4a is also accepted.

5. Discussion of the Results

The subject of this research is to examine the moderating role of risk culture on a firm's sustainability. We used PLS-SEM to measure the direct effect of risk perception, governance compliance, innovation, leadership, and indirect effect of risk culture on SME's sustainability.

The findings of this study indicate that risk perception, governance compliance, and leadership engagement affect SME's sustainability; while innovation culture does not provide a significant effect on SME's sustainability. Moreover, the study also has shown that risk culture played a moderating role in the relationship between risk perception, governance compliance, innovation, leadership, and SMEs sustainability.

Nowadays, the SMEs who survive are those who can manage the risks arising from the environment, SMEs need to adapt to the changes to remain sustainable. In this study, the relationship between risk perception and sustainability is significantly related. Boermans and Willebrands (2017) found that risk perception is positively associated with performance. This result is consistent with those of Willebrands et al., (2012) who found that entrepreneurs with higher risk perception, in general, earn higher revenue. This result extends that risk perception is directly connected with great financial performance. Our finding is compatible with those of Jianmu and Kulathunga (2019) who found that financial risk attitude affects SMEs' sustainability. In their study, Sitkin and Weingart (1995) also found that entrepreneurs with a higher risk perception make less risky decision-making. Our result suggests based on previous research, that the effects of this less risky decision-making improve the sustainability of SMEs in Cameroon. This study, therefore, represents a key step in determining whether risk perception can serve as a determinant of the sustainability of SMEs by reducing the incidence of their failure.

We also found a positive relationship between governance compliance and SME's sustainability. The research leads by Tjondro and Wilopo (2011) states that the implementation of good corporate governance can positively impact company performance. Our finding is consistent with the research results realized by Donker et al. (2008) who found a positive influence of corporate ethics on business performance, while Tanjung (2020) has discovered evidence of a relationship between corporate governance compliance and performance. We, therefore, observe that any company with strong governance compliance and able to integrate ethical values into its decision-making enhances the sustainability of its business activities.

The positive effect of leadership engagement and SME's sustainability corroborates the study conducted by (Menab and Abdul Aziz, 2020) who found a significant relationship between leadership and company survival. Sax and Torp (2015) found that participative leadership improves risk performance and Selamat (2018), in his study underlines the importance of leadership in the implementation of ERM.

The outcomes of our analysis show that there is no relationship between the innovation and the sustainability of SMEs in the context of Cameroon. This finding is in contradiction with the conclusions of Mbizi et al, (2013) who found that innovation is one of the key attributes that help manufacturing SMEs to be competitive. While in the context of China, Tang et al., (2020) provide evidence that innovation culture is significantly associated with the performance of companies in the services sector, but not significant in the manufacturing industry. This may be justifying by the fact that leaders in SMEs in Cameroon based on our results showed a lack of risk-taking behavior.

In the complex business environment where creativity is appreciated, it may be needed for every leader to possess risk-taking qualities in such a way as to create a favorable business environment for their employees to be innovative and become more risk-takers. This is in line with findings from Maladzi (2015) in South Africa who found that leaders seem to have a problem in establishing an innovative mindset within SMEs.

The current study has also found the moderating effect of risk culture on the relationship between the constructs variables. The research carried out by Selamat and Ibrahim (2018) revealed the role of risk culture as a

moderating variable in the relationship between risk management committees and risk management implementation. For Menab and Abdul Aziz (2020), the culture of risk moderate the link between leadership, risk appetite, and business survival. Furthermore, the development of a solid risk culture may help companies in the way it operates across the board with accountability for risk management being a priority and therefore enhances the sustainability of SMEs.

6. Conclusion

Current research opens up new theoretical and empirical perspectives on the effects of effective risk management on the sustainability of SMEs as well as on the relevance of cultural factors for efficient risk management implementation. After a detailed literature review, we have constructed a conceptual framework and formulated hypotheses that were used as a basis for this study. We found a significant effect of risk perception and corporate compliance on SME's sustainability supporting our hypotheses H2 and H3.

Besides, we found a significant effect of leadership on the sustainability of SMEs supporting the H5 hypothesis, highlighting the importance of leadership that all staff is involved in the risk management process.

We also found no significant effect of innovation culture with SME's sustainability (H4), caused by the lack of an innovative leader. Most of them opted to create an organizational culture where the employee cannot take risks.

This study highlight risk culture as a moderator of the sustainability of SMEs and confirmed the hypotheses H2a, H3a, H4a, and H5a. Thus, risk management becomes strategic by creating a risk culture, leadership engagement, and good corporate compliance.

In definitive, for an effective risk management system, SMEs need to build a dynamic business environment which can rapidly identify new opportunities and threats, and ensure that SMEs can identify potential risk and managing them effectively to maximize their sustainability.

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