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Research on the impact and implementation strategy of artificial intelligence and digital social media on business model innovation in high-end intelligent manufacturing enterprises

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Abstract: This paper examines the impact and practical methods of artificial intelligence (AI) technology and digital social media on business model innovation within high-end manufacturing companies. It analyzes the current situation and motivations of manufacturing firms influenced by digital technology across four key aspects: disconnected application, market competition, social media development, and user needs. The research indicates that digital technologies—specifically AI and digital social media—not only alter operational models but also drive innovation in digital business models. However, the process of intelligent transformation in the manufacturing industry presents several challenges, including data security concerns, high research and development (R&D) costs, and difficulties in distinguishing fake information. The paper recommends that manufacturing firms mitigate risks associated with technological application and leverage the full potential of digital technologies to enhance customer experience, thereby fostering sustainable growth and competitive advantage.

Keywords: *Artificial intelligence, Business model innovation, Digital social media, Digital-real economy integration, Intelligent manufacturing.*

1. Introduction

Because of the rapid development of digital technology, manufacturing industry is becoming digitalization and intellectualization (Barari, de Sales Guerra Tsuzuki, Cohen, & Macchi, 2021). Intelligent manufacturing is also the main direction of Chinese manufacturing in 2024 Huang, Shen, and Yao (2024). Intelligent manufacturing industry has highly competitive advantage and development potential because of its characteristics which are high profit margin, high technology level and sustainable development space (Chen, Shao, & Chen, 2025).

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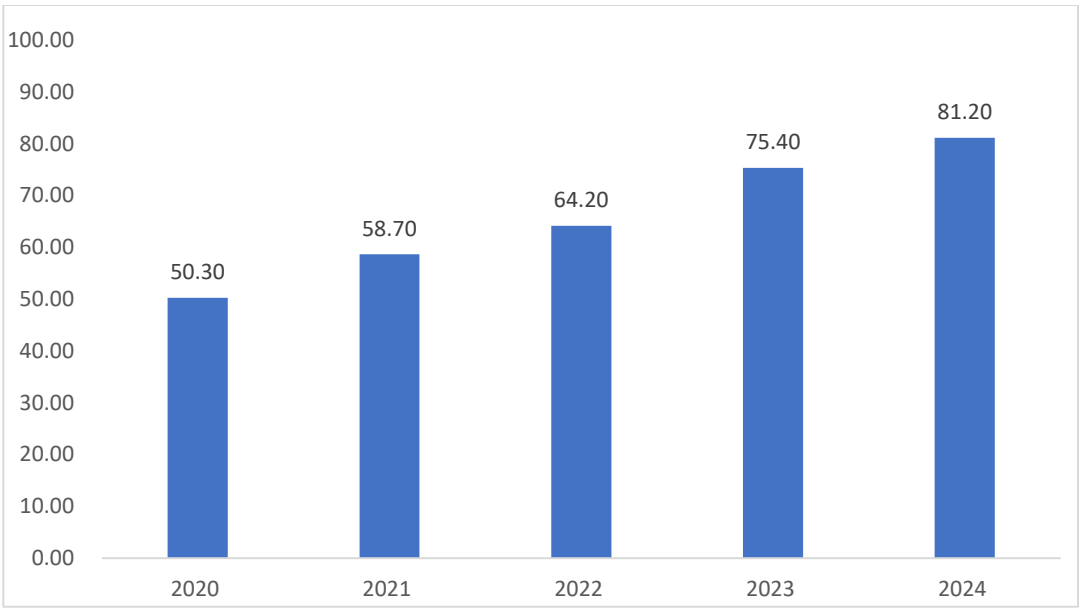

Figure 1.
Output value of high-end manufacturing industry between 2020 and 2024 in China (trillion yuan)
Source: National Bureau of Statistics.

However, manufacturing enterprises in China still lag behind the manufacturing companies around the world due to excessive demand for energy and power, unbalanced regional development and other issues (Huang et al., 2024). Therefore, Chinese manufacturing companies want to innovate their business models in order to earn more profits and enhance status in the world manufacturing industry. Artificial intelligence and digital social media platform are regarded as new momentum to promote enterprise innovation (Zhang & Zhu, 2021). Therefore, manufacturing firms how to achieve business model innovation by applying artificial intelligence and digital social platform becomes the common issue which is scholars and entrepreneurs focus on.

Artificial intelligence is the development power for manufacturing enterprises, because it has strong data processing ability and autonomous learning ability (Yang, Yi, Lu, Johansson, & Chai, 2021). In product development, artificial intelligence can rapidly generate multiple product designs and test them by using massive historical data and industry information (Lin, Xiao, & Tang, 2024). In terms of producing automobile, for example, AI can design the interior and appearance in line with the current trend and create hundreds of options in a short time (Demlehner, Schoemer, & Laumer, 2021). In addition, artificial intelligence could analyze all kinds of data that generated in the production process and find abnormal production in time. This is able to raise the stability of product quality and production efficiency (Liu, Zhang, Lei, & Chen, 2022).

The integration between digital economy and real economy is the digitalization of real economy. Digital social media breaks the limitation of time and builds a diverse and efficient platform for communication and collaboration. It offers abundant resources and enough space for entrepreneurs to reform their manufacturing enterprises (Zhang & Zhu, 2021).

2. Literature Review

2.1. Literature Research on Artificial Intelligence

This paper examines the impact and strategies of artificial intelligence and digital social media on the business model innovation of high-end manufacturing enterprises. Through reading literature, it is found that scholars have different views on effect, application methods and potential risks of artificial intelligence. Table 1 present current studies about artificial intelligence.

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Table 1.
Main views of AI application.

Author	Year	Artificial Intelligence in Business Model Innovation of Manufacturing Enterprises
Liu et al. (2022)	2022	Artificial intelligence promotes enterprise innovation by reducing innovation cost, accelerating knowledge flow and optimizing innovation decision-making.
Yongwei Chen (2023)	2023	Generative artificial intelligence, represented by ChatGPT, has shown great potential in content creation, intelligent process and other fields.
Liu (2023)	2023	Artificial intelligence also has many risks. For instance, AI represented by ChatGPT is facing challenges such as data security, ethical risk and technology control. People need to establish a corresponding regulatory framework.
Wu and Yang (2025)	2024	General artificial intelligence can push quality development in manufacturing industry better than traditional AI. Because general artificial intelligence has stronger autonomous adaptability and cross-field learning ability. It can provide more efficient empowerment for manufacturing industry.
Du and Lin (2025)	2025	Artificial intelligence is a new generation of general technology, which is crucial to the development of high-end manufacturing industry and has achieved remarkable results.

Overall, artificial intelligence, especially general artificial intelligence, as a key technology to promote people to develop manufacturing industry, it has affected the production mode and digital transformation of manufacturing organizations. By using artificial intelligence to reduce innovation costs and optimize the decision-making process, enterprises can effectively improve the efficiency of manufacturing industry. The application of artificial intelligence, however, still faces many challenges. Generative artificial intelligence technology such as ChatGPT has broad application prospects. But people cannot ignore its potential data security, ethical risks and other problem.

2.2. Literature Research on Digital Social Media

Digital socialization is a new method of interaction in the era of digital economy. Some scholars present different views on the role of digital social media and its impact on the real economy. Digital social media content is demonstrated in Table 2.

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Table 2.
Key perspectives for digital social media applications.

Author	Year	The Application of Digital socialization in Enterprises
Wu, Hu, Lin, and Ren (2021)	2021	Based on capital market data, scholars found that the digital transformation of enterprises can significantly improve stock liquidity, indicating that the market has a positive attitude towards the digital social ability of companies.
Hong and Ren (2023)	2023	Digital economy and real economy are integrated through digital social platforms and change the way enterprises operate. However, digital social media may face data privacy and information security issues. People need to establish a better regulation.
Yu, Li, and Gao (2025)	2025	Manufacturing enterprises can interconnect equipment and share data through industrial Internet platform.
Li and Jin (2025)	2025	Through digital social platform, organizations can share information resources among industrial chains and enhance their ability to cope with external challenges. And the integration of digital economy and real economy has become the key method to enhance the resilience of manufacturing industry chain.
Xing, Wu, and Deng (2025)	2025	Different types of manufacturing industries respond differently to digital social platform data. Participants in process manufacturing industry are highly dependent on data and less sensitive to price changes. On the contrary, discrete manufacturing industry is less dependent on data and more sensitive to price.

Based on the above, scholars research the impact of digital social media on business model innovation of manufacturing enterprises from resource integration, information sharing and digital-real integration. However, digital social media development also faces some problems such as data privacy leakage and information security. And different types of manufacturing industries have significant differences response to digital social data. This means that data governance policies need to vary from industry to industry.

2.3. Literature Research on Business Model Innovation

This paper explores driving factors, the way of evolution and implementation strategies of business model innovation in the era of digital economy. As shown in Table 3.

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Table 3.
Business model innovation method

Author	Year	Business model innovation method
Fan, Meng, Bao, and Qu (2020)	2020	Business model transformation of manufacturing enterprises should be systematically promoted from four levels which are customer demand insight, operation system optimization, partner integration and financial model innovation. The application of artificial intelligence and digital social technology not only changes the mode of production, but also prompt a new business model based on data and services.
Gu and Zhang (2023)	2023	The reasons about entrepreneurs want to innovate business models of companies can be divided into external and internal aspects. External reasons include the widespread use of digital technology, changes in consumer behavior and the way of market competition. Internal reasons are efficiency improvement, value creation and competitiveness enhancement. Whereas enterprises may face some difficulties such as lack of positive market response and lose consumer preference for new products or services, and employee' thinking are hard to change.
Wen, Pan, and Liu (2025)	2023	Through the case study of Haier company, scholars state that successful business model innovation needs to be carried out simultaneously from four aspects which are technologies, value, services and strategies. Firstly, enterprises usually utilize technology to improve products and services. Then, they use data to make decisions. Finally, people work with other companies to form an ecosystem for common development.
Chen (2025)	2025	The rise of AI is reshaping business world and forming a new intelligent economy. AI creates a new business model and value creation mode through collaborative operation, while the rapid development of AI technology may bring new challenges such as employment substitution and ethical risks.
Zhang and Wang (2025)	2025	Industrial Internet platform enables manufacturing enterprises to achieve business model innovation through dual mechanism of resource arrangement and capability reconstruction.

Based on existing literature, most scholars have pointed out that digital technology, especially artificial intelligence and digital social platform, is the key driving force of business model innovation. Digital technologies has changed the traditional method of production, and also promoted a new business model based on data and services. Enterprises need to choose differentiated innovation paths according to their own characteristics and pay attention to the coordinated promotion of digital capacity enhancement and organizational change.

2.4. Comprehensive Review

The systematic analysis based on artificial intelligence, digital social media and business model innovation, which according to an amount of literature research, can found that business model innovation needs the cooperation of digital technology and innovation. Artificial intelligence, as the core technology support, provides technical support for digital social media and business model innovation. Digital social media, a new way of interaction, changes the internal and external connection mode in the organizations and creates conditions for business model innovation. And business model innovation is the strategic path for enterprises to transform technology into business value.

Although many scholars have discussed the role of artificial intelligence and digital social interaction. However, most of the studies are too simple in the discussion of how digital technologies are applied in manufacturing enterprises. Some studies ignore the differences of business model innovation in different institutional environments and cultural backgrounds.

To sum up, the research on artificial intelligence, digital social media and business model innovation are relatively comprehensive. But digital technology is developing fast, and the business environment is

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changing. These changes require scholars to explore more practical issues and find suitable solutions to assist enterprises better achieve digital transformation.

3. The Current Situation and Analysis of Business Model Innovation Driven by Digital-Real Economy Integration

3.1. Current Situation

In order to better understand the different impacts of digital technology and real economy on traditional enterprises, this article analyzes the current situation of technological innovation, application challenges and the main reasons for pushing business model innovation.

3.1.1 Business Model Innovation Status Driven by Artificial Intelligence and Digital Social Media

Firstly, AI drives business model innovation performance. Since the concept of Industry 4.0, which is also known as the fourth industrial revolution, was proposed, more and more countries realize that it is important that integrate digital technologies and industry and promote the intellectualization of high-end manufacturing industry (Zeba, Dabić, Čičak, Daim, & Yalcin, 2021). Industrial Internet is an open and global network system, which can effectively integrate data and information, using the Internet of Things (IoT) technology to produce high-end manufacturing products (Ahmed, Jeon, & Piccialli, 2022).

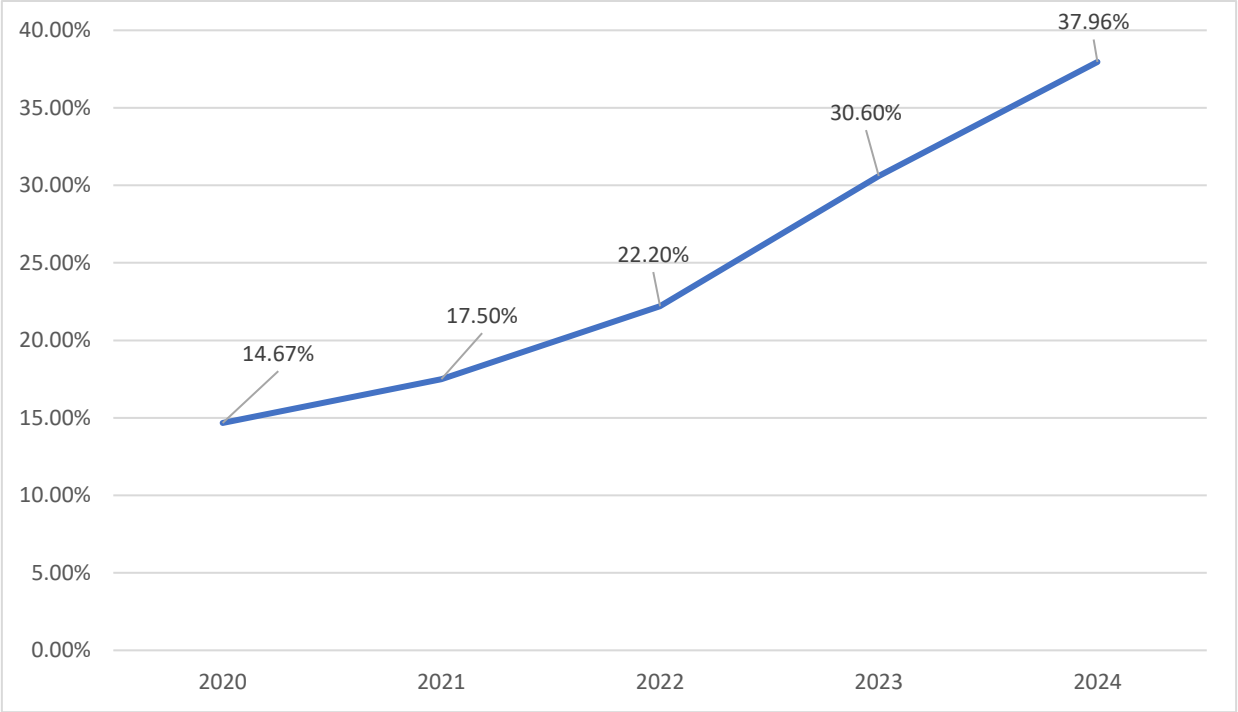

Figure 2.
Industrial Internet application rate in 2020-2024.
Source: National Industrial Information Security Development Research Center.

In some large steel factories, workers install many sensors on production equipment to monitor operating parameters (Zhou et al., 2022). Data analysts in organizations can quickly get results by analyzing these data through the big data platform, thus improving productivity. In addition to intelligent production equipment, industrial robots are also widely used in production, manufacturing and supervision. Industrial robots not only complete one kind of job, but also systematically participate in the whole production process to help companies improve production efficiency and product quality

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(Cui, Li, Tian, Liao, & Zhao, 2022; Lee, Qin, & Li, 2022). Industrial robots are applied a lot in the basic production in manufacturing industry, becoming an essential technical support to encourage the intelligent manufacturing in enterprises (Cui et al., 2022).

Second, digital social media promotes business model innovation. Social media platform is an important channel for enterprises to communicate with customers, which can be able to collect requirements and suggestions on product functions, performance, services from customers (Gaglio, Kraemer-Mbula, & Lorenz, 2022). This helps firms catch market demand and receive product feedback and provides precise direction for product innovation and service innovation of enterprises (Hassani & Mosconi, 2022). Moreover, there are no regional barriers on digital social platforms. Employees from different places can communicate online through WeChat and share experiences with technical specialist across regions (Yee, Miquel-Romero, & Cruz-Ros, 2021; Zhang & Zhu, 2021).

Third, intelligent manufacturing standard system leads to the integration of number and reality. In order to promote the intelligent transformation in manufacturing industry under the modern background, company managers are supposed to actively improve the standard system of intelligent manufacturing and build a comprehensive standard for intelligent manufacturing. Traditional manufacturing enterprises fulfill instant collection and analysis of production data by introducing industrial Internet platform and IoT equipment. It can quickly adjust the production plan according to the change of market demand (Kumar et al., 2023). Haier Company, for instance, has explored internet innovation model by increasing investment in digital infrastructure and talents before, aim to build COSMOPlat industrial internet platform to connect more than 3000 suppliers and more than 100 national users around the world (Wen et al., 2025). Haier company realize mass customization production in 2024. They annual revenue of customized products accounts for 35%, and the production cycle is shortened by 30% (Wen et al., 2025).

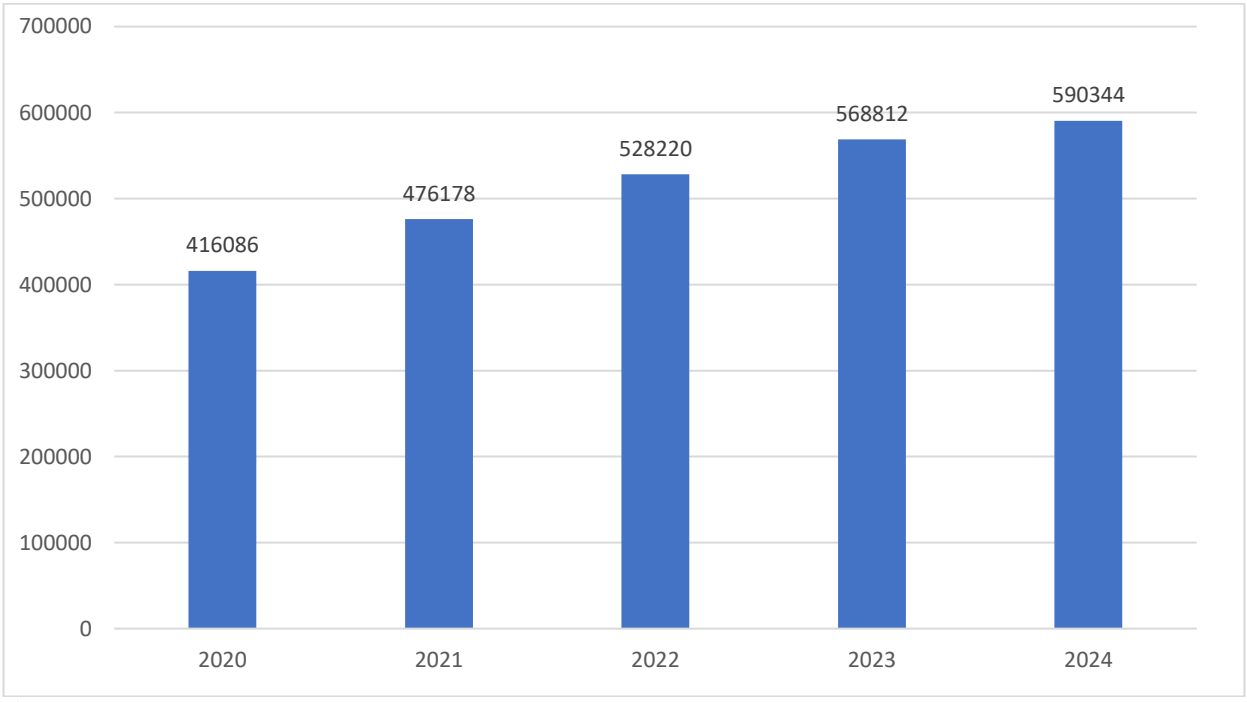

Figure 3.
Number of patent applications in high-end manufacturing industry from 2020 to 2024 (pieces)
Source: National Bureau of Statistics (High-end manufacturing industries include pharmaceutical manufacturing; electrical machinery and equipment manufacturing; computer, communication and other electronic equipment manufacturing industry and instrument manufacturing industry)

The progress of these technologies provides a powerful technical support for traditional manufacturing enterprises to achieve intelligent production. The internet platform breaks the information barrier and realize data share. Organizations could use the platform to obtain real-time production equipment operation status, raw material inventory, order progress and other key data then make intelligent decisions based on these data.

3.1.2. Challenges of Business Model Innovation in Traditional Enterprises Driven by Digital-Real Integration

Although artificial intelligence and digital social platforms bring many opportunities to manufacturing enterprises, it still faces many challenges in practical application. Companies sometimes use artificial intelligence to process large amounts of data. If data leakage occurs, it may cause huge losses to companies (Luo, 2021). If contained private customer data, it would damage the image of the corporation. And the R&D of AI technology requires huge capital investment. But many small and medium-sized manufacturing organizations (SMEs) can hardly afford such high costs, such as the purchase of hardware facilities and personnel training (Kumar et al., 2023; Zhou et al., 2022).

There are also some difficulties for enterprises to use digital social platforms. Because it is hard to identify true and false information. Enterprises need to invest a lot of time and resources to distinguish them. This reduces the efficiency of information utilization to some extent (Aïmeur, Amri, & Brassard, 2023). On the other hand, too much information may lead to confusion in business decision-making. Numerous opinions also make it difficult for companies to accurately grasp the core needs and affect the timeliness and effectiveness of decision-making (Aïmeur et al., 2023). Additionally, negative information spreads quickly on the internet. If the enterprise is deeply involved in public opinion, it maybe damages the brand corporate image (Bécue, Praça, & Gama, 2021). Therefore, enterprises should pay attention to these problems when using AI technology and social media platforms to avoid losses.

3.2. Analysis of Business Model Innovation Motivation of High-end Manufacturing Enterprises

For the purpose of understanding why traditional enterprises encounter challenges during business model innovation, this part analyzes the reasons from disconnection between intelligent technology and application, and digital social users' needs.

3.2.1. Disconnection between Intelligent Technology and Application

Digital technologies in some enterprises are still only applied to production parts, failing to deeply integrate it with business model innovation (Fang, Moreno Brenes, & Brusoni, 2023). The equipment operation data in the production department is separated from the raw material supply data in the purchasing department and the market demand data in the sales department. That means enterprises cannot quickly adjust production plans and raw material procurement plans according to market demand, resulting in affect the synergy efficiency of the entire industrial chain. Moreover, the intelligent development of manufacturing industry lacks innovative and technological talents and cannot achieve fully intelligent production.

3.2.2. Artificial intelligence technology intensifies market competition

The rapid development of AI makes the competition in the field of high-end manufacturing more and more fierce. Because the new algorithm is excellent in cost control, product personalization and production efficiency. New high-end intelligent manufacturing enterprises use new technologies to produce and provide services. It can impact the market share of traditional manufacturing organizations (Abrardi, Cambini, & Rondi, 2022). Therefore, facing the reshaping of the competition pattern, traditional manufacturing enterprises must enhance their core competitiveness through business model innovation.

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3.2.3. Digital Social Platform Development

Social media has fundamentally changed the relationship between businesses, merchants and consumers. As a result, the old mode of operation is unable to meet the expected results, making enterprises face the need for innovation (Zhang & Zhu, 2021). Some studies have shown that social media information is flexible, and enterprises are likely to be overwhelmed by information (Chen & Liu, 2025). It takes a lot of time to solve the changes brought by social media, even influenced by false information. It leads to manufacturing enterprises cannot take full advantage of digital technology in market competition (Ye, Yu, Zheng, & Zheng, 2022). Therefore, it is more necessary to innovate business models, deal with false information and integrate digital technology throughout the entire value chain, including product design, production, sales, and service.

3.2.4. Unmet Needs of Digital Social Users

With the improvement of digital technology, users' requirements for products are also increasing. Public not only want high-quality products, but also need customized sales service. However, some enterprises still adopt the traditional mode, failing to provide customers with real-time monitoring and maintenance services during the period of use through the internet platform (Aïmeur et al., 2023). This might lead to the lack of communication channels with people, low user viscosity, and difficulty in forming effective community connections.

4. The Impact and Strategies of Artificial Intelligence and Digital Social Media on Business Model Innovation Driven by Digital-Real Integration

This part further studies the role of artificial intelligence and digital social media in the business model innovation and their impact in traditional enterprises, which is Haier Company, and suggests strategies of innovation.

4.1. Impact of AI on Business Model Innovation

Artificial intelligence is not only an innovative tool, but also an opportunity for enterprises to upgrade their products (Kumar et al., 2023). The application of artificial intelligence technology enables products to be interconnected with other intelligent products. For example, Haier Company establishes a full-scene intelligent life platform. The air conditioning system can automatically adjust the temperature parameters, and users can also remotely control household appliances through application (Wen et al., 2025). This kind of product, which considers users' needs as its core, satisfies the contemporary consumers' desire for smart life. Haier Company relies on the interconnection of intelligent products to expand its business from household appliances to many aspects such as clothing, food, housing and transportation. Artificial intelligence technology is conducive to maintaining interaction between enterprises and consumers and meeting the needs of personalized users to match external demand with internal resources.

4.2. Impact of Digital Social Media on Business Model Innovation

In digital economy, the rise of digital social platform is profoundly affecting the business model of enterprises and injecting new vitality into enterprises. Digital social media not only serve as a tool for people to communicate and interact, but also a core platform for firms to connect markets and insight into needs, promoting managers to transform the business model from single output to co-creation (Yang, Xiu, Sun, Ying, & Muthu, 2022). Digital social media shifts the way companies interact with users, creating user-centered business model innovation. In the traditional business model, the interaction between organizations and consumers is mostly one-way, and the feedback of users'needs lags behind and is fragmented (Gaglio et al., 2022). The digital social platform supports enabled enterprises to interact in real-time and directly understand consumers needs by social platform, live interaction, user communities, and other channels. For example, new energy automobile companies connect battery suppliers and autopilot technology companies through industry social platforms,

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sharing R&D data and test resources. This way short the R&D cycle of new vehicles (Yanyu Chen, 2022). This co-creation mode reduces the distance between traditional R&D and consumers, making product innovation more accurate to meet market demand.

Actually, digital social media is an innovative business model that change the method of value creation and delivery by breaking information barriers, activating user engagement and integrating fragmented resources (Dwivedi, Ismagilova, Rana, & Raman, 2023). In recent years, the e-commerce model has been created. Managers utilize user data to improve the repurchase rate as the core goal and create new value for customers with the help of membership system and various interactive platforms. These new business models encourage enterprises to analyze user data to implement new innovations and changes.

4.3. Business Model Strategy Driven by Digital-Real Integration

Driven by artificial intelligence and digital social media, the digital economy and the real economy are deeply integrated. Digital-real integration has become the key path to enhance the chain resilience in manufacturing industry. Under this background, organizers need to make systematic changes from product design, technological innovation, talent introduction to ecological construction.

First, technology integration updates service products. Product service transformation is one of the core strategies under the digital-real integration. Traditional manufacturing enterprises could combine products and services through digital technology to achieve value extension. Sany Heavy Industries, for example, installs IoT sensors for excavators and monitors equipment operation data in time through the cloud platform, providing customers with predictive maintenance services (Zhou, Hu, & Yang, 2024). When the system detects the wear, it would automatically launch maintenance reminders and dispatch nearby engineers to examine, whilst optimizing plans of construction based on historical data. This model allows managers to give customers more satisfied experience and optimize products at the same time so as to promote business model innovation.

Second, people could activate technology engine to push industrial change. Enterprises should increase investment in artificial intelligence and digital social platforms and cooperate with universities to set up research teams to enhance their practical ability (Hassani & Mosconi, 2022). Besides, companies can use artificial intelligence to predict consumer behavior and provide more personalized service, thereby improving customer experience (Gaglio et al., 2022).

Third, managers could introduce talents for cooperative development. Business model innovation needs the support from professionals which focus on data analysis, information security (Zhou et al., 2022). Meanwhile, organizations should pay attention to the training of existing employees in AI technologies, resulting in reducing the loss caused by operational errors.

5. Conclusions and Suggestions

In the past years, manufacturing enterprises have begun digital transformation. This article studies the impact and implementation strategies of manufacturing enterprises using artificial intelligence and digital social technology on their business model innovation.

5.1. Conclusion

First, people use artificial intelligence to improve the level of production efficiency and intelligence and provide technical support for business model innovation. This technology not only changes the production process, but also reduces the production cost.

Second, through digital social media platforms, enterprises can obtain user preference data and achieve precise marketing and personalized services to meet market demand. And digital social platforms break geographical restrictions, enabling corporations to establish extensive contacts with customers, partners and industry experts. At the same time, digital media platforms promote transnational communication and technical experience sharing among employees in different regions.

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Third, people combine artificial intelligence with digital social platforms in order to encourage the transformation of manufacturing enterprises from traditional production to intellectualization and digitalization. Because intelligent algorithms can effectively analyze the massive user data of social platforms. At the same time, social channels provide abundant data sources for AI.

Fourth, however, current manufacturing industry still faces some challenges in the application of artificial intelligence. Core corporation data may be leaked. And small and medium-sized companies may not be able to afford high R&D costs. These challenges all limit the application of AI technology in different degrees.

Fifth, despite digital social platforms generate useful consumer data to enterprises, whereas some false information makes it difficult to distinguish the authenticity of information and affects the efficiency of information utilization in enterprises. Moreover, problems such as false information and rapid information iteration influence market judgment of enterprises and increase the cost of decision-making.

5.2. Recommendations

In conclusion, high-end manufacturing organisations need to promote business model innovation through systematic strategies motivated by digital-real integration. In the future, the business model innovation of high-end intelligent manufacturing enterprises should continue to deepen digital-real integration, carry out the transformation of product services, increase technological innovation, strengthen personnel training and introduction, and build ecological synergy. These actions provide an effective method for organizations to achieve business model innovation. For small and medium-sized companies, they can make good use of social media to understand the external environment leading to alter the existing concept and sustainably develop their own business model (Zhang & Zhu, 2021). Small and medium-sized companies also can take full advantage of low-cost digital tools such as social media to grasp industry trend and customer demand timely in order to improve market responsiveness by data-driven decision making.

Transparency:

The author confirms that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

References

Abrardi, L., Cambini, C., & Rondi, L. (2022). Artificial intelligence, firms and consumer behavior: A survey. *Journal of Economic Surveys, 36*(4), 969-991. https://doi.org/10.1111/joes.12455

Ahmed, I., Jeon, G., & Piccialli, F. (2022). From artificial intelligence to explainable artificial intelligence in industry 4.0: A survey on what, how, and where. *IEEE Transactions on Industrial Informatics, 18*(8), 5031-5042. https://doi.org/10.1109/TII.2022.3146552

Aïmeur, E., Amri, S., & Brassard, G. (2023). Fake news, disinformation and misinformation in social media: A review. *Social Network Analysis and Mining, 13*(1), 30. https://doi.org/10.1007/s13278-023-01028-5

Barari, A., de Sales Guerra Tsuzuki, M., Cohen, Y., & Macchi, M. (2021). Editorial: Intelligent manufacturing systems towards industry 4.0 era. *Journal of Intelligent Manufacturing, 32*(7), 1793-1796. https://doi.org/10.1007/s10845-021-01769-0

Bécue, A., Praça, I., & Gama, J. (2021). Artificial intelligence, cyber-threats and Industry 4.0: Challenges and opportunities. *Artificial Intelligence Review, 54*(5), 3849-3886. https://doi.org/10.1007/s10462-020-09942-2

Chen, J., & Liu, L. (2025). When does social media promote firm innovation? The moderating role of strategic flexibility. *R&D Management, 55*(1), 240-260. https://doi.org/10.1111/radm.12699

Chen, Y. (2022). Research on collaborative innovation of key common technologies in new energy vehicle industry based on digital twin technology. *Energy Reports, 8*, 15399-15407. https://doi.org/10.1016/j.egyr.2022.11.120

Chen, Y. (2023). Beyond chatGPT: Opportunities, risks, and challenges from generative AI. *Journal of Shandong University (Philosophy and Social Sciences)*, *3*, 127-143.
Chen, Y. (2025). The rise of agent economy: The reshaping of the business world by AI agents. *Research on Financial and Economic Issues*, *7*, 15–31. https://doi.org/10.19654/j.cnki.cjwtyj.2025.07.002
Chen, Y., Shao, Y., & Chen, J. (2025). A process study on AI-driven transformation toward intelligent manufacturing in enterprises. *Science Research Management*, *46*(6), 1–9.
Cui, G., Li, B., Tian, W., Liao, W., & Zhao, W. (2022). Dynamic modeling and vibration prediction of an industrial robot in manufacturing. *Applied Mathematical Modelling*, *105*, 114-136. https://doi.org/10.1016/j.apm.2021.12.031
Demlehner, Q., Schoemer, D., & Laumer, S. (2021). How can artificial intelligence enhance car manufacturing? A Delphi study-based identification and assessment of general use cases. *International Journal of Information Management*, *58*, 102317. https://doi.org/10.1016/j.ijinfomgt.2021.102317
Du, C., & Lin, Y. (2025). Mechanisms and paths of artificial intelligence standards promoting high-quality development of China's manufacturing industry. *Hebei Academic Journal*, *45*(4), 179–190.
Dwivedi, Y. K., Ismagilova, E., Rana, N. P., & Raman, R. (2023). Social media adoption, usage and impact in business-to-business (B2B) context: A state-of-the-art literature review. *Information Systems Frontiers*, *25*(3), 971-993. https://doi.org/10.1007/s10796-021-10106-y
Fan, X., Meng, F., Bao, X., & Qu, G. (2020). Does artificial intelligence cause a productivity paradox in manufacturing enterprises. *Science & Technology Progress and Policy*, *37*(14), 125–134.
Fang, S., Moreno Brenes, A., & Brusoni, S. (2023). Technology intelligence and digitalization in the manufacturing industry. *Research-Technology Management*, *66*(5), 22-33. https://doi.org/10.1080/08956308.2023.2234758
Gaglio, C., Kraemer-Mbula, E., & Lorenz, E. (2022). The effects of digital transformation on innovation and productivity: Firm-level evidence of South African manufacturing micro and small enterprises. *Technological Forecasting and Social Change*, *182*, 121785. https://doi.org/10.1016/j.techfore.2022.121785
Gu, L., & Zhang, X. (2023). Drivers, mechanisms and paths of business model innovation driven by digital economy. *Nanjing Journal of Social Sciences*, *12*, 36–43.
Hassani, A., & Mosconi, E. (2022). Social media analytics, competitive intelligence, and dynamic capabilities in manufacturing SMEs. *Technological Forecasting and Social Change*, *175*, 121416. https://doi.org/10.1016/j.techfore.2021.121416
Hong, Y., & Ren, B. (2023). The connotation and path of deep integration of digital economy and real economy. *China Industrial Economics*, *2*, 5–16.
Huang, R., Shen, Z., & Yao, X. (2024). How does industrial intelligence affect total-factor energy productivity? Evidence from China's manufacturing industry. *Computers & Industrial Engineering*, *188*, 109901. https://doi.org/10.1016/j.cie.2024.109901
Kumar, S., Gopi, T., Harikeerthana, N., Gupta, M. K., Gaur, V., Krolczyk, G. M., & Wu, C. (2023). Machine learning techniques in additive manufacturing: A state of the art review on design, processes and production control. *Journal of Intelligent Manufacturing*, *34*(1), 21-55. https://doi.org/10.1007/s10845-022-02029-5
Lee, C.-C., Qin, S., & Li, Y. (2022). Does industrial robot application promote green technology innovation in the manufacturing industry? *Technological Forecasting and Social Change*, *183*, 121893. https://doi.org/10.1016/j.techfore.2022.121893
Li, Y., & Jin, X. (2025). The impact of digital–physical integration on manufacturing industry chain resilience: An analysis based on the dual drive of technology–data. *China Business and Market*, *39*(8), 3–18.
Lin, C., Xiao, S., & Tang, P. (2024). Doesartificial intelligence improve export technical complexity upgrade of manufacturing enterprises? Evidence from China. *SAGE Open*, *14*(3), 21582440241267126. https://doi.org/10.1177/21582440241267126
Liu, Q., Zhang, Y., Lei, Y., & Chen, G. (2022). Full-digitalenabling innovation by bilateral linkage of equipment manufacturing enterprises: Process, logic and mechanism. *Studies in Science of Science*, *40*(1), 150.
Liu, W. (2023). Embedding ChatGPT-type generative AI into digital government construction: Affordances, constraints and optimization based on the perspective of technological affordance. *Information Studies: Theory & Application*, *46*(10), 69–76.
Luo, Y. (2021). New OLI advantages in digital globalization. *International Business Review*, *30*(2), 101797. https://doi.org/10.1016/j.ibusrev.2021.101797
Wen, X., Pan, Z., & Liu, Y. (2025). Progressive capability model of manufacturing digital transformation under TVBS collaboration: A comparative analysis of haier group and huawei group. *Science & Technology Progress and Policy*, *42*(14), 1–12.
Wu, F., Hu, H., Lin, H., & Ren, X. (2021). Enterprise digital transformation and capital market performance: Empirical evidence from stock liquidity. *Management world*, *37*(7), 130-144.
Wu, H., & Yang, D. (2025). Theoretical mechanisms and implementation paths for promoting high-quality development of manufacturing through artificial general intelligence. *Journal of Beijing University of Technology (Social Sciences Edition)*, *25*(4), 75–86.

Xing, Q., Wu, P., & Deng, F. (2025). Analysis of the dependency between industrial internet platforms and manufacturing participants under digital transformation. *Journal of Industrial Engineering and Engineering Management*, 1–18. https://doi.org/10.13587/j.cnki.jieem.2025.05.009

Yang, J., Xiu, P., Sun, L., Ying, L., & Muthu, B. (2022). Social media data analytics for business decision making system to competitive analysis. *Information Processing & Management*, *59*(1), 102751. https://doi.org/10.1016/j.ipm.2021.102751

Yang, T., Yi, X., Lu, S., Johansson, K. H., & Chai, T. (2021). Intelligentmanufacturing for the process industry driven by industrial artificial intelligence. *Engineering*, *7*(9), 1224-1230. https://doi.org/10.1016/j.eng.2021.04.023

Ye, Y., Yu, Q., Zheng, Y., & Zheng, Y. (2022). Investigating the effect of social media application on firm capabilities and performance: The perspective of dynamic capability view. *Journal of Business Research*, *139*, 510-519. https://doi.org/10.1016/j.jbusres.2021.10.008

Yee, R. W. Y., Miquel-Romero, M.-J., & Cruz-Ros, S. (2021). Why and how to use enterprise social media platforms: The employee's perspective. *Journal of Business Research*, *137*, 517-526. https://doi.org/10.1016/j.jbusres.2021.08.057

Yu, F., Li, M., & Gao, X. (2025). How manufacturing enterprises use industrial internet platforms to enable digital-green twin transformation: A longitudinal multiple-case study. *Science & Technology Progress and Policy*, 1–13.

Zeba, G., Dabić, M., Čičak, M., Daim, T., & Yalcin, H. (2021). Technology mining: Artificial intelligence in manufacturing. *Technological Forecasting and Social Change*, *171*, 120971. https://doi.org/10.1016/j.techfore.2021.120971

Zhang, F., & Zhu, L. (2021). Social media strategic capability, organizational unlearning, and disruptive innovation of SMEs: The moderating roles of TMT heterogeneity and environmental dynamism. *Journal of Business Research*, *133*, 183-193. https://doi.org/10.1016/j.jbusres.2021.04.071

Zhang, P., & Wang, J. (2025). How manufacturing enterprises achieve business model innovation: A longitudinal case study from the perspective of industrial internet platform enablement. *Journal of Management Case Studies*, *18*(3), 432–446.

Zhou, D., Xu, K., Lv, Z., Yang, J., Li, M., He, F., & Xu, G. (2022). Intelligent manufacturing technology in the steel industry of china: A review. *Sensors*, *22*(21), 8194. https://doi.org/10.3390/s22218194

Zhou, L., Jiang, Z., Geng, N., Niu, Y., Cui, F., Liu, K., & Qi, N. (2022). Production and operations management for intelligent manufacturing: A systematic literature review. *International Journal of Production Research*, *60*(2), 808-846. https://doi.org/10.1080/00207543.2021.2017055

Zhou, W., Hu, R., & Yang, X. (2024). Service-oriented digital transformation of manufacturing enterprises based on boundary spanning: A case study of Sany Heavy Industry. *Studies in Science of Science*, *42*(7), 1472–1481.

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