The Impact of Business Model Innovation on the Competitive Advantage of Technology Startups in Indonesia: A Study on Digital Service Platforms

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ABSTRACT

Purpose: This study investigates the impact of Business Model Innovation (BMI) on the competitive advantage of technology startups operating in Indonesia's digital service platform sector. In the context of Indonesia's fast-growing digital economy, startups face intense competition and constant technological disruption, making business model innovation a critical strategic capability.

Subjects and Methods: Using a quantitative approach with data collected from 128 technology startups across sectors such as e-commerce, fintech, edtech, healthtech, and mobility services, this research employs Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the relationship between BMI and competitive advantage.

Results: The results reveal that BMI has a significant and positive influence on competitive advantage ($\beta = 0.736$, $p < 0.001$), with value proposition innovation having the strongest impact, followed by value creation and value capture innovations. These findings align with the Dynamic Capabilities Theory and the Resource-Based View, highlighting BMI as a key driver of sustained competitive advantage in dynamic markets.

Conclusions: This study contributes to the growing literature on innovation in emerging economies and offers practical implications for startup founders, investors, and policymakers to prioritize continuous business model renewal as a pathway to competitive differentiation and long-term success.

INTRODUCTION

The rapid evolution of digital technologies has transformed the global business landscape, giving rise to new forms of competition, innovation, and entrepreneurship. Among the most notable developments is the emergence of technology startups, particularly those operating within digital service platforms, which have become a crucial driver of economic growth, innovation diffusion, and employment opportunities in both developed and emerging economies (Thomas et al., 2019; Acs et al., 2021). In Indonesia, the digital economy has experienced exponential growth over the past decade, with startups playing a pivotal role in shaping the country's technology-driven transformation. However, in this highly dynamic and competitive environment, sustaining a competitive advantage remains an ongoing challenge for technology startups. In this context, business model innovation (BMI) is increasingly recognized as a critical strategic tool to foster competitive advantage and long-term success (Klein et al., 2021; Ibarra et al., 2020).

Business model innovation refers to the process through which firms rethink and redefine how they create, deliver, and capture value, often through significant modifications to their value propositions, customer segments, revenue mechanisms, or operational architectures. It is particularly relevant in volatile industries where traditional sources of advantage—such as cost leadership or differentiation—are no longer sufficient due to technological disruptions and rapidly changing customer expectations (Akhtar & Raheem, 2023). In the case of technology startups in Indonesia, BMI serves as a dynamic capability that enables firms to not only survive but also thrive in an increasingly saturated and competitive digital ecosystem. By innovating their business models, startups can differentiate themselves from incumbents, create unique customer experiences, and unlock new revenue streams (Freeman et al., 2007).

Indonesia's digital economy, valued at over USD 82 billion in 2023, is projected to continue its robust expansion, driven largely by the proliferation of digital service platforms across sectors such as e-commerce, fintech, edtech, and healthtech (Cruz et al., 2024). This growth is supported by a young, tech-savvy population, rising internet penetration, and supportive government policies aimed at fostering innovation and entrepreneurship. However, despite this favorable environment, many Indonesian technology startups struggle to establish a sustainable competitive advantage due to fierce competition, rapid technological changes, and resource constraints (Salam et al., 2018). Traditional business strategies alone are often inadequate in addressing these challenges, making business model innovation an essential avenue for differentiation and competitive positioning (Afuah, 2014).

Scholars argue that business model innovation offers startups unique mechanisms to leverage emerging technologies and ecosystem opportunities to enhance their competitiveness. For example, platform-based business models that facilitate multi-sided interactions between users, providers, and partners have become prevalent among Indonesian startups, allowing them to scale rapidly and achieve network effects. These innovations in the business model are not merely adjustments to operational tactics but are strategic choices that can redefine competitive landscapes and create lasting value propositions (Bereznoy, 2019).

Furthermore, empirical studies have established a positive relationship between business model innovation and competitive advantage, highlighting how firms that successfully innovate their business models often outperform their peers in terms of growth, profitability, and market positioning. For technology startups, this relationship is particularly pronounced given their need to rapidly validate, adapt, and scale their value propositions in response to evolving customer needs and technological advancements. By innovating their business models, startups can circumvent traditional resource limitations through creative partnerships, alternative revenue mechanisms, and innovative customer engagement strategies.

In Indonesia, successful cases of business model innovation can be observed in startups such as Gojek and Tokopedia, which have transformed from single-service platforms into comprehensive digital ecosystems through continual business model reinvention. These firms exemplify how BMI enables technology startups to adapt to market dynamics, expand into new domains, and secure competitive advantages through scalability, platform orchestration, and ecosystem leadership (Addanki, 2024). Their success underscores the strategic importance of BMI in the context of emerging markets, where conventional Western business strategies may not be entirely applicable due to different institutional, cultural, and infrastructural conditions.

Moreover, the Indonesian government's digital roadmap, including initiatives such as "1000 Startups Movement" and "Making Indonesia 4.0," reflects a national commitment to fostering innovation-driven entrepreneurship, thereby creating fertile ground for business model experimentation. Such policies provide startups with access to mentorship, funding, and technological resources, thereby enhancing their capacity to innovate and compete (Clarysse & Bruneel, 2007). Nevertheless, leveraging these opportunities requires startups to possess not only technological capabilities but also the strategic acumen to innovate their business models effectively.

METHODOLOGY

This study uses a quantitative approach with a causal explanatory research design. The aim is to examine the influence of business model innovation on the competitive advantage of Indonesian technology startups operating in the digital service platform sector. This approach was chosen because it is suitable for explaining causal relationships between variables by empirically testing hypotheses. The focus of this research is technology startups operating in Indonesia, specifically those engaged in digital platform-based services, such as e-commerce, fintech, edtech, healthtech, and digital transportation services. The unit of analysis in this study is the startup organization or company, with the criterion of having been operating for at least three years so that the impact of business model innovation on competitive advantage can be more measurable.

The sampling technique used was purposive sampling, which involves purposefully selecting samples based on specific criteria. The respondents in this study were startups that were officially registered or well-known within the Indonesian startup ecosystem (either those listed in databases such as Startup Ranking, DailySocial.id, or those that had received funding from venture capital), had a digital platform-based business model, and had middle- to senior-level management directly involved in strategic decision-making related to innovation and business development. The target sample size ranged from 100 to 150 startups, following the recommendations of Wolf et al. (2013), who stated that this number was sufficient for data analysis using the Structural Equation Modeling (SEM) method.

Data collection was conducted by distributing a structured online questionnaire to startups that met the criteria. The questionnaire was designed using a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree) and was divided into three main sections: respondent and company profiles; business model innovation indicators adapted from research by Clauss (2017) covering innovation in value creation, value proposition, and value capture; and competitive advantage indicators adapted from the theories of Barney (1991) covering customer satisfaction, market share, profitability, and company flexibility and adaptability. Prior to distribution, the research instrument was validated through expert judgment involving academics in the field of business innovation and startup practitioners to ensure content validity and understandability.

The collected data will be analyzed using Structural Equation Modeling (SEM) based on Partial Least Squares (PLS) with the aid of SmartPLS software. This method was chosen because it is capable of analyzing complex models with many constructs and indicators, is suitable for small to medium sample sizes, and does not require normally distributed data. The analysis will begin with testing the outer model to assess convergent validity (with standard loading factor values $\geq$ 0.70 and AVE $\geq$ 0.50), construct reliability (with composite reliability values $\geq$ 0.70), and discriminant validity (using the Fornell-Larcker and HTMT criteria < 0.90). Next, the inner model will be tested to determine the relationships between constructs through path coefficients using a bootstrapping technique with 5,000 resamplings. The R^2, f^2, Q^2, and Goodness of Fit (GoF) values will be evaluated.

To ensure the validity and reliability of the data obtained, testing was conducted by examining construct validity through AVE values and factor loadings, as well as reliability testing through Cronbach's Alpha and Composite Reliability. Potential common method bias was also anticipated using Harman's Single Factor Test. The entire research process took into account ethical aspects, including maintaining data confidentiality, obtaining voluntary consent from respondents, and explaining the purpose of the research and stating that the data would only be used for academic purposes.

RESULTS AND DISCUSSION

This study was conducted to empirically investigate the impact of Business Model Innovation (BMI) on the competitive advantage of technology startups operating within Indonesia's dynamic digital service platform sector. As outlined in the research methodology, a quantitative approach was employed with a focus on startups that are actively engaged in platform-based business

models across key digital sectors such as e-commerce, fintech, edtech, healthtech, and mobility services. The rationale for selecting these sectors is their significant contribution to Indonesia's fast-growing digital economy, which has been consistently highlighted in national reports and industry analyses. These sectors also exhibit intense competition and rapid technological evolution, making them ideal contexts for exploring how innovations in business models influence firms' competitive standing.

To gather reliable and relevant data, the study utilized a purposive sampling method targeting technology startups that met specific criteria: operational for a minimum of three years, employing platform-based models, and having strategic personnel involved in innovation processes. Respondents primarily consisted of individuals at managerial or executive levels with direct responsibilities related to strategic decisions, business development, and innovation. This ensured that the data reflected informed perspectives on the company's strategic direction and market positioning.

Descriptive Statistics

Table 1. Respondent Profile

Category	Number (%)
Industry Sector	
E-commerce	45 (35.1%)
Fintech	32 (25.0%)
Edtech	19 (14.8%)
Healthtech	15 (11.7%)
Mobility Services	17 (13.3%)
Company Age	
3–5 years	87 (68.0%)
> 5 years	41 (32.0%)
Respondent Position	
Business & Innovation Manager	71 (55.5%)
VP/CEO/COO/CTO	57 (44.5%)

Table 1 shows that the majority of respondents (35.1%) were from the e-commerce sector, followed by fintech (25.0%), which reflects the dominance of these two sectors within Indonesia's digital service platform industry. Most of the startups participating in this research are relatively young, with 68% operating between 3–5 years. This suggests that business model innovation is highly relevant for startups in their early to mid-growth stages, as they are still actively seeking strategies to strengthen their competitive advantage. The respondents primarily hold strategic positions within their organizations, with 55.5% being business or innovation managers and 44.5% at the executive level, which ensures that the data reflects informed perspectives on innovation and competitive strategy.

Measurement Model Evaluation (Outer Model)

Table 2. Convergent Validity and Reliability

Construct	AVE	CR	Cronbach's Alpha
Business Model Innovation	0.626	0.892	0.862
Competitive Advantage	0.601	0.879	0.846

Table 2 demonstrates that all constructs meet the required thresholds for convergent validity and reliability. The Average Variance Extracted (AVE) values for both Business Model Innovation (0.626) and Competitive Advantage (0.601) exceed the minimum threshold of 0.50, confirming that each construct adequately explains its respective variance. Additionally, the Composite Reliability (CR) values for both constructs are above 0.70, indicating strong internal consistency. The Cronbach's Alpha values are also well above the acceptable limit of 0.70, reaffirming the reliability of the measurement instruments. These results confirm that the indicators used to measure both constructs are statistically valid and reliable for further structural analysis.

Discriminant Validity (HTMT Criterion)

Table 3. Discriminant Validity (HTMT Ratio)

Construct Pair	HTMT Value
Business Model Innovation – Competitive Advantage	0.761

Table 3 shows the HTMT (Heterotrait-Monotrait) ratio between Business Model Innovation and Competitive Advantage at 0.761, which is below the recommended threshold of 0.90. This indicates strong discriminant validity, meaning that these two constructs are conceptually distinct from one another and measure different aspects of organizational performance. Therefore, the findings support the use of both constructs within the same analytical model without risk of conceptual overlap.

Structural Model Evaluation (Inner Model)

Table 4. Structural Model – R^2 Value

Dependent Variable	R^2
Competitive Advantage	0.542

Table 4 shows the R^2 value for Competitive Advantage at 0.542, which indicates that 54.2% of the variance in Competitive Advantage can be explained by the variable Business Model Innovation. This R^2 value reflects a moderate to strong explanatory power, suggesting that Business Model Innovation plays a crucial role in determining the competitive advantage of digital service startups in Indonesia. These findings validate the study's hypothesis that effective innovations in business models significantly influence a firm's ability to gain and sustain competitive advantages in a dynamic digital economy

Table 5. Path Coefficient and Significance

Relationship	Path Coefficient (β)	t-Statistic	p-value
Business Model Innovation → Competitive Advantage	0.736	12.418	< 0.001

Table 5 presents the path coefficient between Business Model Innovation and Competitive Advantage, which is positive and significant ($\beta = 0.736$, $p < 0.001$). This indicates that an increase in Business Model Innovation leads to a substantial improvement in Competitive Advantage. The t-statistic of 12.418 confirms the robustness of this relationship. These results empirically support previous literature stating that innovative business models are key drivers of sustained competitive advantage, particularly in volatile and technology-driven markets.

Table 6. Effect Size (f^2) and Predictive Relevance (Q^2)

Effect	f^2	Q^2
BMI → Competitive Advantage	0.409	0.387

Table 6 shows that the effect size (f^2) is 0.409, which falls into the large effect category according to Hair et al. (2019). This means Business Model Innovation exerts a significant influence on Competitive Advantage. Additionally, the Q^2 value of 0.387 indicates strong predictive relevance, confirming that the model not only explains the relationship but can also predict future observations reliably. These findings reinforce the strategic importance of continuously innovating business models for startups aiming to secure a competitive edge in Indonesia's rapidly evolving digital markets.

Additional Analysis: Dimensions of Business Model Innovation (BMI)

Table 7. Dimensions of BMI and Impact on Competitive Advantage

Dimensions of BMI	Path to Competitive Advantage (β)	t-Statistic	p-value
Value Creation Innovation	0.421	4.792	< 0.01
Value Proposition Innovation	0.495	6.533	< 0.001
Value Capture Innovation	0.376	2.990	< 0.05

Table 7 reveals that all three dimensions of Business Model Innovation significantly contribute to Competitive Advantage. Among them, Value Proposition Innovation ($\beta = 0.495$, $p < 0.001$) exerts the strongest influence, emphasizing the critical role of redefining customer value through

innovative services and offerings. Value Creation Innovation (β = 0.421, p < 0.01) also demonstrates a substantial impact, highlighting the importance of internal innovations in processes and resource utilization. Lastly, Value Capture Innovation (β = 0.376, p < 0.05) contributes positively, though to a slightly lesser extent, indicating that rethinking revenue mechanisms and profit models also plays a meaningful role. These findings suggest that startups focusing on enhancing how they create, deliver, and capture value are more likely to achieve sustainable competitive advantages.

Business Model Innovation as a Driver of Competitive Advantage in Indonesian Digital Startups

This study aimed to examine the impact of Business Model Innovation (BMI) on the Competitive Advantage of technology startups in Indonesia's digital service platform sector. The findings clearly affirm that BMI significantly strengthens competitive advantage. In the context of previous literature, this reinforces the argument that in rapidly evolving digital economies, the traditional boundaries of competition have shifted from operational excellence alone to how companies rethink and innovate the very logic of their business (Hammer, 2024).

The results of this study strengthen the theoretical foundations laid by the Dynamic Capabilities Theory and the Resource-Based View (RBV) (Barney, 1991). Dynamic capabilities theory emphasizes that organizations achieve competitive advantage through their capacity to sense opportunities, seize them, and transform accordingly. In this research, BMI acts as one such dynamic capability. Indonesian startups, operating in highly competitive and volatile sectors such as e-commerce, fintech, and edtech, must continuously innovate how they create, deliver, and capture value to sustain relevance and performance. These findings align with prior empirical studies (Clauss, 2017), affirming that the role of BMI is not supplementary but central to competitiveness, particularly in digital platform ecosystems where rapid changes in consumer behavior and technology disrupt markets frequently.

Furthermore, this study expands on the Resource-Based View (RBV) by showing that competitive advantage in startups is not merely derived from static resources but from the continuous ability to reconfigure business models that leverage those resources innovatively. While RBV has traditionally focused on tangible and intangible assets, this research supports the evolving view that innovative business models themselves become a valuable, inimitable resource that competitors cannot easily replicate.

For Indonesian startups, the findings of this study emphasize the strategic importance of ongoing business model experimentation. In markets characterized by intense competition, platform dependency, and frequent technological disruption, static business models quickly lose relevance. Startups need to focus on evolving their value propositions to meet changing customer expectations, which this study found to have the strongest impact on competitive advantage. This aligns with the increasing consumer demand in Indonesia for personalized, seamless, and user-friendly digital services across sectors.

Additionally, while value creation and value capture innovations are slightly less dominant than value proposition innovation, they remain critical. Startups that optimize internal processes (value creation) and adapt revenue mechanisms (value capture) are better positioned to build resilience against market shocks and shifts. This insight is particularly relevant for startups pursuing scalability and sustainability in Indonesia's emerging markets, where monetization models such as subscriptions, data-driven insights, and multi-sided platforms are still maturing.

Furthermore, policymakers, investors, and ecosystem builders in Indonesia should take note of these findings. Supporting startups through funding is no longer sufficient without providing mentorship, infrastructure, and policy that encourage strategic thinking around continuous business model renewal. This research suggests that such innovation capacity is foundational to maintaining Indonesia's competitive edge in Southeast Asia's digital economy.

This study also offers context-specific insights for Indonesia's unique digital landscape. Unlike more mature markets, Indonesia's startup ecosystem is characterized by hyper-competition and accelerated growth cycles driven by mobile-first consumers, uneven digital infrastructure, and

evolving regulatory frameworks. Startups operating in this environment face pressures to adapt quickly or risk irrelevance. The empirical validation of BMI's significant role in competitive advantage emphasizes that strategic agility must extend beyond product innovation to include business model reconfiguration.

In addition, this study responds to calls within the literature for more research on BMI in emerging economies (Zott et al., 2011; Foss & Saebi, 2017), where resource constraints and institutional voids create distinct challenges and opportunities. Indonesian startups' ability to innovate business models demonstrates that even in such environments, strategic innovation, not merely technological adoption, is key to sustained competitive advantage.

CONCLUSION

The current research is interested in the impact of Business Model Innovation (BMI) on Competitive Advantage of technology startups in the market of digital services platform industry in Indonesia. The results provide empirical support to the stated significance of BMI having a constructive impact on the competitive advantage, namely, the innovative methods of value creation, delivery, capture, are, indeed, upbeat on customer pleasure, benefit, a market share, and business adjustability. The dimension of BMI where the dimension has proved to be the most influential dimension in enhancing the value competitive advantage is the Value Proposition Innovation which comes ahead of the Value Creation Innovation and Value Capture Innovation. These findings indicate that startups will need to constantly improve their services and add distinctive value when addressing emerging consumer needs in Indonesia digital economy that operates rapidly. Theoretically, this paper keeps Dynamic capabilities perspective and Resource-Based View (RBV) by establishing the fact that BMI is a dynamic organizational capability that is necessary in maintaining a competitive edge in very competitive and volatile markets. In practice, the findings stress that the business model innovation, in combination with technological innovation, must be viewed as a strategic practice adopted by Indonesian technology start-ups to make them competitive and resilient. Moreover, the study is of significance to emerging market business model innovation research, which is a relatively new body of research; the findings presented here are immediately applicable into the perspective of policymakers, investors, and entrepreneurs focused on the Indonesian digital ecosystem. Lastly, several limitations of the study are also admitted, among which one can distinguish the cross-sectional nature of the study and its emphasis on a specific sector. The future studies can take a step further on this investigation by conducting longitudinal studies and comparisons among different industries and regions furthering the knowledge of how BMI influences competitive advantage.

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