Paradigms
Print ISSN 1996-2800, Online ISSN 2410-0854
2020, Vol. 14, No. 1 Page 214-218
DOI: 10.24312/193014030

The Influence of Sustainability Risk Management on Corporate Survival of Environmentally Sensitive listed Companies in Pakistan

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Cite this paper: Khan, S. N., Humayon, A. A., Akhtar, K., Asif, J. M. F., Noman, M., & Sarki, I. H. (2020). The influence of sustainability risk management on corporate survival of environmentally sensitive listed companies in Pakistan. *Paradigms, 14*(1), 214-218.

Business environment continuously changes such as technological development and business landscape are reshaping global and have risen demand for companies to place substantial emphasis on the evolving sustainability risks.So, sustainability risk management (SRM) is an addition of the enterprise risk management (ERM) concept which is used to direct evolving risks and other non-quantifiable risks. The motive of this research is to investigate the influence of SRM implementation on the corporate survival of environmentally sensitive listed companies in Pakistan. To achieve this objective, three hundred and fifty (350) questionnaires were distributed to the managerial employees of the risk management department of the PLCs by using random sampling. Data where analyzed through smart PLS 3. It is found that SRM key factors (risk governance, risk culture, erm base) has a significant positive relationship with corporate survival .Current research suggested that strong risk culture, appropriate risk management tools and successful business permanence planning would be valuable to environmentally sensitive companies.

***Keywords**:* SRM, Corporate Survival, Environmentally Sensitive listed Companies, Pakistan

INTRODUCTION

Issues of sustainability like change in climate, utmost weather events and resource shortage origin of the grave economic sufferers and disturb the world's economy, society and environment (Bokhari, Khan, Khalid, & Noman, 2019; Khan & Ali, 2017; Pagell & Shevchenko, 2014).The beginning of innovative technological, environmental and social change is a root of enlarged anxiety about sustainability issues(Mazri, 2013). Afterward, these issues become a worry for a company in dealing environmental and social risks which have so far been overlooked (Freise & Seuring, 2015; Khan & Ali, 2017).The earlier few years have realized shattering events like hurricane Sandy and Volkswagen emission shames which have exposed companies to more environmental and social risks.

So far, the companies have recognised the influence of sustainability problems on their supply chains and stakeholders (Khalil, Khalil, & Khan, 2019; Whelan & Fink, 2016). Moreover, the environmental and social risks have been exposed as the highest hazard to companies in a survey shown by the World Economic Forum's Global Risks in 2017.The companies are fronting extra significant stakeholder compression to operate greater accountable businesses due to sustainability problems, and these problems influence corporate survival(Giannakis & Papadopoulos, 2016). Although, most have realised that the collapse to mark the environmental and social risks have sequel on the stakeholder value and corporate status (Dafikpaku, Eng, & Mcmi, 2011). This is for the reason that stakeholders have placed their beliefs on the companies to bring out their activities in a way which absolutely affects an organisation's reputation and image (Khan & Ali, 2018; Soleimani, Schneper, & Newburry, 2014).Therefore, the company's ability to respond to the external business environment and to manage social and environmental concern help to boost stakeholder value for long-term survival(Mathern, 2013). So, it is significant to have a greater understanding of sustainability issues that could affect the corporate survival to address the stakeholders' concerns and improve risk management practices.

Several academic scholars and practitioners agreed that integrating sustainability into ERM practices help companies address the growing risks on sustainability issues (Anderson & Anderson, 2009; Beasley & D Scott Showalter CPA, 2015; Khan, Ali, Anjum, & Noman, 2019).Sustainability risk management (SRM), integrates the triple-bottom line (TBL) aspects of sustainability (economic, environmental and social) emphasizing the environmental and social responsibility risks(Anderson & Anderson, 2009; Lam, 2017).Sustainability risk management (SRM) can be defined as the strategic integration of sustainability principles in the ERM process to address emerging risk issues to ensure continued corporate survival while conserving the communities and environment (Reuvid, 2010). According to COSO (2013), SRM is crucial to better manage enterprise risks in the broader views of environmental, social and governance (ESG) to enhance stakeholder value construction. Its implementation is for the purpose of long-term corporate survival.

A few studies investigate the relationship between sustainability and performance. Ahn (2015)studied the relationship between the company performance indicator, sustainability and ERM processes Beasley for non-financial services companies using Tobin-Q as a measure of performance. However, studies regarding the factors that contribute to successful SRM implementations to ensure continuous growth and corporate

survival among environmentally sensitive industries context are nevertheless limited. Environmentally sensitive companies' performance plays a dynamic role in the economy of Pakistan because they are among the major contributor to gross domestic product (GDP) (Economic Survey, 2018). These companies' business operations depend heavily on natural resources and technologies to attain their outputs, and their operations have detrimental impacts on the environment and society(Khan & Ali, 2017; Mokhtar & Sulaiman, 2012).The risk managers in these sectors have so far manage environmental and social risks based on project level rather than at the enterprise level (Liu, Low, & He, 2011). This problem has necessitated to research aimed at, improving company's capacity to manage emerging environmental and social risks for ensuring long-term corporate survival.

Moreover, stakeholders are becoming more conscious of that sustainability is a workable strategy to lead well-informed investment decisions. That's why listed companies are more concerned in integrating sustainability to boost their capability to access funding in the capital markets(Charlo, Moya, & Muñoz, 2015; Khan & Ali, 2017). Given the, this current study aims to investigate the influence of SRM implementation on the corporate survival of the environmentally sensitive sectors in the Pakistan listed companies.

LITERATURE REVIEW

Sustainability Risk Management (SRM)

Most of the previous research indicate the different factors which are considered as success factors in SRM implementation. Critical success factors have been acknowledged as "*one of the firm's activities that have a strong influence on the ability of the firm to meet its objective"* (Mcleod & Scheel, 2004). According to the pervious literature, risk governance, risk culture and ERM base are factors that have been found and recommended as SRM critical factors. Thus, it is imperative that these factors should be considered in SRM implementation to protect corporate survival.

Risk Governance

Effective risk management implementation requires strong risk governance. An increasing attention by the board and top management on risk management helps companies to achieve higher risk-adjusted performance in addition to minimise surprises, scandals, and bankruptcies in the long run (Khan, Yaseen, Mustafa, & Abbasi, 2019; Sheedy, 2016). Weak risk governance was considered as the major impetus of corporate collapse and the global financial crisis (Dobler, Lajili, & Zéghal, 2014). According to Stein and Wiedemann (2016) risk governance bonds the relationship between corporate governance and risk management and is closely aligned with the company objective of long-term value optimization. The cruciality of risk governance has gained attention among scholars and risk managers as it is undeniably a key factor to ensure long-term corporate survival(Van Asselt & Renn, 2011; Zuo, Zhu, Wang, Wei, & Bondar, 2017)

To date, a rare study has acknowledged the role of risk governance in the area of risk management. For instance, a study by Zuo et al. (2017) tested different institutional governance factors such as democracy, economic independence, government efficiency, and corruption that affect risk governance across countries and they discovered that government effectiveness establishes the leading outcome on risk governance to enhance capabilities in the fight against risks. Clearly, risk governance has become a significant component towards improving risk management process to cope with complexity risks.

Risk Culture

Risk culture is currently gaining significant attention among practitioners due to it being considered as the root cause of risk management weaknesses in the wake of a financial crises (Khan, Ali, et al., 2019). Risk culture refines the concept of organisational culture which symbolises the values and behaviour of the people in that organisation (Perrin, 2008). Being an important factor in organisations, risk culture is regarded as beliefs, values and management understanding and employees that form a decision about risks which is serious to the long-term growth and survival of a company (Bisias, Flood, Lo, & Valavanis, 2012).

Empirical studies related to the relationship between risk culture and SRM implementation is scant. However, some studies have demonstrated the relationship between risk culture and ERM effectiveness. For example, Richter (2014)studied the change of risk culture in 30 top financial companies in Germany between 2008 and 2011 based on a content analysis. The result found that a clear trend towards the implementation of a sounder risk culture over the timeframe of four years in the financial market in Germany. This shows that risk culture has greatly improved year by year following the global financial crisis that impacted them. In the context of SRM implementation, the more aware employees at all levels in the organisation are of the emerging risks, the better they can manage the adverse impact of these risks.

ERM Base

Risk management base or infrastructure is essential to ensure the effectiveness of SRM implementation. According to Deloitte (p.5, 2013), risk management infrastructure serves as the "glue" that gives cohesion and consistency to an organization's risk management effort. Indeed, the risk management base has been found as the most critical success factor in ERM (Khan & Ali, 2017).The study further identifies that the risk management base comprises of a basic knowledge of staff in risk management, and an existing risk management process, procedures, policies, and infrastructures (such as the balanced scorecard). The balanced scorecard (BSC) is considered as an important infrastructure that may assist companies to integrate non-financial measures into business operations(Butler, Henderson, & Raiborn, 2011).Elements of the ERM infrastructure such as risk management process, procedures, policies, balance scorecard and business continuity plan are crucial to assist companies in sustaining their SRM implementation.

Corporate Survival

Corporate survival is the main objective of SRM implementation. In an increasingly complex environment, emerging risks of technical innovation and unexpected events have become the greatest threats to organisational survival. SRM helps companies to preserve their survival against the growing

number of emerging risks and non-quantifiable risks, as these risks are associated with a low probability of occurrence and are uncontrollable in nature(Butler et al., 2011).Indeed, a study by Khan, Ali, et al. (2019) found that instead of shareholders' value, survival is the main objective of ERM implementation in financial companies.

A company's value depends on its efforts to satisfy the needs of both stakeholders and shareholders. An SRM approach accommodates both shareholders and stakeholder value for corporate survival. SRM extends the concept of ERM to focus on stakeholders' value because most of the risks are triggered by the discrepancy between stakeholders and the company's objectives (Purdy & Lark, 2012). In addition, there is an increasing focus on managing the stakeholders' interest to improve its value for long-term survival, as institutional investors are currently demanding more information on environmental, social and governance (ESG) risks (Mathern, 2013). Hence, the top management should be aware that stakeholder value is vital for the growth of the company and does not focus merely on the creation of shareholder wealth(Laszlo, 2008).

Modern portfolio theory (MPT) and stakeholder theory (ST) are two underlying theories that can be applied to support the research framework in this study. An SRM approach assists companies to improve the management of risk related to sustainability issues in their portfolio. In addition, SRM helps to achieve a more sustainable outcome through consideration of non-financial motives and ethical aspects in their risk and return decisions. This notion is in-line with the modern portfolio theory (MPT) which explains the practical applications in articulating sustainability issues in respect to a decision between risk and expected value (Krysiak, 2009). Furthermore, the stakeholder theory (Freeman, 1984) has been cited as the most applicable theory in explaining the concept of SRM. Stakeholder engagement is vital in countering sustainability issues to reduce associated risks. Business value is created relative to the value of the company and its stakeholders(Lankoski & Smith, 2018).

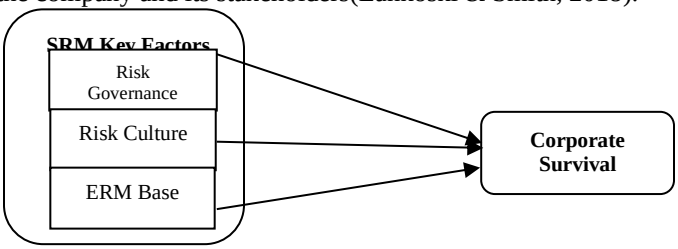

Figure 1: *Theoretical Framework*

The hypotheses are formulated as follows:

H1: There is a relationship between risk governance and corporate survival.

H2: There is a relationship between risk culture and corporate survival.

H3: There is a relationship between ERM base and corporate survival.

RESEARCH METHODOLOGY

A quantitative approach is adopted to investigate the relationship between SRM critical factors and corporate survival. A survey technique is used to collect data from the key managerial heads who are responsible for the companies' risk management activities from the environmentally sensitive and services listed companies. Environmentally sensitive companies have been chosen due to the greater environmental impact of their business operations on the ecosystem and community (Patten & Trompeter, 2003). These include chemical, construction, plantation, transportation, mining and resources, petroleum and industry product(Khan & Ali, 2018). On the other hand, most of the services companies comprise of firms that offer public necessity in which risks and its management, and firm's performance have a beneficial effect on the public than other service sectors (Khan & Ali, 2017). The sampling procedure was carried out by using a random sampling technique. Out of the total of 350 questionnaires distributed, we received 170 responses, thus achieving a response rate of 48 percent. This study uses 7-point Likert scale. For analyses using Smart PLS 3.0 (Henseler, Ringle, & Sarstedt, 2015). PLS-SEM has become a progressively practical method, in the field of academic research (Hair et. al., 2012). In spite of its extensive application, PLS-SEM is known as a key multivariate analysis method to estimate complex cause-effect relationship models with latent variables and does not require a higher sample or normal distribution of data (Hair, Black, Babin, & Anderson, 2010).

Data analysis and Results

Measurement model

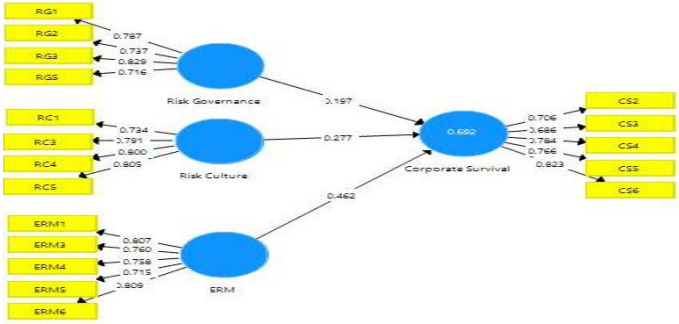

Figure 2: *Measurement Model*

Table,1 illustrates the assessment of construct reliability and convergent validity for the variables in this study. All reflective constructs exhibit composite reliability (CR) is greater than the recommended threshold value of 0.7. These are good indicators that all constructs possess internal consistency. In addition, after removing items with low loadings, these constructs also demonstrate adequate convergent validity. All constructs have AVE ranging from 0.57 to 0.613, which are above, commonly suggested threshold value of 0.5 for average variance extracted (AVE). AVE values indicate that the items loaded to the respective constructs can explain more than 50 per cent of their corresponding (reflective) indicators variance(hair,et,al,2015).

Table1: *Measurement Model Finding*

	Items	loadings	AVE	CR	RHO- A	Cronbach's Alpha
Risk Governance	RG1	0.787	0.59	0.852	0.775	0.768
	RG2	0.737				
	RG3	0.829				
	RG5	0.716				
Risk Culture	RC1	0.734	0.613	0.864	0.796	0.79
	RC3	0.791				
	RC4	0.8				
	RC5	0.805				

ERM	ERM1	0.807	0.594	0.879	0.829	0.828
	ERM3	0.76				
	ERM4	0.758				
	ERM5	0.715				
	ERM6	0.809				
Corporate Survival	CS2	0.706	0.57	0.868	0.813	0.81
	CS3	0.686				
	CS4	0.784				
	CS5	0.766				
	CS6	0.823				

Moreover, the model external constancy was determined with the help of discriminant validity which is given in Table 2 by via AVE square root.

Table 2: *Discriminant Validity*

	Corporate Survival	ERM	Risk Culture	Risk Governance
Corporate Survival	0.755			
ERM	0.781	0.77		
Risk Culture	0.676	0.598	0.783	
Risk Governance	0.728	0.776	0.62	0.768

Structural model

The current study has been utilized the bootstrapping to evaluate the structural model. For the current method is supposed as one of the potential process to test and analyze (Zhao, Lynch, & Chen 2010; Hayes, 2009). Moreover, Hair et al. (2014) recommended that PLS-SEM bootstrapping method for direct effect is suitable for quantitative studies.

Figure 3: *Structural model*

Figure 3 exhibition the outcomes of bootstrapping. The model illustrations the path coefficient, t-statistics, and p-value of an outer model for all variables. Though, the acceptance and rejection of the hypothesis are specified below in Table 3

Table 3: *Structural Model Assessment*

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
ERM -> Corporate Survival	0.424	0.42	0.072	5.87	0.000
Risk Culture -> Corporate Survival	0.25	0.253	0.055	4.524	0.000
Risk Governance -> Corporate Survival	0.276	0.281	0.083	3.327	0.001

Table 3 shows that all hypothesis is accepted SRM key factors (RG, RC, ERM) have a significant relationship with the CS as the significant value is 0.00. Positive beta value for RS, RC and ERM shows a positive relationship. It directs the higher corporate survival through effectiveness of SRM implementation. Thus, all hypotheses are supported.

Table 4: *Variance Explained (R^2)*

	R Square	R Square Adjusted
Corporate Survival	0.692	0.689

Moreover, Table 4 shows, R^2 is 0.692 for the Corporate survival. It directs that all three variables are making 69% change dependent variable.

Table 5: *Cross-validated redundancy*

	SSO	SSE	Q^2 (=1-SSE/SSO)
Corporate Survival	223.01	139.06	0.376
ERM	178.69	178.69	
Risk Culture	149.27	149.27	
Risk Governance	182.29	182.29	

For the procedure using the blindfolding, present study used Stone-Geisser test for Q^2 of the model (Stone, 1974). The cross-validated redundancy value (Q^2) should be higher than zero (Chin, 1998; Henseler et al., 2009). Table 5 indicates that Q^2 is 0.376 which is greater than acceptable value.

DISCUSSION AND CONCLUSION

The risk governance on corporate survival is positive and significant. This result is consistent with the previous studies which indicates the cruciality of risk governance has gained attention among scholars and risk managers as it is undeniably a key factor to ensure long-term corporate survival (Zuo et al., 2017). The influence of risk culture on corporate survival is significant. Previous research has acknowledged that organizations which possess a strong leadership support and commitment will attain a higher level of risk culture (Richter (Richter, 2014). In addition, ERM base is found to be significantly influential on corporate survival. This finding also corresponds to those of Khan, Ali, et al. (2019) that risk management base is the most important factor in explaining the shareholder value in their study. However, a study by the World Business Council for Sustainable Development (2016) highlights that some companies admitted that ERM frameworks are insufficient to effectively manage environmental and social risks.

Regardless of the importance of environmental, social and governance (ESG) issues, very few companies are integrating sustainability into their risk management practices managing emerging risks and social risks. Risk governance, risk culture and ERM base, are among the critical success factors of SRM implementation to achieve long-term corporate survival. An SRM approach creates opportunities for companies to gain enlightened value through better management of emerging risks and non-quantifiable risks for their long-term survival, whilst societies will gain it through a good quality of environment and equal treatment of rights.

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