LEX LOCALIS-JOURNAL OF LOCAL SELF-GOVERNMENT
ISSN:1581-5374 E-ISSN:1855-363X
VOL. 23, NO. S5(2025)

ENHANCING SME PERFORMANCE IN MALAYSIA: THE CRUCIAL ROLE OF INNOVATION

Gunalan A/L G.Manokaran[1] & Abhijit Ghosh[2]

[1] A Student of Master of Management, Faculty of Business, Lincoln University College.
[2] Dean, Faculty of Business, Lincoln University College

ABSTRACT:
Small and Medium Enterprises (SMEs) are a vital sector of Malaysia's economy, contributing significantly to job creation and economic growth. SMEs can effectively leverage innovation to achieve sustainable development in volatile business environments.This study aims to investigate the impact of innovation on SME performance in Malaysia. Employing a quantitative approach, data were gathered through convenience sampling, 368responsesusable for analysis. Smart PLS 4 was employed to conduct partial least squares structural equation modeling (PLS-SEM), comprising evaluation of measurement and structural model. The findings of the study are that innovation has a positive and significant impact on SME performance. This study provides an essential contribution to developing the existing literature on the impact of innovation (INV) on the performance of SMEs. This study provides a better understanding of the roles that innovation (INV) plays in enhancing performance in companies in Malaysia, limitation and direction for previous studies has been provided.

Keywords: Innovation; Performance; Small and Medium Enterprises and Malaysia

1 INTRODUCTION:

The contribution of Malaysia's Small and Medium Enterprises (SMEs) to the country's GDP and employment figures demonstrates their significance for the overall economy. With ongoing government support and various schemes aimed at nurturing growth within SMEs, there is now a rare chance for these businesses to achieve even more. By working to foster economic development and job creation, SMEs can thus become increasingly important components in the progress of Malaysia as a whole (Adan & Hussain, 2021). In today's widely competitive environment, however, Small and Medium Enterprises (SMEs) must focus on innovation (INV) more than ever before. By making good use of technology, adapting to changing consumer tastes and constantly reforming themselves, they can put down solid roots for success over the long term and contribute deeply to Malaysia's economic progress (Mendoza and Tadeo, 2023).

That innovation might come in many forms: money for research and development, innovative culture (Alshuhumiet al, 2024), innovative work behavior (al-refaei et al, 2024), employeecreativity (Ibrahim et al, 2024), digitalization (Ateeq et al, 2024). training for upgrading technology support at the grassroots level for new-technology promotional centers, or even the formation of networks and support systems (Cheong et al., 2020, Zumrah et al, 2021; Al-Muhramiet al, 2021; Al-refaei et al, 2024b; Ateeq, et al, 2024). It is also important to concentrate on infrastructure construction so that the overall business environment becomes more favorable, as this will help SMEs flourish or expand (Nasser et al, 2024). Specifically, this means securing handy access to high-speed internet; gradually upgrading transport systems; and formulating more-lenient business registration, approval and transaction procedures which encourage INV and offer greater flexibility for INV (Isichei et al.2020).

Nurturing a spirit of INV among SMEs is essential. Creative thinking is encouraged, and employees are rewarded for producing successful ideas. Thus, business activities become more dynamic and changeable. Institutions of higher learning offering courses such as entrepreneurship education or entrepreneur training courses can provide a pool of talent with the required know-how and incentives for SME initiators to acquire the technical qualifications, they need to operate a business successfully of their own (Hanifah et al.2020).
This is why it is so important for policymakers, corporate managers, and researchers to understand the key determinants that influence how SMEs perform, particularly INV. innovation (INV) for SMEs in Malaysia is important. This is underlined by various studies, which have found that it might be a key factor in growth and competitiveness too. AlQershi et al. (2023), Alyahya'ei, Husin, &Supian (2020), and Azizah, Solichin, &Susilowati (2024) all recommend an innovative thinking approach to help SMEs do better. SMEs are a significant part of Malaysia's economy. To maintain their status they must match INV with other companies and win a place in the world in constant flux. Halim et al. (2015) and Ismail et al.(2014) proved the significant contribution made by SMEs to the national economy, thereby emphasizing that businesses need an environment which encourages creativity. Surprisingly, however, despite these indications, there is still disagreement about whether or not INV has an effect on SME-PERF of Malaysia. Al-Sharif et al. (2023), Jaaffar et al. (2024) and Singh & Hanafi (2020) all put the extent to which INV could benefit SME-PERF at issue. Meanwhile, the debate goes on. There needs to be further study into how INV is linked to SME-PERF in Malaysia. Addressing this gap in the available literature may help policymakers and business leaders develop strategies designed to support and encourage INV among SMEs; ultimately it will lead to prosperity for everyone in the country. Therefore, the current study comes to fills this gap, by examining the effect of innovation on Small and Medium Enterprise's performance in Malaysia

2 LITERATURE REVIEW :

2.1 Innovation :

As defined by Rogers (2003), the INV diffusion process can be characterized as a mechanism that attempts to mitigate uncertainty. To support this claim, he provided a list of attributes associated with INVs that aid in diminishing the level of uncertainty surrounding the invention. Eleven qualities comprise the classification of INVs as attributes. The following are the attributes in question: Observability is the fifth factor, in addition to relative advantage, compatibility, complexity, and trialability. Rogers (2003) posits that the extent to which individuals employ INVs can be anticipated based on their perceptions of these attributes. This statement was originally published in 2003. In contrast, a considerable amount of scholarly inquiry has been dedicated to examining the attributes of adopter categories. At the same time, Rogers emphasized the paucity of data concerning the impact of perceived attributes of INVs on the adoption rate. This continues to be the situation despite the profusion of ongoing research concerning disseminating INVs.
According to Rogers (2003), the adoption rate refers to the proportional degree of speed at which members of a specific social system adapt a novel concept. For instance, The adoption rate of an INV can be quantified by the number of individuals who embraced it over a specified duration. Adoption Ratios are substantially predicted by the attributes perceived as part of the INV. According to Rogers, these five attributes account for 49-87 percent of the variance in the rate of INV adoption. Furthermore, the predictability of the rate at which INVs are adopted may be enhanced by factors such as the type of INV decision (collective, obligatory, or discretionary), the communication channels utilized (personal or mass media), the social system (coordinated networks or norms), and the agents of change. In contrast,

INVs requiring an organizational or collective decision are typically implemented more slowly than personal and optional INVs. However, according to Rogers (2003), There are five dimensions of innovation, they are relative advantage, compatibility, trialability, complexity, and observability

Relative Advantage: Relative advantage refers to the degree to which a new product or service is perceived as superior and more advanced compared to current market offerings. If people think the new option is clearly better, they are more likely to choose it.

Compatibility: Compatibility refers to the degree to which an innovation aligns with the existing values, prior experiences, and needs of potential adopters (Rogers, 2003). It about what they've done before, and what they need. If the new thing feels familiar or relevant to them, they're more likely to accept it.

Complexity: Complexity is defined as the extent to which an innovation is perceived as challenging to understand and use (Rogers, 2003). This term describes how difficult or easy it is to understand and use the new product or service. If something is too complicated, people might be hesitant to adopt it.

Trialability:Trialability refers to the extent to which an innovation can be tested on a limited basis (Rogers, 2003). This idea is about whether people can try out the new product or service on a small scale before fully committing to it. If they can test it out first, they might feel more comfortable deciding to use it.

2.2 Innovation and Small and Medium Enterprises (SMEs)performance:

The literature reviewed various studies on the impact of innovation (INV) on the performance of small and medium-sized enterprises (SMEs) across different regions. Yusr et al. (2022) explored the organizational capacities of Malaysian manufacturing SMEs, focusing on their innovative performance and functional capabilities in new product development. The study highlighted the importance of efficiently utilizing administrative, manufacturing, and marketing resources to maintain a competitive advantage. However, the limited sample size led to an insignificant impact of research and development (R&D) on new product development. Similarly, Le et al. (2023) provided evidence that innovation significantly boosts the performance of Vietnamese SMEs, emphasizing the need for government support to encourage innovation, particularly in product development, to enhance competitiveness.

Further investigations by Sharif et al. (2023) and Qifari& Hartono (2024) explored how different types of innovation-product, process, organizational, and open innovation-affect SME performance. Sharif et al. analyzed the influence of innovation on key performance indicators such as market share, profitability, and revenue expansion in Malaysian SMEs, considering moderating factors like market dynamics and firm size. Qifari& Hartono focused on the role of knowledge transfer and open innovation in improving SME performance in Yogyakarta, Indonesia, highlighting the critical role of innovation capabilities. Lastly, Thy (2024) provided a broader analysis using data from 7,788 Vietnamese businesses, confirming that product innovation, R&D, and organizational innovation significantly contribute to the success of SMEs. These studies collectively underscore the crucial role of innovation in enhancing SME performance across different contexts.

The literature highlights the critical role of organizational innovation (INV) in driving the performance of small and medium-sized enterprises (SMEs), with product INV and research and development (R&D) also playing significant roles. While the impact of process INV on SME performance (SME-PERF) remains less clear, the majority of SMEs prioritize investments in organizational INV, product or service innovation, and R&D. These findings underscore the importance for enterprises and policymakers to explore strategies that support SME innovation and success. Additionally, studies by Astuti et al. (2024) and Arshad et al. (2024) further emphasize the influence of entrepreneurial and market orientation on SME

performance, with INV acting as a crucial mediator in this relationship. Astuti et al. particularly highlights gender disparities in entrepreneurial orientation and risk-taking, with males tending to favor more aggressive entrepreneurial approaches, impacting SME performance through INV. In the Pakistani context, Arshad et al. affirm the strong correlation between entrepreneurial and market orientations and SME success, reinforcing INV's mediating role. These insights collectively contribute to a deeper understanding of the factors that drive SME performance across different contexts. Based on the previous discussion, the current study assumed that, innovation has a positive and significant effect on Small and Medium Enterprise's performance in Malaysia.

3 METHODOLOGY :

Since the current study aims to investigate how innovation (INV) affects SME-PERF in the SME sector in Malaysia, the study used the quantitativemethod for gathering data from the respondents. The sample of this study was 371 employees from SMEs in Malaysia,convenience sampling technique was used to choose a representative sample from the entire population. Before distributing the questionnaire, the researcher obtained a support letter from Lincoln University College to distribute the questionnaire to the SMEs in Malaysia. The letter and cover letter explained the purpose of the study with aims to examine the impact of INV on SME-PERF in SMEs in Malaysia. The researcher specifically sought SMEs that were willing to participate in the study and were easily accessible, to properly apply the convenience sampling technique. This strategy was sensible given the difficulties in compiling a comprehensive list of SMEs.

3.1 Measures:

This study aims to explore how innovation (INV) influences SME-PERF among SMEs in Malaysia,to gather the data, this study primarily relied on a questionnaire. Questionnaires are suitable for uniformly collecting quantitative data, making them especially useful for gauging people's attitudes or opinions on organizational practices (Malhotra, 2020). This method ensures the data is clear, consistent, and ready for analysis, helping the researcher meet the study's goals (Saunders et al., 2019). Plus, surveys allow respondents to stay anonymous, which can boost response rates (Sekaran, 2003). By using surveys, researchers in this study can pinpoint and explain differences in various phenomena or situations (Saunders et al., 2019).

The research tool used in this study is split into two main sections. The first part collects demographic details from the respondents, such as gender, position (whether they are a manager or owner), work experience, and the sector they are in. The second part gathers their opinions on the key variables that this study aims to investigate: INV, SME-PERF. This section is further broken down into two parts: Part A deals with INV, Part B focuses on SME-PERF, . Participants are asked to respond to questions in each part using a five-point Likert scale, where they indicate their level of agreement or disagreement (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree).

Innovation in this study was measured by 24 items divided into five characteristics, as recommended by Rogers (1995) and used in previous studies such as Panigrahi, Azizan, & Al Shamsi, 2021). The five dimensions of innovation are relative advantage which is measured by 5 items, compatibilityis measured by 5 items, trialabilityis measured by 5 items, complexityis measured by 5 items, and observabilityis measured by 4 items. While SEMs Performance (SEM-PERF) was measured by 12 items developed by Lin (2014) and employed in previous studies like those by Sengottuvel (2017) and Shea et al. (2023). The evaluation of financial performance, operational performance, customer satisfaction, and learning and growth performance was conducted using three items for each category.

3.2 Data Analysis and Results:

3.2.1 Descriptive Analysis:

The demographic analysis of SMEs in Malaysia highlights key aspects of gender representation, experience levels, and sectoral distribution among the sampled businesses. Women are notably more prevalent in this sector, making up 59.2% of the respondents, while men constitute 40.8%. This gender distribution suggests a strong female presence in SMEs, potentially shaped by various socio-economic influences. The experience levels of participants vary widely, with nearly half having 10-19 years of industry experience, indicating a workforce rich in knowledge and expertise. A smaller portion of the sample has either less than 10 years or over 20 years of experience, reflecting a mix of both seasoned professionals and those bringing fresh perspectives.

In terms of sectoral representation, service-oriented businesses lead the way, comprising 37.0% of the SMEs in the study. The manufacturing and construction sectors also play significant roles, accounting for 23.4% and 18.8% of the sample, respectively. The agricultural sector represents 13.9% of the respondents, while the mining and quarrying sector, though smaller, still contributes with 7.1%. This varied sectoral distribution highlights the diversity of the SMEin Malaysia, which spans multiple industries and is integral to the nation's economy.

Table 1: The Profile of Respondents

	Category	Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	150	40.8	40.8	40.8
	Female	218	59.2	59.2	100.0
	Total	368	100.0	100.0	
Experience	Less than 10	88	23.9	23.9	23.9
	10-19	180	48.9	48.9	72.8
	20-29	59	16.0	16.0	88.9
	30-39	41	11.1	11.1	100.0
	Total	368	100.0	100.0	
Sector	Services	136	37.0	37.0	37.0
	Manufacturing	86	23.4	23.4	60.3
	Construction	69	18.8	18.8	79.1
	Agriculture	51	13.9	13.9	92.9
	Mining and Quarrying	26	07.1	07.1	100.0
	Total	368	100.0	100.0	

3.2.2 PLS-Structural Equation Path Model:

Evaluating the PLS-Structural Equation Model involves two key stages: the assessment of the measurement model (MES-M) and the structural model (STR-M). The first step focuses on the MES-M, also known as the outer model, which explores the relationship between observed variables and their constructs. Once validated, the focus shifts to the STR-M, or inner model, which examines connections between the constructs (Al-Zubaidi et al., 2024; Ringle et al., 2023). It's essential to determine whether the MES-M is reflective or formative, as this influences the evaluation method. Reflective models, commonly used in PLS-SEM,

assume that observed indicators reflect underlying constructs (Abdulsamad et al., 2020; Becker et al., 2023; Jandab et al., 2019; Ringle et al., 2020).

Validating the MES-M typically involves confirmatory factor analysis (CFA) to ensure the model's reliability and validity by meeting specific threshold values (Hair & Alamer, 2022). Following this, the STR-M is assessed to test hypotheses and understand the causal relationships within the theoretical framework (Hair & Alamer, 2022). In PLS-SEM, higher-order constructs are often used to represent concepts at an abstract level, with methods such as the extended repeated indicators and two-stage approach being employed for their estimation (Al-Zubaidi et al., 2022; Ringle et al., 2023). The two-stage method, preferred in this study, offers better accuracy for paths from exogenous constructs to higher-order constructs and from higher-order to endogenous constructs, though both methods yield similar results when sample sizes are sufficient.

3.2.2.1 Measurement Model Assessment:

When analyzing the MES-M for our study, it is essential to evaluate the reliability of each item within the constructs, commonly referred to as outer loading (Abdulhadi et al., 2022; Al-Zubaidi et al., 2023; Jandab et al., 2020). Outer loading values reflect how effectively an item represents its construct. To ensure validity, these values should exceed 0.708, a standard that ensures the average variance extracted (AVE) is above 0.50. According to Hair Jr et al. (2022),outer loadings between 0.50 and 0.70 are acceptable if they contribute to an AVE greater than 0.50. In our study, all items were retained except for REA3 and CMP2, as their loadings fell below 0.50 (see Table 2), ensuring that each item reliably measures its intended construct.

Table 2: Factor Loadings, Reliability, and Validity

Construct	Item	Factor Loading	VIF	α	CR	AVE
FIN	**FIN1**	0.924	3.274	**0.907**	**0.942**	**0.844**
	FIN2	0.929	3.455			
	FIN3	0.903	2.553			
OPR	**OPR1**	0.909	2.700	**0.895**	**0.935**	**0.826**
	OPR2	0.921	3.065			
	OPR3	0.897	2.488			
CUS	**CUS1**	0.898	2.498	**0.881**	**0.926**	**0.808**
	CUS2	0.905	2.481			
	CUS3	0.893	2.374			
GRT	**GRT1**	0.914	2.952	**0.910**	**0.944**	**0.848**
	GRT2	0.935	3.468			
	GRT3	0.913	2.905			
CMP	**CMP1**	0.863	2.220	**0.913**	**0.939**	**0.793**
	CMP2	**D**				
	CMP3	0.878	2.756			
	CMP4	0.909	3.593			
	CMP5	0.910	3.478			
CPX	**CPX1**	0.736	1.568	**0.827**	**0.878**	**0.591**
	CPX2	0.760	1.598			
	CPX3	0.745	1.546			
	CPX4	0.762	1.656			
	CPX5	0.837	2.060			
OSV	**OSV1**	0.875	2.715	**0.922**	**0.945**	**0.810**

	OSV2	0.915	3.734			
	OSV3	0.915	3.693			
	OSV4	0.896	2.932			
REA	**REA1**	0.840	2.238	**0.912**	**0.938**	**0.792**
	REA2	0.914	3.592			
	REA3	**D**	-			
	REA4	0.910	3.677			
	REA5	0.894	2.829			
TRL	**TRL1**	0.810	2.024	**0.854**	**0.896**	**0.633**
	TRL2	0.801	1.933			
	TRL3	0.721	1.414			
	TRL4	0.821	1.978			
	TRL5	0.820	2.099			

Moreover, convergent validity is an integral part of construct validation. It ensures that the items accurately measure the intended construct and have meaningful correlations with other measures of the same construct (Abdulhadi et al., 2023; A. M. Al-Sharif et al., 2023). Researchers often use Average Variance Extracted (AVE) to check convergent validity. Values of 0.50 or higher mean that the construct explains more than half of the variation in its indicators, which is a good sign of validity (Hair Jr et al., 2022). This study used AVE to evaluate convergent validity, following Fornell and Larcker's (1981) recommendations. Hair Jr et al. (2022) noted that an AVE value of 0.50 or higher must establish sufficient congruence. The results showed strong loadings (> 0.50) for first and second-order items, confirming satisfactory convergent validity and supporting the reliability and validity of the constructs in this study. The results of the MES-M evaluation are illustrated in Figures 1 and 2.

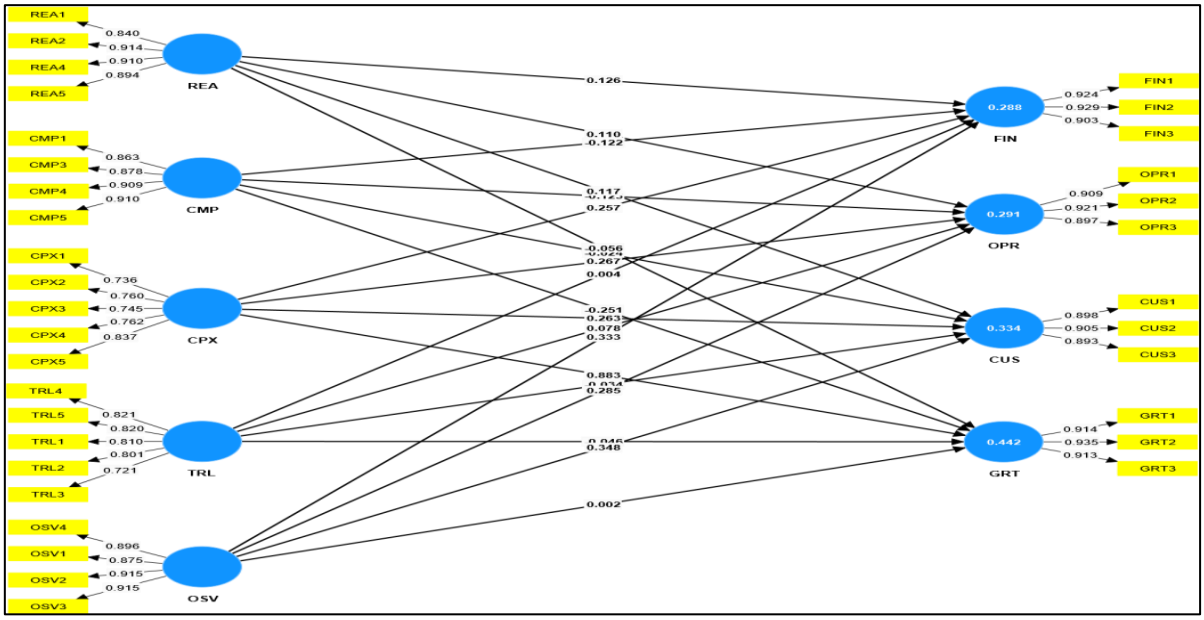

Figure 1: Evaluation of Measurement Model (First order)

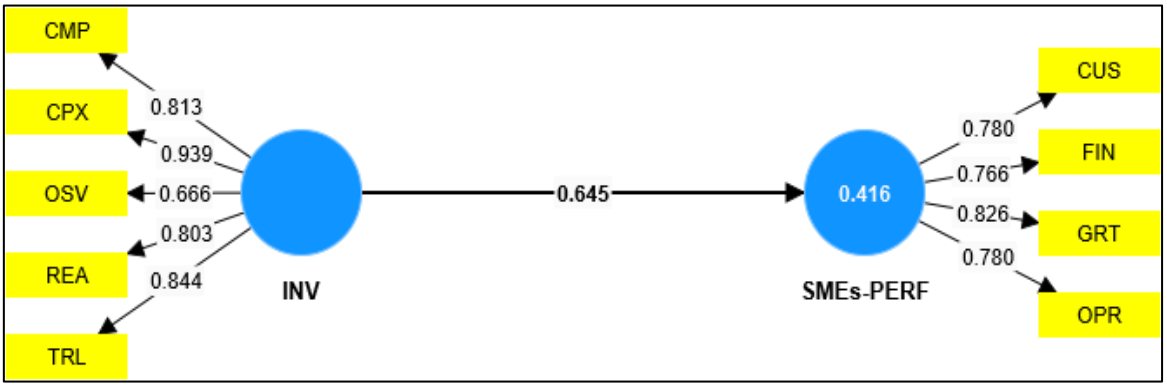

Figure 2: Evaluation of Measurement Model (Second Order)

Discriminant validity is crucial in research for verifying that each construct in a model is unique and does not overlap with others, ensuring the model's integrity. The Fornell-Larcker criterion, introduced by Fornell and Larcker (2018), is a widely used method for this purpose. It involves comparing the squared correlations between constructs with their average variance extracted (AVE) (A. Al-Sharif et al., 2023; Ariffin et al., 2022). The AVE indicates how well the indicators of a construct capture its variance relative to measurement error, with higher AVE values signifying greater validity (Al-Refaei et al., 2024; Hair et al., 2013). According to Hair and Alamer (2022), the square root of the AVE should surpass the correlations between constructs, highlighting the need for each construct to account for more variance in its indicators than it shares with other constructs. In this study, as illustrated in Tables 3 and 4, the AVE values for first and second-order constructs, ranging from 0.769 to 0.918 and 0.818 to 0.789, respectively, exceed the inter-construct correlations, confirming discriminant validity. This result supports the distinctiveness of the constructs, ensuring they measure separate theoretical concepts and enhancing the study's credibility (Ringle et al., 2023).

Table 3: The Results of Fornell-Larcker Method (First Order)

Dimensions	AVE	CMP	CPX	CUS	FIN	GRT	OPR	OSV	REA	TRL
CMP	**0.793**	**0.891**								
CPX	**0.591**	0.719	**0.769**							
CUS	**0.808**	0.328	0.509	**0.899**						
FIN	**0.844**	0.255	0.459	0.433	**0.918**					
GRT	**0.848**	0.310	0.630	0.554	0.508	**0.921**				
OPR	**0.826**	0.289	0.483	0.449	0.519	0.510	**0.909**			
OSV	**0.810**	0.289	0.591	0.514	0.483	0.421	0.463	**0.900**		
REA	**0.792**	0.737	0.710	0.350	0.305	0.354	0.336	0.252	**0.890**	
TRL	**0.633**	0.721	0.741	0.351	0.315	0.388	0.368	0.358	0.708	**0.795**

Table 4: The Results of Fornell-Larcker Method (Second Order)

Construct	AVE	INV	SMEs-PERF
INV	**0.669**	**0.818**	
SMEs-PERF	**0.622**	0.645	**0.789**

3.2.2.2 Structural Model Assessment:

Structural equation modeling (SEM) is an advanced analytical technique allowing researchers to explore complex research questions by examining the relationships between multiple

dependent and independent variables (Al-Zubaidi et al., 2024). Figure 3 demonstrates the full STR-M model, which includes innovation (INV) as the independent variable and SME performance (SMEs-PERF) as the dependent variable. As per the guidelines provided byBecker et al. (2023); Ringle et al. (2023), it is crucial that the hypothesised associations in the research model are statistically significant, and that the values of R square, f square, and Q square indicate the model's predictive relevance.

3.2.2.2.1 Path Coefficients (Direct Relationship):

The structural model was assessed by analyzing the path coefficients to understand the direct effects between the research variables, focusing on the significance of the direct effect hypothesis to address the research question. Following the guidelines by Hair et al. (2017), a significant direct relationship is identified when the p-value is less than 0.05 (indicating a 95% confidence interval) and the t-value exceeds 1.96 for a two-tailed test. The analysis revealed a statistically significant positive relationship between innovation (INV) and the performance of SMEs in Malaysia (SMEs-PERF), with a coefficient (ß) of 0.645, a t-value of 21.119, and a p-value 0.000. The strength of these findings supports the acceptance of Hypothesis of study, confirming the significant impact of innovation on SMEs' performance.

Table 5: Results of Direct Relationship (Hypothesis Test)

H	Relationships	Path Coefficient	STDEV	T statistics	P values
H1	**HSQL -> TS**	**0.645**	**0.031**	**21.119**	**0.000**

Figure 3: The Results of the Structural Model

3.2.2.2.2 Coefficient of determination:

The evaluation of the structural model included an assessment of the coefficient of determination (R^2), which is interpreted differently depending on the study's context and complexity (Alghamdi et al., 2021b; Ringle et al., 2023). Falk and Miller (1992) suggested a minimum acceptable R^2 value of 0.10, while Chin (1998) classified R^2 values as substantial (0.67), moderate (0.33), and weak (0.19). Cohen (1988) offered a similar interpretation for PLS-SEM, with R^2 values of 0.26, 0.13, and 0.02 indicating substantial, moderate, and weak relationships, respectively. Hair and Alamer (2022)recommended that R^2 values of 0.75, 0.50, or 0.25 be considered substantial, moderate, or weak for endogenous latent variables in the STR-M. Based on the standards set by Falk and Miller (1992) and Cohen (1988), this study's R^2 value for small and medium enterprises performance (SMEs-PERF) was 41.60%, which means the model explains a substantial amount of the variance.

Table 6: Coefficient of determination (R^2), and Construct Cross- Validated Redundancy

Coefficient of Determination (R^2)				
Endogenous	R^2 Value		Rating	
SMEs-PERF	0.416		Substantial*	
Construct Cross- Validated Redundancy				
Variable	Type of Variable	SSO	SSE	Q2(=1-SSE/SSO)
SMEs-PERF	Endogenous	1484	1104.524	0.256

* Chen &Myagmarsuren (2013)

Beyond R^2, the model's predictive relevance (Q^2) was assessed using the blindfolding procedure for independent variables measured with a reflective MES-M (Alghamdi et al., 2021a; Jandab et al., 2020). Cross-validated redundancy, which considers both STR-M and MES-M, was used to evaluate predictive relevance, while cross-validated communality focused only on MES-M, in line with PLS-SEM (Al-refaei et al., 2023; Hair et al., 2021; Lee et al., 2015). According to Becker et al. (2023); Ringle et al. (2023); Sarstedt et al. (2022), a positive Q^2 value indicates predictive relevance. This study used the Stone-Geisser test to calculate Q^2, employing a blindfolding value of d = 10. The Q^2 value small and medium enterprises Performance (SMEs-PERF) was 0.256, suggesting that the model demonstrates satisfactory predictive accuracy.

Figure 4: The Predictive Relevance Model (Q2) (Construct Cross-Validated Redundancy).

DISCUSSION:

The hypothesis of this study mentioned that INV positively impacts SME-PERF in Malaysia. The results of the analysis of the data obtained from the respondents and analysis revealed that INV was found to have a positive effect on Malaysian SMEs' performance. when SMEs increase their use of INV then their performance will increase too, which means that, when SMEs use the INV in their internal process and products and provide their service to their customers, then their performance will be improved. Because they will save time and reduce the cost of products and services. The reason for this is that using innovation in the business sector, which means creating a new concept, a new product, or providing an innovative service, contributes to developing the performance of SMEs.

The result of this study is consistent with the previous literature that established the relationship between innovation and business development and expansion. According to Denicoló and Zanchettin (2016), innovation in businesses has the potential to facilitate and create real opportunities for sustainable development. All companies are always looking for

growth and finding effective ways to expand and sustain their operations, and one of the most effective strategies that achieve corporate goals is innovation. Therefore, the term "innovation" in businesses is becoming more common, and corporate executives are realizing that for their companies to remain competitive, they have to be more creative. Since innovation generates competition and additional profits in the market, innovation appears essential for the growth of these companies (Sardana, 2016). Research conducted by Tienken (2013) suggests that innovation and creativity may lead to the development of new and innovative ideas. Creativity is about creating something original and new. This is what drives innovation and entrepreneurship in the development and progress of nations.

The result of the current study is consistent with previous empirical studies that examine the effect of INV on the performance of SME companies in Malaysia, such as Yusr et al. (2022), which examine the organizational capacities of Malaysian manufacturing SMEs and similar SMEs in formulating new products. It focuses on metrics such as innovative performance, functional capabilities (R&D, manufacturing, marketing), and administrative capabilities. The study found that efficiently using administrative, manufacturing, and marketing resources can preserve SMEs' competitive advantage. The current result of this study is consistent with Sharif et al. (2023), which investigate the complex interplay between INV and the operational outcomes of small and medium-sized enterprises (SMEs) in the specific context of Malaysia. The analysis investigates the effects of various types of INV product INV, process INV, and organizational INV in a comprehensive manner. To carry out this inquiry, the significance of the relationship between INV and SME-PERF is assessed by applying statistical methods, Moreover, their study accounts for potential moderating variables, including market dynamics, industry sector, and firm size, which could impact the magnitude of this correlation.

Practical implication:

This study contributes significantly to enhancing SMEs' understanding of the relationship between innovation and performance in SMEs in the context of Malaysia. The study provides empirical evidence that innovation has a positive and significant impact on SME performance in the context of Malaysia, as efficiency is improved, competitiveness is enhanced, and new products and services are developed that better meet market needs. Moreover, SMEs can develop an innovative organizational culture that enhances the organization’s values and beliefs and creates an environment conducive to innovation, and encourages creative initiatives, SMEs can create a work environment that stimulates creative thinking and contributes to the development of new and innovative solutions (Alshuhumi et al, 2024), and producing goods, delivering services, and reducing costs. This can be affected by several factors including organizational structure, strategy, technological advancement, and open communication channels (Al-Muhrami et al., 2021; Ateeq et al, 2024).

Limitation and direction for previous studies:

It is important to acknowledge that the study has specific limitations. The data were mostly collected at a certain moment in time using a cross-sectional research approach. To address this limitation, future studies could employ a longitudinal study design. This approach would allow for the examination of the impact of INV on SME-PERF over an extended period of time. Longitudinal studies offer a stronger basis for drawing causal conclusions and thoroughly examining the proposed correlations. Furthermore, the study's sample was specifically selected from SMEs in Malaysia, excluding micro-enterprises. This might limit the applicability of the findings to the broader SME industry and other industries.However, another limitation of this study has not included any mediation or moderator variables between INV and SMEs performance, such as innovation organizational culture (Strychalska-Rudzewicz, A., & Rudzewicz, 2021), organizational commitment (Alsamawi et al,

2019;Ghumiem& Alawi, 2022), job involvement (Al-refaei et al, 2024), and organizational resilience (Garrido-Moreno et al. 2024; Li et al. 2022; Zahoor et al., 2024; Hai-Ninh et al., 2024)

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