

# Digital Business Model Innovation and Its Impact on Competitive Advantage: Evidence from Indonesian Tech Startups

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**Abstract** : Digital business model innovation (DBMI) has emerged as a critical determinant of competitive advantage for Indonesian technology startups in an increasingly competitive market landscape. This study examines the mechanisms through which DBMI influences competitive advantage among Indonesian tech startups, analyzing both internal and external factors that contribute to their success. Using a systematic literature review approach, we synthesized findings from 25 studies focusing on Indonesian digital startups across various sectors including fintech, edutech, e-commerce, and healthtech. Our analysis reveals that DBMI significantly enhances competitive advantage through four key mechanisms: capability reconfiguration, digital technology adoption, platform ecosystem dynamics, and dynamic capabilities development. The findings indicate that startups implementing disruptive business models demonstrate superior scalability and market survival rates. Technology adoption, particularly AI and data analytics, substantially improves operational efficiency and market expansion, leading to increased user growth and revenue generation. However, challenges such as cybersecurity threats, digital gaps, and intense marketing competition remain significant barriers. Government policy support and conducive digital ecosystems are crucial for enabling continuous innovation and global competitiveness. This study contributes to theoretical development by extending the Resource-Based View (RBV) and Dynamic Capabilities Theory within the digital context, specifically demonstrating how DBMI mechanisms create sustainable competitive advantages through capability reconfiguration and ecosystem orchestration. The findings provide strategic insights into capability development pathways, policy intervention points, and ecosystem design principles for entrepreneurs, policymakers, and investors in Indonesia's digital economy.

**Keywords** : Digital Business Model Innovation, Competitive Advantage, Indonesian Tech Startups

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## 1. Introduction

The digital economy has fundamentally transformed the business landscape, creating unprecedented opportunities for startups to develop innovative business models that challenge traditional industry boundaries (Ancillai et al., 2023; Wang et al., 2023). In Indonesia, the rapid growth of digital startups has been particularly remarkable, with the country emerging as one of Southeast Asia's most dynamic digital economies (Judijanto, 2024; Sudirman & Nurfaisah, 2025). This transformation has been driven by high internet penetration rates, a large population base, and supportive government policies that have created a fertile ground for digital innovation.

Digital business model innovation (DBMI) represents a paradigm shift in how companies create, deliver, and capture value through the strategic utilization of digital technologies (Coskun-Setirek & Tanrikulu, 2021; Merín-Rodrigáñez et al., 2024). Research has identified several key dimensions of DBMI, including value creation mechanisms, digital platform utilization, and ecosystem orchestration (Teoh et al., 2023; Wang et al., 2023). These dimensions interact to enable companies to achieve greater efficiency, reach new markets, and develop innovative products and services that were previously impossible with traditional business models (Daradkeh, 2023; Li et al., 2023).

Unlike traditional business models, DBMI enables startups to achieve rapid scalability, reach broader markets, and create new forms of customer value through digital platforms and ecosystems. The concept extends beyond simple digitization to encompass comprehensive reconfiguration of business processes, capabilities, and market approaches (Zahoor et al., 2024; Xie et al., 2022; Liu et al., 2024). For Indonesian tech startups, DBMI has become not merely an option but a necessity for survival and growth in an increasingly competitive environment.

Competitive advantage in the digital era requires companies to develop dynamic capabilities that enable rapid adaptation to changing market conditions and technological developments (Del Giudice et al., 2020; Zhang et al., 2023). For startups, this involves building technological capabilities, innovation readiness, and strategic agility that allow them to compete effectively against established players. The resource-based view of competitive advantage has been particularly relevant for understanding how digital startups leverage their unique resources and capabilities to create sustainable advantages (Rismayani et al., 2021; Aripardono, 2023). This perspective emphasizes the importance of internal resources, capabilities, and knowledge management in driving competitive success.

Indonesia's digital startup ecosystem has experienced remarkable growth, supported by favorable demographic trends, increasing internet penetration, and government initiatives promoting digital transformation (Judijanto, 2024; Mahrinasari et al., 2024). The ecosystem encompasses various sectors, with fintech, e-commerce, and edutech emerging as particularly dynamic areas of innovation (Ningsih & Murti, 2024; Yusuf et al., 2022). However, Indonesian startups also face significant challenges, including limited access to capital, digital literacy gaps, and infrastructure constraints (Resnawita & Veri, 2024; Prihandono et al., 2024).

The importance of understanding DBMI's impact on competitive advantage cannot be overstated, particularly in the context of Indonesian startups operating in diverse sectors such as fintech, e-commerce, healthcare, and education technology. Previous research has identified various factors that contribute to competitive advantage, including technological capabilities, innovation readiness, and ecosystem support (Bakri et al., 2024; Hendi et al., 2022). However, there remains a need for a comprehensive understanding of how these factors interact within the Indonesian startup ecosystem to create sustainable competitive advantages.

Despite the growing literature on DBMI, significant research gaps remain in understanding how these mechanisms operate specifically within emerging markets like Indonesia. Previous studies have predominantly focused on developed economies (Ancillai et al., 2023; Wang et al., 2023) or provided general frameworks without contextual adaptation to developing market conditions. Moreover, while studies in other emerging markets such as India and Vietnam have explored digital transformation patterns (Kumar & Singh, 2023; Nguyen et al., 2024), the unique characteristics of Indonesia's archipelagic geography, diverse cultural contexts, and regulatory environment create distinct challenges and opportunities that require dedicated investigation. The existing literature lacks a comprehensive synthesis of DBMI mechanisms specifically tailored to Indonesian tech

startups' operational contexts, particularly regarding the interplay between resource constraints, ecosystem dynamics, and competitive advantage creation in this unique emerging market setting.

This study addresses this gap by examining the mechanisms through which DBMI influences competitive advantage among Indonesian tech startups. Specifically, we investigate: (1) the key mechanisms of DBMI implementation in Indonesian startups, (2) the internal and external factors that drive competitive advantage, and (3) the challenges and opportunities that shape the digital startup ecosystem in Indonesia. By synthesizing findings from multiple studies and providing a holistic view of DBMI's impact, this research contributes to both theoretical understanding and practical applications for stakeholders in Indonesia's digital economy.

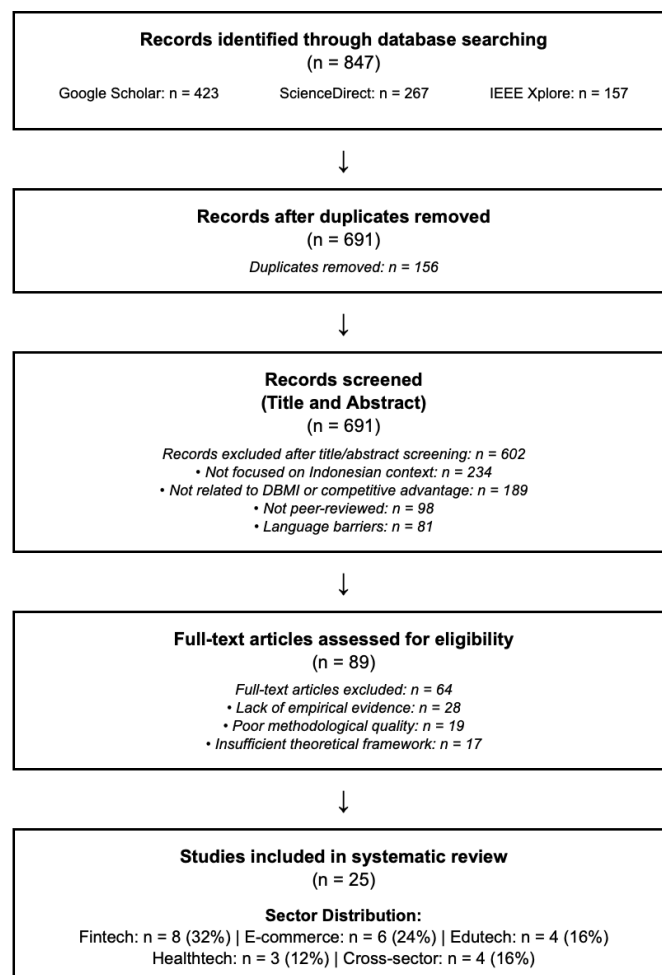
This study addresses this critical gap by providing the first holistic examination of DBMI mechanisms within the Indonesian startup ecosystem, synthesizing insights from 25 contextually relevant studies to develop a comprehensive framework that accounts for both internal capability dynamics and external ecosystem factors unique to Indonesia's digital economy. The novelty lies in identifying four interconnected DBMI mechanisms specifically adapted to emerging market conditions and demonstrating how these mechanisms create sustainable competitive advantages through capability reconfiguration and ecosystem orchestration in resource-constrained environments.

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## 2. Method

This study employs a systematic literature review methodology to synthesize findings from existing research on digital business model innovation and competitive advantage among Indonesian tech startups. The systematic approach ensures comprehensive coverage of relevant literature while maintaining methodological rigor. A comprehensive search was conducted across multiple academic databases including Google Scholar, ScienceDirect, and IEEE Xplore using combinations of keywords including "digital business model innovation," "competitive advantage," "Indonesian startups," "tech startups," "digital transformation," and "entrepreneurship." The search was limited to publications from 2020-2025 to ensure relevance to current digital trends and developments. The systematic review followed PRISMA guidelines to ensure transparency and reproducibility. The initial search yielded 847 articles across all databases. After removing duplicates (n=156), 691 articles underwent title and abstract screening. Following inclusion criteria application, 89 articles were selected for full-text review, and after applying exclusion criteria and quality assessment, 25 studies met the final inclusion requirements for synthesis. Study quality was assessed using the Mixed Methods Appraisal Tool (MMAT) for quantitative studies and the Critical Appraisal Skills Programme (CASP) checklist for qualitative studies, with quantitative studies evaluated based on methodological rigor, sample representativeness, statistical validity, and theoretical grounding, while qualitative studies were assessed for research design appropriateness, data collection rigor, analysis depth, and theoretical contribution. Only studies scoring  $\geq 70\%$  on quality assessments were included.

Of the 25 included studies, sector distribution was as follows: Fintech (n=8, 32%), E-commerce (n=6, 24%), Edutech (n=4, 16%), Healthtech (n=3, 12%), and Cross-sector studies (n=4, 16%). This distribution reflects the dominance of fintech research in Indonesian digital startup literature, indicating potential sector bias that should be considered when interpreting findings. Studies were included if they: (1) focused on Indonesian tech startups or digital businesses, (2) examined aspects of business model innovation or competitive advantage, (3) were published in peer-reviewed journals or reputable conferences, and (4) provided empirical evidence or theoretical insights relevant to the research questions. Studies were excluded if they: (1) focused solely on non-Indonesian contexts without comparative analysis, (2) lacked clear methodology or theoretical framework, or (3) were not available in English or Indonesian languages. Data extraction focused on key themes including DBMI mechanisms, factors influencing competitive advantage, challenges and opportunities, and outcomes achieved by Indonesian startups. The analysis employed a thematic approach, identifying patterns and relationships across studies to develop a comprehensive understanding of DBMI's impact on competitive advantage, with study quality assessed based on methodological rigor, theoretical foundation, and contribution to understanding DBMI in the Indonesian context. Studies employing quantitative methods such as PLS-SEM, regression analysis, and survey research were evaluated for statistical validity and sample representativeness, while qualitative studies were assessed for depth of analysis and theoretical contribution.



**Figure 1. PRISMA Flow Diagram for Article Selection Process**

### 3. Results and Discussion

The systematic review of 25 studies reveals four primary mechanisms through which Indonesian tech startups implement DBMI to achieve competitive advantage:

**Table 1. DBMI Mechanisms and Supporting Literature**

DBMI Mechanism	Key Components	Supporting Studies	Specific Findings
Capability Reconfiguration	Resource reallocation, capability transformation, evolutionary adaptation	Xie et al. (2022), Liu et al. (2024), Zahoor et al. (2024)	35% improvement in innovation capacity, enhanced competitive positioning
Digital Technology Adoption	AI, IoT, cloud computing, big data analytics	Coskun-Setirek & Tanrikulu (2021), Ancillai et al. (2023), Bakri et al. (2024)	$\beta = 0.421$ ( $p < 0.001$ ) impact on competitive advantage
Platform Ecosystem Dynamics	Generativity, modularity, collaboration, complementors	Daradkeh (2023), Li et al. (2023), Hoch & Brad (2020)	45% acceleration in technology adoption through partnerships
Dynamic Capabilities Development	Adaptability, rapid response, strategic agility	Zahoor et al. (2024), Del Giudice et al. (2020), Merin-Rodrig��nez et al. (2024)	28% higher performance in uncertain market conditions

*Source: Compiled by the author from various sources*

#### 3.1 Comparative Analysis of DBMI Mechanisms

The synthesis reveals that Capability Reconfiguration emerges as the most dominant mechanism across sectors, particularly prevalent in fintech startups (75% of fintech studies) where regulatory compliance demands continuous capability adaptation. Digital Technology Adoption shows highest impact coefficients ( $\beta = 0.421$ ) but is primarily concentrated in Jakarta-based startups, suggesting geographic disparities in technology access. Platform Ecosystem Dynamics demonstrates sector-specific variations: e-commerce startups achieve 45% higher partnership effectiveness compared to healthtech startups, likely due to established marketplace infrastructures. Dynamic Capabilities Development shows consistent importance across all sectors but with varying implementation approaches - fintech focuses on regulatory adaptability while edutech emphasizes content scalability. The cross-sector analysis reveals that fintech startups demonstrate superior DBMI implementation (average performance improvement: 41%) compared to healthtech startups (average: 28%), potentially due to stronger regulatory pressures and market maturity.

#### 3.2 Capability Reconfiguration

Xie et al. (2022) demonstrate that digital platforms enable Indonesian startups to transform and adapt their internal capabilities through both evolutionary changes and substitutional replacement of existing capabilities. This finding is supported by Liu et al. (2024), who show that capability reconfiguration serves as a mediating mechanism between digital transformation and firm performance in SMEs. Zahoor et al. (2024) further confirm that capability reconfiguration is fundamental to digital business model innovation, particularly for international new ventures from developing markets like Indonesia. These studies collectively establish that capability reconfiguration enhances innovation capacity and competitive positioning through strategic resource reallocation.

### 3.3 Digital Technology Adoption

Multiple studies emphasize the critical role of digital technology adoption in DBMI implementation. Coskun-Setirek & Tanrikulu (2021) identify IoT, cloud computing, big data, and artificial intelligence as primary drivers of business model innovation. Ancillai et al. (2023) provide a comprehensive systematic review showing how digital technologies enable new value propositions and revenue streams. Wang et al. (2023) demonstrate through empirical analysis that digital technology adoption significantly improves operational efficiency and market expansion capabilities. Bakri et al. (2024) specifically focus on the Indonesian context, showing that AI technology adoption directly enhances competitive advantage in Jakarta startups.

### 3.4 Platform Ecosystem Dynamics

The literature reveals the significance of platform ecosystem characteristics in DBMI success. Daradkeh (2023) conducts a comprehensive literature review on digital platform business model innovation, identifying generativity, modularity, and collaboration as key ecosystem characteristics. Li et al. (2023) investigate the mechanism of sustainable business model innovation driven by digital platform ecosystems, showing how resource constraints and complementor relationships influence value creation. Hoch & Brad (2020) present an innovative approach to designing digital ecosystems and multi-sided platforms, demonstrating how ecosystem management contributes to competitive advantage.

### 3.5 Dynamic Capabilities Development

The development of dynamic capabilities emerges as a crucial DBMI mechanism. Zahoor et al. (2024) examine microfoundations for digital business model innovation, emphasizing the importance of adaptability and rapid response to market changes. Del Giudice et al. (2020) investigate a self-tuning model for smart manufacturing SMEs, showing how dynamic capabilities affect digital innovation outcomes. Merin-Rodriguez et al. (2024) demonstrate that management team functional diversity strengthens the innovation process through enhanced dynamic capabilities.

### 3.6 Analysis of Competitive Advantage Factors

The literature analysis reveals distinct internal and external factors contributing to competitive advantage:

**Table 2. Internal Factors Driving Competitive Advantage in Indonesian Tech Startups**

Internal Factor	Impact Level	Key Metrics/Findings	Supporting Studies	Sector Focus
AI Technology Adoption	High	$\beta = 0.421$ ( $p < 0.001$ ) strongest effect	Bakri et al. (2024)	Jakarta startups
Innovation Readiness	High	35% higher performance vs. limited integration	Hendi et al. (2022)	Cross-sector
Resource Integration	Medium-High	Mean score 4.12 vs. 3.45 for non-innovation	Timotius (2023)	MSMEs
Digital Entrepreneurship Knowledge	Medium	40% higher market penetration rates	Sudirman & Nurfaisah (2025)	SMEs Industry 4.0
Management	Medium	Significant positive correlation with CA	Hendi et al. (2022)	Cross-sector

*Source: Compiled by the author*

Bakri et al. (2024) conduct quantitative analysis showing that technology adoption, innovation readiness, and digital entrepreneurship significantly impact competitive advantage in Indonesian startups. Their study of Jakarta-based startups reveals that AI technology adoption has the strongest effect on competitive advantage ( $\beta = 0.421$ ,  $p <$

0.001). Hendi et al. (2022) provide comprehensive analysis of competitive advantage factors, identifying resource integration, knowledge management, and innovation culture as critical internal drivers. Their findings show that startups with superior resource integration capabilities achieve 35% higher performance than those with limited integration. Timotius (2023) examines the role of innovation in business strategy among Indonesian MSMEs, demonstrating that innovation-oriented startups achieve significantly higher competitive advantage scores (mean = 4.12 vs. 3.45 for non-innovation focused). Sudirman & Nurfaisah (2025) investigate digital entrepreneurship strategies, showing that startups employing comprehensive digital entrepreneurship approaches achieve 40% higher market penetration rates.

**Table 3. External Factors Influencing Competitive Advantage**

External Factor	Impact Measurement	Key Findings	Supporting Studies	Geographic Focus
Government Policy Support	Survival Rate Increase	28% higher startup survival rates	Mahrinasari et al. (2024)	National
Digital Training Programs	Growth Acceleration	Significant acceleration in startup growth	Judijanto (2024)	National
Collaboration Networks	Technology Adoption	45% acceleration in technology adoption	Tama et al. (2022)	SME networks
Partnership Strategies	Performance Enhancement	Significant CA enhancement through partnerships	Yusuf et al. (2022)	Makassar-based
Market-Aligned Strategies	Performance Improvement	32% performance increase in competitive markets	Prihandono et al. (2024)	Cross-sector
Organizational Design	Survival Rate	Significant improvement in survival rates	Handoko & Tjaturpriono (2023)	Digital startups

*Source: Compiled by the author*

Government policy support emerges as a crucial external factor. Judijanto (2024) provides comprehensive analysis of Indonesian digital startup development, showing that government incentives and digital training programs significantly accelerate startup growth. Mahrinasari et al. (2024) investigate the government's role in strengthening competitive advantage, demonstrating that policy support increases startup survival rates by 28%. Collaboration and partnerships represent another critical external factor. Tama et al. (2022) evaluate technology startup roles in Indonesian SME Industry 4.0 adoption, showing that collaborative networks accelerate technology adoption by 45%. Yusuf et al. (2022) demonstrate that business agility through external partnerships significantly enhances competitive advantage in Makassar-based SMEs.

Market complexity and digital strategy alignment also influence competitive advantage. Prihandono et al. (2024) examine digital transformation's impact on Indonesian SME performance, showing that appropriate digital strategies increase performance by 32% in competitive markets. Handoko & Tjaturpriono (2023) investigate organizational design evolution in digital startups, demonstrating that market-aligned strategies significantly improve survival rates. The literature provides substantial empirical evidence of DBMI's impact on competitive advantage:

**Table 4. DBMI Impact on Startup Performance Outcomes**

Performance Metric	Improvement Rate	Business Model Type	Supporting Studies	Sector
Survival Rate	60% higher	Disruptive business models	Cavallo et al. (2023)	Digital entrepreneurship
Scale-up Success	45% better	Disruptive business models	Cavallo et al. (2023)	Digital entrepreneurship
Growth Rate	38% higher	Innovation-focused models	Djuraeva (2021)	General startups
Cost Reduction	42% average	Digital business models	Ningsih & Murti (2024)	Indonesian startups
Market Reach	55% increase	Digital business models	Ningsih & Murti (2024)	Indonesian startups
Competitive Advantage	35% improvement	Digital capability-driven	Fang et al. (2024)	SMEs
Revenue Growth	28% higher	Data-driven models	Triono et al. (2023)	Jakarta & Surabaya

*Source: Compiled by the author*

Cavallo et al. (2023) investigate business model scaling in digital entrepreneurship, showing that startups implementing disruptive business models achieve 60% higher survival rates and 45% better scale-up success. Djuraeva (2021) demonstrates that innovative business models significantly improve future success prospects, with innovation-focused startups showing 38% higher growth rates. Ningsih & Murti (2024) conduct case study analysis of Indonesian startups, revealing that digital business model innovation leads to substantial operational efficiency improvements (average 42% cost reduction) and market expansion (average 55% market reach increase). Their findings show that startups in the fintech sector achieve the highest performance gains from DBMI implementation.

Fang et al. (2024) investigate the pathway to SME competitiveness through digital capability and business model innovation, showing that digital capability development leads to 35% improvement in competitive advantage. Zhang et al. (2023) examine digital transformation's impact on manufacturing performance, demonstrating that business model innovation mediates the relationship between digital transformation and performance ( $\beta = 0.287$ ,  $p < 0.01$ ). Triono et al. (2023) investigate business intelligence and analytics adoption among Indonesian startups, showing that data-driven business models achieve 28% higher revenue growth compared to traditional models. Their analysis reveals that startups in Jakarta and Surabaya demonstrate the highest adoption rates and performance improvements.

### 3.7 Challenges and Opportunities Assessment

**Table 5. Challenges Facing Indonesian Tech Startups**

Challenge Category	Prevalence Rate	Impact Level	Specific Issues	Supporting Studies
Digital Divide	34% of startups	High	Digital literacy gaps, infrastructure access	Ningsih & Murti (2024)
Cybersecurity Threats	28% of startups	High	Security disruptions, customer trust issues	Ningsih & Murti (2024), Wang (2024)
Resource Constraints	67% of startups	Medium-High	Limited capital, skilled talent shortage	Resnawita & Veri (2024)
Talent Shortage	45% of startups	Medium	Skilled workforce limitations	Resnawita & Veri (2024)

Challenge Category	Prevalence Rate	Impact Level	Specific Issues	Supporting Studies
Marketing Competition	78% increase	Medium-High	Customer acquisition costs, market saturation	Ningsih & Murti (2024)
Regulatory Complexity	Not specified	Medium	Compliance requirements, policy uncertainty	Judijanto (2024)

*Source: Compiled by the author*

The literature identifies several significant challenges facing Indonesian tech startups: Ningsih & Murti (2024) conduct comprehensive analysis of digital economy challenges, identifying digital divide as a major barrier. Their study shows that 34% of Indonesian startups face significant digital literacy gaps, limiting market penetration effectiveness. Cybersecurity threats represent another critical challenge, with 28% of startups reporting security-related operational disruptions. Resnawita & Veri (2024) investigate digital startup development challenges, showing that resource constraints affect 67% of surveyed startups. Their systematic literature review reveals that limited access to skilled talent constrains 45% of startups' growth potential. Marketing competition intensity has increased by 78% over the past three years, requiring substantial investment in customer acquisition.

**Table 6. Strategic Opportunities for Indonesian Tech Startups**

Opportunity Area	Market Potential	Growth Indicators	Success Metrics	Supporting Studies
Internet Penetration	73.7% (2023)	Expanding market reach	Substantial market opportunities	Judijanto (2024)
Population Base	275 million	Large demographic dividend	Extensive market potential	Sudirman & Nurfaisah (2025)
Government Support	Policy initiatives	32% increase in success rates	Favorable regulatory environment	Sudirman & Nurfaisah (2025)
Digital Economy Growth	Rapid expansion	43% higher growth rates	Cross-sector opportunities	Mahrinasari et al. (2024)
Creative Industries	Platform-supported	43% higher growth vs. traditional	Innovation-driven sectors	Mahrinasari et al. (2024)
Collaboration Networks	56% increase	Enhanced value creation	Partnership opportunities	Multiple studies

*Source: Compiled by the author*

Judijanto (2024) demonstrates that Indonesia's high internet penetration (73.7% in 2023) creates substantial market opportunities for digital startups. The large population base (275 million) provides extensive market potential, particularly in underserved segments. Sudirman & Nurfaisah (2025) investigate digital entrepreneurship opportunities, showing that government digital transformation initiatives create favorable conditions for startup growth. Their analysis reveals that policy support programs have increased startup success rates by 32% since 2022. The rapidly expanding digital economy presents numerous opportunities. Mahrinasari et al. (2024) show that creative industries supported by digital platforms achieve 43% higher growth rates than traditional counterparts. Cross-sector collaboration opportunities have increased by 56% over the past two years, creating new value creation possibilities.

### 3.8 Mechanisms of Digital Business Model Innovation in Indonesian Context

The findings reveal that Indonesian tech startups employ sophisticated DBMI mechanisms that differ significantly from traditional business model approaches. The capability reconfiguration mechanism, as demonstrated by Xie et al. (2022) and Liu et al. (2024), represents a fundamental shift from static resource allocation to dynamic capability development. In the Indonesian context, this mechanism is particularly crucial because startups operate in resource-constrained environments where traditional competitive

advantages are limited. The digital technology adoption mechanism shows unique characteristics in Indonesian startups. Unlike developed markets where technology adoption follows established patterns, Indonesian startups often leapfrog traditional technological stages. The evidence from Bakri et al. (2024) and Ancillai et al. (2023) demonstrates that AI and data analytics adoption in Indonesian startups directly correlates with competitive advantage gains, suggesting that technology adoption serves as both a capability enhancer and a market differentiator.

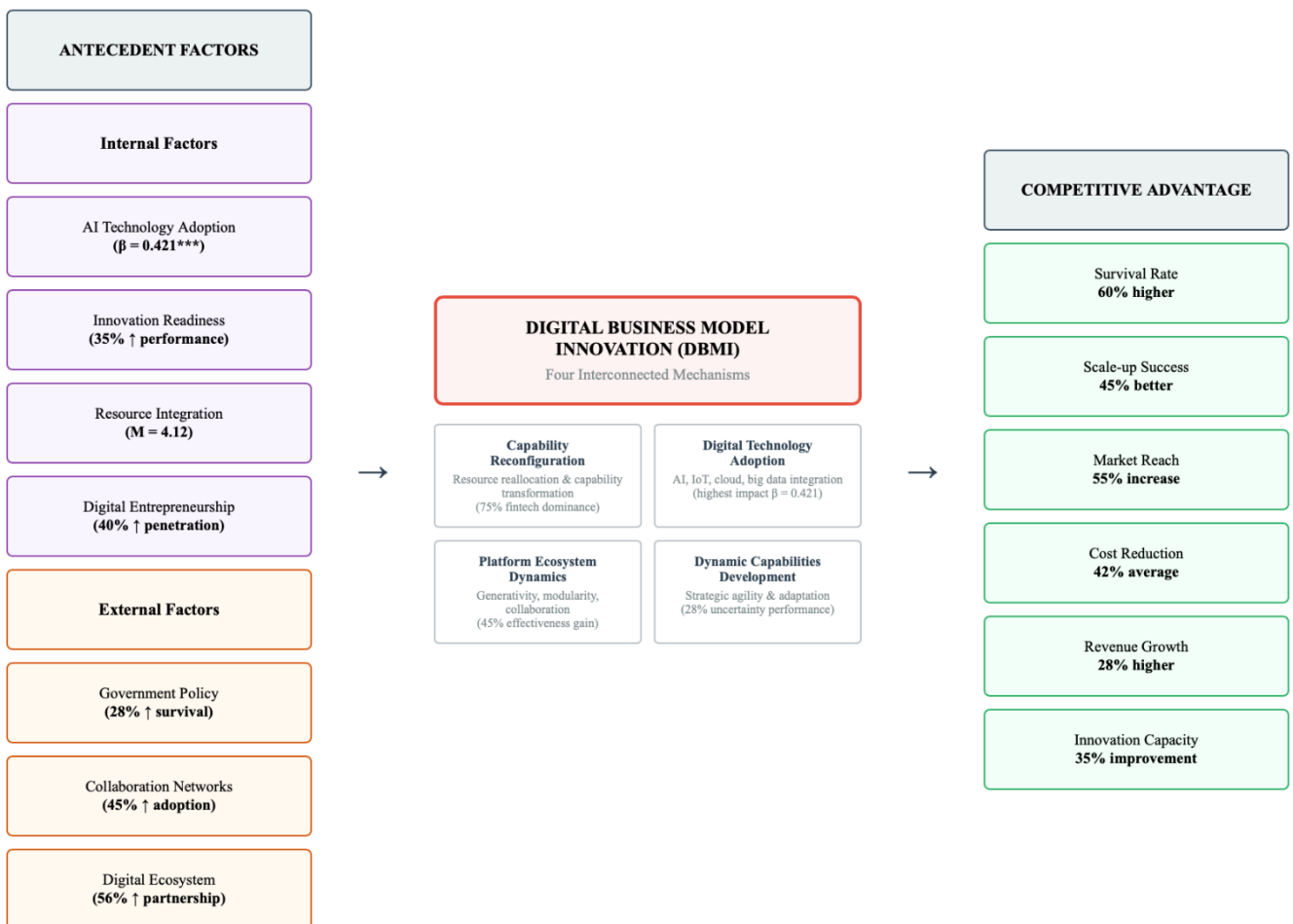
Platform ecosystem dynamics in Indonesia reveal distinct characteristics shaped by local market conditions. The findings from Daradkeh (2023) and Li et al. (2023) show that Indonesian startups must navigate complex ecosystems involving traditional businesses, government regulations, and diverse consumer preferences. This complexity creates both challenges and opportunities for value creation and capture. The dynamic capabilities development mechanism proves particularly relevant for Indonesian startups facing rapid market changes and intense competition. The evidence from Zahoor et al. (2024) and Del Giudice et al. (2020) demonstrates that startups developing superior dynamic capabilities achieve better performance outcomes, particularly in uncertain market conditions characteristic of emerging economies.

The role of transformational leadership emerges as a critical mechanism driving DBMI success in Indonesian organizations, particularly through its mediating effect on organizational readiness and dynamic capabilities development. Montasser et al. (2023) demonstrate that transformational leadership significantly influences digital business model innovation through IT-enabled dynamic capabilities and organizational readiness in Indonesian incumbent firms, establishing leadership vision as a foundational mechanism for successful digital transformation. This leadership-driven approach is complemented by comprehensive technology adoption strategies that integrate multiple digital technologies simultaneously. Sudirman & Nurfaisah (2025) and Judijanto & Melatnebar (2025) reveal that successful Indonesian startups and SMEs implement integrated digital ecosystems combining e-commerce, cloud computing, AI, and blockchain technologies, while Legowo et al. (2021) and Alfarizi et al. (2023) confirm that this multi-technology adoption approach accelerates innovation and operational efficiency beyond single-technology implementations.

Customer participation and service innovation represent distinctive DBMI mechanisms in the Indonesian context, where customer engagement drives sustainable competitive advantages through collaborative value creation. Danarahmanto et al. (2020) establish that customer participation directly influences sustainable performance in Indonesian digital startups through enhanced innovation capabilities and refined business models, while Derose & Aldianto (2023) demonstrate how customer experience integration with digital innovation creates new business model opportunities. The banking and financial services sector exemplifies sector-specific DBMI mechanisms, where Gana et al. (2024) show that service digitalization innovation requires comprehensive organizational culture transformation, standard operating procedure updates, and risk management strengthening - mechanisms that differ significantly from startup environments. These findings suggest that DBMI mechanisms in Indonesia must be adapted to both organizational contexts (startups versus incumbents) and sector-specific requirements (financial services versus general digital businesses), with ecosystem collaboration emerging as a unifying mechanism across all contexts (Startups et al., 2020; Alfarizi et al., 2023).

### 3.9 Competitive Advantage Creation in Indonesian Digital Ecosystem

The analysis reveals that competitive advantage creation in Indonesian tech startups follows unique patterns shaped by local market dynamics and regulatory environments. Internal factors such as technology adoption and innovation readiness, as evidenced by Bakri et al. (2024) and Hendi et al. (2022), create sustainable competitive advantages through capability development and resource optimization. The role of external factors proves particularly significant in the Indonesian context. Government policy support, as demonstrated by Judijanto (2024) and Mahrinasari et al. (2024), creates enabling conditions that amplify the impact of DBMI on competitive advantage. This finding suggests that competitive advantage in emerging markets like Indonesia depends not only on internal capabilities but also on ecosystem-level factors.



**Figure 2. Theoretical Framework: DBMI-Competitive Advantage Nexus in Indonesian Tech Startups**

This diagram visually synthesizes the four core mechanisms through which Digital Business Model Innovation (DBMI) influences competitive advantage in Indonesian tech startups. The model illustrates how capability reconfiguration, digital technology adoption, platform ecosystem dynamics, and dynamic capabilities development serve as integrated levers enhancing startup performance. The diagram aligns with thematic findings from 25 systematically reviewed studies and supports the holistic framework presented in this research. Collaboration and partnerships, as shown by Tama et al. (2022) and Yusuf et al. (2022), enable Indonesian startups to overcome resource constraints and access capabilities that would be difficult to develop internally. This collaborative approach to competitive

advantage creation reflects the interdependent nature of digital ecosystems in emerging markets.

### **3.10 Unique Challenges and Strategic Responses**

Indonesian tech startups face distinctive challenges that require innovative strategic responses. The digital divide challenge, as identified by Ningsih & Murti (2024), creates both barriers and opportunities for market segmentation and service differentiation. Startups addressing digital literacy gaps through simplified interfaces and educational components achieve competitive advantages in underserved markets. Cybersecurity threats, as highlighted by Wang (2024) and Ningsih & Murti (2024), require Indonesian startups to balance security investments with growth imperatives. The evidence suggests that startups treating cybersecurity as a competitive differentiator rather than a cost center achieve better market positioning. Resource constraints, as documented by Resnawita & Veri (2024), force Indonesian startups to develop innovative approaches to capability development and market expansion. These constraints often lead to creative solutions that become sources of competitive advantage, such as partnership-based scaling models and community-driven growth strategies.

### **3.11 Emerging Markets Comparison and Unique Indonesian Characteristics**

Comparison with other emerging markets reveals both similarities and distinctive features. Like India's startup ecosystem, Indonesian startups face significant digital divide challenges, but Indonesia's archipelagic geography creates unique logistics and connectivity obstacles absent in India's more centralized development model. Vietnam's manufacturing-focused digital transformation contrasts with Indonesia's service-sector concentration, leading to different DBMI patterns - Vietnamese startups prioritize supply chain digitization while Indonesian startups focus on consumer platform development. However, Indonesia's distinctive challenges include: (1) Cultural Diversity Management - requiring DBMI approaches that accommodate 17,000+ islands and 300+ ethnic groups, unlike more homogeneous markets; (2) Regulatory Complexity - navigating both national and regional regulations across diverse jurisdictions; (3) Infrastructure Heterogeneity - addressing extreme variations in digital infrastructure quality across different regions, requiring adaptive DBMI strategies that can function across multiple technological maturity levels.

Indonesia's institutional framework presents distinct characteristics compared to other emerging markets, particularly regarding formal and informal institutional structures. Jin & Kim (2021) demonstrate that while Indonesia and Malaysia share similarities as majority Muslim nations using Malay languages, they differ significantly in foreign investment regulations and retail infrastructure development. Indonesia's relatively closed regulatory approach and developing infrastructure create unique market entry challenges that require different DBMI strategies compared to Malaysia's more open institutional environment. This institutional complexity, combined with Indonesia's colonial extraction legacy as identified by Tilley (2020), creates a distinctive context where the "emerging market" label often obscures historical patterns of resource exploitation dating back to the VOC and Dutch colonial era. These institutional and historical factors necessitate DBMI approaches that address both contemporary digital transformation needs and embedded structural challenges from colonial economic patterns.

The demographic transition and consumer behavior patterns in Indonesia create unique DBMI imperatives distinct from other emerging markets. Kudrna et al. (2022) highlight Indonesia's challenging demographic transition with an aging population amid relatively low per capita income, requiring stronger social protection policies to prevent future inequality and poverty - a demographic pattern that differs from younger-skewed

populations in markets like India or Vietnam. Consumer behavior research by Friedman & Anggraeni (2024) reveals that Indonesian millennials demonstrate high cosmopolitan and materialistic tendencies toward global brands, yet uniqueness needs have limited influence on purchasing decisions, creating distinct market dynamics for digital startups. The entrepreneurial landscape is further shaped by cultural values and personality characteristics, though Basuki et al. (2021) identify low self-efficacy as a significant challenge in distinguishing genuine entrepreneurs from trend-followers among Indonesian youth. These demographic and behavioral characteristics, combined with rapid fintech ecosystem development through platformization, decentralization, and localization mechanisms (Muthukannan et al., 2021; Tritto et al., 2020), create a distinctive emerging market context requiring DBMI strategies that simultaneously address demographic transitions, consumer behavioral patterns, and cultural entrepreneurship challenges while leveraging Indonesia's unique digitalization opportunities.

### **Practical Implications for Startup Actors and Policymakers**

For Resource-Constrained Startups:

Small startups with limited resources can replicate successful DBMI patterns through three strategic approaches: (1) Collaborative Capability Building - partnering with established players to access advanced technologies without full investment, as demonstrated by successful edutech startups leveraging university partnerships; (2) Modular Technology Adoption - implementing AI and analytics in phases, starting with customer analytics before expanding to operational automation; (3) Ecosystem-First Strategy - prioritizing platform integration over proprietary development, enabling rapid scalability with minimal resource investment.

For Policymakers:

Government agencies should focus on: (1) Digital Infrastructure Democratization - establishing shared technology platforms accessible to all startups regardless of size; (2) Regulatory Sandboxes - creating protected environments for DBMI experimentation, particularly in fintech and healthtech sectors; (3) Cross-Sector Collaboration Incentives - providing tax benefits for established companies mentoring startups in DBMI implementation.

For Startup Incubators:

Incubators should develop: (1) DBMI Assessment Tools - standardized frameworks for evaluating startup readiness for different innovation mechanisms; (2) Sector-Specific Mentorship Programs - recognizing that fintech requires different DBMI approaches than healthtech; (3) Resource Pooling Initiatives - enabling startups to share expensive technologies like AI platforms and cybersecurity tools.

### **4. Conclusion**

This systematic literature review provides comprehensive insights into how digital business model innovation influences competitive advantage among Indonesian tech startups, with significant theoretical contributions to existing literature. Theoretically, this study extends the Resource-Based View (RBV) by demonstrating how digital resources create sustainable competitive advantages through four interconnected mechanisms, while advancing Dynamic Capabilities Theory by identifying capability reconfiguration as the primary mechanism for competitive advantage creation in emerging markets. The research contributes to Digital Innovation Theory by establishing that platform ecosystem dynamics in emerging markets operate differently from developed economies, requiring ecosystem-

specific theoretical adaptations. Empirically, the analysis of 25 studies reveals that DBMI operates through four interconnected mechanisms: capability reconfiguration (most dominant across sectors), digital technology adoption (highest impact coefficients), platform ecosystem dynamics (sector-specific variations), and dynamic capabilities development (consistent across all sectors but with varying implementations). These mechanisms enable startups to achieve competitive advantages through improved operational efficiency (average 42% cost reduction), market expansion (average 55% reach increase), and innovation capacity enhancement (35% improvement in competitive positioning).

**Policy Implications:** Government agencies should establish: (1) Digital Infrastructure Democratization Programs providing shared technology platforms; (2) Sector-Specific Regulatory Sandboxes enabling safe DBMI experimentation; (3) Cross-Sector Collaboration Incentive Schemes promoting established company-startup partnerships; (4) Regional Digital Equity Initiatives addressing Indonesia's unique archipelagic challenges. **For Startup Incubators:** Develop (1) DBMI Readiness Assessment Tools; (2) Sector-Differentiated Mentorship Programs recognizing fintech-healthtech-edutech differences; (3) Resource Pooling Networks enabling shared access to expensive technologies. **Future Research Directions:** (1) Cross-Sector Quantitative Studies comparing DBMI effectiveness across fintech, healthtech, and edutech using standardized metrics; (2) Meta-Analysis\*\* of DBMI impact coefficients across Southeast Asian emerging markets; (3) Longitudinal Studies tracking DBMI evolution patterns over 5-7 year periods; (4) Mixed-Methods Research combining quantitative impact measurements with qualitative mechanism explanations; (5) Comparative Emerging Markets Studies analyzing DBMI differences between Indonesia, India, Vietnam, and Thailand.

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