



Co-Creating Intelligent Value Propositions: A Service-Ecosystem Perspective on AI-Enabled Business Models

Ahmad Zaelani Adnan^{1*}

*Corresponding Mail:

ahmadzaelaniadnan@akamigasbalongan.ac.id

Abstrak

Artificial intelligence is increasingly recognized as a transformative force in digital service environments, yet existing research provides limited theoretical explanation of how AI reshapes value creation and business model innovation across interconnected actors. Much of the current literature focuses on technological capabilities or firm-level strategic redesign, leaving the mechanisms through which AI influences value co-creation within service ecosystems insufficiently articulated. This article addresses this gap by developing a mechanism-based conceptual framework that integrates insights from artificial intelligence research, service-dominant logic, and business model innovation literature. Through a structured synthesis of these research streams, the study conceptualizes AI capabilities as operant resources that activate three interrelated mechanisms: AI-enabled resource integration, intelligent value proposition personalization, and ecosystem-level value co-creation. These mechanisms collectively explain how intelligent technologies restructure actor interactions and enable the emergence of AI-driven business model innovation and adaptive value propositions. By shifting attention from technological adoption to value co-creation processes within digital ecosystems, the framework advances theoretical understanding of AI-enabled innovation. The model also provides a foundation for future empirical research examining how AI capabilities shape resource integration, personalization, and collaborative innovation across diverse service ecosystem contexts.

Article History:

Submitted: 29-08-2025

Approved: 08-01-2026

Published: 09-03-2026



Available at the open access
journal:

<https://scedex.com/innogest>

Innogest: Journal of Innovation,
Strategy, and Organizational Studies
licensed under a Creative Commons
Attribution-NonCommercial 4.0
International (CC BY-NC 4.0).



Keywords

artificial intelligence; business model innovation; service ecosystems; value co-creation; intelligent value propositions; service-dominant logic

¹ Balongan Petroleum Institute of Technology, Indramayu, Indonesia

1. Introduction

The rapid diffusion of artificial intelligence (AI) is reshaping how organizations create, deliver, and capture value in the digital economy. Advances in machine learning, predictive analytics, and generative AI enable firms to automate decision processes, personalize customer interactions, and coordinate complex digital ecosystems. AI therefore functions not only as an operational technology but as a transformative force that reconfigures business model architectures and value creation systems. Across industries including financial services, retail, healthcare, and digital platforms, organizations deploy AI to develop data driven value propositions, adaptive services, and intelligent customer experiences (Brynjolfsson & McAfee, 2017; Davenport *et al.*, 2020; Dwivedi *et al.*, 2023). These developments have intensified scholarly interest in how AI reshapes strategic innovation and organizational value creation.

Existing research approaches this phenomenon through several theoretical traditions. Business model innovation research explains how firms redesign value propositions, value creation architectures, and revenue mechanisms in response to technological change (Teece, 2010; Foss & Saebi, 2017; Wirtz *et al.*, 2021). Service-dominant logic proposes that value emerges through resource integration among multiple actors within service ecosystems rather than through firm production alone (Vargo & Lusch, 2004, 2016). Research on AI in organizations examines how algorithmic systems augment decision making, enable predictive capabilities, and transform service processes (Davenport *et al.*, 2020; Huang & Rust, 2021). Together these perspectives show that digital technologies increasingly shape organizational innovation and value creation mechanisms.

Recent empirical studies demonstrate the expanding role of AI in transforming business models and digital service systems. AI driven analytics enable highly personalized offerings, dynamic pricing, and predictive service solutions (Verhoef *et al.*, 2021; Huang & Rust, 2021). Digital transformation research also shows that AI increasingly functions as a core infrastructure supporting adaptive and data driven business models (Verhoef *et al.*, 2021; Dwivedi *et al.*, 2023). Studies of digital innovation ecosystems further reveal how AI facilitates interactions among firms, customers, and platform partners, enabling collaborative value creation across organizational boundaries (Nambisan *et al.*, 2017; Ransbotham *et al.*, 2021). These developments indicate that AI is increasingly embedded within the mechanisms through which value is created and distributed in digital markets.

Despite these advances, the literature remains conceptually fragmented in explaining how AI reshapes value creation and business model innovation. Much research emphasizes technological adoption, digital transformation, or operational efficiency rather than the mechanisms through which AI reconfigures value co-creation. Studies on AI and analytics focus on algorithmic capabilities and decision automation (Davenport *et al.*, 2020; Ransbotham *et al.*, 2021). Business model innovation research often concentrates on firm level strategic redesign without incorporating AI enabled value creation mechanisms (Foss & Saebi, 2017; Wirtz *et al.*, 2021). Service ecosystem research highlights resource integration among actors but rarely treats AI as an operant resource shaping these interactions (Vargo & Lusch, 2016; Lusch & Nambisan, 2015). Consequently, the mechanisms linking AI capabilities, value co-creation, and business model innovation remain insufficiently theorized.

This fragmentation exposes a deeper theoretical gap. Existing studies acknowledge that AI enables new forms of digital service innovation but provide limited explanation of how AI transforms value co-creation processes within service ecosystems. Prior research rarely integrates insights from AI research, service-dominant logic, and business model innovation to explain how intelligent technologies support the joint development of adaptive and data driven value propositions. The literature therefore lacks a coherent theoretical framework explaining how AI capabilities reshape resource integration, actor interaction, and value creation mechanisms across service ecosystems.

The absence of such a framework has important theoretical consequences. Without a mechanism based explanation of AI enabled value co-creation, business model innovation research risks remaining firm centric and technologically deterministic. This limitation obscures the distributed nature of value creation in digital service systems and restricts theoretical development in innovation and strategy research. It also overlooks the role of intelligent technologies as operant resources shaping interactions among ecosystem actors (Lusch & Nambisan, 2015; Huang & Rust, 2021). Addressing this gap is therefore essential for advancing understanding of how AI transforms value creation architectures in the digital economy.

This study develops a conceptual framework explaining how AI enables the co-creation of intelligent value propositions within service ecosystems and how these mechanisms reshape business model innovation. Drawing on service-dominant logic and business model innovation literature, the framework conceptualizes AI as an operant resource that enables new forms of resource integration, actor interaction, and adaptive value creation. The framework identifies three mechanisms: AI enabled resource integration, intelligent value proposition personalization, and ecosystem level value co-creation. These mechanisms explain how AI capabilities support the development of intelligent and adaptive business models.

This perspective contributes to several research streams. First, it integrates previously disconnected literature on AI in organizations, service ecosystems, and business model innovation into a unified conceptual framework explaining AI enabled value co-creation. Second, it extends service-dominant logic by conceptualizing AI as an operant resource shaping resource integration and actor interactions within service ecosystems (Vargo & Lusch, 2016). Third, it contributes to business model innovation research by clarifying how AI capabilities enable intelligent value propositions and adaptive business models in digital markets (Foss & Saebi, 2017; Wirtz *et al.*, 2021).

This study therefore develops a mechanism based explanation of how AI capabilities reshape value co-creation processes and enable the emergence of AI driven business models in service ecosystems. Integrating insights from AI research, service-dominant logic, and business model innovation provides a theoretically grounded explanation of intelligent value proposition development in the digital economy. The following discussion reviews the fragmented theoretical landscape of AI research, service ecosystems, and business model innovation, identifies key conceptual tensions, and develops an integrative mechanism based framework with a set of research propositions.

2. 2. Fragmented Theoretical Landscape

Understanding how artificial intelligence reshapes value creation requires integrating insights from business model innovation, AI in service systems, and service ecosystem theory. Business model innovation research explains how firms redesign value architectures, AI studies examine how intelligent technologies transform decision processes and service delivery, and service ecosystem theory emphasizes distributed value creation through resource integration among multiple actors. Despite these contributions, the literature remains fragmented, often treating AI separately as a technological capability, decision-support infrastructure, or driver of digital transformation (Bahoo *et al.*, 2023; Enholm *et al.*, 2022; Jorzik *et al.*, 2024). Meanwhile, digital innovation research highlights that value creation increasingly depends on platform architectures, complementor participation, and ecosystem governance rather than isolated firm resources (Nambisan *et al.*, 2017; Hein *et al.*, 2020; Jacobides *et al.*, 2018). These developments suggest that AI-enabled business model transformation should be understood as a systemic reorganization of value creation across actors rather than a simple technological upgrade.

The article begins by diagnosing a fragmented theoretical conversation in which artificial intelligence, business model innovation, and service ecosystem theory each explain only part

of the phenomenon. A visual synthesis is therefore necessary to clarify why the paper's contribution is not another isolated perspective, but an integrative mechanism-based repositioning of the debate.

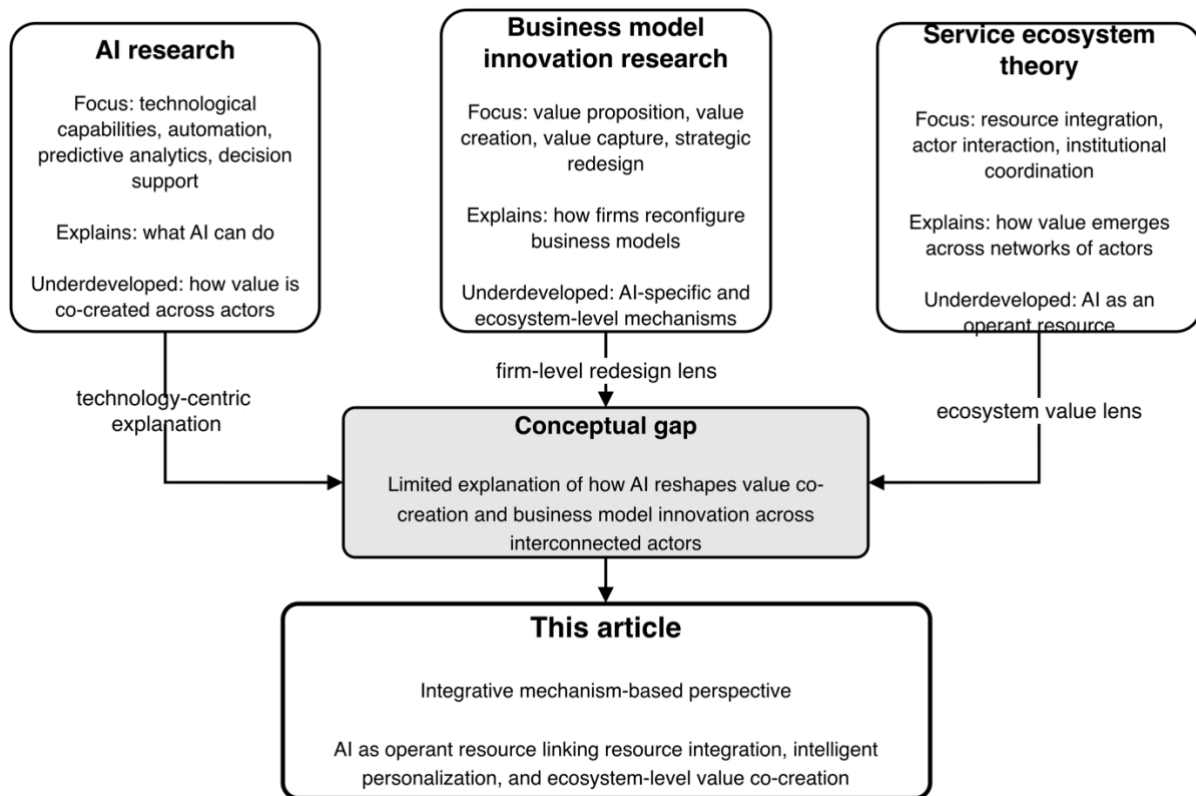


Figure 1. Fragmented Theoretical Landscape and Integrative Positioning of AI-Enabled Value Co-Creation
Source: Developed by the author

As organized in Figure 1, the manuscript's point of departure is not merely that three literatures exist, but that each leaves a specific explanatory residue unresolved. Figure 1 clarifies how the article moves from this fragmentation toward an integrative mechanism-based account in which AI is theorized as an operant resource connecting technological capability, value co-creation, and business model innovation.

2.1 AI and Business Model Innovation

Business model innovation research explains how firms redesign the logic of value creation, delivery, and capture in response to technological change and evolving market conditions. Early work conceptualizes business models as architectures linking organizational resources, activities, and revenue mechanisms that enable firms to create and appropriate value (Teece, 2010). Subsequent research examines how firms innovate business models by reconfiguring value propositions, restructuring value creation processes, and developing new revenue mechanisms (Foss & Saebi, 2017). In digital environments, these changes often involve integrating emerging technologies into organizational processes to deliver platform services, data driven offerings, and novel customer experiences (Wirtz *et al.*, 2021).

Recent studies extend this perspective by emphasizing the role of digital technologies in enabling business model experimentation and transformation. Digital infrastructures and analytics capabilities support scalable service architectures, personalized offerings, and adaptive pricing mechanisms (Verhoef *et al.*, 2021). Business model innovation therefore increasingly appears as a dynamic process in which firms continuously adjust value propositions and revenue mechanisms in response to technological opportunities and ecosystem interactions (Foss & Saebi, 2017; Wirtz *et al.*, 2021). This perspective highlights

how digital technologies influence the design and evolution of business models in competitive markets.

More recent research further indicates that business model innovation in digital contexts is closely tied to ecosystem emergence, entrepreneurial experimentation, and control over key coordination points. Studies on digital entrepreneurship and platform ecosystems show that new business models are often built through modular infrastructures, complementor orchestration, and evolving governance mechanisms rather than through internal redesign alone (Kraus *et al.*, 2019; Hein *et al.*, 2020; Wormald *et al.*, 2023). Related work also suggests that digital business model evolution frequently spans multiple interconnected ecosystems, allowing firms to combine resources, interfaces, and complementarities from different domains when constructing novel value architectures and capture mechanisms (Palmié *et al.*, 2022; Bohnsack *et al.*, 2024).

Despite these advances, BMI research only recently began to address the implications of artificial intelligence. Much of the literature refers broadly to digitalization or analytics capabilities without examining the distinct properties of AI technologies. This limitation restricts theoretical understanding of how AI capabilities reshape mechanisms of value proposition development and co-creation with ecosystem actors. The role of AI in enabling distributed value creation across organizational and ecosystem boundaries therefore remains insufficiently theorized, indicating the need for stronger integration between AI research and business model innovation scholarship.

2.2 Artificial Intelligence in Service Systems

A second body of research examines the role of artificial intelligence in service systems and organizational processes. This literature primarily investigates how AI automates tasks, augments human decision making, and enables new forms of digital service delivery. Davenport *et al.* (2020) show that AI applications including predictive analytics, machine learning, and natural language processing improve decision accuracy, operational efficiency, and customer interaction processes. Huang and Rust (2021) conceptualize AI as a transformative force in service systems that enables automation of routine tasks, augmentation of human capabilities, and development of autonomous service agents.

Recent research further demonstrates how AI reshapes service interactions and customer experiences. Recommendation systems, conversational agents, and predictive analytics enable firms to deliver personalized services and adaptive engagement strategies (Huang & Rust, 2021; Dwivedi *et al.*, 2023). These technologies increasingly operate as core components of digital service systems, allowing organizations to analyze customer data, anticipate demand, and adjust service offerings in real time. AI therefore functions as a central driver of digital service innovation across industries.

Parallel developments in marketing and service research suggest that AI reshapes not only operational efficiency but also the nature of market sensing, customer interaction, and strategic decision support. Research on AI in marketing highlights the opportunities and risks of algorithmic personalization, prediction, and automated decision making, especially when organizations fail to align AI outputs with customer expectations and managerial judgment (De Bruyn *et al.*, 2020; Ma & Sun, 2020; Eriksson *et al.*, 2020; Grewal *et al.*, 2025). Empirical studies likewise show that AI-enabled customer experiences depend on trust, convenience, perceived intelligence, and acceptance of automated interfaces, indicating that service outcomes are shaped by socio-technical design rather than technological sophistication alone (Ameen *et al.*, 2021; Fernandes & Oliveira, 2021; Holmlund *et al.*, 2020).

However, this literature concentrates primarily on technological capabilities and operational applications rather than on implications for business model innovation. Many studies explain how AI improves efficiency, decision quality, or service interfaces but provide limited insight into how these capabilities reshape the architecture of business models. Research rarely examines how AI enabled service systems influence value co-creation among multiple actors in digital ecosystems. Consequently, the literature offers limited theoretical explanation of

how AI driven service technologies contribute to the evolution of business models in service oriented industries.

2.3 Service Ecosystem Theory

Service ecosystem theory provides an important perspective for understanding value creation in digital environments. Rooted in service-dominant logic, this framework conceptualizes markets as networks of actors who integrate resources and exchange service to co-create value (Vargo & Lusch, 2004, 2016). Value therefore emerges through interactions among organizations, customers, and institutional actors rather than through firm production alone. Continuous resource integration and collaboration among these actors enable the emergence of new value propositions and service innovations.

Extending this perspective, Lusch and Nambisan (2015) connect service-dominant logic with digital innovation by emphasizing the role of digital technologies in facilitating resource integration and actor collaboration. Digital platforms, data infrastructures, and connectivity technologies enable organizations to coordinate complex interactions among ecosystem participants. These technologies support distributed innovation processes in which multiple actors jointly develop and refine value propositions. Service ecosystems therefore offer a useful lens for explaining how value creation unfolds across networks of heterogeneous actors in digitally connected markets.

Despite its analytical strength, service ecosystem theory only partially addresses the implications of intelligent technologies such as AI. Existing studies focus primarily on institutional arrangements, actor networks, and resource integration processes without examining how AI influences these dynamics. The role of AI as an operant resource shaping interactions, decision processes, and value creation mechanisms within service ecosystems remains underdeveloped. Integrating insights from AI research with service ecosystem theory is therefore necessary to explain how intelligent technologies reshape value co-creation and business model innovation in digital markets.

This ecosystem view also aligns with work on customer engagement and co-production in digitally mediated service settings. Service-dominant logic-informed research shows that customers increasingly act as engagement actors, co-producers, and resource integrators whose interactions help shape value outcomes across touchpoints and relationships (Hollebeek *et al.*, 2019; Pansari & Kumar, 2017; Dellaert, 2019). As customer journeys become more distributed and partially automated, orchestration across touchpoints becomes more consequential for value creation, making adaptive coordination, interaction design, and collaborative learning central to ecosystem performance (Kranzbühler *et al.*, 2019; Huang & Rust, 2022).

3. Conceptual Tensions and Theoretical Gaps

Prior research highlights the growing role of artificial intelligence in service innovation and business model transformation but reveals persistent conceptual tensions in explaining AI-enabled value creation. Differences in analytical focus and levels of analysis across AI research, business model innovation, and service ecosystem theory limit integration of these perspectives. Recent reviews show that the literature documents AI adoption and technological potential more than the mechanisms through which AI-generated intelligence becomes business, customer, and ecosystem value (Enholm *et al.*, 2022; Bahoo *et al.*, 2023; Jorzik *et al.*, 2024). A mechanism-based explanation is therefore necessary because similar AI capabilities may produce different outcomes depending on data quality, governance arrangements, and actor relationships.

3.1 Technology-Centric Explanations versus Value Creation Mechanisms

The first tension concerns the technology centric orientation of much AI research. Many studies examine the technical capabilities of AI systems such as automation, predictive

analytics, and machine learning applications in organizational contexts (Davenport *et al.*, 2020; Dwivedi *et al.*, 2023). Research on AI enabled services similarly emphasizes operational efficiency, decision support, and personalized customer interactions (Huang & Rust, 2021). These contributions clarify technological functionality but rarely explain how value emerges through interactions among actors.

This emphasis limits theoretical explanation of how AI contributes to value creation. Service-dominant logic conceptualizes value as emerging through resource integration among interacting actors rather than through technological artifacts alone (Vargo & Lusch, 2016). Yet AI research rarely examines how algorithmic capabilities influence resource integration, actor interaction, and value co-creation within service ecosystems. AI is therefore widely recognized as a driver of digital innovation, while the mechanisms linking AI capabilities to value creation remain weakly theorized.

A related limitation is that technology-centric explanations often privilege the functional capacities of AI while under-specifying the relational conditions under which those capacities generate value. Research on AI-enabled customer experience and service encounters shows that trust, acceptance, perceived control, and encounter design mediate the effects of intelligent technologies on organizational and customer outcomes (Ameen *et al.*, 2021; Robinson *et al.*, 2020; Fernandes & Oliveira, 2021; Mariani & Borghi, 2024). Value creation therefore cannot be attributed to algorithmic capabilities alone, because it emerges through socio-technical interaction among firms, customers, and service interfaces.

3.2 Firm-Level Perspectives versus Ecosystem-Level Value Creation

A second tension concerns the level of analysis used in business model innovation research. This literature traditionally explains how firms redesign value propositions, value creation activities, and revenue mechanisms in response to environmental change (Teece, 2010; Foss & Saebi, 2017). The firm centric perspective provides important insights into strategic adaptation and organizational transformation but assumes that firms constitute the primary locus of value creation.

Service ecosystem theory offers a different view. Value creation is distributed across networks of interacting actors including firms, customers, platform providers, and institutional actors (Lusch & Nambisan, 2015; Vargo & Lusch, 2016). Innovation emerges from collaborative resource integration rather than from isolated organizational actions. The expansion of digital platforms and AI enabled services reinforces this ecosystem logic because intelligent technologies increasingly mediate interactions among multiple actors within digital networks (Nambisan *et al.*, 2017). Despite this shift, business model innovation research continues to emphasize firm level redesign and pays limited attention to ecosystem level dynamics of AI enabled value creation.

The firm-level bias is also increasingly difficult to sustain in digital environments characterized by platform modularity, distributed control, and interdependent complementarities. Ecosystem research demonstrates that value creation and value capture are shaped by complementor autonomy, orchestration choices, governance structures, and control points that extend beyond the focal firm (Jacobides *et al.*, 2018; Hein *et al.*, 2020; Mukhopadhyay & Bouwman, 2019; Wormald *et al.*, 2023; Bohnsack *et al.*, 2024). A purely firm-centric perspective therefore cannot fully explain how AI-enabled business models scale, stabilize, and capture value in multi-actor service systems.

3.3 Lack of Mechanism-Based Explanations of AI-Enabled Value Co-Creation

A third and more fundamental gap concerns the absence of mechanism based explanations connecting AI capabilities with value co-creation and business model innovation. Existing research shows that AI enables digital services, personalization, and data driven decision making (Huang & Rust, 2021; Verhoef *et al.*, 2021). However, it rarely explains how these capabilities translate into mechanisms that enable actors to jointly create value within service ecosystems.

This limitation constrains theoretical development linking AI capabilities with the evolution of business models in digital ecosystems. Without specifying how AI supports resource integration, coordinates actor interactions, and enables value co-creation, current explanations remain incomplete. Addressing this gap requires moving beyond descriptive accounts of AI adoption toward a mechanism based perspective that explains how AI reshapes value creation processes across service ecosystems. Such an approach enables a more integrative explanation of AI driven business model innovation and advances theory at the intersection of digital innovation, service ecosystems, and strategic management.

The literature also lacks sufficiently granular explanations of how AI activates resource integration and collaborative learning across actors over time. Recent review studies on AI-driven business model innovation and innovation ecosystems repeatedly note the absence of integrative theorization connecting AI capabilities with orchestration, complementarities, engagement, and institutionalized coordination (Jorzik *et al.*, 2024; Secundo *et al.*, 2025; Khizar *et al.*, 2025). This gap indicates that future theorizing must specify not only what AI can do, but also how intelligent infrastructures, ecosystem actors, and governance arrangements jointly transform value co-creation and innovation.

4. Toward an Integrative Mechanism-Based Framework

The literature reveals a key limitation. Research on artificial intelligence, business model innovation, and service ecosystems has expanded rapidly but remains weakly integrated, offering limited explanation of how AI reshapes value co-creation across actors in digital service environments. A mechanism-based perspective is therefore required to explain how AI capabilities influence resource integration, actor interaction, and innovation within service ecosystems. Drawing on service-dominant logic and digital business model research, AI is conceptualized as an operant resource enabling new forms of value co-creation and business model innovation (Lusch & Nambisan, 2015; Vargo & Lusch, 2016). The framework identifies three mechanisms—AI-enabled resource integration, intelligent value proposition personalization, and ecosystem-level value co-creation—that together explain the emergence of intelligent business models.

4.1 Foundational Assumptions

The framework builds on core assumptions of service-dominant logic, which conceptualizes value creation as relational and systemic rather than unilateral. First, value emerges through interactions among multiple actors rather than through firm production alone. Value is realized in use through collaborative processes involving firms, customers, and other ecosystem participants (Vargo & Lusch, 2016). Second, actors integrate heterogeneous resources including knowledge, data, technologies, and organizational capabilities to create service. These resources are dynamic elements continuously recombined through interaction and learning processes (Lusch & Nambisan, 2015). Third, value creation and innovation occur within service ecosystems consisting of interconnected actors operating under shared institutional arrangements. These ecosystems structure how actors coordinate activities and develop new value propositions.

These assumptions are particularly relevant in AI-enabled service environments. Artificial intelligence expands the ability of organizations and ecosystem actors to collect, process, and interpret large volumes of data, strengthening their capacity to integrate resources and coordinate interactions. AI therefore functions not only as an operational technology but also as an operant resource shaping how actors interact and how value is created within service ecosystems (Huang & Rust, 2021). AI-enabled business models can thus be understood as configurations of actors, technologies, and resources that collectively support intelligent value creation. Building on this perspective, the framework identifies three mechanisms through which AI capabilities reshape value co-creation processes.

By positioning AI as an operant resource, the article moves beyond a tool-based understanding of intelligent technologies and treats AI as a coordinating capability embedded within relational value creation. A separate figure is analytically useful at this point because the foundational assumptions become clearer when the ecosystem architecture, actor positions, and mediating role of AI are rendered as an integrated system rather than left in prose alone.

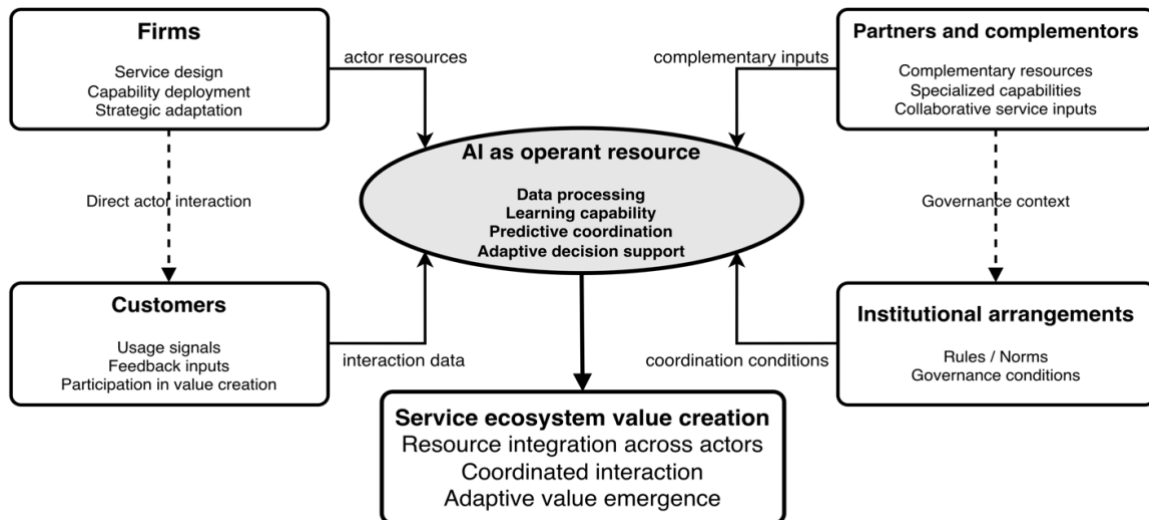


Figure 2. AI as an Operant Resource in Service Ecosystem Value Creation
Source: Developed by the authors

As illustrated in Figure 2, the manuscript’s foundational claim is that AI should be understood as a capability that actively mediates how firms, customers, partners, and institutional conditions become connected within a service ecosystem. Figure 2 strengthens the theoretical architecture of the paper by showing that value creation does not arise from AI in isolation, but from AI-enabled coordination of heterogeneous actor resources, interactions, and governance conditions across the ecosystem.

4.2 Mechanism 1: AI-Enabled Resource Integration

The first mechanism is AI-enabled resource integration. Value within service ecosystems emerges when actors combine dispersed and heterogeneous resources. Artificial intelligence strengthens this process by integrating customer data, organizational capabilities, and ecosystem resources into a unified knowledge infrastructure. AI systems process large-scale datasets generated through customer interactions, operational processes, and external environments, enabling organizations to identify patterns, generate predictions, and support decision making (Davenport *et al.*, 2020). These capabilities expand the ability of firms to recombine resources and align internal capabilities with signals from customers and ecosystem partners.

AI-enabled resource integration often appears through recommendation systems, predictive analytics, and adaptive service platforms. Such technologies allow organizations to interpret user behavior continuously and adjust service offerings accordingly. Recommendation engines combine customer preferences, historical consumption patterns, and contextual data to produce personalized service options, while predictive analytics tools anticipate demand and optimize service delivery processes (Huang & Rust, 2021). These capabilities create dynamic processes of resource recombination that support ongoing adaptation within service ecosystems.

This mechanism shifts theoretical attention from static firm resources to dynamic resource integration mediated by intelligent technologies. Traditional business model research often treats resources as assets controlled by firms. AI-enabled service systems instead rely on distributed information flows and collaborative resource mobilization. AI-enabled resource

integration therefore constitutes a foundational mechanism through which firms and ecosystem actors develop intelligent and adaptive business models.

4.3 Mechanism 2: Intelligent Value Proposition Personalization

The second mechanism is intelligent value proposition personalization, which builds on the resource integration capabilities enabled by AI. Conventional business models typically design value propositions as standardized offerings directed toward predefined customer segments. Artificial intelligence enables organizations to move beyond static segmentation toward dynamic and individualized value creation. Continuous analysis of behavioral data, contextual signals, and interaction histories allows firms to design value propositions that adapt to evolving user preferences (Verhoef *et al.*, 2021).

This capability transforms the nature of value propositions in digital service environments. Value propositions become adaptive configurations that evolve through interaction between intelligent systems and users rather than predefined offerings developed solely by firms. AI-driven personalization technologies dynamically adjust service features, content recommendations, and pricing strategies in response to user behavior. These capabilities enable predictive, context-aware, and continuously refined service experiences.

Intelligent personalization also strengthens value co-creation by encouraging deeper customer participation in service interactions. As AI systems learn from user feedback and behavioral patterns, customers become active contributors to the development and refinement of service offerings. Firms and customers therefore engage in iterative learning cycles that continuously reshape value propositions. Business models emerging from these processes combine technological sophistication with adaptive and interactive value creation.

4.4 Mechanism 3: Ecosystem-Level Value Co-Creation

The third mechanism is ecosystem-level value co-creation, extending the influence of AI beyond dyadic firm-customer relationships to broader networks of actors within service ecosystems. Service-dominant logic explains that innovation emerges through interactions among multiple actors who integrate resources and collaborate in value creation processes (Vargo & Lusch, 2016). Artificial intelligence amplifies these dynamics by enabling real-time data exchange, algorithmic coordination, and distributed decision making across organizational boundaries.

AI-enabled platforms and digital infrastructures allow firms, customers, and ecosystem partners to collaborate in service development and delivery. AI-driven analytics facilitate partner matching, optimize resource allocation, and coordinate service provision across networks of actors. These capabilities reduce information asymmetries and strengthen the capacity of ecosystem participants to jointly develop innovative solutions (Lusch & Nambisan, 2015). AI therefore functions as a coordinating mechanism structuring interactions within digital service ecosystems.

Through this mechanism, business model innovation becomes distributed and collaborative rather than confined to a single organization. Firms innovate not only through internal redesign but also through ecosystem-level processes in which multiple actors contribute complementary resources and capabilities. Intelligent technologies mediate interactions, facilitate collaboration, and support value co-creation across complex networks.

Taken together, the three mechanisms—AI-enabled resource integration, intelligent value proposition personalization, and ecosystem-level value co-creation—constitute the foundation of the proposed integrative framework. AI capabilities enable actors to integrate resources, design adaptive value propositions, and coordinate innovation across service ecosystems. These mechanisms explain how AI reshapes value co-creation processes and supports the emergence of intelligent business models in the digital economy.

5. Integrative Conceptual Model

Building on the three mechanisms developed earlier, this study proposes an integrative conceptual model explaining how artificial intelligence reshapes value creation and enables business model innovation within service ecosystems. Integrating insights from business model innovation, service-dominant logic, and AI-enabled service systems, the model adopts a mechanism-based perspective in which AI capabilities activate three interrelated processes: AI-enabled resource integration, intelligent value proposition personalization, and ecosystem-level value co-creation. These mechanisms collectively lead to AI-enabled business model innovation and the emergence of intelligent value propositions.

The framework articulated in the article's central model clarifies how artificial intelligence is not treated as an isolated technological input, but as a generative capability that activates a sequence of value-creating mechanisms. A dedicated conceptual figure is necessary here because the paper's contribution depends on showing the ordered relationship between resource integration, personalization, ecosystem co-creation, and business model innovation within one coherent analytical architecture.

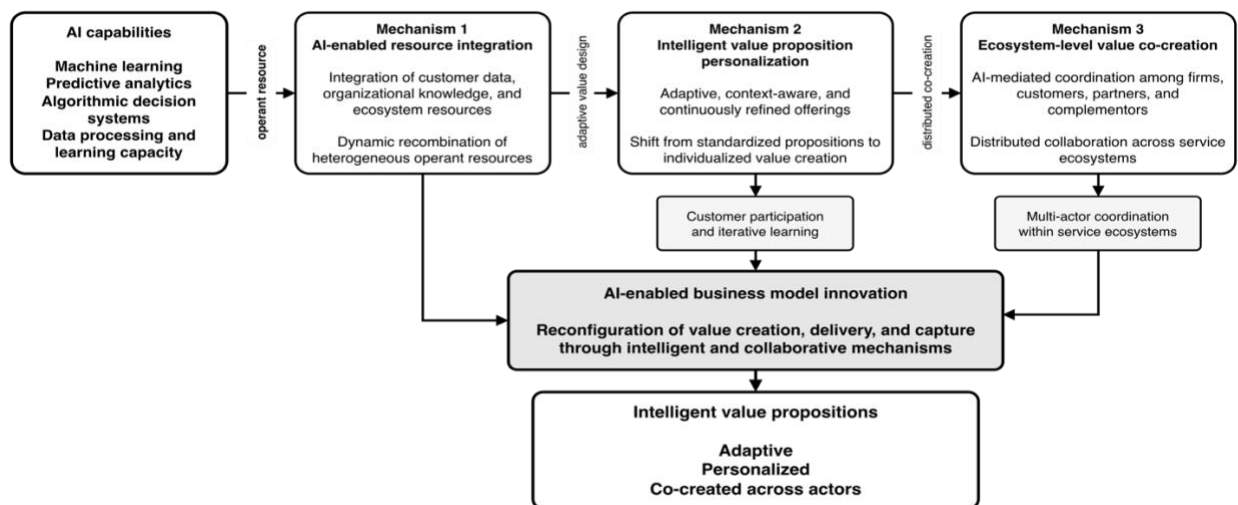


Figure 3. Integrative Mechanism-Based Framework of AI-Enabled Value Co-Creation and Business Model Innovation
Source: Author's conceptualization

As shown in Figure 3, the article's argument unfolds through a linked sequence in which AI capabilities first strengthen resource integration, then enable intelligent personalization, and subsequently expand value co-creation across the wider service ecosystem. Figure 3 supports the manuscript's central theoretical contribution by making explicit how these mechanisms jointly generate AI-enabled business model innovation and culminate in the emergence of intelligent value propositions.

At the core of the framework are AI capabilities, defined as the organizational ability to deploy technologies such as machine learning, predictive analytics, and algorithmic decision systems to process data, generate insights, and support adaptive decision making. These capabilities enhance firms' ability to analyze large volumes of data, improve predictive accuracy, and automate complex service processes (Davenport *et al.*, 2020; Huang & Rust, 2021). Continuous learning from customer interactions and operational environments creates the informational infrastructure required for dynamic value creation. Theoretically, AI capabilities function as operant resources that strengthen actors' capacity to integrate and mobilize knowledge within service ecosystems (Vargo & Lusch, 2016).

The conceptual framework introduced in the integrative model contains several constructs originating from different theoretical traditions. Presenting these constructs in a structured table helps clarify their analytical roles, avoids conceptual ambiguity, and ensures terminological consistency across the framework. Table 1 therefore consolidates the key constructs used in the model and specifies how each contributes to the mechanism-based explanation of AI-enabled value co-creation and business model innovation.

Table 1. Key Constructs in the AI-Enabled Value Co-Creation Framework

Construct	Conceptual Definition	Theoretical Role in the Framework
AI capabilities	Organizational ability to deploy technologies such as machine learning, predictive analytics, and algorithmic decision systems to process data, generate insights, and support adaptive decision making.	Foundational operant resource that enhances actors' capacity to process information, learn from interactions, and mobilize knowledge across service ecosystems.
AI-enabled resource integration	The use of AI systems to combine heterogeneous resources—including customer data, organizational knowledge, and ecosystem information—into a unified analytical infrastructure.	First mechanism linking AI capabilities to value creation by enabling dynamic recombination of dispersed resources across organizational and ecosystem boundaries.
Intelligent value proposition personalization	The capability to design adaptive and individualized service offerings through continuous analysis of behavioral, contextual, and interaction data.	Second mechanism translating integrated knowledge into adaptive value propositions that evolve through ongoing interaction between firms and users.
Customer participation in value co-creation	Active involvement of customers in service interactions and feedback processes that shape the development and refinement of value propositions.	Mediating process through which personalized services generate iterative learning and collaborative value creation between organizations and users.
Ecosystem-level value co-creation	Collaborative integration of resources among firms, customers, partners, and complementors within interconnected service ecosystems.	Third mechanism extending value creation beyond dyadic interactions and enabling distributed innovation across multiple ecosystem actors.
AI-enabled business model innovation	Reconfiguration of value propositions, value creation processes, and value capture mechanisms enabled by AI-mediated coordination and resource integration.	Strategic outcome of the mechanisms through which organizations redesign business models within digitally connected service ecosystems.
Intelligent value propositions	Adaptive, personalized, and co-created service offerings generated through continuous learning and ecosystem collaboration.	Final outcome of the framework representing AI-driven forms of value creation in digital service ecosystems.

Source: Developed by the authors

Table 1 clarifies the conceptual architecture underlying the proposed framework by specifying how each construct contributes to the mechanism-based explanation of AI-enabled value creation. By consolidating definitions and theoretical roles in one structured overview, Table 1 supports interpretive clarity and ensures that the constructs used in the model remain analytically distinct while collectively explaining the emergence of intelligent value propositions within service ecosystems.

The first mechanism is AI-enabled resource integration. Value creation within service ecosystems depends on how actors mobilize heterogeneous resources such as data, knowledge, technologies, and organizational capabilities. Artificial intelligence strengthens this process by connecting previously fragmented resources across organizational and ecosystem boundaries. AI systems integrate customer data, operational insights, and partner-generated information to create comprehensive understanding of market needs and service performance (Davenport *et al.*, 2020). This integration enables firms to align internal capabilities with signals from customers and ecosystem actors, supporting adaptive responses to dynamic market conditions.

The second mechanism is intelligent value proposition personalization. Once organizations integrate resources effectively, AI technologies translate these insights into adaptive and personalized service offerings. Traditional value propositions are typically designed as stable

bundles targeted at predefined segments. AI-driven analytics and machine learning algorithms instead allow firms to refine offerings continuously using real-time behavioral and contextual data (Verhoef *et al.*, 2021). Firms can anticipate customer needs, deliver predictive services, and tailor experiences to individual preferences. Value propositions therefore evolve through ongoing interaction between intelligent systems and users rather than remaining static firm-designed offerings.

The third mechanism is ecosystem-level value co-creation, which extends the influence of AI beyond dyadic firm–customer relationships to broader service ecosystems. Service-dominant logic conceptualizes value creation as collaborative resource integration among multiple actors within institutionalized networks (Vargo & Lusch, 2016). AI technologies reinforce these dynamics by enabling data-driven coordination, real-time communication, and distributed decision making across ecosystem participants. AI-enabled platforms and digital infrastructures allow firms, customers, and complementors to collaborate in developing innovative services and solutions (Lusch & Nambisan, 2015). Business model innovation therefore becomes a distributed process in which multiple actors contribute complementary resources to new value propositions.

Together these mechanisms generate AI-enabled business model innovation. Business model innovation refers to the reconfiguration of value propositions, value creation processes, and revenue mechanisms that allow firms to capture new opportunities in changing environments (Foss & Saebi, 2017; Teece, 2010). In AI-enabled service ecosystems, innovation emerges from interactions between intelligent technologies and collaborative value creation processes. Firms leverage AI to integrate resources, personalize services, and coordinate ecosystem interactions, thereby developing new architectures for delivering and capturing value.

The final outcome of the framework is the emergence of intelligent value propositions. These differ from traditional offerings in three ways: they are adaptive through data-driven learning processes, personalized to individual user contexts, and co-created through interactions among multiple ecosystem actors. Intelligent value propositions therefore represent the culmination of AI-enabled resource integration, personalization, and ecosystem collaboration. Through these processes, AI-driven business models generate forms of value that are dynamic, interactive, and embedded within digitally connected ecosystems.

Overall, the integrative conceptual model explains how AI capabilities activate a sequence of mechanisms that transform value creation and enable intelligent business models. Linking AI capabilities with resource integration, personalization, and ecosystem collaboration provides a comprehensive explanation of how intelligent technologies reshape business model innovation within service ecosystems. This mechanism-based perspective integrates insights from AI research, service-dominant logic, and business model innovation literature, addressing the conceptual fragmentation identified earlier.

6. Research Propositions

Building on the integrative model, this study proposes research propositions explaining how AI enables value co-creation and business model innovation in service ecosystems. AI capabilities activate three mechanisms: resource integration, intelligent value proposition personalization, and ecosystem-level value co-creation. These mechanisms collectively enable AI-driven business model innovation. Recent research also suggests that AI increasingly functions as a coordinating agent shaping interactions and resource flows across digital service ecosystems (Huang & Rust, 2021; Verhoef *et al.*, 2021).

6.1 AI Capabilities and Resource Integration

Artificial intelligence capabilities significantly enhance organizational learning and decision-making in data-intensive environments. AI systems process large volumes of structured and unstructured data, detect complex patterns, and generate predictive insights that extend

human cognitive capacity (Davenport *et al.*, 2020; Dwivedi *et al.*, 2023). Within service ecosystems, these capabilities allow firms to integrate heterogeneous resources including customer data, operational knowledge, and partner-generated information into coherent knowledge infrastructures that support value creation.

Resource integration represents a core mechanism within service-dominant logic, which conceptualizes value creation as the application and recombination of operant resources across interacting actors (Vargo & Lusch, 2016). Artificial intelligence strengthens this process through real-time analytics, predictive modeling, and automated decision support systems. These capabilities allow organizations to mobilize dispersed resources more effectively and align internal capabilities with signals from customers and ecosystem partners. Recent research also suggests that AI-driven analytics platforms increasingly function as knowledge integration infrastructures that facilitate collaborative innovation across organizational boundaries (Kohtamäki *et al.*, 2022; Verhoef *et al.*, 2021).

P1: *AI capabilities positively influence the integration of customer, organizational, and ecosystem resources within service ecosystems.*

6.2 Resource Integration and Intelligent Personalization

The effective integration of diverse resources provides the analytical foundation for developing adaptive and personalized value propositions. When organizations combine customer data, operational capabilities, and ecosystem insights, they gain deeper understanding of user preferences, behavioral patterns, and contextual needs. This knowledge enables firms to design offerings that dynamically adapt to evolving customer requirements.

AI-driven analytics and machine learning algorithms transform integrated data into personalized service experiences and predictive offerings (Verhoef *et al.*, 2021). Instead of relying on standardized value propositions targeted at broad segments, organizations increasingly deliver individualized services that evolve through continuous interaction with users. Hyper-personalization therefore represents a key mechanism through which digital firms enhance customer experience and create competitive advantage in service ecosystems (Huang & Rust, 2021; Rust, 2020).

P2: *AI-enabled resource integration increases the adaptability and personalization of value propositions in digital service environments.*

6.3 Intelligent Personalization and Customer Participation

Personalized and adaptive service offerings reshape the role of customers in value creation processes. Traditional business models often treat customers as recipients of firm-designed value propositions. AI-enabled service environments instead encourage customers to participate actively in service interactions and innovation processes.

Continuous feedback loops allow user behavior and interaction data to inform the refinement of service offerings. Customers therefore contribute directly to the development and improvement of value propositions through interactions with intelligent systems that learn from their preferences and behaviors. Research in service ecosystems demonstrates that such interactive learning processes strengthen value co-creation and increase customer engagement (Vargo & Lusch, 2016; Nambisan *et al.*, 2017).

P3: *Intelligent value proposition personalization increases customer participation in value co-creation processes.*

6.4 Customer Participation and Business Model Innovation

Customer participation generates valuable insights that support business model innovation. When customers actively engage with services and provide feedback through digital

interactions, organizations gain access to experiential knowledge that informs the redesign of value propositions and service architectures.

Business model innovation research emphasizes that firms must continuously adapt their value creation and value capture mechanisms to remain competitive in dynamic environments (Foss & Saebi, 2017; Teece, 2010). Customer participation strengthens this adaptive capability by revealing emerging needs, usage patterns, and innovation opportunities. Firms can therefore redesign service delivery mechanisms, experiment with new revenue models, and develop alternative value creation architectures.

P4: *Higher levels of customer participation in value co-creation increase the likelihood of business model innovation in AI-enabled service systems.*

6.5 Ecosystem Interactions and Distributed Value Creation

AI-enabled personalization and data integration also strengthen interactions among actors within service ecosystems. Digital platforms, analytics infrastructures, and algorithmic coordination systems enable firms, partners, and complementors to exchange information and coordinate activities more effectively (Lusch & Nambisan, 2015).

Recent research shows that AI increasingly functions as a coordinating mechanism that structures polyadic interactions among ecosystem participants. Intelligent platforms facilitate partner matching, resource allocation, and collaborative service development across networks of actors (Nambisan *et al.*, 2017; Verhoef *et al.*, 2021). These interactions enable distributed innovation processes in which multiple actors contribute complementary resources and capabilities.

P5: *AI-mediated ecosystem interactions enhance distributed value creation among actors in service ecosystems.*

6.6 Distributed Value Creation and AI-Enabled Business Model Innovation

Distributed value creation across ecosystem actors creates new opportunities for business model innovation. Collaboration with partners, customers, and complementors provides firms with access to diverse knowledge sources, technological capabilities, and market insights.

In digital ecosystems, business model innovation often emerges from the interaction between technological capabilities and collaborative resource integration among actors (Foss & Saebi, 2017). Artificial intelligence strengthens these dynamics by enabling data-driven coordination, predictive analytics, and real-time experimentation across ecosystem networks (Dwivedi *et al.*, 2023). As organizations leverage these capabilities, distributed value creation becomes a key driver of AI-enabled business model innovation.

P6: *Distributed value creation among ecosystem actors increases the likelihood of AI-enabled business model innovation.*

The propositions developed in the framework describe how AI capabilities activate a sequence of mechanisms that reshape value creation and business model innovation in service ecosystems. Table 2 summarizes these propositions and their corresponding mechanisms to clarify the analytical structure of the model.

Table 2. Research Propositions in the AI-Enabled Value Co-Creation Framework

Proposition & Mechanism	Relationship
P1 AI-enabled resource integration	AI capabilities → resource integration
P2 Intelligent personalization	Resource integration → adaptive value propositions
P3 Customer participation	Personalization → customer co-creation
P4 Business model innovation	Customer participation → business model innovation
P5 Ecosystem value co-creation	AI-mediated interaction → distributed value creation
P6 AI-enabled business model innovation	Distributed value creation → business model innovation

Source: Developed by the authors

Table 2 summarizes the logical progression of the research propositions linking AI capabilities with value creation and business model innovation. By presenting the propositions in a condensed structure, Table 2 clarifies the causal sequence through which AI-enabled mechanisms contribute to intelligent value propositions within service ecosystems.

7. Discussion

The framework explains how artificial intelligence reshapes value creation and business model innovation within service ecosystems. AI capabilities activate three mechanisms: AI-enabled resource integration, intelligent value proposition personalization, and ecosystem-level value co-creation, which together enable AI-driven business models and intelligent value propositions. Viewing AI as an operant resource highlights how intelligent technologies restructure interactions among ecosystem actors and support collaborative value creation beyond firm-level redesign (Verhoef *et al.*, 2021; Dwivedi *et al.*, 2023). Recent studies on digital platform ecosystems further show that innovation increasingly emerges from recombining data, interfaces, complements, and governance across interconnected platforms, meaning that intelligent value propositions rarely originate from a single firm but from coordinated ecosystem interactions (Palmié *et al.*, 2022; Jorzik *et al.*, 2024; Wormald *et al.*, 2023).

7.1 Theoretical Contributions

This study integrates three research streams that have largely evolved independently: artificial intelligence research, service ecosystem theory, and business model innovation. Existing studies offer significant insights within each domain but provide limited theoretical integration across them. AI research emphasizes technological capabilities such as predictive analytics and decision augmentation (Davenport *et al.*, 2020; Huang & Rust, 2021). Business model innovation research focuses on redesigning value propositions, value creation architectures, and revenue mechanisms (Foss & Saebi, 2017; Wirtz *et al.*, 2021). Service-dominant logic, by contrast, conceptualizes value creation as emerging from resource integration among actors within service ecosystems (Vargo & Lusch, 2016; Lusch & Nambisan, 2015). Integrating these perspectives through a mechanism-based framework clarifies how AI capabilities shape value creation and innovation across interconnected actors.

The framework also advances business model innovation research by identifying the mechanisms through which AI reshapes value creation architectures. Prior studies recognize digital technologies as drivers of business model transformation but often treat technology as contextual rather than embedded within value creation processes (Foss & Saebi, 2017; Teece, 2010). The proposed model shows that AI influences innovation by restructuring resource integration, enabling personalized value propositions, and coordinating ecosystem interactions. Business model innovation therefore emerges as a systemic process shaped by interactions among technology, organizations, and ecosystem actors (Verhoef *et al.*, 2021; Nambisan *et al.*, 2017).

The study further contributes to service ecosystem theory by conceptualizing AI as an operant resource shaping resource integration and value co-creation. Service-dominant logic identifies operant resources such as knowledge and capabilities as central drivers of value creation (Vargo & Lusch, 2016). However, limited research examines how intelligent technologies function as such resources within service ecosystems. Conceptualizing AI as a capability that enhances data processing, learning, and coordination extends service ecosystem theory to AI-enabled innovation contexts and helps explain emerging forms of collaboration, service personalization, and platform-based value creation (Dwivedi *et al.*, 2023; Huang & Rust, 2021).

These insights also align with service and marketing research showing that AI reshapes frontline interaction design, customer engagement, and strategic personalization. Studies on AI-enabled service encounters and collaborative human–AI interactions indicate that superior outcomes depend on combining machine intelligence with human judgment, adaptive service design, and trust-building interaction practices (Marinova *et al.*, 2017; Robinson *et al.*, 2020; Ameen *et al.*, 2021). Intelligent value propositions therefore emerge through iterative learning among firms, customers, and ecosystem partners.

Together, these contributions address the conceptual fragmentation identified earlier. Integrating AI research, service ecosystem theory, and business model innovation provides a coherent explanation of AI-enabled value co-creation and innovation. The framework positions AI not merely as a technological tool but as a mechanism shaping how actors integrate resources, personalize services, and collaborate within ecosystem-based innovation processes. This perspective advances a mechanism-based understanding of AI-driven business model transformation in digital service environments.

7.2 Future Research

The proposed framework opens several directions for future research. Because the study develops a conceptual model, empirical research is required to test and refine the proposed mechanisms across different organizational and ecosystem contexts. One promising direction involves examining AI-enabled business models in platform firms, where digital infrastructures facilitate large-scale interactions among users, complementors, and service providers. Platform ecosystems offer suitable contexts for analyzing how AI coordinates interactions, personalizes services, and supports distributed innovation processes (Nambisan *et al.*, 2017; Verhoef *et al.*, 2021).

Another relevant context concerns AI-driven startups that build business models around data analytics, machine learning, and algorithmic services. These organizations often treat AI as a core capability rather than a supporting technology, making them valuable settings for studying how AI-enabled resource integration and personalization shape value creation processes. Future studies may also investigate digital service ecosystems such as financial technology platforms, healthcare systems, and smart service infrastructures where multiple actors collaborate to develop AI-enabled services.

Methodologically, the framework supports several empirical approaches. Multi-level modeling can examine how organizational AI capabilities influence value co-creation across ecosystem actors, while network analysis may reveal how AI-mediated interactions reshape collaboration patterns and innovation dynamics in digital ecosystems. Longitudinal research may further explore how AI capabilities and business models co-evolve as organizations accumulate data and refine algorithmic capabilities.

The framework also offers managerial and policy implications. Organizations developing AI-enabled business models must build capabilities for data integration, personalized service design, and ecosystem collaboration. Managers should therefore treat AI not only as a technological investment but as a strategic capability embedded in broader organizational and ecosystem processes that enable collaborative value creation. Policymakers may similarly benefit from understanding how AI reshapes service ecosystems and digital markets, particularly regarding data governance, platform regulation, and innovation policy.

Future research should examine not only the presence of AI capabilities but also how they are orchestrated across digital infrastructures, service encounters, and partner networks. Promising directions include analyzing how ecosystem governance influences AI-enabled experimentation, how complementor participation shapes personalization quality, and how human–AI collaboration affects trust and technology adoption in service systems (Fernandes & Oliveira, 2021; Lu *et al.*, 2020; Mariani & Borghi, 2024; Secundo *et al.*, 2025). Such research would refine the causal pathways through which AI capabilities become sources of value co-creation and business model renewal.

7.3 Boundary Conditions

The proposed framework operates under several boundary conditions that define the contexts in which AI-enabled value creation mechanisms are most likely to emerge. It is particularly applicable to digital platform environments where artificial intelligence plays a central role in coordinating interactions among multiple actors. In such settings, AI-driven analytics and algorithmic decision systems strongly influence resource integration, personalization, and ecosystem collaboration. Industries characterized by limited digital infrastructure or low data availability are therefore less likely to exhibit the same degree of AI-enabled value creation dynamics.

The framework is also most relevant to service-oriented industries where value creation depends heavily on information processing, customer interaction, and collaborative resource integration. Examples include digital services, financial technology, e-commerce platforms, and healthcare ecosystems. In contrast, industries dominated by standardized manufacturing processes or limited digital interaction may experience weaker forms of AI-enabled value co-creation because opportunities for data-driven personalization and interactive service design remain more constrained.

Another important boundary condition concerns the broader technological and institutional environment of service ecosystems. The framework assumes ecosystems characterized by high levels of data availability, connectivity, and algorithmic capability. In such environments, AI becomes embedded within value creation processes rather than functioning as a peripheral technological tool. Variations in technological infrastructure, regulatory institutions, and ecosystem structures may therefore influence how strongly the proposed mechanisms operate across different contexts.

Differences in platform architecture, data access, and ecosystem governance further shape the applicability of the framework. Research on digital platform ecosystems shows that ownership structures, complementor autonomy, and control points influence both the distribution of value and the feasibility of ecosystem coordination (Jacobides *et al.*, 2018; Hein *et al.*, 2020). As a result, AI-enabled business models may evolve differently across open and closed service ecosystems. These governance differences should be treated as theoretically relevant contingencies rather than as background contextual factors (Bohnsack *et al.*, 2024).

Recognizing these boundary conditions clarifies the contexts in which the proposed framework is most applicable and provides a basis for further theoretical development on AI-driven business model innovation within service ecosystems.

8. Conclusion

This study addresses a key gap in explaining how artificial intelligence reshapes value creation and business model innovation in digital service environments. Prior research recognizes the transformative potential of AI but provides limited conceptual explanation of how AI influences value co-creation mechanisms among ecosystem actors. To address this gap, the study develops a mechanism-based framework integrating artificial intelligence research, service ecosystem theory, and business model innovation literature. The framework explains how AI capabilities activate three mechanisms: AI-enabled resource integration, intelligent value proposition personalization, and ecosystem-level value co-creation. These mechanisms collectively enable AI-driven business model innovation and the emergence of intelligent value propositions within service ecosystems.

The central insight is that artificial intelligence functions not merely as an automation technology but as an operant resource that reshapes value creation architectures in digitally connected ecosystems. Conceptualizing AI in this way extends service-dominant logic by clarifying how intelligent technologies influence resource integration and actor interactions across ecosystems. The framework also advances business model innovation research by

explaining how AI capabilities support adaptive and collaborative value propositions, thereby integrating previously fragmented research streams into a coherent explanation of AI-enabled value co-creation and business model transformation.

The framework also suggests directions for future research. Empirical studies should examine the proposed mechanisms and investigate how AI capabilities influence resource integration, personalization, and ecosystem collaboration across different contexts. Research using data from digital platform ecosystems, AI-driven startups, or service-intensive industries may provide valuable insights. Longitudinal and multi-level designs could further explain how AI capabilities and business models co-evolve within complex service ecosystems.

The framework also offers managerial and policy insights. Organizations seeking to leverage AI for strategic innovation should develop capabilities that support data integration, adaptive service design, and ecosystem collaboration. Rather than focusing solely on technology adoption, firms must embed AI within broader organizational and ecosystem processes that enable continuous learning and value co-creation. Viewing AI as a transformative resource within service ecosystems therefore helps explain how intelligent technologies reshape value creation and business model innovation in the digital economy.

References

- Ameen, N., Tarhini, A., Reppel, A., & Anand, A. (2021). Customer experiences in the age of artificial intelligence. *Computers in Human Behavior*, 114, 106548. <https://doi.org/10.1016/j.chb.2020.106548>
- Bahoo, S., Cucculelli, M., & Qamar, D. (2023). Artificial intelligence and corporate innovation: A review and research agenda. *Technological Forecasting and Social Change*, 188, 122264. <https://doi.org/10.1016/j.techfore.2022.122264>
- Bohnsack, R., Rennings, M., Block, C., & Bröring, S. (2024). Profiting from innovation when digital business ecosystems emerge: A control point perspective. *Research Policy*, 53(3), 104961. <https://doi.org/10.1016/j.respol.2024.104961>
- Brynjolfsson, E., & McAfee, A. (2017). *Machine, platform, crowd: Harnessing our digital future*. W. W. Norton & Company.
- Davenport, Thomas H., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science*, 48(1), 24–42. <https://doi.org/10.1007/s11747-019-00696-0>
- De Bruyn, A., Viswanathan, V., Beh, Y. S., Brock, J. K. U., & von Wangenheim, F. (2020). Artificial intelligence and marketing: Pitfalls and opportunities. *Journal of Interactive Marketing*, 51, 91–105. <https://doi.org/10.1016/j.intmar.2020.04.007>
- Dellaert, B. G. C. (2019). The consumer production journey: Marketing to consumers as co-producers in the sharing economy. *Journal of the Academy of Marketing Science*, 47(2), 238–254. <https://doi.org/10.1007/s11747-018-0607-4>
- Dwivedi, Y. K., Hughes, L., Baabdullah, A. M., Ribeiro-Navarrete, S., Giannakis, M., Al-Debei, M. M., Dennehy, D., Metri, B., Buhalis, D., Cheung, C. M. K., Conboy, K., Doyle, R., Dubey, R., Dutot, V., Felix, R., Goyal, D. P., Gustafsson, A., Hinsch, C., Jebabli, I., ... Wamba, S. F. (2023). So what if ChatGPT wrote it? Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI. *International Journal of Information Management*, 71, 102642. <https://doi.org/10.1016/j.ijinfomgt.2023.102642>
- Enholm, I. M., Papagiannidis, E., Mikalef, P., & Krogstie, J. (2022). Artificial intelligence and business value: A literature review. *Information Systems Frontiers*, 24(5), 1709–1734. <https://doi.org/10.1007/s10796-021-10186-w>
- Eriksson, T., Bigi, A., & Bonera, M. (2020). Think with me, or think for me? On the future role of artificial intelligence in marketing strategy formulation. *The TQM Journal*, 32(4), 795–814. <https://doi.org/10.1108/TQM-12-2019-0303>
- Fernandes, T., & Oliveira, E. (2021). Understanding consumers' acceptance of automated technologies in service encounters. *Journal of Business Research*, 122, 180–191. <https://doi.org/10.1016/j.jbusres.2020.08.058>
- Foss, Nicolai J., & Saebi, T. (2017). Fifteen years of research on business model innovation. *Journal of Management*, 43(1), 200–227. <https://doi.org/10.1177/0149206316675927>

- Grewal, Dhruv, Saturnino, C. B., Davenport, T., & Guha, A. (2025). How generative AI is shaping the future of marketing. *Journal of the Academy of Marketing Science*, 53(3), 702–722. <https://doi.org/10.1007/s11747-024-01064-3>
- Hein, A., Schrieck, M., Riasanow, T., Soto-Setzke, D., Wiesche, M., Böhm, M., & Krcmar, H. (2020). Digital platform ecosystems. *Electronic Markets*, 30(1), 87–98. <https://doi.org/10.1007/s12525-019-00377-4>
- Hollebeek, Linda D., Srivastava, R. K., & Chen, T. (2019). S-D logic-informed customer engagement. *Journal of the Academy of Marketing Science*, 47(1), 161–185. <https://doi.org/10.1007/s11747-016-0494-5>
- Holmlund, M., Van Vaerenbergh, Y., Ciuchita, R., Ravald, A., Sarantopoulos, P., Villarroel Ordenes, F., & Zaki, M. (2020). Customer experience management in the age of big data analytics. *Journal of Business Research*, 116, 356–365. <https://doi.org/10.1016/j.jbusres.2020.01.022>
- Huang, Ming-Hui, & Rust, Roland T. (2021). Artificial intelligence in service. *Journal of Service Research*, 24(1), 3–27. <https://doi.org/10.1177/1094670520902266>
- Huang, Ming-Hui, & Rust, Roland T. (2022). A framework for collaborative artificial intelligence in marketing. *Journal of Retailing*, 98(2), 209–223. <https://doi.org/10.1016/j.jretai.2021.03.001>
- Jacobides, M. G., Cennamo, C., & Gawer, A. (2018). Towards a theory of ecosystems. *Strategic Management Journal*, 39(8), 2255–2276. <https://doi.org/10.1002/smj.2904>
- Jorzik, P., Klein, S. P., Kanbach, D. K., & Kraus, S. (2024). AI-driven business model innovation. *Journal of Business Research*, 182, 114764. <https://doi.org/10.1016/j.jbusres.2024.114764>
- Kohtamäki, M., Parida, V., Oghazi, P., Gebauer, H., & Baines, T. (2022). Digital servitization business models in ecosystems. *Journal of Business Research*, 142, 541–552. <https://doi.org/10.1016/j.jbusres.2021.12.060>
- Kranzbühler, A. M., Kleijnen, M. H. P., & Verlegh, P. W. J. (2019). Outsourcing the pain, keeping the pleasure. *Journal of the Academy of Marketing Science*, 47(2), 308–327. <https://doi.org/10.1007/s11747-018-0594-5>
- Kraus, S., Palmer, C., Kailer, N., Kallinger, F., & Spitzer, J. (2019). Digital entrepreneurship. *International Journal of Entrepreneurial Behavior & Research*, 25(2), 353–375. <https://doi.org/10.1108/IJEBR-06-2018-0425>
- Lu, V. N., Wirtz, J., Kunz, W. H., Paluch, S., Gruber, T., Martins, A., & Patterson, P. G. (2020). Service robots, customers and service employees. *Journal of Service Theory and Practice*, 30(3), 361–391. <https://doi.org/10.1108/JSTP-04-2019-0088>
- Lusch, Robert F., & Nambisan, S. (2015). Service innovation: A service-dominant logic perspective. *MIS Quarterly*, 39(1), 155–175. <https://doi.org/10.25300/MISQ/2015/39.1.07>
- Ma, L., & Sun, B. (2020). Machine learning and AI in marketing. *International Journal of Research in Marketing*, 37(3), 481–504. <https://doi.org/10.1016/j.ijresmar.2020.04.005>
- Mariani, M. M., & Borghi, M. (2024). Artificial intelligence in service industries. *International Journal of Production Research*, 62(15), 5400–5416. <https://doi.org/10.1080/00207543.2022.2160027>
- Marinova, D., de Ruyter, K., Huang, M. H., Meuter, M. L., & Challagalla, G. (2017). Getting smart: Learning from technology-empowered frontline interactions. *Journal of Service Research*, 20(1), 29–42. <https://doi.org/10.1177/1094670516679273>
- Mukhopadhyay, S., & Bouwman, H. (2019). Orchestration and governance in digital platform ecosystems. *Digital Policy, Regulation and Governance*, 21(4), 329–351. <https://doi.org/10.1108/DPRG-11-2018-0067>
- Nambisan, Satish, Lyytinen, K., Majchrzak, A., & Song, M. (2017). Digital innovation management. *MIS Quarterly*, 41(1), 223–238. <https://doi.org/10.25300/MISQ/2017/41:1.03>
- Palmié, M., Miehé, L., Oghazi, P., Parida, V., & Wincent, J. (2022). Digital service ecosystems and business model innovation in retail. *Technological Forecasting and Social Change*, 177, 121496. <https://doi.org/10.1016/j.techfore.2022.121496>
- Pansari, A., & Kumar, V. (2017). Customer engagement. *Journal of the Academy of Marketing Science*, 45(3), 294–311. <https://doi.org/10.1007/s11747-016-0485-6>
- Robinson, S. G., Orsingher, C., Alkire, L., De Keyser, A., Giebelhausen, M., Papamichail, K. N., Shams, P., & Temerak, M. S. (2020). Frontline encounters of the AI kind. *Journal of Business Research*, 116, 366–376. <https://doi.org/10.1016/j.jbusres.2019.08.038>
- Rust, Roland T. (2020). The future of marketing. *International Journal of Research in Marketing*, 37(1), 15–26. <https://doi.org/10.1016/j.ijresmar.2019.10.002>
- Secundo, G., Spilotro, C., Gast, J., & Corvello, V. (2025). The transformative power of artificial intelligence within innovation ecosystems. *Review of Managerial Science*, 19(9), 2697–2728. <https://doi.org/10.1007/s11846-024-00828-z>
- Teece, David J. (2010). Business models, business strategy and innovation. *Long Range Planning*, 43(2-3), 172–194. <https://doi.org/10.1016/j.lrp.2009.07.003>

- Verhoef, Peter C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation. *Journal of Business Research*, 122, 889–901. <https://doi.org/10.1016/j.jbusres.2019.09.022>
- Vargo, Stephen L., & Lusch, Robert F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing*, 68(1), 1–17. <https://doi.org/10.1509/jmkg.68.1.1.24036>
- Vargo, Stephen L., & Lusch, Robert F. (2016). Institutions and axioms. *Journal of the Academy of Marketing Science*, 44(1), 5–23. <https://doi.org/10.1007/s11747-015-0456-3>
- Wirtz, Jochen, Pistoia, A., Ullrich, S., & Göttel, V. (2021). Business models: Origin, development and future research perspectives. *Long Range Planning*, 54(2), 101939. <https://doi.org/10.1016/j.lrp.2019.101939>
- Wormald, A., Shah, S. K., Braguinsky, S., & Agarwal, R. (2023). Pioneering digital platform ecosystems. *Strategic Management Journal*, 44(7), 1653–1697. <https://doi.org/10.1002/smj.3475>