



Risk-Taking in Malaysian Small and Medium-Sized Enterprises (SMEs): An Exploratory Factor Analysis

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ABSTRACT

Small and medium-sized enterprises (SMEs) contribute significantly to the economic growth of emerging economies. However, SMEs often face challenges in maintaining their performance levels. Thus, SMEs need to be able to take risks to showcase their capability, sustainability, and growth. This paper explores the impact of risk-taking on SMEs. It validates the risk-taking construct instrument through EFA, specifically in the context of SMEs in Malaysia. This study adopted a quantitative and cross-sectional research design with SMEs in all sectors, with the SME owners and the top management as the units of analysis. The researcher employed a closed-ended, structured questionnaire to gather primary data on risk-taking among SMEs from 130 respondents, utilizing a random sampling method. The data was then analysed using SPSS version 25. The items were adapted and modified to suit this study. The study's findings established a validated and reliable instrument for measuring the risk-taking construct among Malaysian SMEs, which could potentially inform the development of a process to facilitate risk-taking within SMEs. The study findings also provide valuable guidance for owners and top management of SME firms, encouraging them to take reasonable risks in order to enhance the workforce's performance in their respective sectors. Future researchers could further extend the instrument presented in this study by cross-examining it across underdeveloped, developing, and developed countries. This study will enhance the growing body of knowledge on business, management, SMEs, and particularly innovation performance. It will provide valuable insights for business scholars, industry experts, and SME researchers within the social sciences. Additionally, this research will aid in understanding the diverse modes of innovation performance in SMEs. Systematic academic studies that explore the benefits of innovation performance in the context of Malaysian SMEs are currently limited. Therefore, the findings of this study will significantly contribute to the existing literature on the relationship between innovation and performance in SMEs, offering new perspectives and insights for both academia and industry.

Keywords: Risk-Taking, Small and Medium-Sized Firms (SMEs), Exploratory Factor Analysis (EFA).



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INTRODUCTION

Small and medium-sized businesses (also known as SMEs) are essential to the growth and development of a nation. The SMEs in Malaysia are the backbone of the economy for the reason that they constitute a substantial section of the economy and play an essential part in the bolstering and maintenance of the economy of the country (Mohamad et al., 2021). It is a fact that SMEs are crucial to transforming Malaysia into a high-income nation. Evidence of this may be found in the area of the Organization for Economic Co-operation and Development (OECD), where SMEs make up 99 % of all firms. Not only did SMEs account for approximately 70 % of the total employment, but they also contributed between 50 and 60 % of the average value added (Koe et al., 2022). Table 1 shows Malaysian definition of SMEs. SMEs play a vital role in Malaysia's economic development and stability as they constitute over 95% of business entities and operate in various sectors of the economy (Lestari et al., 2024). In 2019, Malaysian SMEs played a large role in the country's economy. They contributed 38.9% to the gross domestic product (GDP), 48.4% to total employment, and 17.9% to total exports, according to the National Economic and Social Development Council (NESDC) in 2021. Furthermore, they stimulate economic expansion and address Malaysia's unemployment problem. SMEs contribute to the community's betterment by improving living conditions and fostering a higher quality of life (OCED, 2024).

Table 1: Small and Medium Size Enterprise Definition in Malaysia

Category	Small	Medium
Manufacturing	Sales turnover from RM300, 000 to less than RM15 million or employees from 5 to less than 75.	Sales turnover from RM15 million to not exceeding RM50 million or employees from 75 to not exceeding 200.
Services and other sectors	Sales turnover from RM300, 000 to less than RM3 million or employees from 5 to less than 30.	Sales turnover from RM3 million to not exceeding RM20 million or employees from 30 to not exceeding 75.

Most economies nowadays, especially in emerging nations like Malaysia, depend on SMEs, making them a popular topic of discussion (Fauzi et al., 2022). Although many entrepreneurs achieve success with their ventures, studies have revealed that a large number of SMEs face challenges and ultimately fail (Ibrahim et al., 2021). In developing nations like Malaysia, where SMEs face numerous challenges, the failure rate for these companies can reach as high as 95% (Kee et al., 2019). In addition, studies conducted on small and medium-sized enterprises in Malaysia between 2001 and 2024 have uncovered some challenges that limit their growth potential. Preserving their long-term sustainability and maintaining competitiveness in an ever-evolving market are significant obstacles for several SMEs (Mohamad et al., 2021, Pathak et al., 2024). The challenges in the business environment could hinder an SME from growing and eventually result in a permanent shutdown. To enhance the growth and GDP contribution of SMEs in Malaysia, their owners and top management need to foster an innovative culture that encourages risk-taking among the management and workforce, thereby maintaining a competitive edge in their respective sectors (Ferreira, et al., 2020).

Risk-taking refers to the firm's willingness to engage in activities with uncertain outcomes. Taking business risks is an essential part of entrepreneurship. Entrepreneurs need to have risk-taking sense and ability, because a lack of these is capable of killing a business. However, they must also balance their impulses, as poor or inadequate risk-taking can pose a threat to businesses (Olaolu & Obaji, 2020). The willingness to take risks has several advantages, including gaining a competitive edge over others, moving a business forward, and securing the reputation of having excellent business acumen, among other things. Entrepreneurs with knowledgeable risk-taking skills identify trends far ahead before the market becomes saturated (Omolawal, 2023). According to research, entrepreneurial firms with moderate risk-taking levels perform better in the market than firms with very high or very low risk-taking levels (Yahaya et al., 2021).

There have been concerted efforts directed towards enhancing SMEs survival and eventual growth, which researchers, policymakers, and governments alike tend to put more emphasis on. The threat to survival is real and requires a concerted effort from both policymakers and the entrepreneurs themselves. This study, therefore, sought to examine the impact of risk-taking on SMEs in Malaysia. Therefore, the study recommends that SMEs, through their owners and top management, should embrace risk-taking competency to enhance their survival and performance. Additionally, they should embrace networking competency to gain a competitive advantage, expand their customer base, and adopt calculated risk-taking strategies in their operations. This study has scrutinized risk-taking and also presented an instrument of risk-taking, particularly in the context of SMEs in Malaysia. If the method used to develop and evaluate the instrument is unsuitable, the questionnaire's validity and reliability may be questioned. Therefore, in order to gain validity and reliability and obtain truly feasible items for measuring instruments, the researchers must first apply the exploratory factor analysis (EFA) process (Hoque et al., 2018). This study has also explained how to determine the validity and reliability of the questionnaire's items using EFA to measure Malaysia's construct.

LITERATURE REVIEW

Risk-taking is defined as the amount of risk that an organization can withstand and that managers will accept and encourage, despite the uncertainty of the outcomes (Rau et al., 2015). Organizations that are more risk-tolerant have managers who encourage employees to take actions without the threat of punishment and have the proclivity to pursue risky projects, ideas, innovation, and creativity (Franczak & Weinzimmer, 2022). Small business owners must constantly navigate a risky environment by taking calculated risks to expand into new markets or investments. In a competitive environment, they make use of the few resources they have, despite the fact that they are aware that the investment may not provide any return or might even result in a loss. The probability of experiencing failure, loss, or other unfavorable outcomes as a result of participating in a certain activity or enterprise is what we mean when we talk about risk. Rahaman et al. (2021) assert that risk-taking and entrepreneurialism are intrinsically linked concepts. While Shukla and Kumar (2024) argued that entrepreneurs are risk-takers, Guo and Jiang (2020) demonstrated that there is a correlation between a higher degree of risk-taking tendency and entrepreneurial activity. In general, entrepreneurs are willing to take risks because doing so enables them to differentiate themselves from other businesses in their same industry. According to Rahaman et al. (2021), the competitive corporate environment of today places those who are prepared to take chances in a position of leadership, forcing others to fall behind. In order to create opportunities and make progress, it is necessary to take chances. When an entrepreneur takes risks, their competitors won't, they can lead their industry. Implementing risk-taking tactics can significantly impact SME performance. The readiness to invest in high-risk firms that anticipate big returns is one of the characteristics that define these strategies (Jeje, 2020). Other characteristics include the skills of SMEs to take calculated risks, establish a backup plan, and be ready to exploit chances in unpredictable circumstances (Maladzi, 2015).

Kim & Vonortas (2014) studied the influence of risk-taking on Korean firms and discovered a positive association between the two. Xu (2015) was consistent with this view when he said that taking risks statistically and economically has a positive effect on firms' growth and performance. He came to the conclusion that corporate growth and performance, particularly during a credit crisis, positively correlate with risk-taking. Onyenma, et. al., (2020) study investigated the relationship between risk-taking and the performance of SMEs. Their results revealed a positive and significant relationship between risk-taking and measures of SMEs performance. Their study concluded that risk-taking leads to improved customer satisfaction, growth increments, and improved social performance in SMEs and recommended that SMEs should apply and adopt risk-taking in the operation of their businesses to improve performance. Unegbu & Onuoha's (2023) study investigates the relationship between risk-taking propensity and entrepreneurial success in SMEs. The study employed a quantitative research design and collected data from 200 SME owners and managers using a structured questionnaire. The data were analyzed using correlation analysis to examine the association between risk-taking propensity and entrepreneurial success factors. The findings revealed a strong positive correlation ($r = 0.624$) between risk-taking propensity and entrepreneurial success, indicating that SMEs with a higher propensity for risk-taking tend to achieve greater entrepreneurial success.

Theoretical discussions on the influence of risk-taking on SMEs performance suggested a positive correlation between the two variables. The ability and willingness of SMEs to engage in high risk-taking behaviors enables SMEs operators to seize profitable opportunities even in the face of uncertainty (Dvorsky et al., 2021). According to Olaolu & Obaji (2020), risk-taking empirically enables firms to hold off superior growth and long-term profitability when compared to firms that avoid risk. The researcher concludes that committing business resources to venture into uncertain and unfamiliar environments could result in increased returns and market share for the business. Building on these findings, this study detailed the procedures for carrying out EFA analysis for the risk-taking construct in SMEs.

RESEARCH DESIGN

The selected methodology is critical in order to achieve any research objective. This study utilized a quantitative cross-sectional survey research design to establish measures that are reliable for risk-taking constructs in Malaysian SMEs. The study employed a deductive approach. The researcher conducted an in-depth review of the literature to discover specific items that measure the risk-taking construct. For this study, the researcher adapted and modified the items and collected data by randomly distributing 150 self-administered questionnaires among SMEs. Additionally, the researcher utilized IBM-SPSS version 25 in order to carry out the exploratory factor analysis (EFA) procedure.

Survey Instrument

For this research, the researcher used a closed-ended, structured questionnaire to collect primary data on risk-taking among SMEs. The aim of a closed-ended, structured questionnaire is to encourage the respondents to make quick decisions as well as code and analyze data effectively (Sekaran & Bougie, 2016). The researcher adapted the research instruments in this study from those previously developed for various studies conducted in diverse contexts. The researcher successfully adapted these instruments by conducting a thorough review of the existing literature on SMEs and risk-taking. The researcher further refined these adapted items to better align with SMEs' understanding. The researcher divided the questionnaire into two sections: Section A is Demographic Profiling, and Section B is Risk-Taking Variable under Study. The questionnaire consisted of a cover page, demographic items, and a Likert scale statement ranging from 1 (strongly disagree) to 5 (strongly agree), allowing respondents to indicate their agreement with each survey item pertaining to the variables under study (Simms, et. al., 2019). Risk-taking construct measurement items were adapted and modified from the studies undertaken by Naldi, et al., (2007) and Garcia-Granero, et. al., (2015) with 17 items. These authors had previously used the instrument, and the respondents were from SME sectors. The researcher modified these items to fit the Malaysian SME context. Risk-taking is frequently associated with the unpredictability that comes with engaging in entrepreneurial behavior (Akande, et. al., 2021). Entrepreneurial risk-taking reflects the extent to which the firm's processes involve and/or ignore risks (Asad, et. al., 2018). This research study helps to provide an adequate understanding of the risk-taking behavior of SMEs in Malaysia.

Exploratory Factor Analysis (EFA)

When researchers adapt instruments from previous studies and modify them to fit the current research, Bahkia et al. (2019) and Razali et al. (2024) mandate the conduct of pre-tests and pilot-tests. The researcher must then conduct both pre-tests and pilot-tests for these "modified items" to validate them for use in the actual study. The pretest verified that all questions were relevant and understandable. The researcher distributed forty survey instruments to selected respondents who work at Malaysian SME firms. According to Hertzog (2008), a sample size as small as 10–40 per group is adequate for a feasibility study because the aim of this process was to ensure that the survey instrument received adequate feedback regarding the design layout to improve the structure and items towards achieving the research objective effectively. After completing the pre-testing stage, the researcher modified the items based on the expert's comments.

After making all the necessary adjustments based on the pre-test results, the researcher conducted a pilot study to test the instrument's reliability and validity. The research obtained 130 valid responses, which is greater than the needed minimum

sample size of 100 as stated by Awang (2015) and Bahkia et al. (2019). The data from the pilot study was then analyzed using exploratory factor analysis. The following section displays the EFA results.

The authors (Tavakol & Wetzel, 2020) say that factor analysis (FA) is a way for researchers to break down a group of complicated variables or items into their underlying dimensions that explain the relationships between the variables or items. This makes it easier for researchers to see how items on a scale relate to each other and what factors those items may share. EFA attempts to identify underlying variables, or factors, that explain the pattern of correlations within a set of observed variables. The primary purpose of this procedure is to sum up the data contained in a large number of the initial items into a smaller set of new factors with the smallest loss of detail (Hoque et al., 2018).

ANALYSIS AND DISCUSSION

Descriptive Analysis

The results are displayed in Table 2, together with the descriptive statistics for each item used to measure the construct risk-taking. Risk-taking construct consists of 17 items in a questionnaire. A Likert scale statement of 1 (strongly disagree) to 5 (strongly agree) was used in this study for responses provided to the questions so as to maintain consistency as well for the reason of higher reliabilities for five-point scales where it is possible to compare reliability coefficients and to provide a better quality of data as reported by the following researchers such as (McKelvie, 1978, Revilla, et. al., 2014). The items are coded as RT1 to RT17. The mean score for every item for the risk-taking construct ranged between 2.97 and 3.14, whereas the range of the standard deviation of the score was observed to be between 0.969 and 1.405, respectively. Based on the overall items, the descriptive statistics showed that RT14 has the highest mean of 3.14 while the lowest mean is RT3 with 2.97. This lowest indicates that most SMEs don't take many risks and manage risks cautiously to avoid failure.

Table 2: The Descriptive Analysis of Risk-Taking Construct Items

Items	Statements	Mean	Std. Deviation
RT1	I am encouraged to generate new ideas and take initiative.	3.05	1.052
RT2	I am confident to take risks in this organization.	3.00	1.070
RT3	This organization frequently participates in high-risk projects with the expectation of high returns.	2.97	0.969
RT4	Risk-taking helps to promote innovation performance for the organization's growth.	3.09	1.257
RT5	Being afraid of doing something new often makes it more fun in the end.	3.08	1.206
RT6	This organization does activities that involve physical risk.	3.03	1.310
RT7	This organization engages in calculated and manageable risks to obtain benefits rather than taking daring risks that are detrimental to the organization's performance.	3.11	1.214
RT8	There are clear management statements on risk management in organizations.	2.99	1.050
RT9	There is a common understanding of risk management across the organization.	2.99	1.037
RT10	The responsibility for risk management is clearly set out and understood throughout the organization.	3.01	1.145
RT11	The accountability for risk management is clearly set out and understood throughout the organization.	3.01	1.080
RT12	Managing risk is essential to the performance and success of the organization.	3.26	1.441
RT13	Changes in risks are recognized and identified when the organizational roles and responsibilities change.	3.06	1.463
RT14	This organization encourages creative risk-taking.	3.14	1.405
RT15	Physical risk-taking comes with pressure.	3.07	1.394
RT16	I consider this organization a risk-taker.	3.09	1.335
RT17	It is difficult for the organization to prioritize its main risks.	2.98	0.986

KMO and Bartlett's Test

Table 3 shows the value for Bartlett's Test, which is significant (P-Value < 0.05) and also the measure of sampling adequacy by Kaiser-Meyer-Olkin (risk-taking) is 0.959, seen to be more than the 0.6 minimal requirements (Awang, 2012, Shrestha, 2021). Therefore, the two values (Bartlett Test, which is indicated to be significant and the KMO > 0.6) show that the current data is acceptable to continue EFA analysis (Awang, 2015; Hoque, et. al., 2018; Shkeer, & Awang, 2019; Shrestha, 2021).

Table 3: The Value for KMO Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.959
Bartlett's Test of Sphericity	Approx. Chi-Square	2832.592
	Df	136
	Sig.	.000

Component and Total Variance Explained

The Total Variance Explained is an indicator necessary in order to indicate how well the study's items can estimate each latent construct. In this process, items with an eigenvalue exceeding 1.0 are extracted (Awang 2015). Results from Table 4 below indicate that the total variance explained is 76.864% and that the factor analysis extracted one component of the risk-taking construct with an eigenvalue of 13.067 for the component. Therefore, the Total Variance Explained for the risk-taking construct (76.864%) is acceptable since it exceeds the minimum requirement of 60% (Hoque, et. al., 2018, Shkeer, & Awang, 2019, Baistaman, et. al., 2020, Shrestha, 2021). A value lower than 60% indicates the existing items are not sufficient to measure the construct.

Table 4: Total Variance Explained for Risk-Taking Construct

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.067	76.864	76.864	13.067	76.864	76.864
2	.618	3.638	80.502			
3	.532	3.129	83.631			
4	.460	2.704	86.335			
5	.372	2.187	88.522			
6	.278	1.635	90.157			
7	.254	1.493	91.649			
8	.215	1.266	92.915			
9	.205	1.204	94.119			
10	.188	1.107	95.226			
11	.167	.984	96.211			
12	.152	.895	97.106			
13	.127	.748	97.853			
14	.108	.635	98.488			
15	.102	.599	99.088			
16	.086	.508	99.596			
17	.069	.404	100.000			

Extraction Method: Principal Component Analysis.

Rotated Component Matrix

The 17 items that measure risk-taking were subjected to the EFA procedure using Principal Component Analysis (PCA) extraction method with Varimax Rotation. Table 5 below shows the component and its factor loading for every item. As indicated in the rotated component matrix, all items were retained because a factor loading of at least 0.6 is considered the minimum acceptable value. In instances where an item exhibits a factor loading of less than 0.6, it is recommended that the item be removed (Awang, Hui, & Zainudin, 2018, Bahkia, et. al., 2019, Ehido, et. al., 2020). The rotated component matrix showed that the 17 items were considered for further analysis under one component of the risk-taking construct.

Table 5. Rotated Component Matrix for Risk-Taking Construct

	Component
	1
RT1	.843
RT2	.870
RT3	.874
RT4	.890
RT5	.897
RT6	.895
RT7	.897
RT8	.841
RT9	.869
RT10	.869
RT11	.883
RT12	.827
RT13	.928
RT14	.908
RT15	.882
RT16	.854
RT17	.873

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Reliability Analysis

The Cronbach's Alpha for risk-taking construct was computed, and it indicates that the overall reliability measures have gone beyond the minimum recommended value of 0.7 and are reliable. Thus, Table 6 shows that the constructs have achieved above the required 0.7 thresholds for the items to achieve high internal reliability.

Table 6. Reliability Statistics for the Constructs of the Study

Construct	Number of Items	Overall Cronbach's Alpha
Risk Taking	17	0.981

CONCLUSION

This study makes a contribution to the existing literature by measuring the risk-taking construct, with a focus on SMEs in Malaysia. A structure measuring 17 items was generated by the present study's EFA results; all reliability measures demonstrated high Cronbach's Alpha values, the Bartlett test findings were significant, indicating that the data was suitable for factor analysis. The Kaiser-Meyer-Olkin (KMO) measure, which assesses sampling adequacy, exceeded the minimal threshold of 0.6 i.e KMO (> 0.6). Furthermore, the items' factor loadings exceeded the required threshold of 0.6, meaning that the non-set aside items are relevant to this research (Awang et al., 2017). The risk-taking instrument is internally consistent and stable across samples, thanks to the rigorous scale development and validation procedures of the present study. So, this study adds to what is already known about risk-taking in Malaysian SMEs. This study also contributed by establishing a validated and reliable instrument for measuring the risk-taking construct.

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