

# Assessing The Impact Of Knowledge Management On Organizational Sustainability In The Pakistani Context: Do Innovativeness, Proactive-Ness And Risk Taking Behavior Play Any Interacting Role?

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## Abstract

This study investigates the role of knowledge management (KM) in organizational sustainability within the context of Small and Medium-sized Enterprises (SMEs) in the Peshawar city of Pakistan. The primary aim is to assess whether the relationship, if any, between these two variables is moderated by innovativeness, proactiveness, and risk-taking behavior. The study adopts an objective-driven, cross-sectional research design. Data were collected using a survey questionnaire distributed among SMEs in Peshawar. To test the hypotheses and analyze relationships, Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed. The findings of the study offer several key insights. Firstly, KM significantly explains organizational sustainability, underlining the strategic importance of knowledge management for SMEs in Peshawar. Additionally, the study highlights that innovativeness, proactiveness, and risk-taking also wield significant effects on sustainability. Specifically, innovativeness and proactiveness are identified as moderators that enhance the relationship between KM and sustainability, emphasizing their role in amplifying the impact of knowledge management practices. Surprisingly, risk-taking displayed no moderating effect, suggesting that while it may be an important factor, its influence on the KM-sustainability relationship in this context is limited. This study contributes significantly to both the Resource-Based View (RBV) and Knowledge-Based View (KBV) theories. It reaffirms the importance of knowledge management as a strategic resource (RBV) and enriches our understanding of knowledge-based capabilities, especially in the context of SMEs (KBV). The findings also expand the literature on the interplay between knowledge management, innovativeness, proactiveness, and risk-taking within the specific context.

## I. Introduction

Within the constantly evolving environment of contemporary business, the endeavor to achieve sustainability performance has emerged as a crucial goal for firms aiming to achieve success while mitigating detrimental environmental and social consequences. Sustainable growth may be attained by an enterprise through the committed attention to three fundamental dimensions: economic, social, and environmental. Hence, it is

imperative for enterprises to give precedence to their financial and commercial objectives, while also being mindful of the social advantages and environmental preservation. Moreover, it is imperative for every company to ensure sustainable performance by effectively addressing the current demands while simultaneously safeguarding the needs of future generations (Schaltegger et al., 2015; Baumgartner & Rauter, 2017). The concept of business sustainability pertains to the capacity of

an organization to attain long-lasting prosperity via the incorporation of economic, environmental, and social factors into its operational and decision-making frameworks. This perspective transcends conventional profit-oriented methodologies, recognizing that the sustainability of an enterprise is contingent upon the integration of economic expansion, environmental preservation, and societal accountability. The attainment of sustainable performance necessitates the implementation of a complete strategy that effectively harmonizes immediate objectives with the conservation of resources, the enhancement of community welfare, and the mitigation of adverse environmental effects. The central focus of this endeavor resides in the strategic implementation of Knowledge Management (KM), which has a diverse impact on several facets of corporate sustainability performance.

Numerous scholarly works have acknowledged knowledge as the primary asset of a corporation (Obeidat et al., 2016), with certain studies even asserting that it represents the sole foundation for achieving sustained competitive advantage (Mahdi et al., 2019; de Guimarães et al., 2018). KM has a crucial and diverse role in the contribution to and improvement of several facets of company sustainability performance. A company's success or failure depends on its knowledge.

Although the significance of knowledge management (KM) in small and medium-sized enterprises (SMEs) is widely recognized, there is a noticeable research vacuum in examining the intricate dynamics that emerge when proactiveness, innovativeness, and risk-taking behavior are included as moderating variables in the association between KM and economic sustainability. In the context of Peshawar, businesses are currently facing the challenges posed by a dynamic global environment, which is marked by rapid technical progress and evolving

market requirements. Consequently, the significance of regulating behavior in this context is becoming more and more relevant. Therefore, the investigation of this discrepancy not only acknowledges the distinct circumstances of the area but also adds to the wider comprehension of how small and medium enterprises (SMEs) may efficiently utilize knowledge management (KM) to improve their long-term viability.

To gain an in-depth understanding of the impact of knowledge management (KM) on company sustainability, it is crucial to acknowledge the possible moderating influences of proactiveness, innovativeness, and risk-taking behavior. The primary objective of this study is to address a significant knowledge gap by examining the moderating role of organizational features in the link between knowledge management practices and the business sustainability outcomes of small and medium-sized enterprises (SMEs) in the region of Peshawar. Because, in the context of Peshawar, businesses are currently facing the challenges posed by a dynamic global environment, which is characterized by fast technical breakthroughs and changing market demands. Consequently, the significance of governing behaviors in this context is becoming more and more relevant. Hence, the inquiry of this gap not only acknowledges the distinct circumstances of the subject but also adds to the wider understanding of how small and medium enterprises (SMEs) may proficiently use knowledge management (KM) to boost their sustainability over the long term.

Despite the growing recognition of KM as a critical driver of organizational sustainability, there is still a gap in the literature regarding the moderating effects of innovativeness and proactiveness on this relationship (Sohaib & Ahmad, 2019; Aghajani & Behmanesh, 2019). Therefore, the purpose of this study is to examine the role of KM in promoting organizational sustainability, and to investigate the moderating

effects of innovativeness and proactiveness on this relationship.

The significance of the study lies in its contribution to the understanding of the role of knowledge management in organizational sustainability moderated by innovativeness, proactiveness and risk-taking behavior in SMEs. The study can help SMEs to develop and implement effective knowledge management practices that contribute to their long-term sustainability. The study can also assist policymakers in developing policies and programs that support the adoption of knowledge management practices in SMEs. Moreover, the study can provide insights into the moderating effects of innovativeness and proactiveness on the relationship between knowledge management and organizational sustainability. SMEs can use these insights to develop innovative and proactive strategies that enhance their knowledge management practices and promote their sustainable growth. Policymakers can also use these insights to develop policies and programs that encourage SMEs to adopt innovative and proactive approaches to knowledge management.

Following are the objectives of the study:

1. To examine the impact of knowledge acquisition on organizational sustainability in SMEs at Peshawar, Pakistan.
2. To test the effect of knowledge sharing on organizational sustainability in SMEs at Peshawar, Pakistan.
3. To assess the influence of knowledge utilization on organizational sustainability in SMEs at Peshawar, Pakistan.
4. To examine the moderating effect of innovativeness in the relationship between knowledge management (and its dimensions) and organizational sustainability in SMEs at Peshawar, Pakistan.
5. To check the moderating effect of proactiveness in the relationship between knowledge management (and its dimensions) and

organizational sustainability in SMEs at Peshawar, Pakistan.

6. To observe the moderating effect of risk-taking behavior in the relationship between knowledge management (and its dimensions) and organizational sustainability in SMEs at Peshawar, Pakistan.

## 2. Literature Review

Knowledge management is essential to business sustainability because it helps firms to efficiently manage their intellectual assets, generate value, and adapt to changing business conditions. The relevance of knowledge management in attaining sustainable performance, innovation, and environmental performance has been highlighted by a number of empirical studies exploring the link between knowledge management and corporate sustainability.

Raza and Mateen (2019) conducted a study on the role of knowledge management (KM) in enhancing organizational sustainability. The authors argued that KM can contribute to sustainability by enabling organizations to acquire, store, and disseminate knowledge related to environmental, social, and economic issues. Aghajani and Behmanesh (2019) conducted a systematic review of the literature on KM and organizational sustainability. The authors found that while there is strong evidence of a positive relationship between KM and sustainability, there is a lack of empirical research examining the moderating effect of factors such as innovativeness and proactiveness. Nguyen et al. (2020) examined the mediating role of absorptive capacity in the relationship between KM and organizational sustainability. The authors find that KM has a positive effect on sustainability, and that this effect is partially mediated by absorptive capacity. Sánchez-Torres et al. (2021) conduct a systematic review of the literature on KM and organizational sustainability, with a focus on future research directions. The authors

argue that future research should explore the relationship between KM and sustainability in different contexts and with different types of organizations, and should also examine the mechanisms by which KM contributes to sustainability.

Knowledge management and sustainable performance were shown to be positively correlated in Vietnamese businesses, according to Nguyen and Nguyen (2020). Similar findings were made by Hossain and Islam (2017), who discovered that knowledge management has a favorable effect on organizational performance in the higher education sector. Knowledge management skills were found to be positively correlated with organizational innovation by Wang, Lin, and Chang (2015).

Seuring and Müller (2008) provided a conceptual framework for sustainable supply chain management in the context of supply chain management, identifying knowledge management as a crucial element. Abdel-Basset et al. (2020) examined the literature on big data analytics for sustainable manufacturing in the context of manufacturing and discovered that knowledge management was essential to attaining sustainable manufacturing. The association between knowledge management and environmental performance in Chinese manufacturing enterprises was determined to be favorable by Zhang, Huo, and Liu (2018) who looked into the topic.

In their comprehensive assessment of the literature on the effects of knowledge management on innovation performance in SMEs, Rafele and Cegarra-Navarro (2017) discovered a favourable correlation between the two. There are limitations to the studies, such as small sample sizes, reliance on literature reviews, and a lack of investigation into the effects of other factors on organizational performance and innovation, even though they offer insightful

information about the connection between knowledge management and business sustainability. The body of research demonstrates that knowledge management may enhance creativity, sustainability, and organizational success.

The impact of knowledge management on business sustainability has been an important topic of study in recent years, with many researchers exploring the factors that moderate this relationship. One important moderator that has received attention in the literature is proactiveness. Li et al. (2019) conducted a study on Chinese manufacturing firms and found that knowledge management positively impacted business sustainability, and this relationship was moderated by proactiveness. Similarly, Benito and Sánchez-Sellero (2018) examined the relationship between knowledge management and environmental performance in Spanish manufacturing firms and found that proactiveness moderated the relationship between knowledge management and environmental performance. These findings suggest that firms that are proactive in their approach to knowledge management may see greater benefits in terms of business sustainability.

Lee and Ko (2019) investigated the impact of knowledge management on environmental sustainability in Korean manufacturing firms and found that proactiveness positively moderated the relationship between knowledge management and environmental sustainability. Likewise, Sánchez-Peinado et al. (2018) conducted a study on Spanish SMEs and found that knowledge management positively impacted business sustainability, and this relationship was moderated by proactiveness. These findings suggest that firms that are proactive in their approach to knowledge management may see greater benefits in terms of both environmental and business sustainability.

Xu and Wang (2017) examined the relationship between knowledge management and sustainable innovation in Chinese manufacturing firms and found that proactiveness positively moderated the relationship between knowledge management and sustainable innovation. Similarly, Manzoor et al. (2020) investigated the impact of knowledge management on business sustainability in Pakistani manufacturing firms and found that proactiveness positively moderated the relationship between knowledge management and business sustainability. These findings suggest that firms that are proactive in their approach to knowledge management may be better able to innovate sustainably.

Tafesse and Raju (2018) conducted a study on Ethiopian manufacturing firms and found that knowledge management positively impacted business sustainability, and this relationship was moderated by proactiveness. Yoon and Hong (2018) examined the impact of knowledge management on environmental performance in Korean manufacturing firms and found that proactiveness positively moderated the relationship between knowledge management and environmental performance. Hu et al. (2019) conducted a study on Chinese manufacturing firms and found that knowledge management positively impacted business sustainability, and this relationship was moderated by proactiveness. Finally, Lee et al. (2019) investigated the impact of knowledge management on sustainable performance in Korean manufacturing firms and found that proactiveness positively moderated the relationship between knowledge management and sustainable performance.

Taken together, these empirical studies provide important insights into the relationship between knowledge management and business sustainability moderated by proactiveness. The findings suggest that firms that are proactive in their approach to knowledge management may see greater benefits in terms of business

sustainability, environmental sustainability, and sustainable innovation. These findings have important implications for managers who wish to improve business sustainability through knowledge management practices, highlighting the importance of being proactive in implementing such practices. However, further research is needed to explore the specific mechanisms through which proactiveness moderates the relationship between knowledge management and business sustainability.

KM can contribute to business sustainability by enabling organizations to effectively manage their knowledge resources, build innovation capabilities, and respond to changing market and environmental conditions. Innovation can also play a moderating role in this relationship by enhancing the effectiveness of KM practices in promoting business sustainability. McDowell et al. (2018) define innovation as the capacity of an organization to provide new products and services. These new offerings are deemed innovative due to their potential to enable organizations to adapt to market fluctuations.

Several studies have explored the relationship between KM, business sustainability, and innovation. For example, Adomako et al. (2020) conducted a study in Ghana and found that KM positively impacts business sustainability through its effects on innovation, organizational learning, and knowledge utilization. The study also found that the relationship between KM and business sustainability is moderated by innovation, suggesting that effective innovation practices can enhance the effectiveness of KM in promoting business sustainability. Similarly, Kurniawan et al. (2020) conducted a study on SMEs in Indonesia and found that KM practices such as knowledge acquisition, transfer, and application have a positive effect on business performance, which in turn contributes to business sustainability. The study also found that innovativeness moderates the relationship

between KM and business performance, suggesting that innovation can enhance the effectiveness of KM practices in promoting business sustainability.

Zhu, Yu, and Cai's (2019) article examines the relationship between knowledge management, innovation capability, and sustainable competitive advantage in Chinese manufacturing firms. The results indicate that knowledge management positively impacts innovation capability, which in turn has a positive effect on sustainable competitive advantage. Additionally, the study finds that absorptive capacity mediates the relationship between knowledge management and innovation capability. These findings suggest that firms can enhance their sustainable competitive advantage by effectively managing their knowledge and building innovation capabilities. These studies suggest that KM practices can play an important role in promoting business sustainability, with innovation playing a moderating role in this relationship.

### **3. Methodology**

Data collection was carried out through the use of questionnaires that the participants were supposed to fill. They were employees from small and medium-sized enterprises (SMEs) in the Peshawar city of Pakistan. A number of small and medium-sized enterprises (SMEs) were chosen at random and called in order to request approval from the relevant departments. A cover note explaining the goal of the study was given to each participant so that they would be fully informed. To be more specific, the chosen workers were approached on the basis of how convenient it would be for them. They were asked to express the degree to which they agreed or disagreed with their statement on their beliefs about knowledge management and business sustainability, how they felt about their job and organization, and the behaviors they engaged in while on the job at their place of employment. At the end of the

questionnaire, it was made abundantly clear that the respondents' anonymity would be preserved throughout the survey. On the other hand, if any of the respondents were interested in receiving the findings of the research, it could be sent to the email addresses that they had provided. This was done in order to reduce the likelihood of any biases that might have been introduced.

The assessment of knowledge management encompassed the dimensions of knowledge acquisition, knowledge sharing, and response to knowledge. The objective of this inquiry was to request participants to specify the methods employed for knowledge management inside their particular organizations. The question items included for the assessment of knowledge management (KM) were derived from the instruments created by Darroch (2005), Kamyra (2010), and Mafabi et al. (2012). The elements pertaining to the acquisition and sharing of information are derived from a previous source, whereas the items about the usage and application of knowledge are derived from the work of Gold, Malhotra, and Segars (2001).

Partial least squares structural equation modelling (PLS-SEM) was utilized for the identification and formation of predictive models. This method of analysis for examining the relationship between latent variables is deemed more advantageous compared to the general linear structural relationship model. The study's nature necessitated the utilization of a two-stage approach of Structural Equation Modelling (SEM) to deduce the outcomes.

### **4. Analysis and Findings**

The analysis primarily involves Partial Least Squares Structural Equation Model (PLS-SEM) which is a two-step process for analyzing PLS models: the measurement model, also referred to as the outer model, and the structural model, also known as the inner model (Henseler & Chin, 2010).

The measurement model of Smart PLS (Partial Least Squares) employs internal consistency reliability as a metric for evaluating the reliability and consistency of the latent constructs or variables within the model. The Cronbach's alpha, rho-A and composite reliability is

frequently employed for the purpose of evaluation.

Table 1 provides the reliability of the constructs used in the study.

**Table 1: Reliability of the Constructs**

Constructs	Cronbach's Alpha	rho_A	Composite Reliability
Economic Sustainability	0.736	0.747	0.851
Environmental Sustainability	0.781	0.808	0.859
Innovativeness	0.758	0.775	0.844
Knowledge Acquisition	0.796	0.805	0.861
Knowledge Sharing	0.868	0.872	0.897
Knowledge Utilization	0.862	0.864	0.892
Proactiveness	0.808	0.822	0.861
Risk Taking	0.768	0.793	0.852
Social Sustainability	0.774	0.774	0.869

As can be seen in table 1, the Cronbach's Alpha is more than the minimum acceptable value of 0.7 for all variables. Also, the Composite Reliability values exceed the threshold of 0.6 and hence are satisfactory. In general, the aforementioned measures suggest that the constructs within the model exhibit satisfactory levels of internal consistency and reliability.

Next we check for convergent validity of our constructs. In the field of psychology, a convergent validity value of 0.5 or above is deemed satisfactory. This threshold signifies that

the construct under investigation effectively captures a significant portion of variance in relation to the inherent measurement error.

Based on the obtained average variance extracted (AVE) values, it can be concluded that the constructs of Economic Sustainability, Environmental Sustainability, Innovativeness, Risk Taking, and Social Sustainability demonstrate convergent validity by surpassing the threshold of 0.5. This indicates a satisfactory level of convergence among the measured variables.

**Table 2: Convergent Validity of the Constructs**

Constructs	Average Variance Extracted (AVE)
Economic Sustainability	0.656
Environmental Sustainability	0.608
Innovativeness	0.576
Knowledge Acquisition	0.556
Knowledge Sharing	0.521
Knowledge Utilization	0.509
Proactiveness	0.509
Risk Taking	0.593

Social Sustainability 0.689

The R-squared ( $R^2$ ) or Coefficient of Determination is a measure of statistics that evaluates the proportion of variability in the dependent variable that is explained by the independent variable(s). According to the

Statistic, the R value is 0.556 indicating that 55.6% of variation in business sustainability is explained by independent variables taken in the study.

**Table 3: R-Square**

DV	R Square	R Square Adjusted
BS	0.556	0.549

IVs: Knowledge Management, Innovativeness, Proactiveness and Risk Taking

The Q-square statistic is a measure of predictive relevance, indicating the extent to which a model possesses predictive relevance. A value greater than zero is indicative of a favorable level of

predictive relevance. Q-square values greater than zero demonstrate that the reconstructed values are accurate and that the model possesses predictive significance.

**Table 4: Q-Square**

	SSO	SSE	Q <sup>2</sup> (=1-SSE/SSO)
BS	840	539.11	0.358
Innovativeness	1120	1120	
KM	840	840	
Proactiveness	1680	1680	
Risk Taking	1120	1120	

The model employed in this study is a Partial Least Squares Structural Equation Modelling (PLS-SEM) analysis. It aims to investigate the association between the latent constructs, namely KM, Innovativeness, Proactiveness, and Risk Taking, and the observed variable BS, which serves as the dependent variable. The path coefficients denote the magnitude and orientation of these associations.

The observed path coefficient of knowledge management 0.145 provides evidence of a statistically significant and positive effect of Knowledge Management (KM) on Business Sustainability (BS). The obtained T-statistic of

2.191, along with the corresponding p-value of 0.029, indicates that the observed relationship is statistically significant at the significance level of 0.05. Hence, we conclude that knowledge management has a significant and direct effect on business sustainability.

The path coefficient of innovativeness is (coefficient = 0.174; p value = 0.000) indicates a statistically significant positive effect of the construct of Innovativeness on outcome variable of Business Sustainability. The obtained T-statistic of 3.566 and the corresponding p-value of 0.000 provide strong evidence to support the conclusion that this relationship is highly



statistically significant. The confidence interval (0.082 to 0.269) indicates that there is a 95% probability that the true value of the relationship falls within this range. Hence, we conclude that innovativeness has a significant and direct effect on business sustainability.

The path coefficient of proactiveness is (Coefficient = 0.559; p value = 0.000) indicates a positive and significant impact of proactiveness on business sustainability. The obtained T-statistic of 10.17 and the corresponding p-value of 0.000 provide strong evidence to support the conclusion that the observed relationship is highly statistically significant. The confidence interval (0.442 to 0.666) indicates that there is a 95% probability that the actual value of the relationship falls within this interval. Hence, we

conclude that proactiveness has a significant and direct effect on business sustainability.

The path coefficient of risk taking is (Coefficient = 0.203; p value = 0.001) indicates a statistically significant and direct influence of Risk Taking on the outcome variable of Business Sustainability. The obtained T-statistic of 3.44 and the corresponding p-value of 0.001 provide evidence to support the conclusion that the observed relationship is statistically significant. The confidence interval (0.083 to 0.329) indicates that there is a 95% level of confidence that the true value of the relationship lies within this interval. Hence, we conclude that risk taking behavior has a significant and direct effect on business sustainability.

**Table 5: Direct Path Model (PLS-SEM)**

Path	Coefficient	STDEV	T Statistics	P Values	Confidence Interval	
					Lower	Upper
KM → BS	0.145*	0.066	2.191	0.029	0.049	0.29
Innovativeness → BS	0.174*	0.049	3.566	0.000	0.082	0.269
Proactiveness → BS	0.559*	0.055	10.17	0.000	0.442	0.666
Risk Taking → BS	0.203*	0.059	3.44	0.001	0.083	0.329

Note: \* denotes significance

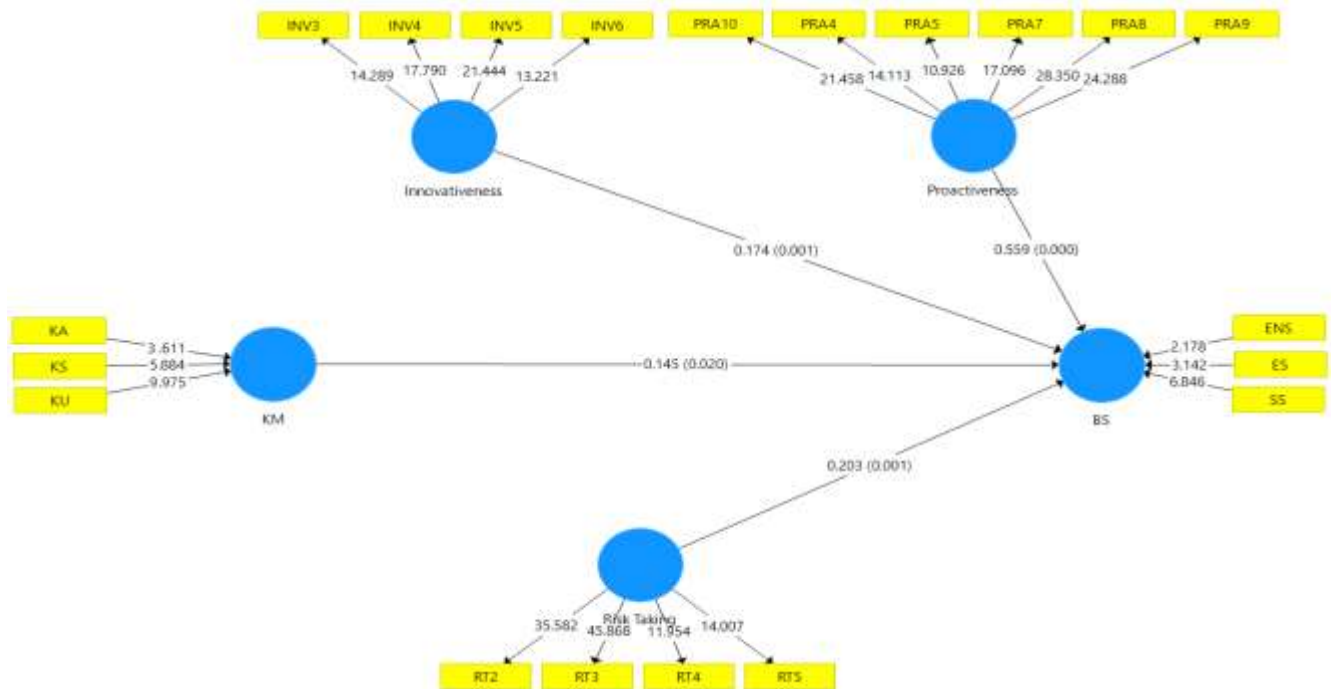


Figure 1: The Direct Path Model

Table 6 presents statistic regarding the moderating effect of innovativeness between the relationship of KM and business sustainability. The coefficient for innovativeness (0.382) exhibits a statistically significant positive effect on business sustainability (BS), as indicated by the t-statistic of 6.194 ( $p < 0.001$ ). The impact of Knowledge Management (KM) on BS is found to be positive (coefficient: 0.146, t-statistic: 1.998,  $p = 0.046$ ). Furthermore, the moderating variable

innovativeness (coefficient = 0.396; t-statistic = 4.334, and  $p$ -value  $< 0.001$ ) shows a significant moderating effect of innovativeness. This moderation effect strengthens the relationship between knowledge management (KM) and business success (BS). Hence, we conclude that innovativeness has a significant positive moderating effect between the relationship of KM and business sustainability.

**Table 6: Innovativeness as a Moderator**

Path	Coefficient	STDEV	T Statistics	P Values	Confidence Interval	
					Lower	Upper
Innovativeness -> BS	0.382	0.062	6.194	0	0.255	0.5
KM -> BS	0.146	0.073	1.998	0.046	0.036	0.332
Innovativeness as Moderator	0.396	0.0913	4.334	0	0.2159	0.5751

Note: \* denotes the path is significant

Table 7 presents statistic regarding the moderating effect of proactiveness between the relationship of KM and business sustainability.

The statistic indicates that there is a significant relationship between KM and Business Sustainability (coefficient = 0.259; t-statistic =

3.9 and  $p$  value  $< 0.001$ ). The proactive role of moderation has been found to positively influence the relationship between KM and business success (coefficient = 0.406;  $t$ -statistic = 2.827 and  $p$  value  $< 0.005$ ). Furthermore, it can be observed that proactiveness has a substantial

and positive influence on BS, as evidenced by the coefficient of 0.653 and a highly significant  $t$ -statistic of 13.894 ( $p < 0.001$ ). Hence, we conclude that proactiveness has a significant positive moderating effect between the relationship of KM and business sustainability.

**Table 7: Proactiveness as a Moderator**

Path	Coefficient	STDEV	T Statistics	P Values	Confidence Interval	
					Lower	Upper
KM → BS	0.259	0.066	3.9	0.000	0.142	0.380
Proactive as Moderator → BS	0.406	0.1436	2.827	0.005	0.124	0.689
Proactiveness → BS	0.653	0.047	13.894	0.000	0.564	0.750

Note: \* denotes the path is significant

Table 8 presents statistic regarding the moderating effect of risk-taking behavior in the relationship between KM and business sustainability. According to statistics KM and risk-taking shows a significant and positive relationship between with Business Sustainability (coefficient KM = 0.428;  $t$ -statistic = 3.149 and  $p$  value  $< 0.002$ ; coefficient Risk Taking = 0.445;  $t$ -statistic = 6.798 and  $p$  value  $<$

0.001). However, the presence of Risk Taking as a moderating factor between KM and Business Sustainability (coefficient = -0.074;  $t$ -statistic = 1.149 and  $p$  value  $> 0.251$ ), implies that Risk Taking does not exert a significant influence on the association between KM and business sustainability. Hence, we conclude that risk-taking does not significantly moderate the relationship of KM and business sustainability.

**Table 8: Risk Taking as a Moderator**

Path	Coefficient	STDEV	T Statistics	P Values	Conf. Interval	
					Lower	Upper
KM -> BS	0.428	0.136	3.149	0.002	0.160	0.695
Risk Taking -> BS	0.445	0.066	6.798	0	0.304	0.551
Risk Taking as Moderator -> BS	-0.074	0.065	1.149	0.251	-0.18	0.062

Note: \* denotes the path is significant

## 5. Discussion

The literature review has revealed that both managers and academics have acknowledged knowledge as a crucial factor for gaining a competitive advantage (Grant, 2013). The acquisition and utilization of knowledge can be

regarded as a valuable and influential asset for organizations (Attia and Salama, 2018).

The study findings suggest that there is a significant relationship between knowledge management and the business sustainability performance of small and medium-sized enterprises (SMEs), which aligns with previous

research conducted in a wider scope (Darroch, 2005; Yusr et al., 2017). This suggests that effective management and dissemination of knowledge among stakeholders can contribute positively to the attainment of a sustainable environment for organizations. Furthermore, it can be attributed to the recognition by organizations worldwide of knowledge as a primary driver of competitive advantage and value creation (Castellani et al., 2022). According to Zhang et al. (2022), certain researchers argue that effective knowledge management plays a crucial role in ensuring the long-term viability of business sustainable performance.

The outcome from above results supports other studies where knowledge acquisition, sharing and utilization being components of KM were positively related to the business sustainability. Thus, implying companies with superior KM capabilities are more effective, by augmenting the magnitude of knowledge would improve their operational management performance and business sustainability.

The relationship between innovation and business sustainability has been extensively examined in scholarly research, with multiple studies consistently demonstrating a positive link between innovation and the long-term performance and sustainability of firms. Innovation plays a significant role in enhancing the competitiveness of small and medium-sized enterprises (SMEs) by encompassing various aspects such as products, processes, marketing, and organizational practices (Naranjo-Valencia, et al., 2016; Rasool et al., 2019). Through the ongoing enhancement of their products and processes, small and medium-sized enterprises (SMEs) can acquire a competitive advantage within the market, thereby facilitating their long-term sustainability and prosperity.

The present study examined the impact of innovation on the sustainability of small and medium-sized enterprises (SMEs) through the

utilization of a structural equation model. The results indicated that there is a significant relationship between innovation and the long-term viability of small and medium-sized enterprises (SMEs). The study's results offer substantial empirical evidence to support the assertion that innovation, encompassing products, processes, marketing, and organizational aspects, exerts a favorable impact on the sustainability of small and medium-sized enterprises (SMEs). The results of this study align with previous research conducted by Oura et al. (2016), Saunila and Ukko (2012), and Lööf and Heshmati (2002). These studies also found a notable positive correlation between innovation and the long-term performance and sustainability of firms.

The results of the study indicate that innovation plays a crucial role in attaining business sustainability. This aligns with previous research conducted by Hamel (1991), which found that organizations that provide innovative products, adhere to operational standards, and meet diverse market demands through enhanced product features are more likely to achieve long-term success and maintain their competitive edge. Chandra and Neelankavil (2008) conducted a study that confirmed the practice of successful companies consistently introducing innovative products in order to meet customer expectations and gain a competitive advantage over rivals. Further evidence was observed in the study conducted by Hallstedt et al. (2013), which substantiated the impact of innovation on the sustainability of businesses. The research emphasized the crucial role of innovation in brand positioning, particularly in the context of firms introducing novel products that possess unique attributes and do not pose any potential threat to the environment.

The current study further, examined the impact of proactiveness on the sustainability of businesses, within the context of small and medium-sized

enterprises (SMEs). The results obtained from the application of structural equation modelling demonstrated a statistically significant direct impact of proactiveness on business sustainability. These findings offer valuable insights into the crucial role of proactive behaviors in guaranteeing the long-term viability and prosperity of small and medium-sized enterprises (SMEs).

The findings of this investigation are consistent with contemporary scholarly works that emphasize the pivotal significance of proactiveness in promoting the long-term viability of businesses (Dickel, 2017). Academic scholars have placed significant emphasis on the importance of proactive behaviors for firms, as they enable the anticipation and response to ecological changes. This proactive approach not only helps in reducing potential threats but also allows firms to take advantage of emerging opportunities. The attribute of proactiveness enables businesses to effectively respond to changing market demands, implement timely actions, and maintain a competitive advantage over rivals. The study conducted by Johnson et al. (2022) provided evidence supporting the notion that organizations that adopt a proactive approach are more inclined to attain sustainable growth and sustain a competitive edge in the long run.

By fostering a culture that promotes employee proactivity in identifying and implementing improvements, organizations have the potential to augment operational efficiency, optimize resource allocation, and provide greater value to their customers. The research conducted by Dickel (2017) highlights the significance of proactive firms in fostering innovation, thereby positively impacting their competitiveness and long-term viability. Additionally, a study conducted by Menguc and Auh (2010) has emphasized the positive impact of proactiveness on risk preparedness, which in turn enables small and medium-sized enterprises (SMEs) to

effectively navigate through uncertain and volatile business environments. Recent research has provided more evidence that proactiveness is crucial for SMEs looking to preserve a competitive advantage, generate sustainable development, and assure long-term success in recent dynamic and complex markets.

With regard to environmental performance, proactive ventures are more likely to find and exploit promising ecological business chances (Lumpkin et al., 2013). The opportunity-seeking activities, for example in terms of environmental scanning, involve that firms have a higher perception for ecological opportunities (Kreiser et al., 2010) and get deeper insights for creating social value (Lumpkin et al., 2013). Furthermore, the forwarding-looking behavior allows ventures to tackle ecological challenges more effectively and comprehensively (Lumpkin et al., 2013). Further benefits of proactiveness derive from the implicit propensity to exploit environmentally related opportunities even in the presence of barriers (Dai et al., 2014).

Risk taking can be defined as the inclination to allocate and dedicate resources in situations where the outcomes are uncertain (Pittino et al., 2018). The findings of the current study demonstrate a statistically significant and favourable impact of risk-taking on various measures of business sustainability, including economic, environmental, and social dimensions. Organizations that strategically adopt a proactive approach towards risk-taking are more inclined to achieve economic prosperity, actively participate in environmental conservation efforts, and foster positive social outcomes. In the context of a complex and dynamic environment, organizations can enhance their sustainability and responsibility by comprehending and leveraging the inherent possibilities of engaging in risk-taking (García-Granero et al., 2015). This strategic approach enables them to effectively

adapt and thrive amidst the constant flux of challenges and opportunities.

The findings of this study are consistent with previous research conducted in the same field, providing further evidence to support the idea that risk-taking is a crucial factor in influencing the overall performance of sustainability initiatives. Moreover, the scholarly contributions of Dai et al., (2014) as well as Huybrechts et al. (2013) shed light on the role of risk-taking in promoting environmental sustainability. These studies emphasize that risk-taking behavior can incentivize firms to embrace environmentally friendly practices, allocate resources towards renewable energy investments, and mitigate their carbon footprints. Moreover, the scholarly works authored by Younas and Zafar (2019) and Kraus et al. (2018) underscore the significance of risk-taking conduct in fostering social sustainability through the promotion of corporate social responsibility initiatives, facilitation of community development, and cultivation of favorable relationships with stakeholders. These studies collectively provide evidence for the importance of risk-taking as a complex factor that drives business sustainability. They emphasize the need for organizations to adopt a well-balanced and thoughtful approach to risk management in order to maximize their overall sustainable performance in a globally interconnected and socially responsible environment.

The research also assessed the moderator effects of innovation. The findings aligned with the anticipated outcomes, as they demonstrated the significant impact of knowledge management practices on the sustainable environment. The results of the study provide evidence in favor of the hypothesis that the integration of efficient knowledge management practices and a high degree of innovativeness contributes to the improvement of business sustainability. These findings align with the research conducted by

Wang and Wang (2012), which concluded that the integration of knowledge sharing with product innovation, implemented consistently and sustainably, can enhance the business performance of small and medium-sized enterprises (SMEs). The findings of this study were corroborated by the potential rationale that scholars in the field of environmental business marketing exhibited particular emphasis on sustainability practices (Yousaf, 2021).

The concept of the moderating effect can be comprehended by applying the theoretical framework of resource-based theory. Knowledge management is a strategic approach that enables organizations to acquire, store, and utilize intangible assets such as valuable insights, expertise, and best practices. On the contrary, innovativeness refers to the capacity to efficiently utilize these resources and transform them into concrete innovations that facilitate the generation of value. Firms that exhibit a strong proficiency in knowledge management capabilities and innovativeness are more adept at effectively integrating and utilizing their resources in a strategic manner, resulting in enhanced business performance and long-term viability. The argument presented in this statement is consistent with prior scholarly investigations conducted by Kraus et al., (2017). These researchers emphasized the importance of resource-based theory in comprehending the connection between organizational capabilities and the maintenance of a competitive advantage over time. The research findings presented in this study contribute to the existing body of knowledge on the relationship between knowledge management and innovativeness. These findings provide valuable insights that can be utilized by practitioners and policymakers who are interested in improving sustainable business practices.

This study also investigated the moderating role of proactiveness on the relationship of KM and business sustainability. The results show a

significant moderating effect of proactiveness on the relationship of KM and business sustainability.

The results indicate that the degree of proactiveness displayed by SMEs influences how KM practices affect their overall sustainability and performance. The findings of the study are consistent with prior research that has emphasized the significance of proactiveness for boosting organizational success and sustainability (Pittino et al., 2018). Small and medium-sized enterprises (SMEs) that actively engage in the management of their knowledge resources are more successfully positioned to immediately adapt to market fluctuations, foster innovation, and take advantage on emerging opportunities (Eddleston et al., 2010). By actively seeking out and implementing pertinent knowledge, these forward-thinking SMEs can improve their decision-making processes, enhance their product and service offerings, and bolster their long-term viability.

The findings of this study indicate that there is no statistically significant moderating influence of risk-taking on the relationship between Knowledge Management (KM) and business sustainability in Small and Medium-sized Enterprises (SMEs). Although risk-taking behavior has been recognized as potentially significant in determining organizational outcomes, the findings of this study indicate that, within the context of small and medium-sized enterprises (SMEs), risk-taking did not have a significant impact on the relationship between knowledge management (KM) and business sustainability.

The aforementioned findings offer significant contributions to the understanding of knowledge management and its impact on the long-term sustainability of small and medium-sized enterprises (SMEs). While prior studies have emphasized the significance of risk-taking in influencing the performance of small and

medium-sized enterprises (SMEs), this research demonstrates that the impact of knowledge management (KM) practices on promoting business sustainability remains relatively stable, irrespective of a SME's inclination towards risk-taking.

## 6. Conclusion

Currently, the emergence of the "new knowledge economy" has prompted the recognition of knowledge as a crucial organizational asset for cultivating sustainable competitiveness (Biscotti et al., 2018) and achieving greater organizational efficiency and success (Schiuma et al., 2012; Lotti Oliva, 2014). Consequently, there has been a growing emphasis among organizations on the practice of knowledge management (KM) (Hussinki et al., 2017).

This article aimed to investigate the presence of KM in SMEs and its role on business sustainability. Further, the moderating role of innovativeness, proactiveness and risk taking was also examined on the relationship of KM and business sustainability within the context of SMEs. The findings provide new insights into the relationship among Knowledge Management (KM), business sustainability, and the moderating impact of proactiveness, innovativeness and risk-taking in the context of SMEs. The results of this study validate the notion that the implementation of efficient Knowledge Management strategies is of utmost importance in fostering the long-term sustainability of small and medium-sized enterprises (SMEs). This finding is consistent with previous scholarly works that emphasize the significance of knowledge as a strategic asset in attaining a competitive edge (Darroch, 2005). The importance of acquiring and applying knowledge is widely acknowledged as a valuable resource for organizations (Zhang et al., 2022).

Additionally, the findings demonstrate that the proactive behavior of individuals has a notable

influence on the connection between knowledge management (KM) and the long-term viability of small and medium-sized enterprises (SMEs). Small and medium-sized enterprises (SMEs) that exhibit proactive behavior by actively pursuing and making use of knowledge resources are more effectively positioned to respond to shifts in the market, encourage innovation, and capitalize on emerging opportunities. This proactive approach contributes to the long-term sustainability and achievement of these enterprises. The aforementioned discovery strengthens the existing knowledge that proactivity plays a crucial role in achieving organizational success, and knowledge management acts as a facilitator for proactive behavior (Yang et al., 2022; Ikram et al., 2021).

Furthermore, the findings of the research indicate that innovativeness plays a crucial role as a moderator in the relationship between knowledge management (KM) and the sustainability of small and medium-sized enterprises (SMEs). The incorporation of effective knowledge management strategies in conjunction with a strong emphasis on innovation has a favorable impact on enhancing business sustainability. This is consistent with previous studies that highlight the positive impact of knowledge sharing on product innovation and the subsequent improvement in the performance of small and medium-sized enterprises (SMEs) (Wang and Wang, 2012). The research findings indicate that innovation, which includes various dimensions such as product, process, marketing, and organizational aspects, has a positive influence on the sustainability of small and medium-sized enterprises (Saunila and Ukko, 2012; Löf and Heshmati, 2002).

However, it should be noted that the impact of risk-taking on the association between knowledge management (KM) and business sustainability in small and medium-sized enterprises (SMEs) was not found to be

statistically significant. Although risk-taking is widely acknowledged as a crucial element of entrepreneurship, the research findings indicate that the influence of knowledge management (KM) on the long-term viability of businesses remains consistent, irrespective of the extent to which small and medium enterprises (SMEs) engage in risk-taking behavior.

The findings of this study offer significant insights for small and medium-sized enterprises (SMEs) that are interested in improving their business sustainability. Through the deliberate management of their knowledge assets, small and medium-sized enterprises (SMEs) can cultivate a competitive edge, enhance their decision-making capabilities, and attain long-term and sustainable growth. Furthermore, small and medium-sized enterprises (SMEs) ought to consider the intricate nature of the correlation between knowledge management (KM) and business sustainability, while also considering various contextual factors that could potentially impact the results.

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