WEP Warwick Evans Publishing

International Journal of Global Economics and Management

ISSN: 3005-9690 (Print), ISSN: 3005-8090 (Online) | Volume 2, Number 2, Year 2024
DOI: https://doi.org/10.62051/ijgem.v2n2.35
Journal homepage: https://wepub.org/index.php/IJGEM/index

Innovation of Enterprise Management in the Era of Artificial Intelligence

Keyu Chen

English Department, Shenzhen Campus, Jinan University, Shenzhen, China

ABSTRACT

As a product of social development and technological innovation, Artificial Intelligence has become the driving force of technological innovation and industrial transformation. It profoundly impacts the world economy, social progress as well as people's lives. Artificial Intelligence's commercial applications innovate enterprises' internal operations and production processes, bringing both challenges and opportunities for management. This article analyses innovation in modern enterprise management with specific applications of AI to management theories. Some suggestions are also made for enhancing the application level of Artificial Intelligence in enterprise management.

KEYWORDS

Enterprise Management; Management Innovation; Artificial Intelligence; Artificial Intelligence Application

1. INTRODUCTION

In the current days of advancing informatization and intelligentization, Artificial Intelligence (AI) has been prioritized and vigorously developed in recent years by countries such as China, the United States, and the European Union. It has gradually permeated people's daily lives and found widespread applications in numerous enterprises. The strategic planning and supportive policies of major global economies indicate that the AI industry will continue to increase and become a vital pillar of worldwide economic development.

The development and integration of AI across various domains have presented unprecedented challenges for enterprise management, compelling companies to undertake innovative reforms in their management practices to adapt to the rapid advancements in AI. In 2017, the General Office of the State Council of China issued the "Next Generation Artificial Intelligence Development Plan," strategically deploying the development of AI in the country. The development and utilization of AI have become strategic priorities for China's growth in this new era, and during ongoing reforms, reliance on AI is crucial. In the current context of significant transformation in AI, enterprises of all kinds are striving to integrate their operational management models with the development of AI, thereby ushering in new opportunities and challenges in enterprise management [1].

2. ARTIFICIAL INTELLIGENCE AND ENTERPRISE MANAGEMENT

2.1. Artificial Intelligence

Artificial Intelligence encompasses a certain degree of human Intelligence and involves the simulation of human thinking. By combining electronic computers with human Intelligence, AI aims

to assist humans in continuously reducing their workload. Currently, AI heavily relies on electronic calculators and mechanical devices for operation. Many research institutions have begun utilizing computers and related equipment to emulate the functionalities of the human brain. The development of AI primarily relies on the application of electronic computer technology to organically integrate human activities with machines, ultimately replacing human brain functions with intelligent machines and liberating humans from a portion of their work.

Over the past 30 years, China's development of AI has established a comprehensive system encompassing pattern recognition, knowledge repositories, and more, providing a solid foundation for integrating AI and enterprise management. The core issues in AI and its construction are, in fact, similar to the pursuits and advancements of humanity, even surpassing human abilities in reasoning, learning, communication, perception, mobility, and manipulation of machines [2].

AI is effectively adapting to the era of big data. AI is primarily divided into the foundational, technical, and application levels. By leveraging technology and intelligent machine systems, AI enhances enterprise management and work efficiency while ensuring the timely acquisition of market data information and automation of production processes [3].

2.2. Modern Enterprise Management

Modern enterprise management has evolved to the level of strategic planning, which serves as a crucial criterion for assessing a company's overall competitiveness. Modern enterprise management involves the pre-systematization and standardization of various activities, such as procurement and production. Corporate governance is a topic that all companies are discussing, and through years of research and accumulated experience in Chinese enterprises, there has been significant improvement in management capabilities [4]. In this regard, modern management aligns with many enterprises' current management status and upgraded concepts. The objective of business operations is to maximize economic benefits through better resource allocation, continuously improve the utilization efficiency of various company resources, achieve long-term and sustainable development, and ultimately support the management team in realizing the predetermined strategic goals of the enterprise.

3. APPLICATION OF ARTIFICIAL INTELLIGENCE IN MODERN ENTERPRISE MANAGEMENT

3.1. Investment Management

AI-based management systems enable investment institutions to efficiently utilize information and data, safeguard investors by hedging potential investment risks, and make timely and accurate investment decisions. These advantages of AI-based management systems are due to the following factors.

- They help support and improve foundational research databases.
- They can reduce the human resource costs of investment research and enhance research efficiency.
- They may strengthen the overall risk management capabilities throughout the investment process.
- They could mitigate compliance risks for investment institutions through systematic processes.

Regarding investment report generation, Artificial Intelligence can utilize natural language processing to provide customized reports to investors. These automatically analysed, generated pieces enhance personalized service elements and receive consistent praise from investors. Moreover, investment institutions are relieved from manually producing investment analysis reports, resulting

in workforce and resource savings while significantly improving investment management's quality and efficiency.

3.2. Production Management

Production management is an integral part of modern enterprise management, and the application of AI in production management is primarily manifested in three aspects: production process management, inventory management, and production quality control.

Production planning and process management continually face changing internal and external environmental conditions related to production projects, resulting in increased uncertainty and unpredictability of project outcomes. The risks associated with production projects are uncertain, and it is challenging for the human brain to calculate and assess them based on data. Introducing machine learning technology into AI allows for more accurate prediction of project outcomes and improvement of production processes and management efficiency when faced with more uncertain factors [5].

AI is also widely used in inventory management and product quality control, enabling companies to predict future market trends more accurately and adjust production plans to match product demand. Companies can minimize or set inventory levels to zero by applying AI to inventory management. When market demand fluctuates frequently, managers can utilize AI technology to analyse and predict market demand and make appropriate adjustments to planning, scheduling, operational indicators, and production guidelines, ensuring optimal product inventory.

In terms of product quality control, the introduction of AI allows for monitoring various stages of enterprise production, enabling intelligent detection of product quality through visual inspection technology [6]. Optical inspection technology can detect potential micro-defects in products with resolutions beyond human vision, optimizing manufacturing processes and improving product quality.

3.3. Marketing Management

With the advancement of AI, there have been significant changes in business marketing technology. Many companies utilize technologies such as AI data mining and intelligent algorithms to collect information related to customer needs. This information is then analysed and investigated to gain insights into customer demands. By incorporating AI into marketing management and leveraging potential customer groups, businesses can expand their prospects and enhance precise and personalized interactions between their brands and customers, thereby improving marketing efficiency.

In marketing analysis, employees can use AI technology to analyse customer demographics, psychographic needs, consumer behaviours, social characteristics, educational backgrounds, and more to depict customer profiles accurately. Based on the results of the analysis, businesses can precisely determine customer preferences, thus increasing the effectiveness of marketing efforts.

Regarding copywriting, creating compelling product marketing copy has become increasingly important. Businesses can adopt AI copywriting systems and utilize the "natural language generation" function to automatically gather and generate marketing themes. The system can automatically create product marketing copy by considering headlines and people's reading habits.

3.4. Financial Management

In recent years, the application of AI in corporate financial management has gained significant momentum. In 2016, Deloitte, followed by Ernst & Young and PricewaterhouseCoopers, pioneered integrating AI technology into corporate financial management. These firms typically employ financial robots to achieve intelligent and automated financial management.

Accounting work is known for being complex and tedious, and prolonged engagement in a single study may lead financial managers to commit errors due to fatigue [7]. Companies leverage AI in accounting data entry, consolidation, and statistical aggregation. Intelligent robots can act on behalf of financial managers, freeing them from manual tasks and enabling them to dedicate their time to more specific responsibilities while providing additional value-added financial services.

Furthermore, introducing AI technology can address the issue of high error rates in manually handling financial information[8]. Financial robots can effectively track various processes in financial management and automatically verify matters at each stage, thus avoiding human errors and significantly enhancing the quality and efficiency of financial management.

3.5. Human Resource Management

AI has been utilized in human resources management within enterprises in many aspects. Firstly, AI is applied in talent recruitment. Talent acquisition is a crucial part of human resources management. Human resource (HR) managers can use AI technology to sift through hundreds of resumes and select those that meet the requirements of the job positions. They can also employ virtual interviewers if applicants feel uncomfortable or cannot attend interviews due to unforeseen circumstances. By utilizing the powerful analytical capabilities of AI-powered voice bots, recruiters can analyse the tone, speed, and intonation of applicants' speech to extract their personality traits. This provides data support for enterprises to identify suitable candidates quickly.

Secondly, AI is employed in day-to-day human resources management. Companies can use facial recognition for employee attendance tracking or AI for exit assessments when employees resign. Some organizations also utilize AI to analyse employee preferences and use advanced algorithms to assess changes in their professional skills and work attitudes. By leveraging data related to employees' potential capabilities, they can effectively manage their workforce.

4. STRATEGIES TO IMPROVE THE APPLICATION OF ARTIFICIAL INTELLIGENCE IN MODERN ENTERPRISE MANAGEMENT

4.1. Establish a Modern Management Concept of Artificial Intelligence

Considering the current state of information management in Chinese enterprises, many managers need a deeper understanding of information management and stronger concepts regarding its implementation. The overall enterprise intelligence and information management level could be much higher. Research data indicates that nearly half of the internal managers in China's enterprises need a solid grasp of information management concepts. AI is a significant product of advanced development in modern information technology. To promote the refined application of AI in enterprise management, enterprise leaders and managers need to change outdated management concepts and establish an AI-driven approach to information management.

On the one hand, managers should actively acquire theoretical knowledge, understand its importance, and familiarize themselves with the application of AI technology, thereby setting an example for others [9]. It is crucial to provide convenient funding, facilities, and technological support for the application of AI, ensuring its barrier-free implementation in enterprise management.

4.2. Forge a High-quality Artificial Intelligence Application Environment

Applying AI in business operations requires a supportive and high-quality application environment. To lay a solid foundation for the effective utilization of AI, cooperation and communication among various departments within the enterprise must be strengthened. The application of AI technology relies on the collaboration of different departments, and information barriers or data silos can hinder

its implementation. Therefore, the enterprise must establish a collaborative management system based on AI technology, clearly defining the responsibilities and roles of department heads in AI applications and supervising employees to fulfil their job duties. AI systems used in various management areas, such as human resources, finance, and investments, may differ [10]. Therefore, dedicated technical personnel should be deployed to manage centrally and regularly maintain these systems to ensure smooth operation.

5. CONCLUSION

In the era of big data, modern enterprises face various operational risks in the market while encountering new challenges in applying AI technology. The study finds that AI has enhanced management capabilities and reduced the workload and potential for errors among modern enterprise employees, improving employee competitiveness.

Since the 21st century, there has been a qualitative leap in global technological quality. Human beings, at the same time, are pursuing higher social productivity. The development of AI technology is reshaping social reality. As a result, enterprises face a more complex and volatile external environment in the age of AI. The development of AI technology presents both challenges and opportunities for enterprises. To keep abreast of such development, enterprises must take simultaneous steps in theory and practice to proactively seize the development opportunities brought by AI.

REFERENCES

[1] Liu Qun and Liang Fucheng, Artificial Intelligence—opportunities and challenges for enterprise management: a review and research hotspot. Proceedings of SPIE - The International Society for Optical Engineering, 12454,2022.

[2] Si Jinhua, Methods and paths of enterprise management change in the age of Artificial Intelligence. Journal of Jiangxi Vocational and Technical College of Electricity, 12th ed., vol.34, pp.139-140,2021.

[3] Heinz Herrmann, The arcanum of Artificial Intelligence in enterprise applications: toward a unified framework. Journal of Engineering and Technology Management, vol.66,2022.

[4] Zhang Linghe, Research on the innovation of modern enterprise management mode in the era of big data. China Journal of Commerce, 12th ed., vol.859, pp.114-116,2021.

[5] Wan Yinyue, Analysis on the application of Artificial Intelligence in enterprise intelligent management. Digital Technology & Application, 8th ed., vol.37, pp.45-47,2021.

[6] Yang Changping, Zhang Xuefeng, Yao Yong, Chen Chen, Zhu Jie and Chen Zhiguo, Exploration on the Application of Artificial Intelligence in Manufacturing Enterprise Management. Science & Technology Information, vol.19, pp.38-41,2021.

[7] N. Ain, G. Vaia, W.H. DeLone and M. Waheed, Two decades of research on business intelligence system adoption, utilization and success – a systematic literature review. Decision Support Systems, vol.125,2019.

[8] Cao Yubo, Innovation of enterprise financial management based on machine learning and Artificial Intelligence technology. Journal of Intelligent & Fuzzy Systems: Applications in Engineering and Technology, 4th ed., vol.40, pp.6767-6778,2021.

[9] Wu Mengyao, Integrated development and risk challenge analysis of enterprise management in the era of artificial intelligence. Sci-Tech & Development of Enterprise, 4th ed., vol.486, pp.116-118,2022.

[10] Jian Shengqian, Analysis of the impact of artificial intelligence on enterprise management theory and countermeasures. Economic Outlook the Bohai Sea, 2ed ed., vol.305, p.105,2020.