Business model innovation and firm performance: Evidence from small and medium enterprises (SMEs), Tanzania

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ABSTRACT

To remain competitive in the current unpredictable business environment, companies need to identify creative ways to conduct business. Because it has become a practical strategy for attaining long-term outcomes, businesses are innovating their business models. However, there is still a need for empirical study on the relationship between business model innovation (BMI) and the success of small and medium-sized firms (SMEs) in Tanzania. The study used resource-based theory, dynamic capability theory, and firm growth theory to form its theoretical basis. A correlational and cross-sectional research design was used to examine the non-causal relationships among variables. To select the sample, stratified random sampling was used, resulting in 264 small and medium-sized enterprises being selected from a total population of 2703 in the designated areas. The study targeted a population of 2,703 small and medium enterprises (SMEs) in the Arusha, Dar es Salaam, Dodoma, Mbeya, and Tanga regions of Tanzania. Based on this, the minimum recommended sample size was calculated as 348 SMEs, which were selected from the same locations. To select the sample, stratified random sampling was used. This method was chosen due to the heterogeneity within the target population, ensuring that different subgroups were adequately represented. The data were collected from 264 service, manufacturing, garment & textile, metal & woodworks, construction, food & beverage, production, and publishing SMEs using structured questionnaires. We employed partial least square structural equation modeling (PLS-SEM) to analyze the collected data and test the hypotheses. Value proposition innovation (VPRI), value capture innovation (VCAI), and value creation innovation (VCRI) were all found to have a strong correlation with firm performance. Specifically, evaluated whether there was a significant correlation between the performance of SMEs and VPRI. The results demonstrated a favorable and significant correlation between VPRI and the SMEs' performance. Consequently, it was approved, and for each unit increase in VPRI, manufacturing SMEs' performance would rise by 0.217 standard deviation units. investigated whether there was a significant correlation between VCAI and SMEs' performance. The results demonstrated a robust and positive relationship between VCAI and SMEs' performance. As a result, it was supported, and for every unit change in VCAI, the SMEs' performance would change by 0.252 standard deviation units. Finally, evaluated whether there was a significant correlation between the performance of SMEs and VCRI. The results showed a positive and significant relationship between VCRI and SMEs' performance, supporting this. These results demonstrate that for every unit increase in VCRI, the performance of SMEs increases by 0.292 standard deviation units. Therefore, by rethinking their business strategies, companies can provide more value for their customers while also creating value for themselves. In conclusion, by increasing use value or decreasing exchange value with customers, firms can produce more value, beat competitors in the market, and improve their own worth. The study recommends that managers and executives should conduct a comprehensive assessment and use of business systems innovation to improve the performance of small and medium-sized enterprises. It also advises policymakers to conduct a policy review aimed at encouraging managers and executives to use this broad innovation approach and to support better outcomes for such enterprises.

Keywords: BMI, Business Model, Business Innovation, Firm Performance, SMEs, Tanzania

I. INTRODUCTION

Companies must reconsider and look for novel approaches and creative ways to do business in order to boost performance (Sjödin et al., 2020; Salfore et al. 2023) and maintain their competitiveness (Anwar, 2018) in the current unstable climate. In order to achieve this goal, businesses frequently put a lot of work into innovating their goods and procedures in order to boost sales and preserve or raise their profit margin (Kimeu et al., 2025). The Organization for Economic Co-operation and Development (OECD) broadly define innovation as the introduction of a new or significantly enhanced product (good or service), process, marketing method, or organizational approach in business practices, workplace structure, or external relations (Ibarra et al., 2020). Yet, in today's competitive environment—marked by rapid technological advancement, globalization, widespread access to information, and dynamic shifts in the global economy—product and process innovations alone are no longer enough to maintain an edge (Anwar, 2018). Moreover, efforts to enhance products or processes often involve substantial costs and time, demand significant investment in research and development, and may require acquiring new equipment or establishing entirely new business units, all with uncertain returns. As a result, many companies are increasingly adopting Business Model Innovation

(BMI) as either an alternative or a complement to traditional innovation strategies. Unlike product or technological advances, which can be easily copied, BMI offers a broader, more sustainable approach by rethinking how value is created and captured (Salfore et al., 2023).

Globally, small and medium-sized enterprises (SMEs) are fundamentally instrumental in promoting national development. SMEs significantly contribute to the economic advancement of numerous nations (Bashira et al., 2023). The SMEs are pivotal in facilitating job creation, alleviating poverty, and fostering comprehensive economic growth. The contributions of SMEs to socio-economic development have been widely acknowledged. Despite the fact that SMEs employ a limited number of individuals and generate relatively modest revenues, their cumulative influence is substantial (Anwar, 2018). A considerable proportion of SMEs are family-owned and play a crucial role not only in the advancement of various national economies, but also possess substantial potential to mitigate the adverse effects of human activities on both the natural environment and society. Small and medium-sized enterprises (SMEs) account for approximately 60% of global employment opportunities, contribute over 35% to the gross domestic product (GDP) in developing nations, and represent 50% in developed nations (Salfore et al., 2023). Nevertheless, despite the growing acknowledgment of the significance of SMEs in fostering economic development and the substantial proliferation of these enterprises, the incidence of failure remains profoundly concerning (Ibarra et al., 2020).

The business model, essentially how a company creates, delivers, and captures value (Leppänen, et al., 2025), must adapt over time, either through minor adjustments or major transformations, in response to shifting market dynamics and increasing competitive pressures (Salfore, et al., 2023). Business model innovation (BMI) is therefore understood as the deliberate redesign of an existing model, or the development of a new one, that more effectively meets customer needs than previous approaches (Leppänen, et al., 2025). In recent years, both practitioners and researchers have shown growing interest in BMI and business models more broadly (Anwar, 2018). A global survey by the Economist Intelligence Unit (EIU) revealed that most senior executives prioritize business model innovation over product or process improvements (Teece, 2010), highlighting its rising strategic importance. As a result, BMI has become a focal point across multiple academic disciplines (Latifi et al., 2021).

Despite this attention, empirical studies exploring the connection between BMI and firm-level outcomes remain limited and scattered across fields (Salfore et al., 2023). Much of the existing research has concentrated on conceptual clarification, distinguishing BMI from related management ideas (Teece, 2010). Moreover, findings from quantitative studies are inconsistent: some report a positive link between BMI and firm performance (Salfore et al., 2023), while others find negative (McNamara et al., 2023; (Visnjic et al., 2016) or no significant relationship at all (Giesen et al., 2020). Although there is some evidence suggesting a connection, it remains unclear whether altering a business model actually leads to changes in performance (Salfore et al, 2023). This question is particularly critical for manufacturing small and medium-sized enterprises (SMEs), which typically operate with fewer resources and capabilities compared to larger firms. Given the central role SMEs play in the global economy, more robust empirical work is needed to determine whether engaging in BMI contributes to better performance in this sector. Large-scale studies using rigorous statistical methods could help produce more generalizable results, as scholars have previously recommended.

Accordingly, this study aims to empirically examine the relationship between BMI and performance in manufacturing SMEs. In doing so, it expands the scope of current business model research, which has largely focused on defining the concept, identifying its drivers, and differentiating it from other strategic constructs. Additionally, prior work has often relied on qualitative methods to build initial understanding, while some quantitative efforts have used secondary data not originally intended for BMI analysis. In contrast, this study employs primary quantitative data and statistical analysis, offering a methodological advancement in the field.

1.1 Research Objective

This study aimed to examine how business model innovation (BMI) affects the performance of small and medium-sized enterprises (SMEs) in five regions of Tanzania: Arusha, Dar es Salaam, Dodoma, Mbeya, and Tanga.

1.1.1 The specific objectives were:

(i) To assess how innovation in value propositions affects the performance of SMEs in these regions.
(ii) To examine the impact of revenue collection innovation on the performance of SMEs in the same regions.
(iii) To analyze how innovation in value creation affects the performance of SMEs in Arusha, Dar es Salaam, Dodoma, Mbeya, and Tanga.

II. LITERATURE REVIEW

2.1 Theoretical Review

The theoretical foundation of this study is based on three key perspectives: resource-based theory, dynamic capabilities theory, and firm growth theory.

2.1.1 Resource-Based Theory

The resource-based theory (RBT) of the firm (Barney, 1991; Wernerfelt, 1984) provides a lens through which to understand how a firm's unique resources and capabilities contribute to sustainable competitive advantage. RBT argues that firms gain strategic advantage when they possess valuable, rare, inimitable, and non-replaceable resources, often referred to as VRINs (Alkaraan et al., 2024). These resources can include physical assets, intellectual property, human capital, organizational processes, and other unique strategic features. According Alkaraan et al. (2024) and Tandika (2024), such resources enable firms to outperform their competitors and achieve superior performance. Therefore, RBT serves as an important theoretical framework for analyzing how business system innovation affects the performance of small and medium-sized enterprises (SMEs) in the Arusha, Dar es Salaam, Dodoma, Mbeya, and Tanga regions of Tanzania. RBT is a key concept in strategic management, explaining performance differences among firms based on their VRIN advantages and how they are managed (Iliyas & Barca, 2025). It provides a basic framework for understanding the drivers of firm performance and competitive position (Kimeu et al., 2025). Therefore, it also supports the investigation of how innovation in value creation and value propositions affects the performance of SMEs in the Arusha, Dar es Salaam, Dodoma, Mbeya, and Tanga regions of Tanzania.

2.1.2 Dynamic Capability Theory

The dynamic capability (DC) theory (Barney, 1991; Barney, 2001; Peteraf, 1993) focuses on a firm's ability to adapt, innovate, and reorganize its resources in response to changing market conditions and external disruptions. This perspective holds that long-term competitive advantage does not only come from possessing unique resources but also from the ability to effectively integrate, develop, and reorganize those resources (Barney, 1991; Barney, 2001; Peteraf, 1993; (Kimeu et al., 2025). Therefore, DC theory provides a suitable framework for examining the impact of business system innovation on the performance of small and medium-sized enterprises in the Arusha, Dar es Salaam, Dodoma, Mbeya, and Tanga regions of Tanzania. This theory emphasizes how organizations can build and deploy capabilities in volatile and uncertain environments (Kimeu et al., 2025). Given its focus on change, DC theory is particularly useful for assessing firm performance in changing contexts (Peteraf, 1993). It also informs strategic decision-making for senior managers experiencing significant industry change while maintaining core operational efficiency (Kimeu et al., 2025). For these reasons, DC theory is appropriate to explain how value creation and value proposition innovation affect the performance of SMEs in selected regions of Tanzania.

2.1.3 Firm Growth Theory

The firm growth theory (Penrose, 1959) is a well-established concept in strategic management (Han & Tong, 2024). It proposes that firms grow by reconfiguring multiple resources in innovative ways. Drawing on the contributions of Penrose (2009), this theory is widely used to explain the outcomes of firm expansion and performance. As such, it provides a useful theoretical lens for studying the effects of business system innovation on the performance of small and medium-sized enterprises in the Arusha, Dar es Salaam, Dodoma, Mbeya, and Tanga regions of Tanzania.

This theory views the firm as a pool of productive resources whose allocation over time and use are shaped by managerial decisions (Kimeu et al., 2025). It highlights that growth occurs through the use of underutilized resources and is highly dependent on the entrepreneurial contribution made by owners (Ye et al., 2023). Furthermore, it claims that value creation occurs when firms transform or combine existing resources into new configurations (Han & Tong, 2024). The theory also emphasizes that entrepreneurs must make strategic decisions about resource allocation under uncertainty (Kimeu et al., 2025), with entrepreneurial decision-making playing a key role in promoting growth (Han & Tong, 2024).. Therefore, the theory of firm growth provides a solid foundation for analyzing the relationship between innovation in value creation and value propositions and the performance of small businesses.

2.2 Empirical Review

2.2.1 Business Model and Business Model Innovation

The concept of the business model has become widely recognized in corporate strategy and entrepreneurial research (Baden-Fuller & Morgan, 2010; Trnavčević, et al., 2022). However, no single definition is universally accepted, as scholarly perspectives often emerge from distinct disciplinary interests (Jibril et al., 2023). Amit and Zott (2001) for instance, define it as the content, structure, and governance of transactions designed to generate value from business opportunities. (Efendi, 2023) view it as the logic that bridges technological potential with economic value creation. Despite differing definitions, most scholars agree on its core function: enabling organizations to create and deliver value to customers and themselves (Kranich & Wald, 2018). This study adopts Teece's (2010) characterization of a business model as "the design or architecture of the value creation, delivery, and capture mechanisms of an organization."

Value creation, the first core component, involves the activities a firm undertakes, using its resources and capabilities, to develop offerings for customers (Cruz-Sánchez et al., 2026). It also encompasses the firm's ability

to gather inputs like labor, capital, and materials and convert them into goods and services (Kranich & Wald, 2018). Value can be enhanced either by increasing customer willingness to pay or by reducing costs for suppliers and partners (Nicholas et al., 2011; Iqbal & Suzianti, 2021). The value proposition refers to the specific mix of products and services that meet customer needs and how they are delivered (Kranich & Wald, 2018; Visnjic et al., 2016). It also reflects how a company sets itself apart from competitors and why customers choose it over alternatives (Kranich & Wald, 2018). Lastly, value capture concerns how firms turn their offerings into revenue and ultimately profit (Cruz-Sánchez et al., 2026). As Aagaard, (2024) emphasizes, this dimension is vital—without the ability to capture value, a firm cannot sustain its operations long-term.

Because business environments are dynamic, business models cannot remain fixed; they must evolve to continue unlocking and distributing value effectively (Aagaard, 2024). They require ongoing refinement or transformation in response to external changes and competitive developments (Giesen et al., 2020). BMI, then, is defined as the intentional modification—or discovery—of a firm's value creation, delivery, or capture mechanisms in ways that better address customer needs than the current model (Efendi, 2023). The idea of a business model is closely tied to technological innovation, and scholars have offered various viewpoints on how the two interact. Some suggest that advances in technology enable new business models (Aagaard, 2024; Amit & Zott, 2001), while others propose that the development of novel business models drives technological progress (Latifi et al., 2021). Despite these differing perspectives, there is clear agreement that business model innovation is distinct from technological innovation. (Trnavčević, et al., 2022) emphasize that although business models and technology are interconnected, they remain conceptually separate. Similarly, (Visnjic et al., 2016) argue that business model innovation differs fundamentally from technological innovation, noting that "a better business model often will beat a better technology." Thus, firms must innovate their business models to fully benefit from technological advancements.

2.2.2 Firm performance

Firm performance has become a central focus and key outcome in management research. However, despite its widespread use, researchers have not reached a consensus on how to define or measure it (Korhonen et al., 2023). Since the influential study by Venkatraman and Ramanujam (1986), many scholars have treated firm performance as a multidimensional concept. Yet, even with recognition of its complexity, some researchers continue to assess it using a single dimension. Performance can be evaluated objectively, using financial and accounting data, or subjectively, through self-reported survey responses (Venkatraman & Ramanujam, 1986). Although objective measures are generally preferred, obtaining reliable financial data, especially for SMEs, is often challenging (Singh et al., 2016) and sometimes unattainable (Venkatraman & Ramanujam, 1986). (Singh, et al., 2016) note that gathering consistent and comparable objective data across an entire sample is particularly difficult. Additionally, many business owners are reluctant to share detailed financial information. Due to these constraints, numerous studies rely on subjective, perception-based assessments of performance (Venkatraman & Ramanujam, 1986). Ultimately, the choice between objective and subjective measures depends on the researcher's judgment (Singh et al., 2016).

2.2.3 The relationship between BMI and firm performance

There is growing agreement among researchers that business model innovation (BMI) positively influences firm performance (Salfore et al., 2023). Furthermore, (Salfore et al., 2023) argue that BMI contributes more significantly to performance improvement than product or process innovation. They also highlight that BMI is typically linked to cost reductions, which in turn boosts profitability, especially in manufacturing. Innovating the value proposition allows firms to expand their offerings and meet emerging market demands, which strongly impacts performance (Salfore et al., 2023). Also, Salfore et al. (2023) explain that changes in value proposition alter customer offerings, including products or services, target markets, and distribution methods. Further, Clauss et al. (2020) confirm a positive association between value proposition innovation and firm performance. Chen et al. (2020) also report a significant positive relationship in the context of manufacturing SMEs. Hence,

Ho_1: Value proposition innovation is positively associated with the performance of the SMEs.

Updating the value capture mechanism enables firms to replace less profitable revenue streams and increase profit potential (Teece & Linden, 2017). Also, Sjödin et al. (2020) and Salfore et al. (2023) note that innovations in value capture allow firms to generate additional revenue or shift to more profitable models, enhancing future income prospects. They also point out that such innovations reduce inefficiencies, contributing to improved overall performance. Therefore,

Ho_2: Value capture innovation is positively related to the performance of the SMEs.

Teece (2010) stresses that a well-structured business model, one that integrates all components and effectively implements viable revenue and cost structures, is essential for organizational success. Likewise, Jingwen et al. (2022) find that innovatively redesigning a firm's business model enhances venture performance. Studies focusing on business model components also report positive outcomes. For example, Latifi et al. (2021) show that innovation in value

creation leads to stronger economic performance. Similarly, Chen et al. (2020), in a study of manufacturing SMEs, find a significant positive link between value creation innovation and firm performance. Therefore,
Ho_3: Value creation innovation is positively related to the performance of the SMEs.

III. METHODOLOGY

3.1 Research Design

The study used a correlational, cross-sectional research design to examine non-causal relationships among variables without manipulating or controlling any of them. This approach was well suited for collecting data from a large number of participants at a single point in time, allowing researchers to analyze statistical relationships between two or more variables as they naturally occur (Haslam et al., 2024).

3.2 Study Area

The study took place in the United Republic of Tanzania. The study covered five regions namely; Arusha, Dar es Salaam, Dodoma, Mbeya, and Tanga.

3.3 Target Population

The purpose of this study is to look at the connection between SMEs' performance and BMI. In order to do this, we used primary data gathered from SMEs that are registered by the Small Industries Development Organization (SIDO). The number and names of SMEs engaged in various commercial activities, including as manufacturing, construction, food and beverage, metal and woodworking, garment and textile manufacture, publishing, and services, were obtained from the SIDO regional offices. Between May and October of 2025, there were 502 medium-sized and 2201 small manufacturing businesses. To guarantee that every sector was fairly represented, we randomly and proportionately chose 318 SMEs for the study sample. Startups that lack a properly developed business strategy and sufficient funding to proceed to the next stage were not included in the study. Eight of the 276 questionnaires we gathered had insufficient information. As a result, we examined 264 accurate answers. Of the right answers, 91 were medium-sized businesses and 173 were small businesses. SMEs in Tanzania are classified as Small (5–49 employees; 5M–200M TZS) and Medium (50–99 employees; 200M–800M TZS). We used structured questionnaires to gather information from SMEs' owners and managers. Every participant in our study gave their informed consent prior to data collection. The consent form described the study's objectives and guaranteed that all information gathered would be kept private and used only for scholarly research. The owners and managers of each business were given the questionnaire on-site.

3.4 Sampling and Sample Size

3.4.1 Sampling Techniques

To select the sample, stratified random sampling was used. This method was chosen due to the heterogeneity within the target population, ensuring that different subgroups were adequately represented. Given that the population was divided into different strata, this probability-based method allowed each stratum a fair and equal chance of being included in the sample. This method ensures representativeness by selecting units from each stratum randomly based on their size within the overall population (Hiebl, 2023).

3.4.2 Sample Size

The sample size was determined using Yamane's (1967) formula, with a 95% confidence level and a 5% margin of error, to ensure it accurately represents the target population.

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = Sample Size;
N = Target Population;
e = Margin of Error

The study targeted a population of 2,703 small and medium enterprises (SMEs) in the Arusha, Dar es Salaam, Dodoma, Mbeya, and Tanga regions of Tanzania. Based on this, the minimum recommended sample size was calculated as 348 SMEs, which were selected from the same locations.

3.5 Data Collection Tools and Procedure

The two main variables in the study are company performance and BMI, which are outcome and predictor variables, respectively. Value generation, value proposition, and value capture are only a few of the elements of the business model that BMI is concerned with (Salfore et al., 2023). Financial and non-financial metrics are included in

the concept of firm performance (Teece & Linden, 2017). BMI has been measured using a variety of scales in earlier research. For example, Anwar (2018) used six items devised by Karimi and Walter that focused on several areas of a firm's innovativeness, such as product and service, delivery, process, and structure, while Rodríguez et al. (2024) used diversification/product launch and external finance as two indications of BMI. Conversely, Gautam et al. (2025) recognized the development and validation of a BMI measurement scale by Clauss et al. (2020) as a significant advancement in BMI measurement. Consequently, we evaluated the modifications made to the three aspects of the business model—value generation, value proposition, and value capture—in order to calculate BMI. We employed a reflective-formative measurement model to capture the multi-dimensional nature of BMI and estimated hierarchical latent variables: value creation innovation, value proposition innovation, and value capture innovation using a two-stage approach in PLS-SEM, which has advantages over other methods (Becker et al., 2012).

Venkatraman and Ramanujam (1986) performance measuring scale was used to gauge firm performance. The writers first distinguished between three aspects of business success: market, operational, and financial performance. A two-dimensional framework of company performance—financial and operational—was eventually created by combining the market and financial performance dimensions into one, and this framework has grown in popularity in recent empirical research (Becker et al., 2012). Since manufacturing SMEs do not publicize their financial results, it is challenging to collect objective data on their performance, so we used subjective data to gauge their performance (Korhonen et al., 2023). Additionally, owners are generally reluctant to willingly reveal their company's financial information to outside parties (Salfore et al., 2023). As a result, we ask business owners and managers to evaluate their company's performance over the past two years in comparison to its main industry competitors.

The link between BMI and firm success may be impacted by a firm's internal and external circumstances (Anwar, 2018). We included three control factors in our model—firm age, size, and environmental dynamism—to lessen the possibility of confounding effects brought on by missing data. For improved outcomes, Salfore et al. (2023) advise regulating the firm's age and size. We used the logarithm of the number of years since the firm's founding to determine its age, the logarithm of the number of employees to determine its size, and a measurement scale created by Ting et al. (2012) to gauge environmental dynamism. This scale takes into account changes in technology, customer preferences, product demand, and competitors, as well as variations in the supply of materials.

3.6 Data Analysis

The collected data were reviewed for accuracy, completeness, and consistency. They were then coded, cleaned, and entered into the Statistical Package for the Social Sciences (SPSS) version 25 to create a data set for analysis. Descriptive statistics were used to calculate and summarize information for each research variable, as well as to characterize the characteristics of the sample. To show the relationship between the variables, we employed Pearson Correlation. To examine the data and evaluate the hypothesis, we employed the Partial Least Score Structural Equation Model (PLS-SEM) with SmartPLS v.3. The Pearson's product moment correlation analysis was performed to confirm or deny the relationship between the study variables. The Pearson's product moment correlation analysis is performed to determine the nature and the strength of the linear relationship between the variables (Haslam et al., 2024). A multiple linear analysis was performed with performance of small and medium-sized enterprises as the dependent variable and value creation innovation and value proposition innovation as the predictor variables. The standard multiple linear regression analysis provides a means of objectively assessing the magnitude and direction of each predictor's relationship to its outcome variable).

3.7 Ethical Consideration

Ethics in conducting this study, from data collection, processing, and writing this article, were observed. The researcher ensured the safety of participants as well as data collectors.

IV. FINDINGS & DISCUSSION

4.1 Finding

264 of the 348 questionnaires that were sent to the SMEs were returned, yielding an 75.9% response rate. This was considered as adequate for data processing and analysis. As a result, we examined 264 accurate answers.

4.2 Descriptive results

To provide an overview of our sample's demographics, we employed descriptive statistics. Of the 264 responders, 35.6% were women and 64.4% were men. 36.0% of the sample were between the ages of 18 and 30, 41.3% were between the ages of 31 and 40, 15.1% were between the ages of 41 and 50, and the remaining 7.6% were over 50, according to the data's age distribution. 72.0% of survey participants were owners, 20.8% were managers, and the remaining 7.2% were owners' or managers' representatives. According to Table 1, the age distribution of businesses

revealed that 45.5% had been in operation for three to eight years, 37.9% for nine to fourteen years, and the remaining 16.6% for fifteen years or longer.

Table 1

Background Information

Items	Distribution	Frequency (f)	Percentage (%)
Gender of Respondents	Male	170	64.4
	Female	94	35.6
	Total	**264**	**100.0**
Age of Respondents	18–30	95	36.0
	31–40	109	41.3
	41–50	40	15.1
	51 and above	20	7.6
	Total	**264**	**100.0**
Responsibility in Enterprise	Owner	190	72.0
	Manager	55	20.8
	Representative	19	7.2
	Total	**264**	**100.0**
Educational Level of Respondents	High school and below	100	37.9
	Associate's Degree	94	35.6
	Bachelor's Degree	60	22.7
	Master's Degree	10	3.8
	Total	**264**	**100.0**
Age of Firm in Years	3–8 years	120	45.5
	9–14 years	100	37.9
	15 & above years	44	16.6
	Total	**264**	**100.0**
Sub-sector of Manufacturing	Manufacturing	90	34.9
	Construction	30	11.4
	Food & Beverages	50	18.9
	Metal & Woodworking	20	11.0
	Garment & Textile	30	7.6
	Publishing	5	1.9
	Service	39	14.3
	Total	**264**	**100.0**
Number of Employees	6–30	180	68.2
	31–100	84	31.8
	Total	**264**	**100.0**

When compared to other constructions, the new capabilities had the highest mean score (X = 4.201, S = 0.585), followed by the new cost structure (X = 4.103, S = 0.615). This suggests that, in contrast to others, manufacturing SMEs provide their staff with training that enables them to stay current on information, adjust to shifting markets, regularly consider price-quantity strategy, look for ways to reduce manufacturing costs, continuously assess market prices and take appropriate action, and take advantage of price differentiation opportunities (Salfore et al., 2023). When compared to the other models, the new channels had the lowest mean score (X = 2.967, S = 0.754), followed by the new revenue models (X = 3.165, S = 0.680) (see Table 2). This suggests that, in comparison to other SMEs, these types of SMEs do not frequently alter their distribution channels, have not profited from channel changes, have not recently created new revenue opportunities, do not provide integrated services, do not use recurring revenue models, and heavily rely on current revenue sources (Latifi et al., 2021).

Table 2
Means, Standard Deviation, and Correlation Matrix

	Mean	Standard Deviation	1	2	3	4	5	6	7	8	9	10
New Capabilities 1	4.201	0.585										
New Technology 2	3.619	0.651	.703**									
New Partnerships 3	3.531	0.639	.549**	.650**								
New Processes 4	4.011	0.577	.500**	.565**	.542**							
New Offerings 5	3.554	0.700	.620**	.613**	.616**	.580**						
New Markets 6	3.468	0.711	.511**	.532**	.514**	490**	.718**					
New Channels 7	2.967	0.754	.518**	.448**	.487**	.473**	.656**	.621**				
New Relations 8	3.779	0.629	.359**	.402**	.400**	.491**	.493**	.483**	.550**			
New Revenue Models 9	3.165	0.680	.478**	.493**	.505**	.430**	.552**	.525**	.600**	.545**		
New Cost structures 10	4.103	0.615	.322**	.307**	.298**	.484**	.385**	.449**	.409**	.546**	.572**	
Firm Performance 11	3.111	0.638	.518**	.482**	.471**	.455**	.501**	.488**	.487**	.476**	.518**	.485**

**. Correlation is significant at the 0.01 level (2-tailed).

4.3. Matrix of Correlation

To show the relationship between the variables, we employed Pearson Correlation. Likert-scaled assessments can be utilized with parametric analysis techniques without worrying about "coming to the wrong result," (Koo & Yang, 2025). All of the constructs had a positive and significant correlation with company success, as Table 2 illustrates. Since all of the constructs had correlation values less than 0.80, we did not find any multicollinearity problems in our investigation (Sarstedt et al., 2021).

4.4. Bias in Common Methods

Common method bias (CMB) could jeopardize the results since we simultaneously gathered independent and dependent data from the same sources (Sarstedt et al., 2021). For CMB mitigation, the researchers suggest two approaches: procedural and statistical (Koo & Yang, 2025). Before conducting the survey, we put in place a number of procedural remedies to reduce the incidence of CMB. We tried to lessen participants' evaluation anxiety over their answers by telling them that this was merely a survey, and we reassured them that their identity would be safeguarded. The pre-experiment actions can lessen the probability and intensity of CMB, according to Podsakoff et al. (Sarstedt et al., 2021). Additionally, we used principal component analysis to carry out Harman's single-factor technique. Chen and Ding (2026) state that this approach loads every item from every construct into an exploratory factor analysis to determine whether a single factor appears or if a single general factor explains the majority of the covariance between the measures. Although some contend that Harman's single-factor approach is insufficient for evaluating CMB (Sarstedt et al., 2021), other recent research suggests that it is a simple and useful method (Chen & Ding, 2026). The findings showed that a single factor could extract all of the variance.

4.5 Analysis of Path Models

To examine the data and evaluate the hypothesis, we employed the Partial Least Score Structural Equation Model (PLS-SEM) with SmartPLS v.3. For a number of reasons, we opted for the PLS-SEM method over the CB-SEM

method. First, very complicated models with several constructs can be estimated using the PLS-SEM technique, and latent variables can then be analyzed. Secondly, data distribution and normalcy are less restricted (Salfore et al., 2023). Thirdly, it has the ability to assess interactions between latent predictor variable indicators in great detail (Chen et al., 2020).

4.5.1 Evaluation of Measurement Models

The association between the measured variables and the constructs was established using the measurement model. Examining indicator loadings is the first step in evaluating a reflective measurement model (Hair et al., 2019). Since they show that the construct accounts for more than 50% of the indicator's variation, indicator loadings greater than 0.708 are advised (Sarstedt et al., 2021). As indicated in Table 3, our evaluation of the indicator loadings for the reflective measurement models revealed that all outer loadings had values higher than the suggested cutoff of 0.708 (Hair et al., 2019). In accordance Ali et al (2018), we also assessed the concept measures' validity and reliability. According to the evaluation, every outcome satisfied the requirements and was deemed acceptable.

Table 3

Assessment of Reflective Measurement Model for First Order Constructs

First Order Constructs	Indicators	Factor Loadings	α	rho_A	CR	AVE	VIF
New Capabilities (CAP)	CAP1	0.839	0.820	0.822	0.893	0.735	2.095
	CAP2	0.889					
	CAP3	0.843					
New Technology (TEC)	TEC1	0.833	0.826	0.829	0.897	0.744	2.605
	TEC2	0.901					
	TEC3	0.849					
New Partnerships (PAR)	PAR1	0.794	0.874	0.875	0.915	0.728	1.898
	PAR2	0.887					
	PAR3	0.862					
	PAR4	0.866					
New Processes (PRO)	PRO1	0.823	0.811	0.813	0.888	0.725	1.625
	PRO2	0.881					
	PRO3	0.851					
New Offerings (OFF)	OFF1	0.833	0.854	0.855	0.912	0.776	2.488
	OFF2	0.921					
	OFF3	0.886					
New Markets (MAR)	MAR1	0.875	0.868	0.870	0.919	0.793	2.393
	MAR2	0.924					
	MAR3	0.870					
New Channels (CHA)	CHA1	0.887	0.883	0.884	0.928	0.810	2.108
	CHA2	0.931					
	CHA3	0.883					
New Relations (REL)	REL1	0.857	0.824	0.827	0.895	0.739	1.519
	REL2	0.870					
	REL3	0.853					
New Revenue Models (REV)	REV1	0.783	0.819	0.822	0.881	0.650	1.499
	REV2	0.874					
	REV3	0.834					
	REV4	0.726					
New Cost Structures (COS)	COS1	0.804	0.846	0.849	0.897	0.686	1.499
	COS2	0.829					
	COS3	0.878					
	COS4	0.797					
Firm Performance (FP)	FP1	0.745	0.878	0.881	0.908	0.621	N/A
	FP2	0.758					
	FP3	0.841					
	FP4	0.818					
	FP5	0.832					
	FP6	0.728					

Note: α = Cronbach's Alpha; rho_A = Reliability Coefficient; CR = Composite Reliability; AVE = Average Value Extracted; VIF = Variance Inflation Factor.

Table 4

Discriminant Validity of Constructs using HTMT Ratio

	FP	CAP	CHA	COS	MAR	OFF	PAR	PRO	REL	REV	TEC
New Capabilities (CAP)	0.623										
New Channels (CHA)	0.565	0.620									
New Cost Structures (COS)	0.562	0.390	0.481								
New Markets (MAR)	0.555	0.606	0.723	0.510							
New Offerings (OFF)	0.598	0.743	0.747	0.445	0.848						
New Partnerships (PAR)	0.535	0.651	0.553	0.346	0.591	0.705					
New Processes (PRO)	0.543	0.613	0.566	0.588	0.587	0.653	0.641				
New Relations (REL)	0.566	0.446	0.642	0.649	0.56	0.584	0.476	0.602			
New Revenue Models (REV)	0.620	0.595	0.718	0.693	0.613	0.652	0.603	0.534	0.660		
New Technology (TEC)	0.578	0.850	0.525	0.374	0.633	0.718	0.761	0.692	0.498	0.604	

Note: HTMT = heterotrait-monotrait ratio of correlations.

4.5.2 Evaluation of Structural Models

We evaluated the structural model results after verifying that the measurement model assessment satisfied the necessary requirements. Using the coefficient of determination (R^2), effect size (f^2), Stone-Geisser's predictive relevance (Q^2) using the blindfolding technique, and statistical significance, we evaluated the structural model in PLS-SEM for statistical relevance after verifying collinearity among variables. Table 5 illustrates that the R2 value was 0.449, meaning that 44.9% of the variation in the performance of manufacturing SMEs can be predicted by all variables taken together. Since Falk and Miller (1992) recommend an R^2 value of 0.1 or above as sufficient to explain the variance of a certain endogenous concept, this result is deemed suitable. A medium effect size was suggested by the f^2 values shown in Table 6. Additionally, the predictive relevance, Q^2, which assesses the predictive relevance of the model (Hair et al., 2019), was good because its value was higher than 0. Because the path coefficients were statistically significant at the 5% level and fell between 1 and +1, they were deemed acceptable (Hair et al., 2019). The Standardized Root Mean Square Residual (SRMR), a measure of the difference between the observed correlation and the model-implied correlation matrix, was used to further evaluate the model fit. We found that the estimated SRMR value, 0.057, was below the suggested threshold of 0.08 (Falk & Miller, 1992). Overall, our findings indicated that the structural model suited the data satisfactorily and was statistically significant.

Table 5

Results of R^2 and Q^2

	R^2	R^2 Adjusted	SSO	SSE	Q^2 = (1-SSE/SSO)	SRMR Estimated Model
Firm Performance	0.449	0.443	1583.000	1158.963	0.268	0.057

Note: R^2 = Coefficient of determination, Q^2 = Predictive Relevance, SSO = Sum of Squares Observations, SSE = Sum of Squares Errors, SRMR = Standardized Root Mean Square Residual.

4.5.3 Analysis of Structural Models

The link between constructs and dependent variables is shown by the structural model. To achieve objective regression results, Hair et al. (2019) advise looking at the collinearity before evaluating structural correlations. Thus, we used VIF values to first analyze collinearity. The outcomes, as shown in Table 3, demonstrated that every VIF value was less than 3, suggesting that there were no potential collinearity problems with our model (Sarstedt et al., 2021). Before assessing our hypothesized variables, we included only control factors in the model to test the impact of control variables on endogenous constructs. A company's age and size had no discernible impact on its performance, but environmental dynamism did. After incorporating control variables into our model, the modified R^2 value increased.

Firm performance was found to be significantly correlated with all of the study variables, including value proposition innovation (VPRI), value capture innovation (VCAI), and value creation innovation (VCRI). In particular, H_1 assessed whether VPRI and SMEs' performance were significantly correlated. The findings showed that the performance of the SMEs was positively and significantly correlated with VPRI. As a result, H_1 was accepted, and the performance of the SMEs would increase by 0.217 standard deviation units for every unit increase in VPRI. H_2 examined whether VCAI and SMEs' performance were significantly correlated. The findings showed a strong and favorable correlation between VCAI and the performance of SMEs. H_2 was therefore supported, and the performance

of manufacturing SMEs would change by 0.252 standard deviation units for every unit change in VCAI' Lastly, H_3 assessed whether VCRI and SMEs' performance were significantly correlated. The findings supported H_3 by demonstrating a favorable and substantial link between VCRI and SMEs' performance. These findings show that SMEs' performance rises by 0.292 standard deviation units for every unit increase in VCRI (see Table 6).

Table 6

Path Coefficients and their Significance Value

	Path Coefficients	T Statistics	P Value	f^2
CPRI → Firm Performance	0.217	2.503	0.014	0.032
VCAI → Firm Performance	0.252	3.788	0.000	0.073
VCRI → Firm Performance	0.292	4.321	0.000	0.065

Note: Value Creation = CVRI Value Proposition Innovation, or VPRI, is the process of innovating the company's bundle of goods and services and the manner in which they are presented to customers; Value Capture, or VCAI, is the process of changing the tasks that a company undertakes to provide an offer to customers. Innovation is the process of coming up with new ways for businesses to turn value offerings into revenue streams and then turn those streams into profitability.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

This study looked into the connection between manufacturing SMEs' performance and BMI. Any modifications made to the business model's three dimensions—value proposition, value capture and value generation—were conceptualized as BMI. A positive and substantial path coefficient supports the first hypothesis, which states that "Value proposition innovation is positively associated with the performance of the SMEs." Therefore, value proposition innovation aids businesses in drawing in and keeping a sizable section of their clientele. A positive and substantial route coefficient supports the second hypothesis, which states that "value capture innovation is favorably associated to the performance of SMEs." SMEs often have fewer financial and non-financial resources, smaller or nonexistent R&D facilities, lower technical capabilities, trouble recruiting multi-skilled workers, and a less structured approach to innovation as compared to larger businesses. Notwithstanding these constraints, SMEs can overcome these challenges by leveraging their size-related advantages, such as flexibility, low bureaucracy, high adaptability, and change receptiveness, if they can reinvent their business model. SMEs can innovate their business model by altering a single component, such as value generation, value proposition, or value capture innovation; altering two or more components at once; or altering how different business model parts interact.

Lastly, the third hypothesis, which states that "value creation innovation is positively associated to the performance of SMEs," has a positive and substantial route coefficient, according to the structural model. Furthermore, resource configuration, which represents a company's capacity to combine different assets in a way that provides a valued bundle of goods and services, can lead to innovation in the value creation dimension.

5.2 Recommendations

Our study makes multiple contributions to the literature on business models and BMI. First, we offer theoretical and empirical justifications for seeing BMI as a multidimensional configuration. The majority of earlier studies have solely used proxy measures to quantify BMI and treated BMI as an aggregate construct. On the other hand, our research separates three aspects of the business model—value generation, value proposition, and value capture—and examines how changes in each aspect affect the performance of SMEs. Second, this study provides more solid and compelling proof of the connection between BMI and the performance of manufacturing SMEs. Previous studies in the field have been criticized for not being empirical, lacking rigor, and being inconclusive.

Additionally, our study has important ramifications for manufacturing SMEs' management strategies. According to the study, firms can gain early insights into industry developments by focusing on customer value propositions rather than just products or services, investing in innovative resources, forming successful partnerships with other strategic parties in the business environment, embracing a distinct market positioning unlike competitors, enticing customers with additional incentives through pricing strategies, and keeping an eye on shifting trends in the business environment.

The study has certain limits despite its substantial contribution to theory and practice. First, rather of using the commonly favored objective indicators of company success, the study used subjective ones. However, for some measures, obtaining objective measurements is challenging or perhaps impossible. Additionally, SMEs are not legally obligated to disclose their financial performance, and even if they do, the information may be skewed because there is not a suitable auditing system in place. Consequently, we used subjective data to assess the performance of SMEs.

Second, the predictor and outcome variables in our investigation relied on cross-sectional data collected simultaneously from a single informant. Common technique bias could arise from this. In order to reduce this impact, we initially employed a few procedural fixes before utilizing principal component analysis to determine whether this possible issue was present in Harman's single-factor test. Because its value was less than 50%, the result showed that common technique bias was not an issue.

The study suggests that managers and executives should conduct a comprehensive assessment and use of business systems innovation to improve the performance of small and medium-sized enterprises.

It also advises policymakers to conduct a policy review aimed at encouraging managers and executives to use this broad innovation approach, and to support better outcomes for such enterprises.

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