TYPE OF INNOVATION AND SMES PERFORMANCE: FINANCIAL AND NON-FINANCIAL PERSPECTIVE

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Abstract. In a rapidly changing environment, innovation is often regarded as a key driver of sustainable competitive advantage. It fosters improvements that facilitate continuous development, which is essential for a firm's survival. This ongoing enhancement enables firms to grow more quickly, increase their efficiency, and ultimately achieve higher profitability compared to those that do not prioritize innovation. However, the relationship between innovation and its impact on the performance of small and medium-sized enterprises (SMEs) in developing countries remains insufficiently explored. Despite the significance of innovation, limited attention given to the potential influence of different types of innovation on SMEs, particularly in terms of both financial and non-financial performance. To address this gap in the extant literature, this study examines the impacts of product, process, marketing, and organizational innovation on the financial and non-financial performance of manufacturing SMEs in Malaysia. This study collected data from 172 SME owners or managers in manufacturing through email surveys. Data analysis employed Structural Equation Modeling with Partial Least Squares (SEM-PLS) to test hypotheses. The results indicate that all four types of innovation, product, process, organization, and marketing, have a positive impact on the financial performance of SMEs. Additionally, the findings reveal that three types of innovation, product, process, and organization, significantly influence the non-financial performance of SMEs, whereas marketing innovation does not demonstrate a significant effect. This research contributes to the existing literature by providing a comprehensive understanding of how various forms of innovation influence SMEs performance in the manufacturing sector of a developing nation, particularly Malaysia.
Keywords: *SMEs, innovation, type of innovation, financial performance, non-financial performance*

Introduction

Small and Medium-sized Enterprises (SMEs) play a crucial role in global economic development. These businesses contribute significantly to employment generation, technological advancement, and income distribution across diverse economic contexts (Omowole, 2024; Bomani et al., 2022). SMEs are well-known for nurturing entrepreneurship and driving localized economic development (Ndubisi et al., 2021). Moreover, SMEs are essential in advancing capacity development and creating investment opportunities (Prasetyo, 2023). Consequently, there is increasing acknowledgement among economic experts and policymakers regarding the importance of developing and supporting SMEs (Vîrjan et al., 2023; Rehman et al., 2019). According to the Economic Census, there are 1,173,601 SMEs, or 97.4% of the total number of business establishments in Malaysia. Based on this amount, 84.7% of the total SMEs (994,350) are in the service sector, 7.9% of the total SMEs (92,924) are in

the construction sector, 5.6% in the manufacturing sector (65,657), 1.4% (16,441) in the agriculture sector, and 0.4% (4,229) in the mining sector. According to the Economic Census, 65,657 SMEs operate in the manufacturing sector, accounting for 5.6% of the total SMEs in Malaysia. While this percentage may seem modest, the impact of this sector on the national economy is disproportionately significant. It was reported that it contributed 23.4 per cent to the national GDP, demonstrating a marginal growth of 0.7 per cent compared to 8.1 per cent in 2022. Previous studies have shown that SMEs can effectively address or eliminate challenges and failures through innovation (Fitriatia et al., 2020). In fact, it is argued that the mounting pressures of globalization, international competition, shifting consumer demands, and technological advancements compel SMEs to embrace creative and innovative strategies in order to sustain their viability (Hervás-Oliver et al., 2021). As a result, numerous studies have recognized innovation as a vital factor in driving a firm's performance, particularly regarding its growth and survival (Haddad et al., 2020).

In the Malaysian context, recent studies on SMEs innovation have predominantly focused on various topics such as challenge adoption of technology (Halim et al., 2023; Mohamad et al., 2021; Ahmad Tarmizi et al., 2020; Hameed et al., 2019; Mustafa and Yaakub, 2018), innovation culture (Tehseen et al., 2023; Ramdan et al., 2022; Hanifah et al., 2020; 2019), innovation capabilities (Sukri et al., 2023; Jalil et al., 2022; Al-Juboori et al., 2021; Singh et al., 2020) and entrepreneurship (Mokbel Al Koliby et al., 2024; Wadood et al., 2022; Yew, 2021; Halim et al., 2020; Kee and Rahman, 2020; Umar et al., 2018). A recent comprehensive literature review by Jamai et al., (2021) revealed that few studies have assessed the correlation between impact innovation and firm performance. Al Naqbia et al. (2020) claimed that prior research on innovation and its impact on firm performance is mildly limited to the Western, Middle and Far Eastern world. In fact, the extant literature on the impact of innovation on SMEs performance is still under-researched in management literature, particularly in South East Asian, especially Malaysia (Gill and Hanafi, 2020). On the one hand, Al Naqbia et al. (2020) assert that the absence of comprehensive large-scale data surveys for SMEs, coupled with limited research in this domain, may account for the inconclusive findings in the literature. Consequently, further investigation is necessary due to the paucity of empirical evidence regarding the relationship between innovation and SMEs performance (Jamai et al., 2021). Despite the literature on this topic abounding, so far, there is a dearth of research on the impact of innovation types on firms' financial and non-financial performance. While numerous studies have concentrated on financial indicators such as production costs, sales, productivity, and profit (Larios-Francia and Ferasso, 2023; Mabenge et al., 2022; El Chaarani et al., 2021; Błach et al., 2020; Expósito and Sanchis-Llopis, 2019; Exposito and Sanchis-Llopis, 2018), these metrics do not provide a comprehensive view. A more holistic approach that takes multiple performance indicators into account simultaneously is necessary.

Furthermore, there is a lack of consensus in the extant literature regarding whether specific innovation types are more likely to influence financial or non-financial performance indicators (Makate et al., 2019). Several scholars posit that innovation should be conceptualized as a multifaceted phenomenon, with different innovation types potentially yielding diverse benefits for SMEs performance (Le, et al., 2023; Mabenge et al., 2022; Gill and Hanafi, 2020). Moreover, most previous research has been conducted on product and process innovation (Koffi et al., 2021; Gill and Hanafi, 2020), neglecting marketing and organizational innovation. This highlights a substantial gap in

the literature concerning the impact of innovation on SME performance, especially marketing and organizational innovation (Jamai et al., 2021; Al Naqbia et al., 2020). Therefore, this study extends the scope of the existing body of knowledge on innovation by adopting a multidimensional approach to examine the impact of innovation on SME performance. It addresses a significant research gap by assessing the impact of four types of innovative practices, product, process, marketing, and organizational, on the performance of manufacturing SMEs in Malaysia, considering both financial and non-financial indicators.

Literature review

The relationship between innovation and firm performance remains a complex and debated topic in the literature. While many studies have demonstrated a positive correlation between innovation and SMEs performance, others have reported negative or insignificant effects (Bigliardi et al., 2020; YuSheng and Ibrahim, 2020; Cành et al., 2019; Ho et al., 2018). This discrepancy may be attributed to the varying impacts of different types of innovation, such as technological and non-technological innovations on firm performance (Belotti et al., 2019; Enjolras et al., 2019). Given these mixed results, further research is necessary to elucidate the nuanced relationship between innovation and SME performance, taking into account the diverse factors that may influence this association.

Type of innovation and SMEs performance

Innovation is defined as "the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations". This classification framework identifies four distinct types of innovation: product/service, process, marketing, and organizational innovation. By adopting and adapting this definition, this study aims to investigate the impact of these four innovation types on SME performance: financial and non-financial indicators. Product innovation refers to 'the introduction of a good or service that is new or significantly improved regarding its characteristics or intended uses; including significant improvements in technical specifications, components and materials, incorporated software, user-friendliness or other functional characteristics'. Product innovation involves developing new or improved goods, processes, or services that add value for customers and set a company apart from its competitors (Utterback and Abernathy, 2018). In the manufacturing sector, this can include implementing advanced manufacturing technologies, adopting sustainable production methods, or creating customized products to meet specific customer needs. In other words, product innovation aims to introduce new products or modify existing ones to align with customer requirements, thereby attracting new customers (Taques et al., 2021).

In the light of this evidence, numerous studies demonstrated that product innovation had a positive and significant correlation with SMEs performance (Seclen-Luna et al., 2022; Expósito and Sanchis-Llopis, 2019; González-Blanco et al., 2018). A recent study by Del Carpio Gallegos and Miralles (2023) asserts that product innovation exhibited a positive influence on the growth of a firm's turnover/sales. A further study by Kanojia and Singh (2023) showed that product innovation significantly and positively influences SMEs performance in terms of sales and employment growth. In line with the same

result, Saleem et al. (2021) indicate that product innovations enhance the product quality and competitiveness. Based on these findings, it can be postulated that SMEs engage in product innovation, which is likely to have a substantial impact on their overall performance. Thus, it is hypotheses that:

H1: Product innovation has a positive influence on SMEs financial performance.
H2: Product innovation has a positive influence on SMEs non-financial performance.

Process innovation defined as, 'the implementation of a new or significant improved production or delivery method, which includes significant changes in techniques, equipment and or software'. It involves adopting new technologies, investing in machinery, training employees, and reorganizing processes to improve production methods (Granstrand and Holgersson, 2020). Process innovation often goes hand-in-hand with product innovation, as firms may need to modify their processes to create new products or vice versa (Gault, 2018). A key driver for process innovation is cost reduction, which can be reflected in the cost of the product (Edwards-Schachter, 2018). Interestingly, prior studies demonstrated a positive correlation between process innovation and SMEs performance (Khan et al., 2021; Expósito and Sanchis-Llopis, 2019; Radicic and Djalilov, 2019). Recent studies have indicated that process innovation practices enable SMEs to experience higher growth rates (Artati and Kusuma, 2023; Odei et al., 2023; Booltink and Saka-Helmhout, 2018). In line with the same result, Astuti et al. (2020) assert that the adoption of process innovation elevates SMEs performance in terms of product quality. However, this inconsistent with previous studies by Wang (2019) indicate that the impact of process innovation on SMEs performance is minimal. Consequently, it can be posited that the effective adoption and implementation of process innovation may contribute to augmenting SME performance. Thus, it is hypotheses that:

H3: Process innovation has a positive influence on SMEs' financial performance.
H4: Process innovation has a positive influence on SMEs' non-financial performance.

Marketing innovation refers as 'the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing'. Marketing innovation encompasses various activities aimed at enhancing a firm's market position and sales. This approach involves creating and implementing new marketing methods and techniques to stay competitive. Kahn (2018) emphasize the vital role of market innovation in addressing market needs and capitalizing on emerging opportunities. Drawing from previous studies, the relationship between market innovation and SMEs performance appears to be contentious and subject to debate (Acuna-Opazo and Castillo-Vergara, 2018). Several scholars have posited a positive correlation between market innovation and SMEs performance, while others have demonstrated insignificant link (Dwivedi and Pawsey, 2023; Jung and Shegai, 2023; Cornejo-Cañamares et al., 2021; Adamu et al., 2020). Despite the heterogeneous and inconclusive nature of these findings, this researcher contends that the efficacious adoption and implementation of marketing exhibits a greater propensity to enhance SMEs' performance. Hence, this leads to the following hypotheses:

H5: Marketing innovation has a positive influence on SMEs' financial performance.
H6: Marketing innovation has a positive influence on SMEs' non-financial performance.

Organizational innovation defined as "implementing new ways of organizing business practices, external relations and work place". Organizational innovation plays a crucial role in enhancing a company's competitive advantage and overall performance. By implementing novel organizational methods, firms can develop unique capabilities that are difficult for competitors to replicate (Giannattasio, 2023). Ultimately, organizational innovation aims to create a sustainable competitive advantage by enhancing a company's ability to adapt to changing market conditions and leverage its resources more effectively (Damanpour, 2020). Prior studies indicate that organizational innovation exerts a positive influence on the performance of SMEs (Yoon and Kwon, 2023; Seclen-Luna et al., 2022; Fufa, 2020). However, other studies have not demonstrated a significant effect of this relationship (Radicic and Djalilov, 2019; Acuna-Opazo, 2018). Moreover, organizational innovation is apparent to be paradoxical, and a plethora of studies have yielded inconsistent results. The heterogeneous results of this correlation stipulate the necessity to improve knowledge regarding the relationship between organizational innovation and SMEs performance. Notwithstanding the mixed and inconclusive findings, this study posits that organizational innovation can enhance SMEs performance and, thus, hypotheses:

H7: Organizational innovation has a positive influence on SMEs' financial performance.
H8: Organizational innovation has a positive influence on SMEs' non-financial performance.

Based on the hypotheses discussed above, the research model for this study was derived, as illustrated in the subsequent figure (*Figure 1*).

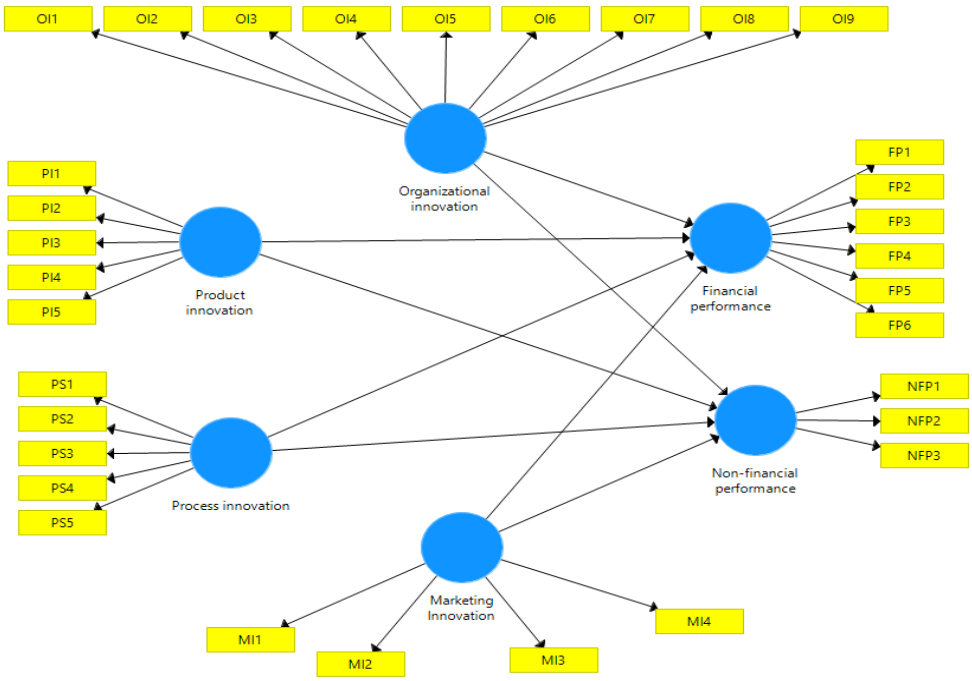

Figure 1. *Research model.*

Materials and Methods

The sample population for this study consisted of owners and senior-level managers of small and medium-sized enterprises (SMEs) within the manufacturing sector of Peninsular Malaysia. Participants were randomly selected from the databases of two prominent organizations: the Federation of Malaysian Manufacturers (FMM) and SMECorp. Primary data were collected from the SMEs manufacturing sector, including the food and beverage, textile and clothing, machinery and equipment (M&E), electrical and electronics (E&E), and furniture industries. Data collection was conducted using Google Forms, which required respondents to complete the survey. A total of 1,500 questionnaires were electronically disseminated to owners and managers of small and medium-sized enterprises (SMEs) in the manufacturing sector via email, Facebook, and WhatsApp. The online survey received responses from 193 participants. However, after the exclusion of incomplete submissions, the final dataset consisted of 172 respondents. Data was gathered using a questionnaire that employed a five-point Likert scale. Participants evaluated each statement on a scale from 1 (strongly disagree) to 5 (strongly agree). To examine innovation types, this research utilized a survey tool created, which is grounded in the typology described in the Oslo Manual. This instrument classifies innovation into four categories: product, process, marketing, and organizational innovation. Finally, financial and non-financial performance metrics were adapted from the previous studies.

Results and Discussion

Convergent validity

The assessment of convergent validity generally involves calculating factor loading, composite reliability (CR), Cronbach's alpha (CA), and average variance extracted (AVE). According to the extant literature, factor loadings should exceed 0.5, the AVE should be greater than 0.5, CR values of 0.60 are deemed acceptable, and a Cronbach's alpha value of 0.6 or higher is considered satisfactory (Harmoinen et al., 2020). The analysis revealed that the factor loading indicators ranged from 0.683 to 0.927, surpassing the recommended threshold of 0.60 (*Table 1*). Furthermore, *Table 2* shows that the CR values exceeded 0.7, Cronbach's alpha values were greater than 0.789, and AVE values ranged between 0.789 and 0.926, indicating the reliability of the measurement instrument. In conclusion, the structural model construct indicator appears to be satisfied, demonstrating adequate convergent validity.

Table 1*. Items and standardized loading.*

Item	Description	Factor loading
	Product innovation	
P1	Increasing manufacturing quality in components and materials of current products.	0.902
P2	Decreasing manufacturing cost in components and materials of current products.	0.875
P3	Developing newness for current products leading to improved ease of use for customers and to improved customer satisfaction.	0.852
P4	Developing new products with technical specifications and functionalities totally differing from the current ones.	0.877
P5	Developing new products with components and materials totally differing from current ones.	0.883
	Process innovation	
R1	Determining and eliminating non-value adding activities in production processes.	0.847

R2	Decreasing variable cost components in manufacturing processes, techniques, machinery and software.	0.859
R3	Increasing output quality in manufacturing processes, techniques, machinery and software.	0.815
R4	Determining and eliminating non-value adding activities in delivery related processes.	0.857
R5	Decreasing variable cost and/or increasing delivery related logistics processes.	0.862
	Marketing innovation	
M1	Renewing the design of the current and/or new products through changes such as in appearance, packaging, shape and volume without changing their basic technical and functional features.	0.888
M2	Renewing the distribution channels without changing the logistics processes related to the delivery of the product.	0.914
M3	Renewing the product promotion techniques employed for the promotion of current and/or new products.	0.927
M4	Renewing the product pricing techniques employed for the pricing of the current and/or new products.	0.873
	Organizational innovation	
O1	Renewing the routines, procedures and processes employed to execute the firm activities in innovative manner.	0.789
O2	Renewing the supply chain management systems.	0.782
O3	Renewing the production and quality management systems.	0.796
O4	Renewing the human resources management systems.	0.731
O5	Renewing the in-firm management information system and information sharing practice.	0.761
O6	Renewing the organization structure to facilitate coordination between different functions like marketing and manufacturing.	0.712
O7	Renewing the organization structure to facilitate teamwork.	0.781
O8	Renewing the organization structure to facilitate project type organization.	0.768
O9	Renewing the organization structure to facilitate strategic partnerships and long-term business collaborations.	0.744
	Financial performance	
F1	Sales growth	0.701
F2	Profitability	0.739
F3	Return on investment	0.791
F4	Market share growth	0.683
F5	Return on equity	0.731
F6	Cash flow	0.796
	Non-financial performance	
NF1	Customer satisfaction	0.877
NF2	Product/service quality	0.831
NF3	Employee loyalty	0.806

***Table 2**. Convergent validity.*

Item	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Product innovation	0.926	0.944	0.771
Process innovation	0.904	0.928	0.720
Marketing Innovation	0.923	0.945	0.812
Organizational innovation	0.911	0.926	0.583
Financial performance	0.835	0.879	0.549
Non-financial performance	0.789	0.877	0.703

Discriminant validity

To assess the discriminant validity of the measurement model, the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio were utilized. According to the Fornell-Larcker criterion, the square root of the Average Variance Extracted (AVE) should exceed the correlations among the latent variables. As demonstrated in *Table 3*, the values for each latent construct surpass the correlations with other constructs, thereby establishing adequate discriminant validity. Hair Jr et al. (2017) highlighted the critical role of the heterotrait-monotrait ratio (HTMT) of correlations in evaluating discriminant validity. This approach estimates the actual correlation between two constructs. Accordingly, the HTMT should not exceed a threshold of 0.90; values above this threshold indicate insufficient discriminant validity. As depicted in *Table 4*, the HTMT values conform to the established criteria for construct validity.

***Table 3**. Correlation of latent variables and square roots of AVE.*

Category	Financial performance	Marketing Innovation	Non-financial performance	Organizational innovation	Process innovation	Product innovation
Financial performance	0.741					
Marketing Innovation	0.277	0.894				
Non-financial performance	0.366	0.146	0.839			
Organizational innovation	0.400	0.102	0.247	0.763		
Process innovation	0.294	-0.110	0.265	-0.139	0.848	
Product innovation	0.307	-0.035	0.298	-0.091	-0.010	0.878

***Table 4**. Heterotrait–Monotrait (HTMT).*

Category	Financial performance	Marketing Innovation	Non-financial performance	Organizational innovation	Process innovation	Product innovation
Financial performance						
Marketing Innovation	0.304					
Non-financial performance	0.446	0.173				
Organizational innovation	0.432	0.119	0.279			
Process innovation	0.329	0.124	0.303	0.165		
Product innovation	0.342	0.084	0.332	0.121	0.076	

Structural models

In the assessment of structural models, Hair Jr et al. (2017) suggest the examination of beta (β) values, t-values, and associated p-values through a bootstrapping method. As illustrated in *Table 5* and *Figure 2*, the findings reveal that product innovation exerts a significant influence on financial performance ($\beta = 0.363$, $t = 6.378$, $p > 0.00$) and non-financial performance ($\beta = 0.335$, $t = 4.723$, $p > 0.00$), thereby corroborating hypotheses H1 and H2. The metrics for process innovation demonstrate a significant positive correlation with financial performance ($\beta = 0.393$, $t = 6.513$, $p < 0.00$) and a significant positive correlation with non-financial performance ($\beta = 0.329$, $t = 3.778$, $p < 0.00$), thus supporting hypotheses H3 and H4. The results of the PLS regression indicate that marketing innovation is a significant predictor of financial performance ($\beta = 0.286$, $t = 4.384$, $p > 0.00$), thereby supporting hypothesis H5. However, marketing innovation ($\beta = 0.163$, $t = 1.609$, $p < 0.108$) did not exhibit a statistically significant impact on non-financial performance, which does not support hypothesis H6. The association of organizational innovation presents an insignificant positive effect on both financial ($\beta = 0.458$, $t = 6.907$, $p > 0.00$) and non-financial performance ($\beta = 0.307$, $t = 4.646$, $p > 0.00$), thus supporting hypotheses H7 and H8. The criteria for acceptable R2 value can vary widely based on the specific context of the analysis. Nonetheless, Chin (1998) suggested that in PLS-SEM, R2 values of 0.60, 0.33, and 0.19 represent substantial, moderate, and weak effects, respectively. According to the results, the R2 value demonstrates that the independent variables collectively account for 48.2% of the variance in financial performance and 35.7% of the variance in nonfinancial performance.

***Table 5**. Results of hypothesis test.*

Item	Beta	t-statistic	p-values	Decision
Product innovation -> Financial performance	0.363	6.378	0.000	Supported

Product innovation -> Non-financial performance	0.335	4.723	0.000	Supported
Process innovation -> Financial performance	0.393	6.513	0.000	Supported
Process innovation -> Non-financial performance	0.329	3.778	0.000	Supported
Marketing Innovation -> Financial performance	0.286	4.384	0.000	Supported
Marketing Innovation -> Non-financial performance	0.163	1.609	0.108	Rejected
Organizational innovation -> Financial performance	0.458	6.907	0.000	Supported
Organizational innovation -> Non-financial performance	0.307	4.646	0.000	Supported

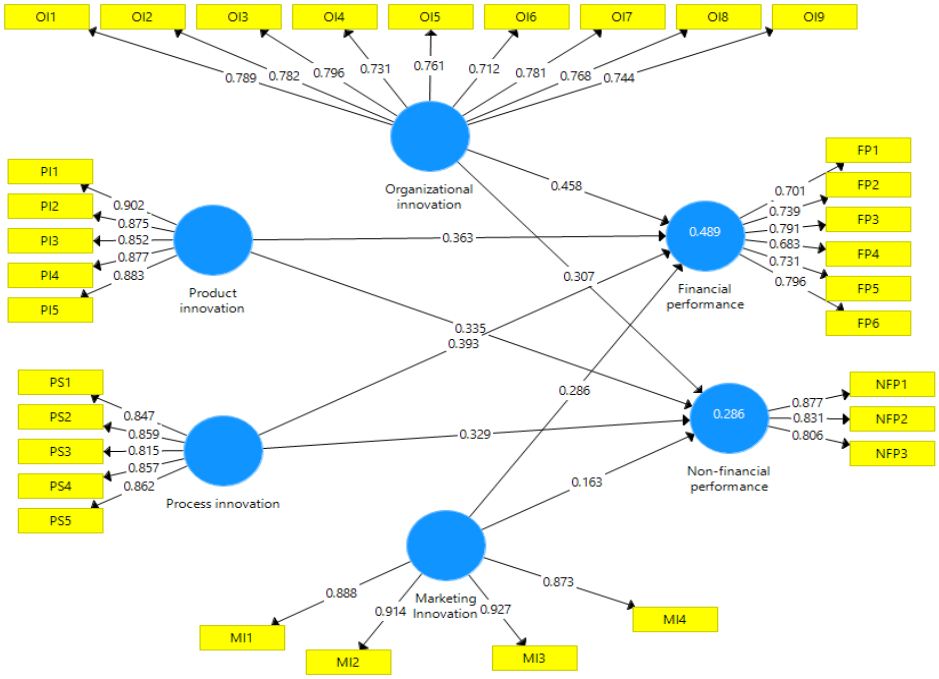

Figure 2. *Measurement model analysis.*

This research highlights the significant impact that different types of innovation on both the financial and non-financial outcomes of small and medium-sized enterprises (SMEs). The findings align with existing literature, emphasizing that innovation plays a crucial role in enhancing SME performance by fostering competitiveness, increasing efficiency, and facilitating growth. Various forms of innovation such as product, process, marketing, and organizational are essential for enabling SMEs to adapt to changing market conditions, optimize their operations, and create new value for their customers. Previous research has consistently highlighted the significant impact of product innovation on both financial and non-financial performance. Accordingly, product innovation improves profitability by enhancing product quality, diversifying offerings, and more effectively meeting customer demands. This is further supported by Prabowo et al. (2020), who found that SMEs that prioritize product innovation often outperform their competitors in terms of profitability, particularly when they introduce products with significant differentiation. Naveen and Nair (2023) argues that directing investments towards product innovation can substantially increase return on investment (ROI) by creating new revenue opportunities and improving resource efficiency. A recent study by Sa'adah and Susilowati (2023) demonstrated that the continuous development and introduction of new products enable businesses to penetrate new market segments, enhance long-term customer loyalty, and achieve sustainable growth. Additionally, Oduro (2019) found that product innovation is positively correlated with performance indicators such as customer satisfaction and market share, which, in turn, reinforce customer loyalty. These findings suggest that prioritizing quality through

innovative products allows SMEs to meet customer expectations, an essential factor in sustaining a loyal customer base. Therefore, this study provides strong support for hypotheses H1 and H2.

Previous research has consistently highlighted the significant impact of product innovation on both financial and non-financial performance. Based on the findings of this study, it was determined that process innovation is positively and significantly correlated with both the financial and non-financial performance of SMEs. Gunanto and Preda (2023) pointed out that SMEs that strategically optimize their processes can leverage operational efficiencies to improve financial outcomes, particularly in relation to business size, debt-to-equity ratio, and revenue growth. Sondakh (2019) argued that innovative processes can enhance product quality by effectively addressing customer needs. This notion is corroborated by the findings of Rifai and Syaroni (2020), who observed that simultaneous innovations in production processes and product offerings create a systemic approach that boosts overall performance. Therefore, effective process innovations not only enhance quality but also empower SMEs to adapt to market demands and improve customer satisfaction. Thus, this study provides robust support for hypotheses H3 and H4. Recent studies highlight the significant role of marketing innovation in improving performance indicators such as profitability, market share, return on investment (ROI), cash flow, and sales, particularly in SMEs. Mahmutaj and Krasniqi (2020) claimed that advancements in innovative marketing practices substantially enhance the marketing performance of SMEs, leading to positive impacts on financial indicators such as sales and ROI. This finding is further supported by Uuskoski et al. (2020), who investigated how business models that encompass comprehensive marketing strategies can drive rapid sales growth, which is vital for improving operational cash flow. However, Shaikh and Khoso (2019) indicated that limited financial resources can significantly impede SMEs ability to invest in innovative marketing strategies. When facing financial constraints, SMEs often prioritize immediate operational needs over long-term marketing innovations, which may hinder their ability to enhance service quality and customer satisfaction. Moreover, Kijkasiwat and Phuensane (2020) argue that some SMEs prefer to stick to their existing operational strategies rather than adopt new marketing practices due to perceived risks. This cautious approach can lead to stagnation in marketing efforts that could otherwise improve customer satisfaction and and improved overall firm performance. Therefore, this study strongly supports H5 but does not support H6.

Prior studies have shown that organizational innovation plays a significant role in SME performance. Alateeg and Alhammadi (2024) suggested that the dynamics within the workplace and the level of employee engagement are crucial for fostering an organizational environment that supports innovation. Dalain (2023) indicated that restructuring workplace environments can lead to greater efficiency and increased employee satisfaction, which are directly linked to operational performance metrics such as cash flow and return on investment (ROI). Farahmand (2019) argued that advanced management strategies that prioritize customer orientation and market responsiveness are essential for driving innovation and improving product quality, which significantly impact market competitiveness and profitability. Furthermore, Sawaean and Ali (2020) highlighted that innovative practices are key to enhancing an organization's image and reputation, which are vital for maintaining customer loyalty. By innovating their products and services, SMEs not only meet customer expectations

but also build strong emotional connections, leading to repeat purchases and increased market share. Hence, this study provides strong support for H7 and H8.

Conclusion

This study enhances the understanding of current research and discussions on the role of innovation in improving the performance of small and medium-sized enterprises (SMEs), especially in emerging economies. Specifically, it aims to identify the prevalent types and degrees of innovation among SMEs in Malaysia, assess their performance levels and evaluate the individual effects of various dimensions of innovation on SMEs outcomes. As a result, this study contributes to the existing body of knowledge by addressing gaps in the literature on innovation, with an emphasis on theoretical, practical, and policy implications. Empirical evidence from this study and previous research consistently highlights that innovation generally enhances firm performance. Specifically, the results indicate that product, process, marketing, and organizational innovations are statistically significant predictors of factors that enhance the financial performance of SMEs. In contrast, only product, process, and organizational innovations are statistically significant in predicting factors that improve the non-financial performance of SMEs, while marketing innovation has no significant impact. This study makes important contributions to understanding how managers and owners of small and medium-sized enterprises (SMEs) can develop effective innovation strategies to strengthen their competitive position. Given the crucial role that innovation plays in improving business performance, the study suggests that SMEs should adopt a variety of innovative strategies and also improve their current innovation practices. This study concentrated on the four innovation types outlined by the OECD Oslo Manual, which may have led to the exclusion of other innovation forms. As a result, future research should delve into unexplored and emerging innovation types such as incremental, radical, architectural, business model, and disruptive innovations by assess their influence on the performance of SMEs. Additionally, the study was limited to SMEs within the manufacturing sector, which restricts the applicability of the findings to all SME sectors in Malaysia. Therefore, future research should expand its scope to include SMEs from various other sectors.

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Conflict of interest

The authors confirm that there is no conflict of interest involved with any parties in this research study.

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