The Effect of Business Model Innovation on Enterprise Performance: Application of Non-Monetary Indicators in SMEs

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Abstract

Business model innovation (BMI) is crucial for long-term success in today's dynamic market characterized by rapid technical advancements and a complex network economy. This study examines the complex relationship between BMI and business performance, with a focus on non-monetary indicators. Expanding on prior studies, the study demonstrates that BMI's influence extends beyond simple value generation or proposal. The study presents the notion of value co-creation, which serves as a mediating mechanism connecting BMI dimensions to increased enterprise performance. This concept encompasses co-production and value-in-use. The study adopted a mixed-method approach that includes theoretical analysis and empirical data from Chinese SMEs. Four research variables were used, value co-creation as a mediator, enterprise performance as dependent variable, business model innovation as independent variable and the control factors. In data analysis, reliability and validity were tested using techniques such as CFA model fitness test, Cronbach's alpha, and KMO and Bartlett's test. SEM technique was used to evaluate the hypothesis. The study's findings shows that all BMI characteristics improve performance, both financially and non-financially. Value co-creation, particularly co-production and value-in-use, greatly improves the favorable relationship between BMI and performance, with company size serving as an important moderator. These findings contribute to resource-based theory's understanding of BMI's role in SME success and broaden value co-creation theory. The research presents a novel theoretical model that includes value co-creation as a mediator, providing a comprehensive framework for assessing BMI's impact on businesses.

While giving useful insights, the study admits limits in literature depth and data collecting breadth, recommending more research for model improvement and practical applicability development.

Keywords: Business Model Innovation; Enterprise Performance; Small and Medium Enterprises (Smes); Monetary Indicators

Introduction

The landscape of commercial competitiveness is experiencing major changes. Traditional conceptions of value generation and market supremacy are being transformed in the dynamic arena of the network economy, which is defined by fast technological breakthroughs and an extensive web of interconnection. The exclusive focus on product innovation is no longer enough to assure long–term success. This dynamic environment has resulted in a valuable tool for navigating the difficulties of the network economy: business model innovation (BMI). This powerful force goes beyond mere technical updates or product modifications (Gyamfi, et al., 2024). It goes into the heart of a business, rethinking its operating systems, value propositions, and profit production techniques. The fast advancement of information technology and the internet has created a complex tapestry of interdependence among businesses, customers, and partners. This network economy supports a dynamic ecosystem in which competition takes place not in isolated battles, but via planned cooperation and value co–creation efforts (Meyer et al., 2023). Success in this field necessitates a nimble and adaptable strategy, one that rapidly embraces new modalities of contact and reconfigures its whole identity to line with the ever–changing contours of the competitive landscape.

Historically, competitive advantage was mostly based on technology and product advances. However, in the complex web of the network economy, sheer invention is no longer a surefire way to success (Hidayat & Pok, 2025). The value proposition must go beyond the product itself, including a comprehensive grasp of client demands, stakeholder collaborations, and resource optimization. This is where business model innovation shines, showing the road to long–term development and distinctiveness. As technological advancements accelerate and the networked economy grows more complex. Firms, particularly small and medium enterprises (SMEs) must continuously adapt their business models to remain relevant (Moradi et al., 2021). While existing research extensively links BMI to firm performance, most studies focus on financial metrics such as revenue growth, profitability, and return on investment.

By digging into an enterprise's underlying operational foundation, business model innovation redefines how it interacts with its surroundings. It restructures the value chain, forming new relationships

and revealing new opportunities for value generation (Pucihar, et al., 2019). It creates engaging value propositions that appeal with the network's customers, encouraging loyalty and engagement. It develops novel profit models that efficiently capture value while also ensuring the enterprise's long–term financial health.

Research Gap and Contribution

While previous research acknowledges the favorable impact of business model innovation on company performance, the underlying processes are not well understood. Despite the growing recognition of BMI's strategic importance, a research gap persists in understanding how non–monetary performance indicators capture its true impact (Liu et al., 2024). Prior studies have primarily examined the financial outcomes of BMI, overlooking critical qualitative and process–driven benefits that can determine long–term sustainability (Gyamfi, et al., 2024). Furthermore, the subtle consequences of various forms of business model innovation across different industry segments and under varied environmental situations warrant additional investigation. This study tries to close this gap by looking into the complex interaction between business model innovation, value co–creation, and enterprise performance in Chinese small and medium–sized firms (SMEs).

In order to systematically explore this fascinating realm in more detail, the parts that follow will do just that. It will start by establishing a strong theoretical framework and looking at the ideas behind value co–creation and business model innovation. The methodological framework and empirical data used in this study will subsequently be introduced in Section 3. We will next go into the core of the research, revealing the complex interrelationships among different aspects of corporate performance, value co–creation, and business model innovation. Ultimately, the results will be compiled, significant conclusions will be made, and the consequences for theory and practice will be discussed.

Significance & limitations of the Study

This study delves into the profound significance of business model innovation, highlighting its multifaceted impact:

- Breaking Down Barriers: Traditional industry boundaries blur as innovative business models emerge, creating opportunities for new entrants and challenging established players. Imitation becomes difficult, paving the way for sustainable competitive advantage.
- Adapting to Market Dynamics: The ever–evolving landscape of customer preferences, market orientation, and regulatory frameworks necessitates continuous business model adaptation. This agile

approach allows enterprises to capitalize on new market opportunities and navigate environmental changes.

- Unlocking New Value Creation: Business model innovation transcends product–centric strategies, fostering collaborative value creation within networks. By integrating stakeholders and partners, enterprises unlock previously untapped sources of value and enhance customer experiences.
- Responding to Technological Advancements: The rapid rise of mobile internet, big data, and cloud computing demands innovative business models. This study sheds light on how enterprises can leverage these technologies to create disruptive profit models and stay ahead of the curve.

The study admits its shortcomings with regard to sample selection (focusing on Chinese SMEs), data objectivity (subjective questionnaire responses), and variable measurement (scales borrowed from Western settings). The findings' generalizability may be restricted by these variables. These constraints can be overcome in future study by creating context–specific metrics, using mixed techniques, and broadening the reach of the sample. Notwithstanding these drawbacks, the report provides insightful analysis and opens up new avenues for investigation into the dynamic Chinese SME market.

It is observable that BMI has become a pivotal factor in driving enterprise success, particularly for SMEs navigating an increasingly dynamic and competitive landscape. Traditional performance assessments have largely emphasized financial indicators (Wang & Zhou, 2021). These indicators include revenue growth and profitability, often neglecting the broader impact of BMI on non–monetary aspects of business success. However, non–financial indicators including customer satisfaction, brand equity, employee engagement, and organizational adaptability are equally crucial in determining an enterprise's long–term viability and strategic positioning. Existing research highlights BMI's role in fostering competitive advantage, yet there remains a significant gap in understanding its influence beyond direct financial outcomes (Pang et al., 2019). SMEs, in particular, rely heavily on intangible assets and innovative strategies to sustain growth, making it imperative to explore alternative performance measures. By shifting the focus from purely monetary metrics to a more holistic approach, this study aims to provide a comprehensive understanding of how BMI enhances business resilience, operational efficiency, and stakeholder value.

Literature Review

This section is centered focused the research questions raised in the previous section, combing and reviewing the existing theoretical research results, and clarifying the inheritance and expansion relationship between the topic of this research and the existing theories.

Defining Business Models

There is no one accepted meaning for the phrase "business model"; instead, definitions vary and can be classified as economic, operational, or strategic (Morris, 2005). More academics and professionals are talking about its significance, particularly with the growth of e–commerce (Hedman & Kalling, 2003). When it comes to converting market prospects into real advantages, business models are essential (Rajala & Westerlund, 2007). In entrepreneurship studies, defining a precise business plan at the outset of a new firm has proven crucial (Barringer & Ireland, 2006).

Debates on the conceptual definition revolve around its role as a profitability model guiding revenue generation (Rappa et al., 2004). It encompasses the strategic utilization of resources to create customer value, differentiating the enterprise (Afuah et al., 2000). Perspectives range from viewing business models as a logical expression of revenue stream acquisition to a role as a profitability model, business delivery system, and learning system (Itami & Nishino, 2010).

Business models, according to Chesbrough and Rosenbloom (2002), are the result of combining profitability concepts with technology. A management viewpoint is emphasized by Casadesus–Masanell and Ricart (2010), who claim that business models represent decisions on contracts, remuneration, and asset use, which have an impact on organizational culture. McGrath (2010) focuses on business units and important KPIs to simplify concepts relevant to management decisions. Some people use organizational structure as a lens through which to understand business models (Baden–Fuller & Morgan, 2010; Velu, 2015). Business models, according to George and Bock (2011), are structural designs that take advantage of possibilities.

According to Porter (1996), business models are unique operational tasks that are in line with demand positioning. According to Zott and Amit (2011), they are a natural fusion of strategic, financial, and operational components. According to Shafer et al. (2005), business models represent the fundamental reasoning and calculated decisions involved in adding value to a network. Business models, according to Magretta and Osterwalder (2002), reflect an organization's strategy through the value

proposition they provide, even if they are not the same as strategy. The fact that there isn't a single, widely accepted description for business models makes them difficult to define.

Business Model Components

The notion of a business model is defined in large part by its component parts, upon which the academic community cannot agree. Value creation, relevant stakeholders, profitability, operational mechanism, and system cognition are the five viewpoints on business model composition identified in the literature (Weng, 2004; Shafer, 2005; Lei, 2007; Osterwalder & Pigneur, 2010). Weng (2004) suggests a four–factor business model from the perspectives of embeddedness and value generation. Shafer (2005) identifies the following as crucial components: online value, cost acquisition, value production, and strategic decision. Cost insights, industry measurements, value chains, revenue misalignment, value networks, and complicated strategies are the subjects of more research.

The stakeholder viewpoint highlights how a company model satisfies client demands. While Chesbrough (2010) presents a "open" company model with components including services, goods, knowledge, information, and resources, Horowitz (1996) lists five aspects. The company model is separated into capital, resources, sales, and profit by the profitability perspective (Betz, 2002; Johnson, 2008). Strategy, marketing, and organizational design are among the topics covered by business mechanism and systemic cognitive views (Weill & Vitale, 2001; Hamel, 2001; Viscio & Pasternak, 1995; Petrovic et al., 2001). While there are differences in view on the components of business models, enterprise value creation is generally discussed, which greatly advances our understanding of business model innovation.

The Connotation of Business Model Innovation: From a technological, strategic, and marketing standpoint, business model innovation seeks to increase consumer value, promote quick corporate growth, and adjust to external changes. It makes it easier for technological and product breakthroughs to be commercialized, according to Chesbrough and Rosenbloom (2007). Business model innovation, seen from a strategic perspective, reorganizes markets by challenging established competition laws. It includes advances in organizational structure and management systems in addition to technical and knowledge components. Through value creation and innovation pathways, this transformation aids businesses in navigating external risks, avoiding business model stagnation, and achieving quick development.

Business model innovation is seen by students of marketing as open innovation that creates a competitive advantage at the system level. The dynamic mechanisms and functions of business model innovation are emphasized by researchers, who concentrate on value generation, proposal, and capture. This research, which builds on Clauss's (2017) dimensions, characterizes business model innovation as an organized process by which businesses use resource and capacity innovations to meet customer demands and improve performance by altering value proposition, creation, and capture.

Major Business Model Innovation Dimensions and Influencing Factors:

Business Model Innovation Dimension

Several factors of business model innovation composition have been investigated in research. Academics put forth frameworks that address the content, structure, and administration of transactions. Various academics have proposed the "3–4–8" system, multidimensional conceptions, and the nine–factor canvas (Yuan Lei, 2007; Magretta, 2002; Osterwalder, 2005; Futterer et al., 2018).

Business Model Innovation Influencing Factors

As a process that is both internally and externally driven, business model innovation adapts to industry competition, technological advancements, changing environmental conditions, managerial responsibilities, and available resources (Pateli & Giaglis, 2005; Velu & Jacob, 2016; Habtay & Holmén, 2014; Auh & Menguc, 2005; Teece, 2010).

Business model innovation is crucial for both startups and established companies looking to gain a sustainable competitive edge, according to a systematic assessment. Connotation and dimension, influencing variables, and research methods are all present in the current study. To fully comprehend business model innovation, more comprehensive and fundamental viewpoints are nonetheless required. For a more thorough investigation of this dynamic topic, a move toward empirical and quantitative research is advised, as the majority of previous studies have been qualitative.

Literature Review of Enterprise Performance

A variety of characteristics and viewpoints are covered in the literature review on enterprise performance, which reflects the continuous investigation of metrics and definitions for assessing business efficacy. In the operational, market, financial, innovative, and customer service domains, researchers have looked at a variety of factors, from conventional financial indicators to more general metrics like efficiency, effectiveness, adaptability, and performance (Ruekert et al., 1985; Flynn et al., 2010; Gronum

et al., 2012; Su et al., 2013; Wiklund and Shepherd, 2005). Historical phases such as the financial performance evaluation stage, the financial evaluation system stage, and the strategy–centered evaluation system phase are used to trace the development of enterprise performance evaluation (Kaplan & Norton, 1992, 1996). The Balanced Scorecard, introduced by Kaplan and Norton, has significantly influenced the integration of financial and non–financial indicators in performance evaluation (Kaplan & Norton, 1992).

Scholars advocate for a holistic approach that takes into account both subjective and objective measures, highlighting the multidimensional aspect of enterprise success (Dess & Robinson, 1984; Covin and Slevin, 1989). Subjective metrics, such as enterprise growth rate and profitability, are viewed as more adaptable and simpler to attain, but objective indicators, such as sales growth rate and return on investment, provide scientific rigor (Shen Chaohong, Luo Liang (2006).

Value co–creation has evolved from co–production to a service–driven logic, as shown in the literature review (Prahalad & Ramaswamy, 2000; Vargo & Lusch, 2004; Gronroos, 2008). Researchers have examined a range of aspects from the viewpoints of suppliers and customers. In order to emphasize shared invention and decision–making throughout production and service, the notion entails collaborative procedures between producers and customers (Norman & Ramirez, 1993). The value co–creation process has identified dimensions such as customer citizenship behavior, customer involvement behavior, risk, transparency, and discussion (Yi and Gong, 2013; Prahalad & Ramaswamy, 2004; Gronroo and Ravald, 2011).

Consumer experience–based theories, service–dominant logic, customer–driven logic, service science, and service ecosystems are some theoretical stances on value co–creation. The literature does, however, point out several weaknesses, such as the dearth of comprehensive theoretical study on encouraging consumer interaction and the predominance of qualitative over quantitative research in studies aimed at enterprises (Heinonen, 2010; Ostrom, 2010).

The literature study concludes with an exploration of the theoretical link between independent and dependent variables in the context of company performance and business model innovation (Aversa et al., 2015; Cucculelli and Peruzzi, 2018; Tavassoli and Bengtsson, 2018). According to Aversa et al. (2015), business model innovation is seen as offering rational concepts for maintaining competitive advantage through a mix of internal operational mechanisms and external situational elements. The review acknowledges the importance that business model innovation plays in preserving competitive

advantage and enhancing performance by discussing the direct and indirect effects of this innovation on firm performance (Cheng Yu et al., 2012).

From the review of the above literature, a research gap is clearly identified. It is evident that the widely acknowledges the role of BMI in enhancing firm performance, particularly in fostering competitive advantage, improving operational efficiency, and driving revenue growth (Prahalad & Ramaswamy, 2004; Gronroo and Ravald, 2011). Financial indicators have been predominantly evaluated and explored by most studies. This is pointed as a gap in literature considering that these indicators capture the broader implications of business model transformation. Another aspect is that while BMI research has largely focused on large enterprises and multinational corporations, there is a lack of empirical evidence regarding its implications for SMEs. This study aims to bridge these gaps by investigating the relationship between BMI and enterprise performance using non–monetary indicators. By focusing on SMEs, it seeks to develop a more holistic performance assessment framework that accounts for intangible benefits and strategic advantages derived from business model transformation.

Research methods

Research Design

Definition of Variables and Design Methodology. This part defines and describes the design technique of variables and the contents of each scale item, building on the understandings obtained from the thorough literature study, rational inferences, and theoretical research offered in the two sections that preceded it. After a thorough examination of the complex link among value co–creation, business model innovation, and organization success, 32 research hypotheses are developed.

Pre–test data are collected via questionnaires, and then the SPSS statistical program is used to perform multiple regression, correlation, and descriptive statistical analyses. The findings of the empirical test are carefully examined and discussed. Formal research data is collected by formal questionnaires that have been developed based on pre–test research and will enable further empirical analysis.

Scale Item Composition and Measurement of the Independent Variable Business Model Innovation: There are four different categories of research variables: mediator (value co–creation), dependant (enterprise performance), dependent (business model innovation), and control factors. Value Creation Innovation, Value Proposition Innovation, and Value Capture Innovation are the

three dimensions of business model innovation. The Business Model Innovation scale items, which consist of 33 question items arranged into three dimensions and 10 sub–structures, are derived from Clauss (2017).

Table 1 Research Variables

Variable Type	Variable Name
Independent Variable	–Business Model Innovation
	–Value Creation Innovation
	–Value Proposition Innovation
	–Value Capture Innovation
Mediator Variable	–Value Co–Creation
	– Co–Production
	–Value in Use
Dependent Variable	–Enterprise Performance
	–Financial Performance
	–Non–Financial Performance
Control Variable	Age of the business, industry of the business, size of the business, age of the entrepreneur, gender, level of education, etc.

Scale Item Composition and Measurement of the Mediator Variable Value Co–Creation: For the mediator variable, Value Co–Creation, two core dimensions are considered: Co–Production and Value in Use. The scale items for Value Co–Creation draw inspiration from the work of Ranjan and Read (2016) and the DART model by Prahalad and Ramaswamy (2004). Ensuring comprehensiveness and validity, the scale includes 23 question items.

Table 2 Business Model Innovation Scale Question Items

Variant		Measurement item
co–Production	Knowledge	K1 Businesses are willing to listen to consumers' opinions and suggestions on existing products/services or the development of new products/services
		K2 Enterprises are able to provide and share adequate product information and information with consumers

Variant		Measurement item
		K3 Consumers are willing to take the time and effort to share their ideas and suggestions with enterprises to help them further improve their products.
		K4 enterprises provide consumers with appropriate channels and opportunities to express their suggestions and ideas.
	Equity	Q1 enterprises have many channels to learn about consumers' preferences.
		Q2 The enterprise's product/service process is able to meet consumers' requirements and satisfy their preferences.
		Q3 Businesses and consumers play an equally important role in the product/service process.
		Q4 Businesses and consumers play the same role in determining the final presentation (price, form, etc.) of their products/services.
	Interaction	I1 Consumers can facilitate the expression of ideas, suggestions and requests to businesses
		I2 enterprises communicate information related to the product/service process to their consumers
		I3 enterprises interact fully with consumers in the business processes of their products/services (product development, marketing, after-sales, etc.).
		I4 In the interaction process, enterprises motivate consumers to invest in their own knowledge, skills, practices, etc., in order to maximize benefits
Value-in-Use	Experience	X1 The involvement of the enterprise and the consumer in the process of product/service will leave a deep memory with the consumer
		X2 The process by which enterprises involve consumers in products/services is customized to their own characteristics

Variant		Measurement item
		X3 Businesses are able to help consumers improve the product/service process by experiencing or trying something new
	Personalization	Pl the benefits and value of a product/service depend on consumer preferences and the context in which the consumer is placed
		P2 Businesses try to satisfy the individual needs of each consumer
		P3 Different consumers are involved in the product/service process in different ways, depending on their tastes, preferences or knowledge.
		P4 enterprises are able to provide consumers with additional experiences that go beyond the "functional" attributes of the product/service.
	Relationship	Rl The enterprise shares information about the product/service with the consumer and facilitates the co-creation process.
		R2 Consumers develop trust in the enterprise and have a high level of customer retention.
		R3 The enterprise has an established consumer fan base
		R4 The enterprise's popularity depends on the spread of positive images of consumers in social networks

Hypotheses Development

Building upon the foundational research, the study formulates hypotheses related to the impact of business model innovation on enterprise performance.

Table 3 Hypothesis

Serial No.	Hypothesis	Hypothetical content
1	Hypothesis1	Business model innovation has a positive impact on enterprise performance.
2	Hypothesis1a	Value creation innovation has a positive impact on enterprise performance.

3	Hypothesis1a–1	Value creation innovation has a positive impact on enterprise financial performance.
4	Hypothesis1a–2	Value creation innovation has a positive impact on enterprise's non–financial performance.
5	Hypothesis1b	Value proposition innovation has a positive impact on enterprise performance.
6	Hypothesis1b–1	Value proposition innovation has a positive impact on enterprises' financial performance.
7	Hypothesis1b–2	Value proposition innovation has a positive impact on enterprise's non–financial performance.
8	Hypothesis1c	Value capture innovation has a positive impact on enterprise performance.
9	Hypothesis1c–1	Value capture innovation has a positive impact on enterprise financial performance.
10	Hypothesis1c–2	Value capture innovation has a positive impact on enterprises' non–financial performance.
11	Hypothesis2	Value co–creation has a positive impact on enterprise performance.
12	Hypothesis2a	Co–production has a positive impact on enterprise performance.
13	Hypothesis2a–1	Co–production has a positive effect on enterprise financial performance.
14	Hypothesis2a–2	Co–production has a positive effect on enterprise's non–financial performance.
15	Hypothesis2b	Value–in–use has a positive effect on enterprise performance.
16	Hypothesis2b–1	Value–in–use has a positive effect on enterprise financial performance.
17	Hypothesis2b–2	Value in use has a positive impact on enterprise's non–financial performance.

18	Hypothesis3	Value co–production plays a positive mediating role between business model innovation and enterprise performance.
19	Hypothesis3a	Co–production plays a positive mediating role between business model innovation and enterprise performance.
20	Hypothesis3a–1	Co–production plays a positive mediating role between value creation innovation and enterprise non–financial performance.
21	Hypothesis3a–2	Co–production plays a positive mediating role between value creation innovation and enterprise financial performance.
22	Hypothesis3a–3	Co–production plays a positive mediating role between value proposition innovations and enterprises' non–financial performance.
23	Hypothesis3a–4	Co–production plays a positive mediating role between value proposition innovations and enterprise financial performance.
24	Hypothesis3a–5	Co–production plays a positive mediating role between value capture innovations and enterprises' non–financial performance.
25	Hypothesis3a–6	Co–production plays a positive mediating role between value capture innovations and enterprises' financial performance.
26	Hypothesis3b	Value–in–use plays a positive mediating role between business model innovation and enterprise performance
27	Hypothesis3b–1	Value–in–use positively mediates the relationship between value–creating innovations and enterprises' non–financial performance.
28	Hypothesis3b–2	Value–in–use plays a positive mediating role between value–creating innovations and enterprise financial performance.
29	Hypothesis3b–3	Value in use positively mediates between value proposition innovations and enterprises' non–financial performance.
30	Hypothesis3b–4	Value in use plays a positive mediating role between value proposition innovation and enterprise financial performance.
31	Hypothesis3b–5	Value in use plays a positive mediating role between value capture innovations and enterprises' non–financial performance.

32	Hypothesis3b-6	Value in use positively mediates between value capture innovations and enterprise financial performance.

Research results

Following the completion of questionnaire data collection, this section employs SPSS26.0, AMOS21.0, and MPLUS8.3 software to validate the conceptual model and theoretical hypotheses proposed in the previous sections. Utilizing data from 688 valid research questionnaires, the section conducts descriptive statistics, tests data reliability and validity, and performs parameter estimation and hypothesis testing through structural equation modeling and hierarchical regression analysis. The results are discussed in conjunction with the tested data to explore the impact relationship between SMEs' business model innovation, value co-creativity, and enterprise performance.

In the formal research stage, questionnaires were distributed and data collected primarily through online channels, including the Questionstar website, with 700 questionnaires recovered. Of these, 688 were deemed valid, resulting in a validity rate of 98.29%. These 688 valid questionnaires form the basis for various research statistics.

Reliability Analysis

Reliability analysis was conducted using Cronbach's α coefficient to assess the internal consistency of survey data. Construct reliability was further verified in the empirical analysis of the structural equation model. A purification process, including factor analysis and item deletion, was employed to enhance the reliability of the questionnaire. The results of Cronbach's reliability analysis are presented in Table 4

Table 4 Cronbach's reliability analysis of the formal research questionnaire

dimension (math.)	Subject	Correction line total correlation (CITC)	Deleted alpha coefficients for item	Cronbach's alpha coefficient
New capacities	CAP1	0.807	0.839	0.895
	CAP2	0.770	0.871	
	CAP3	0.804	0.842	

dimension (math.)	Subject	Correction line total correlation (CITC)	Deleted alpha coefficients for item	Cronbach's alpha coefficient
New technology and equipment	TEC1	0.787	0.841	0.890
	TEC2	0.804	0.826	
	TEC3	0.763	0.862	
New partnerships	PAR1	0.760	0.873	0.898
	PAR2	0.821	0.851	
	PAR3	0.769	0.870	
	PAR4	0.743	0.879	
New Processes	PRO1	0.742	0.799	0.861
	PRO2	0.739	0.802	
	PRO3	0.727	0.813	
New products	OFF1	0.707	0.821	0.857
	OFF2	0.748	0.783	
	OFF3	0.737	0.794	
New customers and markets	MAR1	0.772	0.812	0.875
	MAR2	0.787	0.800	
	MAR3	0.721	0.858	
New Channels	CHA1	0.723	0.815	0.860
	CHA2	0.737	0.801	
	CHA3	0.744	0.794	
New Customer Relationships	REL1	0.782	0.863	0.896
	REL2	0.814	0.835	
	REL3	0.790	0.857	
New Revenue Model	REV1	0.774	0.819	0.872
	REV2	0.688	0.852	
	REV3	0.659	0.866	

dimension (math.)	Subject	Correction line total correlation （CITC）	Deleted alpha coefficients for item	Cronbach's alpha coefficient
	REV4	0.800	0.810	
New cost structure	COS1	0.726	0.864	0.887
	COS2	0.781	0.843	
	COS3	0.757	0.852	
	COS4	0.743	0.857	
knowledge	K1	0.741	0.855	0.885
	K2	0.755	0.850	
	K3	0.766	0.846	
	K4	0.734	0.858	
Equity	Q1	0.810	0.887	0.914
	Q2	0.807	0.888	
	Q3	0.781	0.897	
	Q4	0.820	0.884	
Interactive	I1	0.750	0.866	0.892
	I2	0.748	0.866	
	I3	0.802	0.846	
	I4	0.748	0.866	
Experience	X1	0.734	0.875	0.883
	X2	0.818	0.803	
	X3	0.779	0.829	
Personalization	P1	0.732	0.850	0.880
	P2	0.776	0.833	
	P3	0.717	0.856	
	P4	0.739	0.847	
Relationships	R1	0.797	0.822	0.886

dimension (math.)	Subject	Correction line total correlation (CITC)	Deleted alpha coefficients for item	Cronbach's alpha coefficient
	R2	0.758	0.857	
	R3	0.783	0.836	
Non–Financial Performance	NF1	0.814	0.876	0.910
	NF2	0.845	0.849	
	NF3	0.802	0.885	
Financial Performance	FP1	0.737	0.821	0.866
	FP2	0.760	0.812	
	FP3	0.681	0.844	
	FP4	0.691	0.839	

In summary, the reliability of the study data is deemed high, meeting the standard for further analysis.

Validity Analysis

Exploratory factor analysis was conducted using principal component analysis with SPSS Statistics 27 software. The analysis was preceded by checks for sample suitability, including KMO (Kaiser–Meyer–Olkin) and Bartlett's test of sphericity. The results showed high suitability for factor analysis, with a KMO value of 0.905 and a significant Bartlett's test of sphericity (p–value < 0.05). Exploratory Factor Analysis of Value Creation Innovations

Table 5 KMO and Bartlett's test

KMO and Bartlett's test		
KMO Quantity of Sample Suitability		0.905
Bartlett's test of sphericity	Approximate cardinality	5849.479
	Degrees of freedom	78.000
	Significance	0.000

The findings suggest that the data is suitable for exploratory factor analysis, and the subsequent factor analysis is valid. Exploratory factor analysis predominantly utilized Principal Factor Analysis (PFA)

with variance-maximizing orthogonal rotation. Factors were extracted using fixed extraction factor methods. The total variance explained by the extracted common factors exceeded 60%, indicating that these factors contain the majority of the information. The study data exhibits high reliability and validity, forming a robust foundation for further analysis and interpretation of the results.

Validated factor analysis of value proposition innovation.

The purpose of the research is to test the consistency between theory and data from the theoretical assumptions, so as to test and eventually develop the theory.

Table 6 Value Proposition Innovation Model Fit Indicators

Norm	CMIN	DF	CMIN/DF	GFI	RMSEA	CFI	NFI	IFI
Ideal value	–	–	<3	>0.9	<0.08	>0.9	>0.9	>0.9
Compliance Value	–	–	<5	>0.8	<0.10	>0.8	>0.8	>0.8
Fitting value	62.312	48	1.298	0.985	0.021	0.997	0.987	0.997

The above table demonstrates the fitting metrics of the model and some metrics can be selected appropriately for evaluation. The model CMIN is 62.312, DF is 48, and CMIN/DF is 1.298<3, which is more desirable. The RMSEA is 0.021<0.08, and the indicators of GFI, CFI, NFI, and IFI are all greater than 0.9. In summary, the indicators meet the criteria, which indicates that the model is well-fitted.

The validation factor standardized factor loadings table mainly contains factors (latent variables), measurement items (explicit variables), non-standardized loading coefficients, standardized factor loadings, standard error (S.E.), z-value (C.R.), and significance (p). Standardized factor loadings greater than 0.5 indicate that each observed variable explains the latent variable well. t-values and p-values are mainly significance judgments, and a p-value of less than 0.05 indicates that the standardized factor loadings are significant.

Table 7 Table of value proposition innovation factor loading coefficients

Factor (latent variable)	**Measurement term (explicit variable)**	**Non–standard load factor**	**Standard load factor**	**Std. Error**	**z (C.R.)**	**p**
New products	OFF1	1.0	0.781			
	OFF2	1.111	0.847	0.05	22.234	
	OFF3	1.012	0.822	0.047	21.726	
New customers and markets	2023–03–01 00:00:00	1.0	0.861			
	2023–03–02 00:00:00	0.967	0.878	0.036	27.047	
	2023–03–03 00:00:00	0.903	0.774	0.039	23.328	
New channels	CHA1	1.0	0.798			
	CHA2	1.009	0.83	0.045	22.301	
	CHA3	1.021	0.83	0.046	22.311	
New customer relationships	REL1	1.0	0.843			
	REL2	1.064	0.89	0.039	27.529	
	REL3	0.995	0.852	0.038	26.457	

$p<0.001$

From the table of factor loading coefficients, it can be seen that the standardized factor loading of each item is greater than 0.5, which indicates that each item can explain its dimension well.

Combined reliability (CR) is one of the discriminatory criteria for the intrinsic quality of the model, reflecting whether all the measurement items in each latent variable consistently explain that latent variable. The convergent validity of the dimensions is reflected by the average variance extracted (AVE value) Value is often used to reflect the convergent validity of a scale, which can directly show how much of the variance explained by the latent variable comes from measurement error; the larger the

AVE value, the greater the percentage of the variance in the measured variable explained by the latent variable, and the smaller the relative measurement error.

Table 8 Value Proposition Innovation Model AVE and CR Indicator Results

Factor	Mean variance extraction AVE value	Combined Reliability CR
New products	0.668	0.858
New customers and markets	0.704	0.877
New channels	0.672	0.860
New customer relationships	0.743	0.897

The test results of the models AVE and CR show that the combined reliability CR of each factor is greater than 0.7, which indicates that all the measured items in each latent variable can consistently explain the latent variable; and the AVE values are greater than 0.5, which indicates a good convergent validity.

Table 9 Value Proposition Innovation Pearson Correlation and AVE Square Root Values

	New products	New customers and markets	New channels	New customer relationships
New products	0.817			
New customers and markets	0.617	0.839		
New channels	0.564	0.573	0.819	
New customer relationships	0.382	0.347	0.325	0.862

Note: The lower left data are correlation coefficients, and the diagonal data are AVE square root values

From the above table, it can be seen that the AVE square root value of any latent variable is greater than the correlation coefficient of that latent variable with the other latent variables, indicating that the scale has good discriminator validity.

Model fit test and path analysis

Structural Equation Modeling (SEM) is a statistical method utilized to examine the relationships between variables by analyzing their covariance matrix. This method combines various statistical techniques, including multiple regression, path analysis, and factor analysis. SEM is particularly applicable to theoretical models such as latent variable analysis, error analysis of variables, mediating variable analysis, and multi–path analysis. The primary objective of structural equation modeling is to assess the validity of theoretical models proposed by scholars and scrutinize whether the assumptions align with empirical data. It involves analyzing whether the actual situation corresponds to the theoretical assumptions.

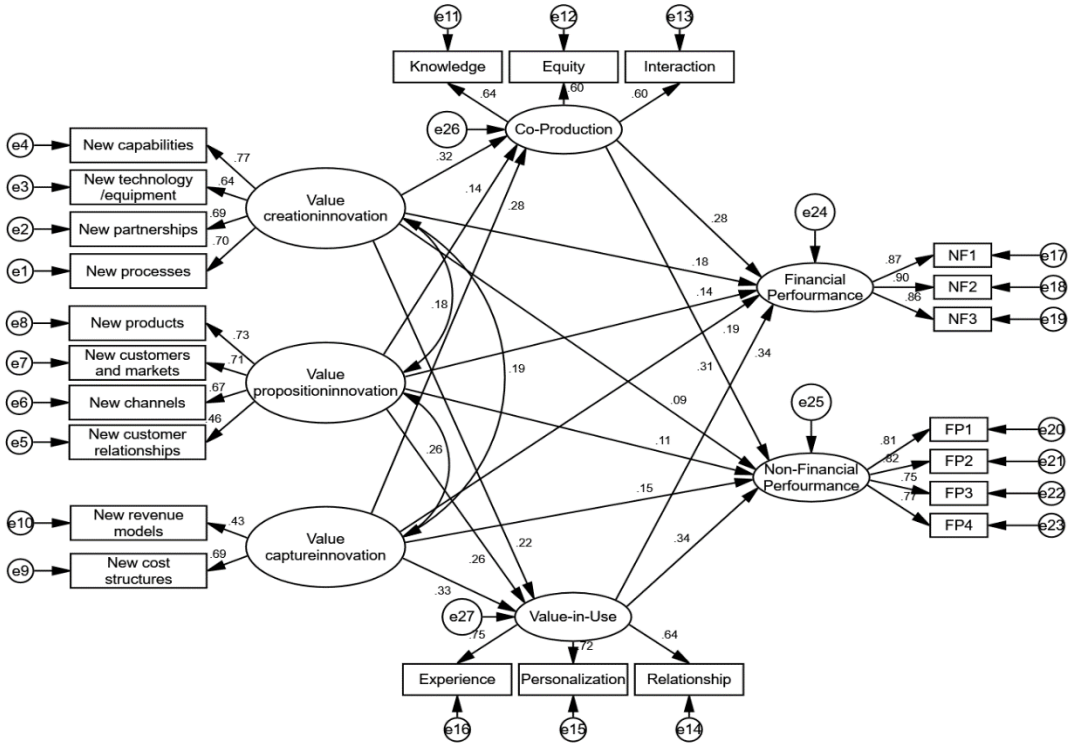

Figure 1 Graph of the results of the formal research model

Table 10 Formal Research Model Fit Indicators

Norm	CMIN	DF	CMIN/DF	GFI	RMSEA	CFI	NFI	IFI
Ideal value	–	–	<3	>0.9	<0.08	>0.9	>0.9	>0.9
Compliance Value	–	–	<5	>0.8	<0.10	>0.8	>0.8	>0.8
Fitting value	343.899	211	1.63	0.959	0.03	0.978	0.945	0.978

The model fitting metrics table above illustrates key indicators for model evaluation. The model's CMIN is 343.899 with 211 degrees of freedom, resulting in a desirable CMIN/DF ratio of 1.63<3. Additionally, the RMSEA is 0.03<0.08, and metrics such as GFI, CFI, NFI, and IFI exceed 0.9. In summary, all indicators meet the standard, signifying a well-fitted model.

Path analysis, a central function in structural equation analysis, primarily aims to verify variable relationships. Before delving into the analysis, researchers must theorize and specify the roles of variables (independent, mediator, and dependent). Path coefficients, typically considered meaningful above 0.1, indicate direct relationships between latent variables. Structural equation modelling uniquely incorporates indirect influence analysis, confirming how independent variables impact dependent variables through one or more mediators—an effective method for mediating role verification.

Table 11 Summary of coefficients of the formal research model grid

Independent variable	Implicit variable	Unstandardized path coefficients	Standardized path coefficient	Std. Error	z (C.R.)	p
Value creation innovation	Co-Production	0.267	0.322	0.047	5.703	
Value proposition innovation	Co-Production	0.184	0.144	0.073	2.514	0.012
Value capture innovation	Co-Production	0.243	0.283	0.065	3.725	
Value creation innovation	Value-in-Use	0.208	0.22	0.047	4.461	
Value proposition innovation	Value-in-Use	0.383	0.264	0.081	4.718	
Value capture innovation	Value-in-Use	0.322	0.329	0.073	4.398	
Value creation innovation	Non-Financial Performance	0.204	0.178	0.048	4.283	
Value proposition innovation	Non-Financial Performance	0.24	0.136	0.073	3.275	0.001
Value capture innovation	Non-Financial Performance	0.228	0.191	0.074	3.06	0.002

Independent variable	Implicit variable	Unstandardized path coefficients	Standardized path coefficient	Std. Error	z (C.R.)	p
Value creation innovation	Financial Performance	0.098	0.094	0.047	2.074	0.038
Value proposition innovation	Financial Performance	0.175	0.109	0.073	2.417	0.016
Value capture innovation	Financial Performance	0.157	0.145	0.069	2.276	0.023
Co–Production	Non–Financial Performance	0.387	0.279	0.072	5.357	
Co–Production	Financial Performance	0.393	0.312	0.073	5.393	
Value–in–Use	Non–Financial Performance	0.409	0.336	0.061	6.67	
Value–in–Use	Financial Performance	0.38	0.343	0.061	6.252	

The standardized path coefficients derived from the analysis reveal meaningful insights into the relationships between different types of innovation and their impact on various performance indicators.

Value Creation Innovation: This type of innovation exhibits a significant positive effect on co–production (0.322, t=5.703, p=0.0<0.05), use value (0.22, t=4.461, p=0.0<0.05), non–financial performance (0.178, t=4.283, p=0.0<0.05), and financial performance (0.094, t=2.074, p=0.038<0.05).

Value Proposition Innovation: The standardized path coefficients indicate a noteworthy positive influence on co–production (0.144, t=2.514, p=0.012<0.05), use value (0.264, t=4.718, p=0.0<0.05), non–financial performance (0.136, t=3.275, p=0.001<0.05), and financial performance (0.109, t=2.417, p=0.016<0.05).

Value Acquisition Innovation: Significant positive relationships are observed with co–production (0.283, t=3.725, p=0.0<0.05), use value (0.329, t=4.398, p=0.0<0.05), non–financial performance (0.191, t=3.06, p=0.002<0.05), and financial performance (0.145, t=2.276, p=0.023<0.05).

Co-Production: The standardized path coefficients demonstrate a substantial positive impact on non-financial performance (0.279, t=5.357, p=0.0<0.05) and financial performance (0.312, t=5.393, p=0.0<0.05).

Value-in-Use: This innovation type significantly influences non-financial performance (0.336, t=6.67, p=0.0<0.05) and financial performance (0.343, t=6.252, p=0.0<0.05).

In conclusion, higher levels of innovation are consistently associated with positive outcomes in co-production, use value, non-financial performance, and financial performance, as evidenced by the standardized path coefficients.

Analysis of intermediation effects

In this paper, the bootstrap method is used, the bootstrap sample size is set to 2000, and the mediation effect test is executed at the 95% confidence level. According to Preacher Z et al. the bootstrap confidence interval does not contain 0, then the corresponding indirect, direct or total effect exists. The results of the test for mediated effects are shown in Table 12 below.

Table 12 Relationship validation table for formal research mediation effects

Path relationship	**Direct effect**	**indirect effect**	**Bias-corrected (95%)**		**p**	**Findings**
			Lower Bounds	**Upper Bounds**		
Value creation innovation->co-production -> non-financial performance	0.204()	0.103	0.011	0.194	0.023	Partial intermediation
Value Creation Innovation-> Co-Production -> Financial Performance	0.098(0.038)	0.105	0.023	0.187	0.007	Partial intermediation
Value Creation Innovation -> Value in Use -> Non-Financial Performance	0.204()	0.085	0.003	0.161	0.033	Partial intermediation

Path relationship	Direct effect	indirect effect	Bias–corrected (95%)		p	Findings
			Lower Bounds	Upper Bounds		
Value–creating innovations–> value–in–use –> financial performance	0.098(0.038)	0.079	0.011	0.151	0.019	Partial intermediation
Value proposition innovation–> co–production–>non–financial performance	0.240(0.001)	0.071	–0.011	0.182	0.106	Insignificant
Value Proposition Innovation –> Co–Production –> Financial Performance	0.175(0.016)	0.072	–0.024	0.18	0.131	Insignificant
Value Proposition Innovation –> Value in Use –> Non–Financial Performance	0.240(0.001)	0.157	0	0.287	0.047	Partial intermediation
Value proposition innovation –> value in use –> financial performance	0.175(0.016)	0.146	0.006	0.275	0.033	Partial intermediation
Value capture innovation–>co–production–>non–financial performance	0.228(0.002)	0.094	0.023	0.294	0.026	Partial intermediation
Value Capture Innovation–> Co–Production –> Financial Performance	0.157(0.023)	0.096	0.028	0.394	0.009	Partial intermediation

Path relationship	Direct effect	indirect effect	Bias-corrected (95%)		p	Findings
			Lower Bounds	Upper Bounds		
Value capture innovation -> value in use -> non-financial performance	0.228(0.002)	0.132	0.05	0.353	0.025	Partial intermediation
Value capture innovation -> value in use -> financial performance	0.157(0.023)	0.123	0.053	0.423	0.011	Partial intermediation

p<0.001

The analysis of innovation paths reveals distinct mediation effects on non-financial and financial performance.

Value Creation Innovation:

1. Value creation innovation --> Co-production --> Non-financial Performance:
   - Significant mediation effect, implying partial mediation.
2. Value creation innovation --> Co-production --> Financial Performance:
   - Significant mediation effect, indicating partial mediation.
3. Value creation innovation --> Value in Use -->Non-financial Performance:
   - Significant mediation effect, suggesting partial mediation.
4. Value creation innovation --> Value in Use --> Financial Performance:
   - Significant mediation effect, implying partial mediation.

Value Proposition Innovation:

5. Value proposition innovation --> Co-production --> Non-financial Performance:
   - No significant mediating effect, indicating no mediation.
6. Value proposition innovation --> Co-production --> Financial Performance:
   - No significant mediating effect, indicating no mediation.
7. Value proposition innovation --> Value in Use --> Non-financial Performance:
   - Significant mediation effect, suggesting partial mediation.

8. Value proposition innovation --> Value in Use --> Financial Performance:

– Significant mediation effect, implying partial mediation.

Value Capture Innovation:

9. Value capture innovation --> Co–production --> Non–financial Performance:

– Significant mediation effect, indicating partial mediation.

10. Value capture innovation --> Co–production --> Financial Performance:

– Significant mediation effect, suggesting partial mediation.

11. Value capture innovation --> Value in Use --> Non–financial Performance:

– Significant mediation effect, implying partial mediation.

12. Value capture innovation --> Value in Use --> Financial Performance:

– Significant mediation effect, suggesting partial mediation.

Summary: These findings offer nuanced insights into the interplay of innovation paths and their mediating roles in influencing both non–financial and financial performance indicators.

Table 13 Hypothesis of the study and their findings

Serial No.	Hypothesis	Hypothetical content	Result
1	Hypothesis1	Business model innovation has a positive impact on enterprise performance.	Pass
2	Hypothesis1a	Value creation innovation has a positive impact on enterprise performance.	Pass
3	Hypothesis1a–1	Value creation innovation has a positive impact on enterprise financial performance.	Pass
4	Hypothesis1a–2	Value creation innovation has a positive impact on enterprise's non–financial performance.	Pass
5	Hypothesis1b	Value proposition innovation has a positive impact on enterprise performance.	Pass
6	Hypothesis1b–1	Value proposition innovation has a positive impact on enterprises' financial performance.	Pass

Serial No.	Hypothesis	Hypothetical content	Result
7	Hypothesis1b–2	Value proposition innovation has a positive impact on enterprise's non–financial performance.	Pass
8	Hypothesis1c	Value capture innovation has a positive impact on enterprise performance.	Pass
9	Hypothesis1c–1	Value capture innovation has a positive impact on enterprise financial performance.	Pass
10	Hypothesis1c–2	Value capture innovation has a positive impact on enterprises' non–financial performance.	Pass
11	Hypothesis2	Value co–creation has a positive impact on enterprise performance.	Pass
12	Hypothesis2a	Co–production has a positive impact on enterprise performance.	Pass
13	Hypothesis2a–1	Co–production has a positive effect on enterprise financial performance.	Pass
14	Hypothesis2a–2	Co–production has a positive effect on enterprise's non–financial performance.	Pass
15	Hypothesis2b	Value–in–use has a positive effect on enterprise performance.	Pass
16	Hypothesis2b–1	Value–in–use has a positive effect on enterprise financial performance.	Pass
17	Hypothesis2b–2	Value in use has a positive impact on enterprise's non–financial performance.	Pass
18	Hypothesis3	Value co–production plays a positive mediating role between business model innovation and enterprise performance.	Pass

Serial No.	Hypothesis	Hypothetical content	Result
19	Hypothesis3a	Co–production plays a positive mediating role between business model innovation and enterprise performance.	Pass
20	Hypothesis3a–1	Co–production plays a positive mediating role between value creation innovation and enterprise non–financial performance.	Pass
21	Hypothesis3a–2	Co–production plays a positive mediating role between value creation innovation and enterprise financial performance.	Pass
22	Hypothesis3a–3	Co–production plays a positive mediating role between value proposition innovations and enterprises' non–financial performance.	Failed
23	Hypothesis3a–4	Co–production plays a positive mediating role between value proposition innovations and enterprise financial performance.	Failed
24	Hypothesis3a–5	Co–production plays a positive mediating role between value capture innovations and enterprises' non–financial performance.	Pass
25	Hypothesis3a–6	Co–production plays a positive mediating role between value capture innovations and enterprises' financial performance.	Pass
26	Hypothesis3b	Value–in–use plays a positive mediating role between business model innovation and enterprise performance	Pass
27	Hypothesis3b–1	Value–in–use positively mediates the relationship between value–creating innovations and enterprises' non–financial performance.	Pass

Serial No.	Hypothesis	Hypothetical content	Result
28	Hypothesis3b–2	Value–in–use plays a positive mediating role between value–creating innovations and enterprise financial performance.	Pass
29	Hypothesis3b–3	Value in use positively mediates between value proposition innovations and enterprises' non–financial performance.	Pass
30	Hypothesis3b–4	Value in use plays a positive mediating role between value proposition innovation and enterprise financial performance.	Pass
31	Hypothesis3b–5	Value in use plays a positive mediating role between value capture innovations and enterprises' non–financial performance.	Pass
32	Hypothesis3b–6	Value in use positively mediates between value capture innovations and enterprise financial performance.	Pass

Discussion of research results

This section offers a thorough analysis of the study's empirical findings, examining the connections and workings between value co–creation, business model innovation, and company success. Of the thirty–two hypotheses put out, thirty were found to be valid. The conversation is organized around four main points: how business model innovation directly affects SMEs' performance; how value co–creation affects SME performance; how business model innovation indirectly affects enterprise performance through value co–creation; and how variations in control variables are analysed.

Direct Role of Business Model Innovation on SME Performance

Six theories on the direct effect of business model innovation on SME success are supported by the study. Value creation, value proposition, and value–acquisition innovations have a favourable impact on both financial and non–financial performance, according to the research. The present findings are

consistent with previous studies that emphasize the importance of business model innovation in addressing customer engagement, market connections, and resource optimization (Latifi, et al., 2021; Gatautis et al., 2019).

Impact of Value Co–Creation on SME Performance

Regarding how business model innovation affects value co–production, four theories are supported. It has been demonstrated that value–in–use and co–production significantly improve both financial and non–financial performance. This is consistent with other research that highlights the value of good employee feedback and emotional relationships with customers in raising SME competitiveness (Yuan Lei, 2007; Magretta, 2002).

Business Model Innovation's Indirect Influence via Value Co–Creation

In order to investigate the mediating function of value co–production and value–in–use between business model innovation and company success, the study puts out and confirms twelve hypotheses. The findings show a strong mediation effect between business model innovation and firm success, with "use value" showing a more noticeable influence. Notably, it is discovered that co–production has no discernible impact on the link between value proposition and company performance. These findings are in line with previous literature such as Auh & Menguc (2005) and Teece (2010).

Analysis of Variance for Control Variables

Gender and establishment time exhibit non–significant variability, according to an analysis of variance for control variables. Considerable variation is noted in the size of the organization and the educational attainment of the founders/managers, highlighting the impact of these variables on co–production, value–capturing innovations, value–creating innovations, and enterprise success.

In conclusion, the study offers insightful information on the intricate relationships between value co–creation, business model innovation, and SME performance. The results provide practical implications for SMEs looking to improve their innovation strategies and overall performance, while also adding to the body of knowledge in resource–based theory.

The influence of business model innovation on company performance is especially examined in this study, with an emphasis on value co–creation's mediating function. The report emphasizes how businesses must always look for new ways to expand and how business model innovation may help overcome technology constraints. The study also explores how business models change over time and in various operational and temporal circumstances.

Emphasizing the Mechanism of Business Model Innovation for Enterprises

The study finds a strong link between company performance and innovation in business models. The results encourage senior managers to assess and maybe reinvent their current models at a time of varied and developing business model innovations. The revolutionary changes in management ideas, organizational structures, and strategic thinking that are required are a result of the information society, network economy, and global economic trends. Enterprises that are successful in the era of big data and developed Internet use innovative business models that fit the new paradigm and structures of the time (Flynn et al., 2010; Gronum et al., 2012; Su et al., 2013). The research highlights the need of efficient business model innovation customized to an organization's environment, allowing it to sustain long-term competitive advantages and manoeuvre through the changing terrain.4

Emphasis on Value Co-Creation as a Mediating Variable Dynamically Influencing the Mechanism of Action

The study challenges the conventional static view of business model innovation by introducing value co-creation as a dynamic mediating variable. While business model innovation is acknowledged as the logic governing an enterprise's operations and value creation, its impact on enterprise performance is elucidated through the mediating mechanism of value co-creation. The process is portrayed as dynamic, emphasizing the importance of integrating value co-creation to explore the nuanced impact of business model innovation on enterprise performance (Prahalad & Ramaswamy, 2000; Vargo & Lusch, 2004). The study underscores the dual nature of value co-creation, where successful mediation enhances the value of business model innovation, while unsuccessful choices diminish its efficacy.

1. Emphasizing the Role of Employees in Value Co-Creation Strategies Value co-creation emerges as a critical factor in the relationship between business model innovation and enterprise performance. The study highlights the need for enterprises to engage employees as crucial intermediaries between the company and customers. Employees are positioned as pivotal in fostering interaction and trust, bridging the gap between introverted consumers and the value co-creation process. The study advocates for enhancing employee emotional intelligence and empathy to comprehend customer needs, reduce transaction costs, and optimize resource investment. Employees are positioned as a competitive advantage, necessitating specialized training to facilitate positive collaboration, recognition, and emotional responsiveness.

2. Emphasis on Effective Incentives and Precise Management of Consumers The era of experience marketing necessitates upholding the concept of consumers as co–creators of value. The study advocates for economic incentives or compensation to mobilize consumers in interactive platforms, aligning with the economic relationship between consumers and enterprises. Categorizing customers based on their capabilities and implementing precise management becomes crucial, requiring enterprises to provide necessary information, training, and allocate resources strategically. The study encourages enterprises to initiate value co–creation behaviours, mobilize consumers, and manage different consumer types effectively, transforming consumer traffic and results. Precise management and incentivization are highlighted as focal points for enterprises seeking to harness the potential of value co–creation. The relationship of influence is established in Figure 2 below.

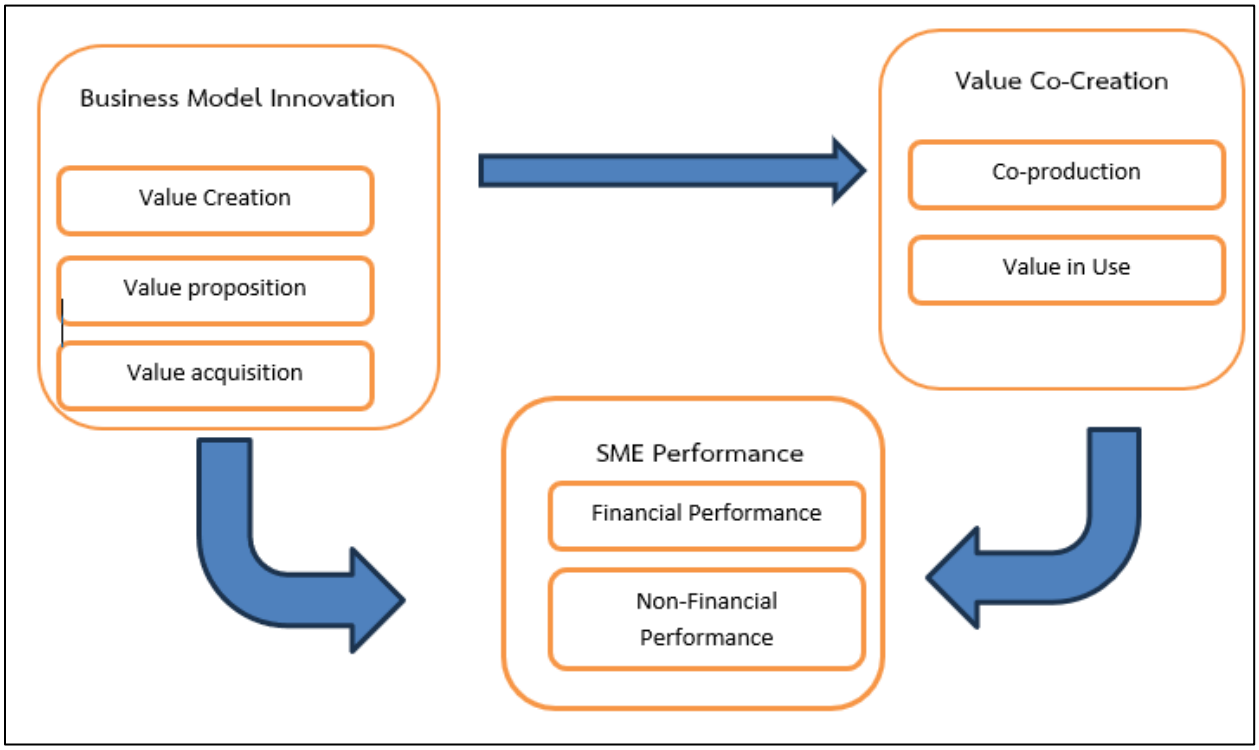

Figure 2 Summary of the Study Findings

Future Studies

The study opens avenues for further research in several dimensions. Firstly, it calls for exploration into different categories of business model innovation beyond the selected dimensions of

value creation, value proposition, and value capture. Industries may exhibit diverse business model innovations, and their impacts on companies, both positive and negative, warrant in-depth investigation.

Secondly, the study prompts further exploration of the correlation between business model innovation and technological innovation. The intricate relationship between the two requires investigation into how appropriate business model innovations can drive technological innovation and vice versa, ultimately influencing product innovation.

Thirdly, the dynamic evolution of business model innovation emerges as a significant area for further study. Successful business model innovations may require continuous improvement or even radical transformation based on changes in the business environment and enterprise development. Identifying the circumstances triggering such changes and delineating the evolution path remains a complex and challenging research subject.

In conclusion, the study provides valuable insights into the multifaceted dynamics of business model innovation, value co-creation, and their impact on enterprise performance. The identified research directions offer avenues for future exploration, contributing to the evolving landscape of business strategy and innovation.

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