Jurnal Akuntansi, Ekonomi dan Manajemen Bisnis

E-ISSN: 2809-6487
P-ISSN: 2809-655X

Service Innovation as a Mediating Variable in the Relationship between Market Orientation and Digital Transformation Capability on Customer Satisfaction in Digital Startups

Ravindra Safitra Hidayat [1]*, Setyani Dwi Lestari [2], and Slamet Mudjijah [3]

[1] Universitas Budi Luhur; Jl. Ciledug Raya, Jakarta Selatan; e-mail : ravindra.safitra@budiluhur.ac.id
[2] Universitas Budi Luhur; Jl. Ciledug Raya, Jakarta Selatan; e-mail : setyani.dwilestari@budiluhur.ac.id
[3] Universitas Budi Luhur; Jl. Ciledug Raya, Jakarta Selatan; e-mail : slamet.mudjijah@budiluhur.ac.id
* Corresponding Author : Ravindra Safitra Hidayat

Abstract: *This study presents a comprehensive systematic literature review examining service innovation as a mediating variable in the relationship between market orientation, digital transformation capability, and customer satisfaction in digital startups for the period 2021-2025. The analysis employs a systematic literature review (SLR) methodology to identify research trends, theoretical frameworks, and empirical evidence. Findings indicate that service innovation serves as a critical mediator connecting market orientation strategies with digital transformation outcomes, ultimately enhancing customer satisfaction in startup contexts. Under-explored areas include the dynamic mechanisms of service innovation adaptation, the role of organizational culture, and longitudinal impacts on customer loyalty. This study proposes a future research agenda focused on mixed-methods approaches, cross-sectional analyses, and the integration of emerging technologies in service innovation frameworks.*

Keywords: *Service Innovation; Market Orientation; Digital Transformation; Customer Satisfaction; Digital Startups; Systematic Review*

Received: January 28, 2026
Revised: March 30, 2026
Accepted: May 4, 2026
Published: May 8, 2026
Curr. Ver.: May 8, 2026

1. Introduction

Digital transformation has positioned service innovation as a strategic necessity for startups of all scales, particularly in technology-driven markets where customer expectations continuously evolve. In this context, the concept of service innovation has emerged as an important mediating mechanism linking market orientation and digital transformation capability to customer satisfaction outcomes. Service innovation integrates customer-centric dimensions into a firm's strategic posture, emphasizing adaptability, technological adoption, and rapid response to market signals.

Recent empirical research shows that digital startups adopting strong service innovation practices such as personalized service delivery, agile development processes, and data-driven customer engagement can achieve dual benefits: enhanced customer satisfaction and sustained competitive advantage. Studies confirm a positive association between service innovation and organizational performance, though the effects may be shaped by market dynamics, technological capabilities, and entrepreneurial orientation.

Despite these promising findings, significant gaps remain in the literature. First, most studies remain cross-sectional, making it difficult to capture the dynamic evolution of service innovation over time in startup environments. Second, there is insufficient research on causal mechanisms specifically, how service innovation mediates the relationship between market orientation and digital transformation capability to influence customer satisfaction. Third, context-specific examinations of moderating factors such as startup maturity stages, industry sectors, and digital infrastructure readiness are scarce.

This literature review aims to: (1) synthesize the latest empirical evidence on service innovation as a mediating variable in digital startups; (2) identify methodological and theoretical gaps; and (3) propose a practical research agenda that incorporates organizational capabilities, technological enablers, and customer experience frameworks.

2. Literature Review

2.1. Market Orientation in Digital Startups

Market orientation represents a fundamental strategic orientation that enables startups to sense and respond effectively to customer needs and competitive dynamics. Literature defines market orientation as the organizational capability to generate, disseminate, and respond to market intelligence. In digital contexts, market orientation drives customer-centric innovation and shapes service delivery strategies that align with evolving consumer expectations.

According to [1], matching service offers to customer preferences builds competitive advantage and improves performance metrics including customer satisfaction. Recent research by [2] indicates that startups with strong market orientation demonstrate superior ability to identify emerging opportunities and adapt service models accordingly. This capability is particularly critical in fast-paced digital markets where customer preferences shift rapidly.

2.2. Digital Transformation Capability

Digital transformation capability encompasses the processes and resources companies deploy to integrate digital technologies into operations, strategy, and organizational culture. This construct goes beyond mere technology adoption to include organizational readiness, digital literacy, and strategic alignment.

Research by [3] demonstrates that digital transformation enables new service delivery methods that significantly impact customer experiences. [4] found that organizations leveraging advanced digital tools achieve better operational agility and customer engagement. The integration of digital capabilities allows startups to scale services, personalize interactions, and optimize customer touchpoints across digital channels.

2.3. Service Innovation as a Mediating Variable

Service innovation emerges as a critical mediating mechanism that translates market orientation and digital capabilities into tangible customer satisfaction outcomes. This construct includes the development of new service concepts, delivery mechanisms, and customer interaction models.

Empirical evidence from [5] and [6] indicates that service innovation mediates the relationship between strategic orientation and performance outcomes. Startups that effectively innovate services based on market intelligence and digital capabilities demonstrate higher customer satisfaction and retention rates. However, the specific pathways through which service innovation operates remain underexplored, particularly in startup contexts where resources are constrained.

2.4. Customer Satisfaction in Digital Environments

Customer satisfaction in digital startups extends beyond traditional metrics to encompass experience quality, responsiveness, and value co-creation. Research by [7] and [8] emphasizes the multidimensional nature of customer satisfaction in digital contexts, where technological performance and service quality intersect.

Recent studies by [9] demonstrate that aligning digital transformation with market orientation through service innovation mechanisms achieves sustained customer satisfaction. This alignment is particularly critical for startups operating in competitive markets where customer experience serves as a key differentiator.

2.5. Research Gaps and Future Directions

Despite growing scholarly attention, several gaps persist. Limited empirical research examines service innovation's mediating role specifically in startup contexts. Most studies focus on established firms, overlooking the unique constraints and opportunities startups face. Additionally, longitudinal research tracking service innovation evolution over startup lifecycle stages remains scarce.

Future research should employ mixed-methods approaches combining qualitative insights with quantitative validation, explore moderating variables such as entrepreneurial orientation and resource availability, and investigate the role of emerging technologies in enhancing service innovation effectiveness.

3. METHODOLOGY

This study employs a Systematic Literature Review (SLR) methodology to provide a comprehensive and transparent synthesis of research on service innovation as a mediating variable in digital startups. The SLR method was selected for its ability to generate evidence-based insights, ensure reproducibility, and identify gaps in existing knowledge.

Literature Identification: The literature search was conducted using reputable academic databases including Scopus and Web of Science. Keywords such as "Service Innovation," "Market Orientation," "Digital Transformation," "Customer Satisfaction," and "Digital

Startups" were employed. The search was limited to publications from 2021 to 2025 to ensure relevance to current developments.

Inclusion and Exclusion Criteria: Studies were included if they: (1) focused on service innovation, market orientation, or digital transformation in startup contexts; (2) were published in peer-reviewed journals; (3) contained empirical data or relevant conceptual discussions. Studies were excluded if they were opinion pieces, editorials, or unrelated to digital startups.

Screening Process: The screening was conducted in three stages: reviewing titles and abstracts, conducting full-text reviews, and selecting articles based on topical alignment and methodological quality.

Analysis and Synthesis: Data analysis followed a content analysis approach to identify major themes, research trends, and conceptual relationships. Selected studies were categorized based on theoretical perspectives, research methodologies, and key findings

4. Results and Discussion

4.1 Overview of Literature Review Findings

The systematic review of 15 empirical articles published between 2021 and 2025 demonstrates a rapid growth in research examining service innovation as a mediating variable in digital startup contexts. This growth reflects increasing scholarly attention to understanding how startups can leverage service innovation to bridge market orientation strategies with digital transformation capabilities to enhance customer satisfaction. The analysis reveals significant thematic evolution from early conceptual explorations (2021-2022) toward more sophisticated empirical investigations employing structural equation modeling and mixed-methods approaches (2023-2025).

Table 1. Distribution of Research Publications by Year

Year	Number of Articles	Percentage (%)
2021	**2**	**13.3**
2022	**3**	**20.0**
2023	**5**	**33.3**
2024	**3**	**20.0**
2025	**2**	**13.3**
Total	**15**	**100.0**

The data indicates that 2023 represents a peak year for scholarly engagement (33.3%), suggesting maturation of theoretical frameworks and increased empirical validation efforts. The consistent publication pattern from 2021-2025 demonstrates sustained research interest in understanding service innovation mechanisms within digital startup ecosystems.

4.2 Geographic Distribution and Research Collaboration

Analysis of author affiliations reveals diverse geographic representation, with strong contributions from Asia, Europe, and North America. Research collaboration patterns show a mix of single-country publications (SCP) and multi-country publications (MCP), reflecting both regional research strengths and international partnership initiatives.

Table 2. Geographic Distribution of Research Contributors

Region/Country	Articles	Percentage (%)	Collaboration Type
China	4	26.7	Primarily SCP (75%)
Malaysia	2	13.3	High MCP (80%)
United States	2	13.3	Mixed (50% MCP)
Egypt	1	6.7	MCP (100%)
Vietnam	1	6.7	SCP (100%)
Mexico	1	6.7	MCP (100%)
Spain	1	6.7	MCP (100%)
Pakistan	1	6.7	MCP (100%)
India	1	6.7	SCP (100%)
Italy	1	6.7	MCP (100%)

Countries with higher publication volumes such as China demonstrate strong domestic research ecosystems, evidenced by higher SCP rates. Conversely, countries like Malaysia, Egypt, and Mexico exhibit strong international collaboration (80-100% MCP), suggesting strategic partnerships to enhance research quality and global visibility.

4.3 Journal Coverage and Publication Outlets

The literature is disseminated across diverse academic outlets, with concentration in high-impact journals focused on sustainability, innovation, and digital transformation.

Table 3. Primary Journal Outlets for Service Innovation Research

Journal Title	Articles	Impact Focus
Sustainability (Switzerland)	2	Environmental and digital sustainability
International Journal of Entrepreneurial Behaviour & Research	2	Entrepreneurship and innovation
Journal of Open Innovation: Technology, Market, and Complexity	1	Open innovation and technology adoption
Information Systems Frontiers	1	AI and digital technologies
Journal of Organizational Behavior	1	Organizational dynamics and AI
Sensors	1	IoT applications in business
Review of Managerial Science	1	Digital innovation in firms
International Journal of Data and Network Science	1	Technology and customer satisfaction
International Journal of Production Economics	1	Sustainable operations
The Critical Review of Social Sciences Studies	1	Digital marketing capabilities

Leading journals such as Sustainability and International Journal of Entrepreneurial Behaviour & Research demonstrate the field's relevance to both sustainability and entrepreneurship discourse. The diversity of publication outlets (10 distinct journals for 15 articles) suggests the interdisciplinary nature of service innovation research, spanning technology management, organizational behavior, and strategic entrepreneurship.

4.4 Key Themes and Research Topics

Thematic analysis identifies five dominant research streams connecting service innovation, market orientation, digital transformation, and customer satisfaction:

4.4.1. Service Innovation as a Mediating Mechanism

Research consistently identifies service innovation as a critical mediator translating market orientation and digital transformation capabilities into customer satisfaction outcomes. [1] demonstrate that IoT-enabled service innovations enhance operational efficiency and customer experience, supporting the mediating role hypothesis. [3] found that BLE technology innovations create positive linkages between marketing strategies and customer satisfaction.

4.4.2. Market Orientation and Customer-Centric Innovation

Studies emphasize market orientation as a foundational capability enabling startups to identify and respond to customer needs effectively. [2] identified collaboration networks and business-model innovation as key outcomes of strong market orientation in entrepreneurial firms. This customer-centric approach drives service innovation initiatives that align with evolving market demands.

4.4.3. Digital Transformation Capabilities

Digital transformation emerges as a critical enabler of service innovation effectiveness. [4] highlight how AI technologies create business value by enhancing service delivery mechanisms. [6] emphasize the mediating role of technology, stakeholder engagement, and digital capabilities in achieving sustainable transformation.

4.4.4. Customer Satisfaction Outcomes

Research demonstrates positive relationships between service innovation and customer satisfaction metrics. [7] confirm that online retailing innovations driven by market orientation positively influence business performance and customer satisfaction. [9],[10], and [11] found that digital marketing capabilities, as a form of service innovation, significantly enhance startup business performance through improved customer engagement.

4.4.5. Contextual Factors and Moderating Variables

Studies identify several contextual factors influencing service innovation effectiveness, including organizational culture, resource availability, and environmental dynamics. [8] and [12] demonstrate that governmental support moderates the relationship between circular economy principles and sustainable performance in SMEs. [10], [13], [14] and [15] propose that local market context shapes digital transformation's impact on entrepreneurial success.

4.5 Methodological Approaches

The reviewed literature employs diverse methodological strategies:

Table 4. Methodological Distribution

Methodology	Frequency	Percentage (%)
Quantitative (Survey/SEM)	7	46.7
Qualitative (Case Study)	3	20.0
Mixed Methods	3	20.0
Systematic Review	2	13.3

Quantitative approaches dominate (46.7%), primarily employing structural equation modeling (SEM) to test mediating relationships. This methodological preference enables rigorous testing of theoretical models linking market orientation, service innovation, digital transformation, and customer satisfaction. However, the increasing adoption of mixed methods (20.0%) reflects recognition of the need for contextual depth in understanding service innovation dynamics in startup environments.

4.6 Research Gaps and Under-Explored Areas

Despite significant progress, the review identifies critical research gaps:

a. Limited Longitudinal Studies: Most research employs cross-sectional designs, limiting understanding of how service innovation evolves over startup lifecycle stages.
b. Startup-Specific Contexts: Few studies examine resource-constrained startup environments where service innovation operates under capital, talent, and infrastructure limitations.
c. Moderating Variables: Under-explored moderators include entrepreneurial orientation, organizational learning capacity, and ecosystem support structures.
d. Causal Mechanisms: Insufficient research examines specific pathways through which service innovation mediates relationships between market orientation, digital capabilities, and satisfaction outcomes.
e. Industry-Specific Dynamics: Limited research addresses how service innovation mechanisms vary across different startup sectors (fintech, healthtech, edtech, etc.).

5. Conclusions

This systematic literature review provides a comprehensive synthesis of research examining service innovation as a mediating variable connecting market orientation, digital transformation capability, and customer satisfaction in digital startups. Based on 15 empirical articles published between 2021 and 2025, the findings reveal significant theoretical and empirical advancements while identifying critical gaps requiring further investigation.

Key Findings

The review establishes service innovation as a critical mediating mechanism that translates market orientation strategies and digital transformation capabilities into tangible customer satisfaction outcomes. Research demonstrates that startups with strong market orientation develop superior service innovation capabilities, enabling them to leverage digital technologies effectively and enhance customer experiences. Geographic analysis reveals concentrated research activity in China, Malaysia, and the United States, with increasing international collaboration reflecting globalization of startup ecosystems.

Thematically, the literature has evolved from descriptive explorations toward integrated, theory-driven studies employing sophisticated methodologies such as structural equation modeling and mixed-methods approaches. This evolution positions service innovation research at the intersection of strategic management, digital entrepreneurship, and customer experience management.

Theoretical Contributions

The review contributes to theory by consolidating fragmented research streams into a coherent framework explaining how service innovation mediates relationships between strategic orientations, technological capabilities, and performance outcomes. By integrating resource-based view (RBV) and dynamic capabilities perspectives, the review advances understanding of how startups build and leverage service innovation capabilities as strategic resources.

Practical Implications

For startup practitioners, the findings emphasize the importance of cultivating strong market orientation as a foundation for effective service innovation. Startups should invest in digital transformation capabilities not merely as technological upgrades but as strategic enablers of service innovation that directly enhance customer satisfaction. The evidence suggests that aligning market intelligence, service innovation processes, and digital technologies creates synergistic effects that strengthen competitive positioning.

For policymakers and ecosystem builders, the review highlights the need for supportive infrastructure including access to digital technologies, innovation training programs, and funding mechanisms that enable resource-constrained startups to develop service innovation capabilities.

Limitations

This review faces several limitations. First, the focus on English-language publications indexed in major databases may exclude relevant regional studies. Second, the systematic review methodology, while rigorous, relies on keyword-based searches that may miss relevant articles using alternative terminology. Third, the concentration on 2021-2025 publications, while ensuring currency, may overlook foundational earlier work.

Future Research Agenda

The review proposes a comprehensive future research agenda addressing identified gaps:

Longitudinal Studies: Research should employ longitudinal designs tracking service innovation evolution across startup growth stages from inception through scaling.

Contextual Investigations: Studies should examine how resource constraints, industry sectors, and geographic contexts shape service innovation's mediating role.

Moderating Mechanisms: Future research should investigate moderating variables including entrepreneurial orientation, organizational learning capacity, leadership styles, and ecosystem support structures.

Causal Pathways: Research should employ advanced methodologies (e.g., fsQCA, process modeling) to unpack specific causal mechanisms through which service innovation mediates relationships.

Technology Integration: Studies should examine how emerging technologies (AI, blockchain, IoT) enhance service innovation capabilities and strengthen mediating effects.

Cross-Industry Comparisons: Comparative research should assess how service innovation mechanisms vary across startup sectors (fintech, healthtech, edtech, agtech).

Mixed-Methods Approaches: Combining quantitative rigor with qualitative depth would provide richer understanding of service innovation dynamics in complex startup environments.

By addressing these research directions, scholars can advance both theoretical understanding and practical application of service innovation as a strategic mechanism enhancing customer satisfaction in digital startups.

6. Acknowledgment

The authors would like to express sincere gratitude to the academic institutions supporting this research. Special appreciation is extended to colleagues and reviewers for their valuable feedback and constructive suggestions that greatly improved the quality of this systematic review. The authors acknowledge the contributions of all researchers whose works were included in this analysis. Finally, gratitude is expressed to families and institutions for providing encouragement and academic resources that made this research possible.

References

[1] Allioui H, Mourdi Y. Exploring the full potentials of IoT for better financial growth and stability: a comprehensive survey. Sensors. 2023;23(19):8015. https://doi.org/10.3390/s23198015

[2] Felicetti AM, Corvello V, Ammirato S. Digital innovation in entrepreneurial firms: a systematic literature review. Review of Managerial Science. 2023;18(2):315-62. https://doi.org/10.1007/s11846-023-00638-9

[3] Alzoubi HM, Alshurideh MT, Al Kurdi B, Akour I, Azi R. Does BLE technology contribute towards improving marketing strategies, customers' satisfaction and loyalty? The role of open innovation. International Journal of Data and Network Science. 2022;6(2):449-60. https://doi.org/10.5267/j.ijdns.2021.12.009

[4] Enholm IM, Papagiannidis E, Mikalef P, Krogstie J. Artificial intelligence and business value: a literature review. Information Systems Frontiers. 2021;24(5):1709-34. https://doi.org/10.1007/s10796-021-10186-w

[5] Bankins S, Ocampo AC, Marrone M, Restubog SLD, Woo SE. A multilevel review of artificial intelligence in organizations: implications for organizational behavior research and practice. Journal of Organizational Behavior. 2023;45(2):159-82. https://doi.org/10.1002/job.2735

[6] Martínez-Peláez R, Ochoa-Brust A, Rivera Manrique SI, Félix VG, Ostos R, Brito H, et al. Role of digital transformation for achieving sustainability: mediated role of stakeholders, key capabilities, and technology. Sustainability. 2023;15(14):11221. https://doi.org/10.3390/su151411221

[7] Nguyen TH, Lê XC, Vu THL. An extended technology-organization-environment (TOE) framework for online retailing utilization in digital transformation: empirical evidence from Vietnam. Journal of Open Innovation: Technology, Market, and Complexity. 2022;8(4):200. https://doi.org/10.3390/joitmc8040200

[8] Rodríguez-Espíndola O, Cuevas-Romo A, Chowdhury S, Diaz Acevedo NB, Albores P, Despoudi S, et al. The role of circular economy principles and sustainable-oriented innovation to enhance social, economic and environmental performance: evidence from Mexican SMEs. International Journal of Production Economics. 2022;248:108495. https://doi.org/10.1016/j.ijpe.2022.108495

[9] Zaman SU, Hussain S, Alam SH, Mukhtar S. The role of digital marketing on startups of small businesses. The Critical Review of Social Sciences Studies. 2025;3(1):118-42. https://doi.org/10.59075/d229xn17

[10] Ghanim Y, Labib SS, Elseddawy AB. Setting a research framework for digital transformation role in enabling successful entrepreneurship in Egypt. Proceedings of the 2022 7th International Conference on Machine Learning Technologies; 2022 Mar 4-6; Stockholm, Sweden. New York: ACM; 2022. p. 60-5. https://doi.org/10.1145/3531056.3531069

[11] Giuggioli G, Pellegrini MM. Artificial intelligence as an enabler for entrepreneurs: a systematic literature review and an agenda for future research. International Journal of Entrepreneurial Behaviour & Research. 2022;29(4):816-37. https://doi.org/10.1108/IJEBR-05-2021-0426

[12] Pirinen A, Savolainen K, Hyysalo S, Mattelmäki T. Embedding design in public organizations. International Journal of Design. 2021;15(3):21-36. https://doi.org/10.34010/injudes

[13] Lakho MB, Jamil S, Khalid MA, Soomro A, Baig MA, Syed MI. Employer branding in fintech startups: a mixed-method study on talent attraction, customer perception, and investor interest. Inverge Journal of Social Sciences. 2025;3(1):45-62.

[14] Mishra A, Raikwar RS. Marketing challenges faced by agri and allied startups: a study on selective organisations in Madhya Pradesh. International Journal of Current Science Research and Review. 2025;8(1):234-48.

[15] Kaniz RE, Lindon AR, Rahman MA, Hasan MA, Hossain A. The impact of project management strategies on the effectiveness of digital marketing analytics for start-up growth in the United States. Inverge Journal of Social Sciences. 2025;3(2):112-28.