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Artificial Intelligence-Enabled Business Model Innovation: A Literature Review and Future Outlook

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Abstract

With the rapid advancement of artificial intelligence (AI), the innovation and evolution of enterprise business models have become increasingly complex. Nevertheless, existing research on the relationship between AI and business models remains fragmented, lacks systematic integration, and has yet to form a coherent analytical framework. To address this gap, this study conducts a systematic literature review of 70 core journal articles, aiming to synthesize prior findings and develop a comprehensive understanding of how AI reshapes business models.

Through a rigorous process of literature coding and classification, this paper identifies four major research themes: (1) the impact of AI on business model innovation, (2) AI-based business model archetypes, (3) AI-enabled business model evolution, and (4) the co-evolution of AI and business models. The results indicate that AI not only stimulates innovation in overall business models and their individual components, but also drives their transformation into complex, dynamic systems characterized by continuous self-learning, self-iteration, and adaptive adjustment.

Building on a systematic assessment of the limitations in existing studies, this paper proposes future research directions at the enterprise, industry, and ecosystem levels. The conclusions offer a relatively complete theoretical framework for understanding business model evolution in the era of AI and provide valuable practical insights for firms seeking to leverage AI to achieve sustainable business model transformation.

Keywords: collaborative evolution, AI, complex adaptive system, business model evolution

1. Introduction

Business models have long been a central topic in strategic management, organizational studies, and entrepreneurship research. With the advent of the Internet era, firms such as Amazon and Uber achieved leapfrog development by fundamentally restructuring their business models. As artificial intelligence (AI) technologies continue to mature and data resources accumulate, enterprises are increasingly embedding AI into business activities to further adjust and upgrade their business models. For instance, in the healthcare sector, medical institutions have developed applications such as diagnostic support and medical record analysis based on ChatGPT-4.0, making business model innovation and evolution a major focus of contemporary management research.

AI not only performs tasks that previously depended on human intelligence, but also plays a prominent role in driving business model innovation and transformation. Prior studies indicate that AI is reshaping how firms design, configure, and adapt their business models, enabling them to respond more effectively to dynamic market environments. Both international journal publications and domestic scholarly research emphasize the strategic importance of AI in business model innovation and highlight the necessity of integrating emerging technologies with core production factors.

Despite these advances, existing research on AI and business models remains fragmented and lacks a unified analytical framework, which hinders a systematic understanding of the field. To address this gap, this study reviews and integrates authoritative domestic and international literature, analyzing 70 core studies and identifying four major research themes: (1) the impact of AI on business model innovation, (2) AI-based business model archetypes, (3) AI-enabled business model evolution, and (4) the co-evolution of AI and business models. Building on this synthesis, the paper further proposes future research directions and offers a novel analytical perspective on how AI reshapes business models.

The contributions of this study are threefold. First, it systematically summarizes the major themes and existing limitations in AI and business model research. Second, it demonstrates that AI-empowered business models exhibit the characteristics of complex adaptive systems. Third, it proposes targeted directions for future research, providing clear and practical guidance for advancing this research domain.

2. Core Concepts

2.1 Artificial Intelligence

AI is not a single, isolated technology but rather a comprehensive technological system composed of multiple interrelated layers. It encompasses not only general-purpose modeling approaches, such as deep learning, but also task-oriented intelligent technologies, including perception and pattern recognition. At a more advanced level, AI further integrates into intelligent systems capable of autonomous operation, such as autonomous driving platforms.

Owing to this multi-layered structure, firms exhibit substantial heterogeneity in both the

depth of AI adoption and their capability levels when deploying AI in practice.

Although the academic community has not yet reached a consensus on a precise definition of AI, scholars generally agree that its most distinctive features are high autonomy and interactivity. Unlike other digital technologies, AI can perform perception, learning, reasoning, decision-making, and action with minimal, or even no, human intervention, while continuously improving and evolving through interactions with humans. These characteristics fundamentally distinguish AI from traditional digital technologies and have profound implications for how enterprises understand, design, and innovate their business models.

In the existing literature, AI is typically classified from two perspectives: application level and functional level. At the application level, AI is categorized into forms that focus on technology implementation, industry-specific applications, and applications centered on the operation of an entire system. From the functional perspective, some studies classify AI according to its capabilities. For instance, Huang and Rust (2021) proposed a strategic framework that distinguishes among mechanical AI, thinking AI, and feeling AI, corresponding respectively to marketing research, strategic decision-making, and action-oriented tasks.

Moreover, research has highlighted that certain organizations do not merely apply AI to specific products or services, but further internalize it as a set of organizational capabilities, referred to as AI capabilities. Unlike isolated AI technologies, AI capabilities encompass interconnected organizational processes that, when combined with necessary data resources, enable firms to perform value-creating activities in a stable, repeatable, and systematic manner.

2.2 Business Model

Since the mid-1990s, scholars in the fields of strategy, organization, and entrepreneurship have increasingly focused on business models, conceptualizing them as statements, representations, architectures, or conceptual tools. Although numerous definitions of business models have been proposed, recent studies generally define a business model as the design or architecture of a firm's mechanisms for value creation and value capture (Ilyas et al., 2024).

Research on business models has primarily developed along three directions: (1) using business models as a basis for enterprise classification, (2) treating business models as antecedents of heterogeneity in enterprise performance, and (3) considering business models as potential units of innovation.

Building on the premise that managers can deliberately innovate enterprise business models, much of the recent literature has focused on business model innovation. As the core of business model research, business model innovation refers to the novel transformation of a business model's components and the architecture that connects them. It reflects firms' efforts to explore new avenues for value creation and capture, typically driven by managerial cognition, decision-making, or changes in internal organizational rules. Importantly, business model innovation is not merely a static, value-related activity but also a dynamic,

evolutionary process of value logic. Recent studies further conceptualize business models as complex, interdependent networks of organizational activities, emphasizing the critical synergies among functions such as product development, marketing, and customer service (Andreini et al., 2022).

Existing research suggests that business model evolution is not a one-time change, but rather a continuous process involving adjustments to the content configuration, organizational structure, operational modes, and value orientation of a firm's activity system in response to a dynamic competitive environment. Within this process, business model innovation often occurs in multiple, gradual forms, driving incremental changes in business models across different stages. Consequently, business model innovation constitutes a key driver of business model evolution.

In the era of AI, business models exhibit more pronounced characteristics of self-iteration and self-adaptation, largely due to the autonomy and interactivity of AI technologies. On one hand, automated customer service and data analytics enable self-iteration through continuous data accumulation, thereby stimulating business model innovation. On the other hand, business model evolution is no longer a linear, top-down process led by a single decision-making subject; rather, it has become a dynamic process shaped by interactions among multiple stakeholders. AI facilitates the self-adaptation of business models, allowing firms to continuously adjust and evolve in response to internal and external environmental changes without relying solely on manually formulated strategies.

Nevertheless, existing studies lack a unified standard for defining AI and business models. In particular, the methods and mechanisms for business model innovation and evolution have shifted significantly in the AI era. AI has not only influenced the connotations and characteristics of business models but has also led some firms to integrate AI into products and services, giving rise to novel business model archetypes. Despite these developments, definitions of core concepts remain fragmented and inconsistent, hindering effective dialogue among existing studies and underscoring the need for systematic synthesis and clarification.

3. Literature Retrieval and Analysis

3.1 Literature Retrieval

To identify relevant keywords and journal sources, this study uses the 2021 Academic Journals Guide issued by the British association of business schools (ABS) as a screening standard, focusing on journals rated ABS 4*, ABS 4, and ABS 3. The literature search targets research related to business models, including business model innovation, transformation, and evolution, in conjunction with AI-related topics. To avoid reliance on a single keyword, multiple keyword groups were employed, covering AI technologies and applications such as machine learning, deep learning, data analysis, neural networks, automation, and intelligent systems. Following these criteria, a systematic search was conducted in the Web of Science and Scopus databases, resulting in 788 English-language journal articles as initial research samples.

In the preliminary screening stage, 122 articles published in journals below ABS 3 and 98

articles of inappropriate types (e.g., editorials, retraction notices, and corrigenda) were excluded. Duplicate records were also removed, leaving 380 articles to proceed to the subsequent stage of analysis.

Preliminary Content Suitability Assessment: Two researchers independently examined the titles, abstracts, and introductions of the articles to assess whether they aligned with the research theme. The evaluation criteria were as follows: ① the article must explicitly discuss or analyze the relationship between AI and business models; and ② this relationship must constitute the main research focus of the study, rather than a passing mention. Articles meeting these criteria were retained. For cases with divergent evaluations, a third researcher was consulted to resolve disagreements. Following this process, 40 English-language articles were retained.

In-Depth Review and Supplementation: The retained articles were then subjected to an in-depth review. Additionally, by examining the reference lists of review articles and applying the snowballing principle of systematic literature review, 15 further English-language articles consistent with the research theme were manually added. This process resulted in a final sample of 55 English-language articles for analysis.

The domestic academic community has also begun to focus on research related to AI and business models, although systematic findings remain limited. To map the progress of domestic research, this study selected 30 core management journals approved by the Department of Management Science of the National Natural Science Foundation of China as literature sources. Literature searches were conducted around topics such as business models and their innovation, transformation, and evolution. These topics were further combined with AI-related technologies, including algorithmic models, data analysis methods, and intelligent system applications, and thematic searches were carried out in the CNKI database. Following preliminary screening, 48 Chinese-language documents were identified. Applying the same relevance criteria used for the English-language literature, 19 highly pertinent studies were retained. In addition, by examining the reference lists of the selected studies, three further highly relevant articles were added. Consequently, the final research sample consisted of 70 articles.

3.2 Literature Analysis

The 70 selected articles were systematically analyzed, with the results summarized as follows: Publication Quantity and Temporal Trends: Research on AI and business models remains relatively limited and is still in its early stages. As shown in Table 1, the number of relevant publications has grown rapidly since 2020, with 16 articles published in 2021 and 8 articles published as of November 2025.

Table 1. Trend of Research on artificial intelligence and Business Models

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1	0	0	1	2	3	5	13	16	10	14	18	16

Note: Compiled by the authors based on relevant literature

Research Method Analysis: Table 2 summarizes the research methods employed in the literature on AI and business models. Among the 70 articles, 58.1% (40/70) employed qualitative approaches, including case studies and semi-structured interviews. Multiple-case studies were the most common method, comprising 23 articles, or 57.5% of qualitative studies. Among quantitative studies, questionnaires were the most frequently used method, appearing in 8 articles. Additionally, 10 articles were literature reviews.

Table 2. Research Methods of Literature on artificial intelligence and Business Models

Research Method	Number of Articles	Sub-method	Number of Articles
Theoretical Research	3	—	3
Qualitative Research	40	Multiple Case Study	23
		Single Case Study	13
		Semi-structured Interview	4
Quantitative Research	11	Questionnaire	8
		Game Theory	2
		Machine Learning	1
Mixed Method (Qualitative + Quantitative)	6	—	6
Review Research	10	—	10
Total	70	—	70

Note: Compiled by the authors based on relevant literature

Journal Distribution: The distribution of articles across journals is presented in Table 3. The research on AI and business models demonstrates clear interdisciplinary characteristics and is primarily published in journals focused on innovation, business management, and marketing. This suggests that the topic has garnered recognition and attention within the management and innovation research communities.

Table 3. Academic Journals with 3 or More Articles on artificial intelligence and Business Models

Serial Number	Journal Name	Number of Articles
1	Journal of Business Research	12
2	Technological Forecasting & Social Change	10
3	Industrial Marketing Management	6
4	Management Review (管理评论)	6
5	Technovation	4

Note: Compiled by the authors based on relevant literature

Citation Analysis: As shown in Table 4, the most frequently cited literature in the field of AI and business models is primarily drawn from research areas such as strategic management, innovation management, and marketing. These studies generally focus on the pathways and mechanisms through which business models innovate and evolve in the context of AI. A review of highly cited articles reveals that research in this field predominantly examines how firms can leverage digital technologies, including AI, to continuously adjust and upgrade their business models. Evidence from multiple case studies indicates that digital transformation is not a one-time initiative but a continuous, dynamic process. In this process, the coordinated application of various digital technologies, including AI, enables firms to develop dynamic capabilities and organizational agility, thereby promoting business model innovation and contributing to the formation and development of an innovative ecosystem.

Table 4. Top 10 Most Cited Articles

Serial Number	Article Title	Journal Name	Year	Citation Count
1	Building dynamic capabilities for digital transformation: an ongoing process of strategic renewal	Long Range Planning	2019	920
2	Business Model Innovation Based on "Big Data" (基于“大数据”的商业模式创新)	China Industrial Economics (中国工业经济)	2013	870
3	Digital transformation and customer value creation in Made in Italy SMEs: a dynamic capabilities perspective	Journal of Business Research	2021	360
4	Digitization capability and the digitalization of business models in business-to-business firms: past, present, and future	Industrial Marketing Management	2020	304
5	Artificial intelligence and business models in the sustainable development goals perspective: a systematic literature review	Journal of Business Research	2020	285
6	The digital transformation of business models in the creative industries: a holistic framework and emerging trends	Technovation	2020	277
7	The influence of the Industrial Internet of Things on business models of established manufacturing companies—a business level perspective	Technovation	2020	235
8	Industry 4.0 innovation ecosystems: an evolutionary perspective on value co-creation	International Journal of Production Economics	2020	230
9	Internet of things technologies, digital servitization and business model innovation in BtoB manufacturing firms	Industrial Marketing Management	2020	225
10	Exploring the impact of big data analytics capabilities on business model innovation: the mediating role of entrepreneurial orientation	Journal of Business Research	2021	215

Note: Compiled by the authors based on relevant literature. Citation counts for English articles are from Web of Science, and those for Chinese articles are from CNKI. Data

collection deadline: November 20, 2025

Research Field Analysis: In terms of disciplinary distribution, the 70 selected articles span business and economics, operations research and management science, computer science, and engineering and industrial fields. This demonstrates that research on AI and business models is not confined to traditional business and economics domains but also exhibits interdisciplinary characteristics, bridging areas such as computer science and industrial engineering.

4. Overview of Research on AI and Business Models

This study systematically classified and analyzed 70 core Chinese and English articles using a back-to-back classification approach to ensure standardized theme division. Inter-coder reliability was assessed following the method proposed by Holsti (1969). Two researchers independently conducted the literature coding and calculated the proportion agreement coefficient, which was found to be 0.86, well above the acceptable threshold of 0.75 suggested by Ellis (1994), confirming a high level of classification reliability. For articles with discrepancies, a third researcher was consulted to reach a consensus. Additionally, two domain experts reviewed the classifications to further ensure their validity and rigor. Based on this systematic analysis and expert feedback, four main research themes were identified, each supported by sufficient literature and grounded in theoretical reasoning. The following sections discuss these themes in descending order of their proportional representation.

4.1 The Impact of AI on Business Model Innovation

The academic community generally recognizes that the continuous iteration of AI technologies is a key driver of business model innovation at both the enterprise and industry levels (Caputo et al., 2021; Song et al., 2022). Existing research in this area primarily focuses on two perspectives. The first examines how AI enables firms to innovate their business models at an overall level, specifically by facilitating the adoption of new business models or the systematic adjustment of existing models to better leverage AI applications (Song et al., 2022; Acciarini et al., 2023; Mariani et al., 2023b). The second perspective investigates the effects of AI on specific components of the business model, analyzing how AI reshapes key mechanisms such as the enterprise's value proposition, value creation processes, value delivery, and value capture (Mikalef et al., 2021; Piepponen et al., 2022; Ancillai et al., 2023).

4.1.1 AI's Impact on the Overall Innovation of Business Models

Research on the impact of AI on overall business model innovation is primarily conducted at two levels: the industry level and the enterprise level (Foss & Saebi, 2017).

At the industry level, studies examine how AI and other digital technologies drive the transformation of existing business models within an industry and, in some cases, reshape the operations of the entire industry (Alshawaaf & Lee, 2021; Matarazzo et al., 2021; Broccardo et al., 2023). For example, Caputo et al. (2021) highlighted that, with the rapid advancement

of AI and emerging digital technologies, platform enterprises such as Airbnb, Uber, and Facebook have more efficiently matched supply and demand through algorithmic recommendation and matching mechanisms, thereby creating innovative business models aligned with technological trends (Velu, 2015). Similarly, Li (2020) applied business model theory to demonstrate that AI can facilitate profound transformations in industry-level business model frameworks by enhancing intelligent management in creative industries, strengthening personalized customer relationships, optimizing production processes, and enabling more precise targeting of customers. Overall, these findings align with Rogers' (1962) diffusion of innovation theory, suggesting that technological innovations gradually reshape industry structures and competitive patterns through network and learning effects.

At the enterprise level, research primarily examines firms' AI-related capabilities and resources and their role in driving overall business model innovation (Ritter & Pedersen, 2020; Haftor et al., 2021; Bahoo et al., 2023). Many studies analyze the mechanisms through which AI capabilities influence business models using dynamic capabilities theory (Ciampi et al., 2021; Sjödin et al., 2023). For example, Ciampi et al. (2021) found that big data analytics capabilities enable firms to integrate real-time information from customers, markets, and competitors, extract valuable insights, and optimize product and service systems, customer segmentation, and pricing strategies, ultimately promoting business model restructuring. Wang and Zhang (2022) further emphasized that big data capabilities alone are insufficient to generate significant outcomes; only when they are combined with internal and external organizational factors, such as connectivity and user experience, can they effectively drive business model innovation.

In addition, some studies explore the role of AI technologies from a resource-based perspective. For instance, using ByteDance as a case study, Ma and Hu (2021) demonstrated that AI recommendation algorithms, as a core resource unconstrained by geographic boundaries, allow firms to develop diverse business model combinations. Examples include the news recommendation platform Jinri Toutiao, the short-video and social platform TikTok, and TikTok's global market adaptation.

4.1.2 AI's Impact on the Innovation of Business Model Components

The components of a business model refer to the key elements that constitute the model as a whole. Previous studies have systematically categorized these elements from various perspectives (Demil & Lecocq, 2010; Broccardo et al., 2023). It is widely recognized in the academic community that AI has the potential to profoundly influence multiple components of the business model (Ancillai et al., 2023). Research in this area generally examines AI's effects at two levels: its impact on individual components and its comprehensive influence across multiple components.

At the level of individual components, AI applications primarily target value creation and value proposition (Kulkov, 2021; Mikalef et al., 2021; Enholm et al., 2022; Piepponen et al., 2022). Regarding value creation, Haftor et al. (2021) found that machine learning can generate a "data network effect," whereby firms continuously enhance their ability to create

value for customers through efficient data analysis and utilization. This finding not only highlights the direct contribution of AI but also provides a new interpretive framework for understanding AI's impact on business models from the perspective of network effect theory (Katz & Shapiro, 1985), particularly the data network effect (Gregory et al., 2021). Unlike traditional network effects, the data network effect emphasizes that both the scale of data and the firm's ability to leverage it are critical to value enhancement. Platforms can iteratively optimize products and services through continuous data learning, thereby improving user-perceived value. In terms of value proposition, Piepponen et al. (2022) demonstrated that, in response to increasingly diverse market demands, firms often employ AI to deliver more personalized services, reshaping their value propositions. Case studies of digital service providers indicate that AI-driven market expansion, improved time efficiency, and enhanced consumption flexibility further facilitate the development of new digital value propositions.

From the perspective of multiple business model components, the integration and application of diverse AI technologies often trigger synchronous changes across several elements of the business model (Şimşek et al., 2022; Ancillai et al., 2023). For instance, a multi-case study of German manufacturing firms demonstrated that the industrial internet of things (IIoT) not only influences the value proposition but also reshapes key elements such as internal infrastructure management and customer relationships (Kiel et al., 2017). Similarly, research on Industry 4.0 indicates that this technology enables firms to transition from a single product sales model to an integrated solution delivery model by enhancing customized service capabilities, improving production efficiency, and increasing process transparency (Marcon et al., 2022). Domestic studies have reached analogous conclusions; for example, in analyzing the service-oriented transformation of Meituan, Jiang and Shang (2022) found that big data technologies facilitated collaborative innovation across three core elements, value creation, value delivery, and value capture, by integrating complementary resources across fields. Collectively, these studies underscore the importance of personalized services and real-time feedback in the AI era, aligning closely with the service-dominant logic perspective that "value is co-created through service exchange" (Vargo & Lusch, 2004).

Nevertheless, most existing studies still treat AI as an exogenous technical factor when examining its impact on business model innovation (Ma & Hu, 2021; Mikalef et al., 2021). This approach overlooks the dynamic interaction between AI and business models and fails to capture the unique role of AI's autonomy and interactivity in driving innovation. Additionally, research indicates that the influence of AI on business model innovation varies significantly across firms (Jorzik et al., 2023), yet systematic theoretical and empirical analyses exploring how enterprise type, industry characteristics, and organizational context moderate this relationship remain scarce. Future studies could adopt multi-dimensional theoretical perspectives to examine the mechanisms through which AI interacts with business models, focusing on the alignment between enterprise resources and capabilities, market positioning, and strategic intent with AI potential. Moreover, potential nonlinear relationships and threshold effects between AI implementation and business model innovation outcomes warrant further in-depth investigation.

4.2 AI-Based Business Model Archetypes

AI is profoundly transforming the way enterprises design business models, giving rise to a range of new AI-driven business model archetypes. An AI-based business model archetype refers to a business model that is primarily driven and shaped by AI technologies (Garbuio & Lin, 2019; Leiting et al., 2022; Ancillai et al., 2023). Such models not only redefine the mechanisms of value creation, delivery, and capture but also introduce new competitive strategies and operational approaches for firms (Metallo et al., 2018; Weking et al., 2020). Existing research on AI-based business models generally addresses two questions: (1) how AI-based business models differ from traditional models, and (2) how these new models can be classified into distinct types.

Comparative studies often focus on the industry level, highlighting the advantages of AI-based business models in improving efficiency, delivering personalized services, and reducing costs. For example, Liu et al. (2020) developed a "cloud laundry" business model leveraging IoT technologies. This model optimizes traditional laundry service processes by integrating big data analytics, intelligent logistics scheduling, and machine learning. As a result, it enhances operational efficiency while simultaneously improving firm profitability. Through optimized logistics and capital flows, this model achieves operational advantages that are difficult for traditional laundry services to attain.

Similarly, Niu et al. (2023) found that, in the context of live streaming, virtual anchor models tend to be more competitive than traditional opinion leader models when network externalities among audiences are strong, or when network externalities are weak but retail channel costs are high. In the healthcare sector, Garbuio and Lin (2019) demonstrated that AI-based business models can provide more personalized medical information through platform-based multi-channel delivery, optimize diagnostic processes, improve accessibility and treatment outcomes, and support a shift toward precision and preventive healthcare. These findings can be interpreted through the lens of the Technology Acceptance Model (Davis, 1989), which suggests that AI-based business models are more likely to be widely adopted when they enhance perceived usefulness and ease of use for users.

In terms of classifying AI-based business model archetypes, the academic community has proposed various frameworks to reflect the strategic role and value of AI in different application contexts. Some studies adopt a data-centric perspective. For instance, Hartmann et al. (2016) identified six data-driven business models through cluster analysis, including "data aggregation as a service" and "multi-source data integration and analysis." Similarly, Li and Xia (2013) proposed multiple business model types within the big data industry chain, such as data sales and information services. Other research emphasizes the IoT as the core technology. Leminen et al. (2020) classified industrial IoT business model archetypes into four categories based on business model architecture complexity and modularization logic. Among these, systemic value design emphasizes value creation at the ecosystem level, highlighting how firms generate and capture value through coordinated interactions among multiple actors. This perspective aligns with the core principles of general systems theory,

which conceptualizes firms as operating within complex, interdependent systems that generate holistic value (Bertalanffy, 1968).

Overall, existing research on AI-based business model archetypes primarily analyzes industries to explore business model transformations following technology integration. However, two main limitations remain. First, the classification perspectives are often singular, focusing either on AI technology characteristics or business model attributes in isolation, lacking an integrated framework that combines both "technology attributes–business model characteristics." Second, discussions on the drivers and impacts of archetypes are limited, with most studies remaining descriptive and lacking systematic theoretical grounding or empirical validation. For example, prior research has not thoroughly examined the factors influencing firms' choice of different archetypes, such as the interplay of organizational, technological, and external environmental factors, nor has it fully assessed the specific effects of archetypes on firm performance, business ecosystem development, and environmental sustainability. Future studies could draw on the Resource-Based View (Barney, 1991) and Opportunity Recognition Theory (Shane & Venkataraman, 2000) to investigate how firms identify, evaluate, and leverage AI-based business model archetypes to achieve strategic alignment and competitive advantage.

4.3 AI-Enabled Business Model Evolution

As AI becomes increasingly integrated into enterprise business models, its characteristics of self-learning and self-adjustment become more pronounced, directly influencing business model evolution (Velu, 2017). In the AI era, business model changes are no longer merely reactive to external conditions but are continuously reinforced and even reshaped through technological applications. This evolution involves the dynamic adjustment of multiple business model elements and their interrelationships (Johnson et al., 2008; Chen et al., 2021). Existing research on AI-enabled business model evolution primarily focuses on three aspects: the evolution of overall business model architecture, changes in core components, and the key factors that facilitate or hinder such evolution.

First, AI is driving traditional business models from being product-centered toward more complex, service-oriented configurations (Gebauer et al., 2020; Chen et al., 2021; Leiting et al., 2022). For example, Bosch, a German engineering firm, transformed from merely selling products to providing integrated IoT solutions by embedding IoT technology into its operations (Leiting et al., 2022). Similarly, Paiola and Gebauer (2020) observed that European equipment manufacturers gradually shifted from product-oriented to digital service-oriented models under IoT applications, signaling a fundamental transformation of their business models. In the energy sector, Franzò et al. (2023) found that AI enabled Italian energy service firms to restructure their offerings, transitioning from a focus on improving energy efficiency to delivering data-driven services. Su et al. (2021) similarly demonstrated that digital technology integration allowed fintech companies to upgrade from offering a single microcredit service to providing comprehensive mobile credit solutions. Collectively, these cases illustrate that AI facilitates the evolution of overall business model structures toward more integrated and intelligent product–service solutions.

Second, in the process of business model evolution, AI often drives substantial changes in the structure and function of core components. These changes not only influence the types of value firms deliver to customers but also reshape how value is created and captured (Leiting et al., 2022; Şimşek et al., 2022). For example, a global technology company transformed from a traditional machine tool software and service provider to a subscription-based digital platform. Its value proposition shifted from "selling physical products" to "providing flexible cloud services," thereby expanding market coverage and enhancing customer loyalty. By integrating IoT and cloud computing technologies, the company leveraged customer data to drive value creation, foster innovation, and more accurately anticipate and meet customer needs. Similarly, Gebauer et al. (2020) found that, across 27 European equipment manufacturing firms, value propositions evolved from "providing customized experiences" to "solving complex customer problems." Correspondingly, value creation shifted from manual needs matching to data-driven forecasting and platform-based integration, while value capture transitioned from single-product sales to continuous revenue streams within a broader business ecosystem.

Finally, a growing number of studies have explored the drivers and barriers of AI-enabled business model evolution (Gebauer et al., 2020). Key drivers include technological change, transformational leadership, absorptive capacity, and continuous experimentation and learning, all of which facilitate AI-driven evolution (Şimşek et al., 2022). Imprint theory further suggests that firms' original core values influence the formation of value logic in new business models (Leiting et al., 2022). Conversely, barriers such as path dependence, cognitive inertia (Şimşek et al., 2022), internal collaboration challenges (Gebauer et al., 2020), and financial constraints (Fallahi et al., 2023) can limit firms' effective use of AI in driving business model evolution.

Overall, although existing research has begun to examine AI-driven business model evolution at both the architectural and component levels, the interactions among different elements and their joint contribution to evolution remain underexplored. In particular, the co-evolution of value creation, value delivery, and value capture has not been fully analyzed (Xiang et al., 2023), representing an important avenue for future research.

4.4 Collaborative Evolution of AI and Business Models

Collaborative evolution emphasizes the simultaneous development of two or more closely related entities through continuous interaction and mutual adaptation (Lewin & Volberda, 1999). In the context of AI and business models, this perspective remains in its early stages. Existing research primarily examines how AI technologies or firms' AI capabilities interact with business models, mutually reinforcing one another and gradually forming cooperative evolutionary relationships (Chen et al., 2021; Sjödin et al., 2021, 2023).

For example, Chen et al. (2021) conducted a systematic study of Gree Electric Appliances, analyzing the phased integration of AI and its business model to reveal the intrinsic logic of collaborative evolution. In the initial stage, Gree embedded AI chips into core household

appliances, enabling intelligence at the individual product level and gradually developing the foundational capability of "hardware + algorithm." This shift transformed the company's business model from simple product sales to offering value-added services around intelligent hardware, such as paid features that optimize air conditioner energy consumption. As technical capabilities advanced, Gree achieved interconnectivity among its products through a proprietary communication protocol and unified data platform, ultimately developing whole-home intelligent solutions. Correspondingly, its business model evolved into a composite "hardware + service + ecosystem revenue sharing" model, generating diversified revenue streams through membership subscriptions, energy data services, and ecosystem cooperation. Throughout this process, the continuous iteration of AI technology and the upgrading of the business model reinforced each other, forming a virtuous cycle of "technology empowerment → business feedback → technology re-iteration," which exemplifies the typical characteristics of collaborative evolution.

Sjödin et al. (2021, 2023) summarized the coordinated evolution of AI capabilities and business models from the perspective of dynamic capabilities. They believe that this process usually goes through three stages. The first stage is capability building. Enterprises form basic AI capabilities, such as demand forecasting or intelligent scheduling, through data accumulation and algorithm research and development. The second stage is model adaptation. Enterprises begin to adjust various aspects of the business model according to the characteristics of AI capabilities, such as using predictive algorithms to optimize value propositions and shift from passive response to demand to active demand creation. The third stage is the stage of coordinated evolution. The feedback generated in the process of business model innovation in turn guides the further development of AI capabilities, such as the demand for user behavior analysis of subscription services, which promotes enterprises to develop more accurate personalized recommendation algorithms. The study also found that organizational learning capabilities and ecosystem cooperation networks play an important regulating role in this process: enterprises with strong learning ability are more likely to match technology and business models, while extensive ecological cooperation helps to accelerate data flow and technology iteration, thus shortening the cycle of collaborative evolution.

From the perspective of interaction mechanisms, existing research has identified two primary paths of collaborative evolution between AI and business models. The first is the technology-driven path, in which breakthroughs in AI technologies directly reshape the value logic of business models. For example, with the maturation of AI agent technologies, a new "agent-based business" model has emerged. AI agents can autonomously perform cross-platform price comparisons, negotiations, and transactions on behalf of users, shifting the business model from "users actively search for products" to "AI agents fulfill user needs." This transformation fundamentally alters product–card interaction patterns and the structure of platform ecosystems. The second path is demand-driven, in which business model innovation generates new application requirements for AI, thereby driving further technological development. For instance, in the retail sector, the demand for virtual anchors

to support real-time interaction and emotional recognition has accelerated the development of affective AI technologies. Similarly, in proxy-based business scenarios, the need for cross-platform collaboration has stimulated the creation and adoption of technical standards, such as the model context protocol and the proxy-to-proxy (A2A) protocol.

5. Conclusions and Future Outlook

This study systematically reviewed relevant literature from both domestic and international authoritative journals and constructed a framework encompassing four key themes: the impact of AI on business model innovation, AI-based business model archetypes, AI-enabled business model evolution, and the collaborative evolution of AI and business models. Based on the identification of core gaps and limitations in current research, this study proposes future research directions for each of these themes, providing theoretical guidance for further academic exploration and practical insights for enterprise application.

5.1 Exploring the Impact of AI on Business Model Innovation at Firm and Industry Levels

At the firm level, AI has emerged as a key driver of business model innovation, evolving rapidly from narrow to strong intelligence. Its autonomy and interactivity create new opportunities for firms (Zhang et al., 2025). Future research should focus on the interaction and complementary mechanisms between AI and human innovators, analyzing how AI empowers enterprise innovation through learning, prediction, and decision support. In addition, the application value of AI in data analysis, pattern recognition, and other capabilities, as well as its adaptability across different industry contexts, warrants further investigation.

At the industry level, AI has facilitated the transformation of traditional business models and the emergence of new industrial forms (Metallo et al., 2018). Future studies could explore how AI can integrate all aspects of production and service to optimize business models holistically. Research should also examine the practical impacts of AI in specific industries, such as healthcare and finance, and assess how these applications may reshape industry structure and competitive dynamics over the long term. Moreover, with the widespread adoption of AI, issues such as data security, algorithmic transparency, and ethical governance are becoming increasingly prominent. Future work should investigate effective management and regulatory strategies that enterprises and policymakers can adopt to address these challenges.

5.2 Investigating the Classification, Drivers, and Impacts of AI-Based Business Model Archetypes

At present, the classification of AI-based business model prototypes lacks a unified framework. Existing research often focuses on a single dimension, either technical characteristics or business model attributes, and lacks systematic integration (Ancillai et al., 2023). Future studies should account for the autonomy and interactivity of AI (Li Xiuquan, 2021), as well as variations in the novelty and scope of business model applications (Foss &

Saebi, 2017), in order to construct a more comprehensive classification system. Such a framework would help clarify how identical technological characteristics can give rise to diverse business model prototypes across different industry contexts.

Furthermore, research on why firms select specific business model prototypes and the consequences of these choices remains limited. Future work could examine this issue from multiple perspectives, including technological advantages and market demand (Şimşek et al., 2022; Fallahi et al., 2023), to analyze how prototype selection aligns with firm resources and capabilities. In addition, employing multi-level analysis methods could systematically assess the impact of different prototypes on firm performance, business ecosystem development, and environmental sustainability, thereby providing a stronger theoretical basis for achieving coordinated "economic and environmental" benefits.

5.3 Exploring the Process Mechanisms of AI-Enabled Business Model Evolution

Existing research on business model evolution has primarily focused on changes in the architecture and individual components themselves (Chen et al., 2021; Şimşek et al., 2022), while paying insufficient attention to the mechanisms through which different elements interact and collectively drive evolution (Xiang Guopeng et al., 2023). Future studies could leverage specific industry cases to examine how AI simultaneously reshapes the links among value creation, value delivery, and value capture, and employ tools such as system dynamics to simulate and visualize this complex interactive process.

Moreover, most existing studies on the drivers and barriers of business model evolution rely on qualitative analyses (Burström et al., 2021). Future research should incorporate quantitative methods, such as simulation modeling, to analyze the dynamic roles of different factors in the evolutionary process, thereby enhancing the generalizability and explanatory power of findings. Additionally, drawing on evolutionary economics, representative firms, such as iFlytek, can be examined to investigate the self-iteration patterns of AI-driven business model prototypes and to compare their evolutionary trajectories with those of traditional business models.

5.4 Examining the Relationship Between AI Capabilities and Business Models from the Perspective of Collaborative Evolution

Research on the collaborative evolution of AI capabilities and business models remains relatively limited, particularly regarding the role of feedback mechanisms in different contexts (Madanaguli et al., 2024). Future studies could draw on feedback mechanism theory (Ramaprasad, 1983) to clarify the conditions under which AI promotes value co-creation versus triggering value co-destruction, thereby revealing the initial conditions and micro-level processes that drive different paths of collaborative evolution.

Additionally, existing research often overlooks the critical role of ecosystems in the collaborative evolution process (Burström et al., 2021). Future work should build on recent advances in innovation and digital ecosystem research to develop an analytical framework

that integrates firm-level collaboration with ecosystem-level dynamics (Volz et al., 2025; Szerb & Furr, 2025). Specifically, research should focus on two areas: first, how collaborative and orchestrated activities at the firm level contribute to the emergence and evolution of ecosystems through interdependence management and ecosystem transformation (Gomes et al., 2025; Palmié et al., 2022); and second, how firms continuously reconfigure their business models and AI capabilities during ongoing adaptation to enable effective orchestration of ecosystem-based business models and support resilient strategic decision-making in complex environments (Chin et al., 2024; Roy et al., 2025).

5.5 Summary of Contributions

This study makes three significant contributions to the research on AI and business models. First, it systematically organizes the main themes and limitations of existing research, providing a comprehensive framework for understanding and advancing business model research in the era of AI. Second, it highlights that AI-enabled business models are not static structures but exhibit the characteristics of complex adaptive systems, with self-iteration and self-adjustment capabilities, thereby deepening the theoretical understanding of the mechanisms underlying AI-driven business model transformation. Finally, the study proposes specific future research directions across the identified themes, offering clear guidance for scholars conducting further research and providing practical insights for enterprises seeking to leverage AI to drive business model innovation.

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Author contributions

The author is the main contributor to this study, including its conception, design, data collection, analysis, and manuscript preparation. The author has read and approved the final manuscript.

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I declare that there is no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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References

Acciarini, C., Cappa, F., Boccardelli, P., & Oriani, R. (2023). How can organizations leverage big data to innovate their business models? A systematic literature review. *Technovation, 123*, 102713. https://doi.org/10.1016/j.technovation.2023.102713

Alshawaaf, N., & Lee, S. H. (2021). Business model innovation through digitisation in social purpose organisations: A comparative analysis of Tate Modern and Pompidou Centre. *Journal of Business Research, 125,* 597-608. https://doi.org/10.1016/j.jbusres.2020.02.045

Ancillai, C., Sabatini, A., Gatti, M., & Perna, A. (2023). Digital technology and business model innovation: A systematic literature review and future research agenda. *Technological Forecasting and Social Change, 188,* 122307. https://doi.org/10.1016/j.techfore.2022.122307

Andreini, D., Bettinelli, C., Foss, N. J., & Mismetti, M. (2022). Business model innovation: a review of the process-based literature. *Journal of Management and Governance, 26*(4), 1089-1121. https://doi.org/10.1007/s10997-021-09590-w

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

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management, 17*(1), 99-120. https://doi.org/10.1177/014920639101700108

Bertalanffy, L. von. (1968). *General system theory: Foundations, development, applications.* New York, NY: George Braziller.

Broccardo, L., Zicari, A., Jabeen, F., & Bhatti, Z. A. (2023). How digitalization supports a sustainable business model: A literature review. *Technological Forecasting and Social Change, 187,* 122-146. https://doi.org/10.1016/j.techfore.2022.122146

Burström, T., Parida, V., Lahti, T., & Wincent, J. (2021). AI-enabled business model innovation and transformation in industrial ecosystems: A framework, model, and outline for further research. *Journal of Business Research, 127*, 85–95. https://doi.org/10.1016/j.jbusres.2021.01.016

Caputo, A., Pizzi, S., Pellegrini, M. M., & Dabić, M. (2021). Digitalization and business models: Where are we going? A science map of the field. *Journal of business research, 123*, 489-501. https://doi.org/10.1016/j.jbusres.2020.09.053

Chen, Y., Visnjic, I., Parida, V., & Zhang, Z. (2021). On the road to digital servitization: The (dis)continuous interplay between business model and digital technology. *International Journal of Operations & Production Management*, *41*(5), 694–722. https://doi.org/10.1108/IJOPM-08-2020-0544

Chin, T., Ghouri, M. W. A., Jin, J., & Deveci, M. (2024). AI technologies affording the orchestration of ecosystem-based business models: the moderating role of AI knowledge spillover. *Humanities and Social Sciences Communications, 11*(1), 1-13. https://doi.org/10.1057/s41599-024-03003-7

Ciampi, F., Demi, S., Magrini, A., Marzi, G., & Papa, A. (2021). Exploring the impact of big data analytics capabilities on business model innovation: The mediating role of entrepreneurial orientation. *Journal of Business Research, 123,* 1-13. https://doi.org/10.1016/j.jbusres.2020.09.023

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use and User Acceptance of Information Technology. *MIS quarterly.* https://doi.org/10.2307/249008

Demil, B., & Lecocq, X. (2010). Business model evolution: In search of dynamic consistency. *Long range planning, 43*(2-3), 227-246. https://doi.org/10.1016/j.lrp.2010.02.004

Ellis, R. (1994). *The Study of Second Language Acquisition*. Oxford: Oxford University Press.

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

Fallahi, S., Mellquist, A. C., Mogren, O., Listo Zec, E., Algurén, P., & Hallquist, L. (2023). Financing solutions for circular business models: Exploring the role of business ecosystems

and artificial intelligence. *Business Strategy and the Environment, 32*(6), 3233-3248. https://doi.org/10.1002/bse.3297

Foss, N. J., & Saebi, T. (2017). Fifteen years of research on business model innovation: How far have we come, and where should we go?. *Journal of management, 43*(1), 200-227. https://doi.org/10.1177/0149206316675927

Franzò, S., Natalicchio, A., Frattini, F., & Magliocca, P. (2023). How digital technologies enable business model innovation in the energy sector: An empirical study of Italian energy service companies. *IEEE Transactions on Engineering Management, 71*, 13646-13659. https://doi.org/10.1109/TEM.2023.3276474

Garbuio, M., & Lin, N. (2019). Artificial intelligence as a growth engine for health care startups: Emerging business models. *California Management Review*, *61*(2), 59-83. https://doi.org/10.1177/0008125618811931

Gebauer, H., Arzt, A., Kohtamäki, M., Lamprecht, C., Parida, V., Witell, L., & Wortmann, F. (2020). How to convert digital offerings into revenue enhancement: Conceptualizing business model dynamics through explorative case studies. *Industrial Marketing Management, 91*, 429–441. https://doi.org/10.1016/j.indmarman.2020.10.006

Gebauer, H., Fleisch, E., Lamprecht, C., & Wortmann, F. (2020). Growth paths for overcoming the digitalization paradox. *Business Horizons, 63*(3), 313-323. https://doi.org/10.1016/j.bushor.2020.01.005

Gomes, L. A. de V., Flechas, A., Silva, L., & colleagues. (2025). Ecosystem orchestration work in the digital transformation of ecosystems. *R&D Management*. https://doi.org/10.1111/radm.70022

Gregory, R. W., Henfridsson, O., Kaganer, E., & Kyriakou, H. (2021). The role of artificial intelligence and data network effects for creating user value. *Academy of management review, 46*(3), 534-551. https://doi.org/10.5465/amr.2019.0178

Haftor, D. M., Climent, R. C., & Lundström, J. E. (2021). How machine learning activates data network effects in business models: Theory advancement through an industrial case of promoting ecological sustainability. *Journal of Business Research, 131*, 196–205. https://doi.org/10.1016/j.jbusres.2021.04.015

Hartmann, P. M., Zaki, M., Feldmann, N., & Neely, A. (2016). Capturing value from big data: A taxonomy of data-driven business models used by start-up firms. *International Journal of Operations & Production Management, 36*(10), 1382–1406. https://doi.org/10.1108/IJOPM-02-2014-0098

Holsti, O. R. (1969). *Content analysis for the social sciences and humanities.* Reading, MA: Addison-Wesley.

Huang, M. H., & Rust, R. T. (2021). A strategic framework for artificial intelligence in marketing. *Journal of the Academy of Marketing Science, 49*(1), 30-50. https://doi.org/10.1007/s11747-020-00749-9

Ilyas, I. M., Kammerlander, N., Turturea, R., & van Essen, M. (2024). When business model innovation creates value for companies: A meta-analysis on institutional contingencies. *Journal of Management Studies, 61*(5), 1825-1883. https://doi.org/10.1111/joms.12966

Jiang, J., & Shang, Y. (2022). Data-enabled pathways driving manufacturing firms' servitization. *Scientific Research Management, 43*(4), 56–65. https://doi.org/10.19571/j.cnki.1000-2995.2022.04.007

Johnson, M. W., Christensen, C. M., & Kagermann, H. (2008). Reinventing your business model. *Harvard Business Review, 86* (12), 50–59.

Jorzik, P., Yigit, A., Kanbach, D. K., Kraus, S., & Dabić, M. (2023). Artificial intelligence-enabled business model innovation: Competencies and roles of top management. *IEEE Transactions on Engineering Management,* 71, 7044-7056. https://doi.org/10.1109/TEM.2023.3275643

Katz, M. L., & Shapiro, C. (1985). Network externalities, competition, and compatibility. *The American economic review, 75* (3), 424-440.

Kiel, D., Arnold, C., & Voigt, K. I. (2017). The influence of the Industrial Internet of Things on business models of established manufacturing companies–A business level perspective. *Technovation, 68,* 4-19. https://doi.org/10.1016/j.technovation.2017.09.003

Kulkov, I. (2021). The role of artificial intelligence in business transformation: A case of pharmaceutical companies. *Technology in Society, 66,* 101629. https://doi.org/10.1016/j.techsoc.2021.101629

Leiting, A. K., De Cuyper, L., & Kauffmann, C. (2022). The Internet of Things and the case of Bosch: Changing business models while staying true to yourself. *Technovation, 118*, 102497. https://doi.org/10.1016/j.technovation.2022.102497

Leminen, S., Rajahonka, M., Wendelin, R., & Westerlund, M. (2020). Industrial internet of things business models in the machine-to-machine context. *Industrial marketing management, 84*, 298-311. https://doi.org/10.1016/j.indmarman.2019.08.008

Lewin, A. Y., & Volberda, H. W. (1999). Prolegomena on coevolution: A framework for research on strategy and new organizational forms. *Organization science, 10* (5), 519-534. https://doi.org/10.1287/orsc.10.5.519

Li, F. (2020). The digital transformation of business models in the creative industries. *Arts Management Quarterly*, *134*, 6-14. https://doi.org/10.1016/j.technovation.2017.12.004

Li, W., & Xia, J. (2013). Business model innovation based on big data. *China Industrial Economics, (5)*, 83–95. https://doi.org/10.19581/j.cnki.ciejournal.2013.05.007

Li, X. (2021). *Intelligent transformation: The evolution of artificial intelligence technology and value creation.* Beijing, China: Tsinghua University Press.

Liu, C., Feng, Y., Lin, D., Wu, L., & Guo, M. (2020). Iot based laundry services: an application of big data analytics, intelligent logistics management, and machine learning

techniques. *International Journal of Production Research, 58*(17), 5113-5131. https://doi.org/10.1080/00207543.2019.1677961

Ma, Y., & Hu, Y. (2021). Business model innovation and experimentation in transforming economies: ByteDance and TikTok. *Management and Organization Review, 17*(2), 382–388. https://doi.org/10.1017/mor.2020.69

Madanaguli, A., Sjödin, D., Parida, V., & Mikalef, P. (2024). Artificial intelligence capabilities for circular business models: Research synthesis and future agenda. *Technological Forecasting and Social Change, 200*, 123189. https://doi.org/10.1016/j.techfore.2023.123189

Marcon, É., Le Dain, M. A., & Frank, A. G. (2022). Designing business models for Industry 4.0 technologies provision: Changes in business dimensions through digital transformation. *Technological Forecasting and Social Change, 185*, 122078. https://doi.org/10.1016/j.techfore.2022.122078

Mariani, M. M., Machado, I., & Nambisan, S. (2023). Types of innovation and artificial intelligence: A systematic quantitative literature review and research agenda. *Journal of Business Research, 155*, 113364. https://doi.org/10.1016/j.jbusres.2022.113364

Matarazzo, M., Penco, L., Profumo, G., & Quaglia, R. (2021). Digital transformation and customer value creation in Made in Italy SMEs: A dynamic capabilities perspective. *Journal of Business research, 123,* 642-656. https://doi.org/10.1016/j.jbusres.2020.10.033

Metallo, C., Agrifoglio, R., Schiavone, F., Mueller, J., 2018. Understanding business model in the internet of things industry. *Technological Forecasting and Social Change, 136*, 298–306. https://doi.org/10.1016/j.techfore.2018.01.020.

Mikalef, P., & Gupta, M. (2021). Artificial intelligence capability: Conceptualization, measurement calibration, and empirical study on its impact on organizational creativity and firm performance. *Information & management, 58*(3), 103434. https://doi.org/10.1016/j.im.2021.103434

Mikalef, P., Conboy, K., & Krogstie, J. (2021). Artificial intelligence as an enabler of B2B marketing: A dynamic capabilities micro-foundations approach. *Industrial Marketing Management, 98*, 80–92 https://doi.org/10.1016/j.indmarman.2021.08.003

Niu, B., Yu, Y., & Dong, C. (2023). Could AI livestream perform better than KOL in cross-border operations? *Transportation Research Part E: Logistics and Transportation Review, 174*, 103167. https://doi.org/10.1016/j.tre.2023.103167

Paiola, M., & Gebauer, H. (2020). Internet of Things technologies, digital servitization and business model innovation in B2B manufacturing firms. *Industrial Marketing Management, 89*, 245–264. https://doi.org/10.1016/j.indmarman.2020.03.009

Palmié, M., Miehé, L., Oghazi, P., Parida, V., & Wincent, J. (2022). The evolution of the digital service ecosystem and digital business model innovation in retail: The emergence of

meta-ecosystems and the value of physical interactions. *Technological Forecasting and Social Change, 177*, 121496. https://doi.org/10.1016/j.techfore.2022.121496

Piepponen, A., Ritala, P., Keränen, J., & Maijanen, P. (2022). Digital transformation of the value proposition: A single case study in the media industry. *Journal of Business Research, 150,* 311-325. https://doi.org/10.1016/j.jbusres.2022.05.017

Ramaprasad, A. (1983). On the definition of feedback. *Behavioral science, 28*(1), 4-13. https://doi.org/10.1002/bs.3830280103

Ritter, T., & Pedersen, C. L. (2020). Digitization capability and the digitalization of business models in business-to-business firms: Past, present, and future. *Industrial marketing management, 86,* 180-190. https://doi.org/10.1016/j.indmarman.2019.11.019

Rogers, E. M. (1962). *Diffusion of innovations.* New York, NY: Free Press.

Roy, S. K., Dey, B. L., Brown, D. M., Abid, A., Apostolidis, C., Christofi, M., & Tarba, S. Y. (2025). Business model innovation through AI adaptation: The role of strategic human resources management. *British Journal of Management*. https://doi.org/10.1111/1467-8551.12894

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of management review, 25* (1), 217-226. https://doi.org/10.5465/amr.2000.2791611

Şimşek, T., Öner, M. A., Kunday, Ö., & Olcay, G. A. (2022). A journey towards a digital platform business model: A case study in a global tech-company. *Technological Forecasting and Social Change, 175*, 121372. https://doi.org/10.1016/j.techfore.2021.121372

Sjödin, D., Parida, V., & Kohtamäki, M. (2023). Artificial intelligence enabling circular business model innovation in digital servitization: Conceptualizing dynamic capabilities, AI capacities, business models and effects. *Technological Forecasting and Social Change, 197,* 122903. https://doi.org/10.1016/j.techfore.2023.122903

Sjödin, D., Parida, V., Palmi´e, M., Wincent, J. (2021). How AI capabilities enable business model innovation: scaling AI through co-evolutionary processes and feedback loops. *Journal of Business Research, 134*, 574 587. https://doi.org/10.1016/j.jbusres.2021.05.009.

Song, J., Xia, S., Vrontis, D., Sukumar, A., Liao, B., Li, Q., Tian, K., & Yao, N. (2022). The source of SMEs' competitive performance in COVID-19: Matching big data analytics capability to business models. *Information Systems Frontiers, 24*(4), 1167–1187. https://doi.org/10.1007/s10796-022-10287-0

Stephen L. Vargo, Robert F. Lusch. (2004). Evolving to a New Dominant Logic for Marketing. *Journal of Marketing, 68*, 1-17. https://doi.org/10.1509/jmkg.68.1.1.24036

Su, J., Zhang, S., Ma, H., & Jia, Y. (2021). Technology embeddedness and digital business model innovation: A case study of credEx fintech. *Management Review, 33*(11), 121–134. https://doi.org/10.14120/j.cnki.cn11-5057/f.2021.11.016

Szerb, A., & Furr, N. (2025). The emergence and evolution of innovation ecosystems: Evidence from the solar PV ecosystem. *Strategic Management Journal, 46*(10), 2605–2657. https://doi.org/10.1002/smj.3730

Velu, C. (2015). Business model innovation and third-party alliance on the survival of new firms. *Technovation*, *35*, 1-11. https://doi.org/10.1016/j.technovation.2014.09.007

Velu, C. (2017). A systems perspective on business model evolution: The case of an agricultural information service provider in India. *Long Range Planning, 50* (5), 603-620. https://doi.org/10.1016/j.lrp.2016.10.003

Volz, F., Münch, C., Küffner, C., & Hartmann, E. (2025). Digital ecosystems and their impact on organizations—A dynamic capabilities approach. *International Journal of Management Reviews, 27*(3). https://doi.org/10.1111/ijmr.12396

Wang, L., & Zhang, M. (2022). Driving mechanisms of business model innovation in new-economy firms from a multi-factor linkage perspective: A fuzzy-set qualitative comparative analysis (fsQCA). *Management Review, 34*(3), 141–152. https://doi.org/10.14120/j.cnki.cn11-5057/f.2022.03.007

Weking, J., Hein, A., Böhm, M., & Krcmar, H. (2020). A hierarchical taxonomy of business model patterns. *Electronic Markets, 30*(3), 447-468. https://doi.org/10.1007/s12525-018-0322-5

Xiang, G., Wei, N., & Han, R. (2023). How do internet start-ups achieve business model evolution? A dual-case study from a community-based perspective. *Foreign Economics & Management, 45*(2), 134–152. https://doi.org/10.16538/j.cnki.fem.20220705.401

Zhang, Z., Kang, Y., Lu, Y., & Li, P. (2025). The Role of Artificial Intelligence in Business Model Innovation of Digital Platform Enterprises. *Systems, 13*(7), 507. https://doi.org/10.3390/systems13070507