

Research on the Transformation of Unit Leaders' Management Methods in the Era of Artificial Intelligence

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Abstract: The era of artificial intelligence is a revolution of knowledge creating wealth, and an era of thorough transformation of the structure of productivity. This era poses new challenges and opportunities for the transformation of management methods of unit leaders. The development of artificial intelligence technology not only provides new management tools and methods for unit leaders, but also puts forward new requirements and expectations for them. Alibaba Group, Tencent, Baidu, JD Group, and Huawei, as excellent practical cases, their use of artificial intelligence technology for the transformation of management methods of unit leaders is worth learning from. In the era of artificial intelligence, unit leaders need to continuously learn and understand artificial intelligence technology in order to apply these technologies to optimize management methods and improve management effects. At the same time, unit leaders also need to continuously adjust and improve management strategies, focus on talent cultivation and team building, and strengthen cooperation with authority, society, industries, etc., to adapt to the new situation and new requirements of the era of artificial intelligence.

Keywords: Artificial Intelligence; Management Transformation; Unit Leaders; Excellent Practice Cases

1. Introduction

Artificial Intelligence (AI) refers to intelligent behaviors executed by computer systems, including learning, reasoning, self-correction, and adaptation [1]. With the rapid development and widespread application of AI technology, it is profoundly changing the way society, economy, and organizations operate. AI technology not only improves production

efficiency and innovation capabilities but also has a significant impact on human work methods and management styles [2]. In recent years, the state has issued several policies to encourage the development and innovation of the AI industry, including the "New Generation Artificial Intelligence Development Plan", "Guiding Opinions on Accelerating Scene Innovation to Promote High-Level Application of Artificial Intelligence for High-Quality Economic Development", "Notice on Supporting the Construction of New Generation Artificial Intelligence Demonstration Application Scenarios", "New Data Center Development Three-Year Action Plan (2021-2023)", and "Generative Artificial Intelligence Service Management Measures (Draft for Comment)". These policies mainly include formulating the top-level design and strategic goals of AI development, accelerating scene innovation and demonstration applications, strengthening data center construction and management, standardizing generative AI services, strengthening international cooperation and exchanges, etc. These decision deployments are closely related to the management style changes of unit leaders. On the one hand, relevant policies provide unit leaders with the direction, support, and guarantee for the application of AI technology, creating a favorable external environment for management style changes [3]. On the other hand, the management style changes of unit leaders are also an important subject for policy implementation and implementation, and they are the embodiment of policy effects and values [4].

As the core force of the organization, unit leaders need to adapt to the changes in the AI era, grasp the potential and limitations of AI technology, adjust management styles, enhance leadership, and achieve sustainable

development of the unit. This study aims to explore the management style changes of unit leaders in the AI era, analyze the impact of AI technology on management and leadership, and show some successful experiences of units in changing management styles by applying AI technology through case analysis. Finally, some suggestions will be put forward to promote unit leaders to achieve greater achievements in management style changes. This is of great theoretical and practical significance for understanding the role of AI technology in the management style changes of unit leaders, improving the management level and leadership of unit leaders, and promoting the coordinated development of units and AI technology.

2. The Relationship between AI Technology and the Transformation of Unit Leaders' Management Styles

The relationship between AI technology and the transformation of unit leaders' management styles is a two-way dynamic interaction [5]. That is, AI technology can serve as a driving force and tool for management style transformation, providing unit leaders with data support, intelligent decision-making, automated execution, and other functions to improve management efficiency and effectiveness, improve management objects and content, and innovate management models and styles. On the other hand, unit leaders can also serve as the main body and promoter of AI technology application, effectively applying AI technology through clear goals and meanings, formulating plans and strategies, implementation, and improvement, to achieve the sustainable development of the unit [6].

2.1 The Impact of AI Technology on Management Styles

2.1.1 Improve management efficiency and effectiveness.

AI technology can help unit leaders improve management efficiency and effectiveness through functions such as data analysis, intelligent decision-making, and automated execution. For example, AI technology can provide valuable information and suggestions to unit leaders by collecting, processing, analyzing, and mining large amounts of data, helping them formulate more reasonable

strategies, plans, and goals, optimize resource allocation and process design, and enhance organizational performance and competitiveness. AI technology can also provide unit leaders with more choices and possibilities by simulating and predicting various situations and scenarios, helping them make faster, more accurate, and flexible decisions to cope with various complex and changing environments. AI technology can also provide unit leaders with more time and energy by automating and intelligent execution of various tasks and work, helping them focus on more important and valuable work, and improve work quality and satisfaction.

2.1.2 Change management objects and content.

AI technology can change the management objects and content of unit leaders by intelligently transforming people, things, and information. For example, AI technology can help unit leaders improve employees' abilities, attitudes, behaviors, etc., and enhance employees' quality, loyalty, and innovation through functions such as intelligent training, evaluation, and motivation of employees. AI technology can also help unit leaders improve the quality, efficiency, and safety of material resources such as equipment, products, and services through functions such as intelligent upgrading, maintenance, and optimization. AI technology can also help unit leaders enhance the value, utilization rate, and confidentiality of information resources such as data, knowledge, and wisdom through functions such as intelligent acquisition, integration, and sharing.

2.1.3 Promote the innovation of management models and styles.

AI technology can promote unit leaders to innovate management models and styles through intelligent support and assistance to management models and styles. For example, AI technology can help unit leaders build a management model that is more adaptable to the characteristics and needs of the AI era, such as flattening, networking, and openness, by intelligently adjusting and optimizing elements of the management model such as organizational structure, culture, and atmosphere. AI technology can also help unit leaders form a management style that is more in line with the characteristics and trends of the AI era, such as interaction, collaboration, and personalization, by intelligently improving

and enhancing elements of the management style such as communication methods, collaboration methods, and incentive methods.

2.2 The Application of AI Technology by Unit Leaders

2.2.1 Clarify the goals and significance of AI technology application.

Unit leaders should clarify the goals and significance of applying AI technology, that is, why to apply AI technology and what benefits the application of AI technology can bring to the organization. This requires unit leaders to determine the direction and focus of AI technology application based on the unit's development strategy, business needs, competitive advantages, etc., such as improving production efficiency, innovating product services, optimizing customer experience, etc. At the same time, unit leaders also need to assess the feasibility and risks of applying AI technology based on the characteristics and limitations of AI technology, such as technological maturity, data quality, security guarantees, etc. By clarifying the goals and significance of AI technology application, unit leaders can provide clear guidance and motivation for AI technology application, avoiding blindly following the trend or wasting resources.

2.2.2 Formulate the plan and strategy for AI technology application.

Unit leaders should formulate the plan and strategy for AI technology application, that is, how to effectively apply AI technology and what preparations and arrangements need to be made for AI technology application. This requires unit leaders to formulate specific contents such as phased goals, task decomposition, time arrangement, responsibility allocation of AI technology application based on the unit's current situation and goals, forming an operable execution plan. At the same time, unit leaders also need to formulate support measures, coordination mechanisms, supervision and evaluation, and other auxiliary contents for AI technology application based on external environment and internal conditions, forming a complete guarantee system. By formulating the plan and strategy for AI technology application, unit leaders can provide effective organization and management for AI technology application, ensuring the smooth

progress and achievement of AI technology application.

2.2.3 Promote the implementation and improvement of AI technology application.

Unit leaders should promote the implementation and improvement of AI technology application, that is, how to implement and optimize AI technology application so that AI technology application can achieve the maximum effect. This requires unit leaders to organize and guide all relevant departments and personnel to complete various work tasks on time and with quality according to the plan and strategy, such as selecting suitable AI technology solutions, collecting and processing high-quality data, testing and debugging AI systems, etc. At the same time, unit leaders also need to collect and analyze various feedback information according to the implementation process and results, timely discover and solve various problems and difficulties, such as adjusting unreasonable processes, improving insufficient functions, repairing errors, etc. By promoting the implementation and improvement of AI technology application, unit leaders can provide continuous advancement and optimization for AI technology application, ensuring that AI technology application can achieve the expected goals and effects.

3. Excellent Practice Cases

This article selects Alibaba Group, Tencent, Baidu, JD.com, and Huawei as excellent practice cases to analyze how they transform the management style of unit leaders in the AI era. The selection of these cases is mainly based on the following reasons: First, these companies are all leading companies in the field of artificial intelligence in China, with strong technical strength and market influence, representing the development level and trend of China's artificial intelligence industry; Second, these companies are representatives of different industries and fields, covering e-commerce, social media, search engines, smart retail, and information communication, showing the application scenarios and value of artificial intelligence technology in various industries and fields; Third, these companies are typical cases of management style transformation in the AI era, reflecting different management models and styles, showing the impact and enlightenment of

artificial intelligence technology on management style transformation. Through the analysis of these cases, this article aims to explore from a practical level how unit leaders transform their management styles in the AI era to adapt to the development and application of artificial intelligence technology and enhance the competitiveness and innovation of the unit.

3.1 Alibaba Group: Creating a Borderless Organization Management Style Transformation

Alibaba Group is China's largest e-commerce platform and one of the world's largest Internet companies [7]. Alibaba Group actively applies artificial intelligence technology to provide consumers, merchants, and partners with higher quality, more convenient, and smarter services. Alibaba Group has undergone a management style transformation of a borderless organization in the AI era, mainly reflected in the following aspects: breaking organizational boundaries, building open platforms; breaking departmental boundaries, building flexible teams; breaking functional boundaries, building comprehensive talents. These management style transformations conform to the management concepts that unit leaders need to create open organizations, agile organizations, and diverse organizations in the AI era, achieving the maximization of resource utilization.

3.2 Tencent: Creating a Super Platform Management Style Transformation

Tencent is China's largest social media platform and one of the world's largest Internet companies [8]. Tencent actively applies artificial intelligence technology to provide users, partners, and society with richer, more convenient, and smarter services. Tencent has undergone a management style transformation of a super platform in the AI era, mainly reflected in the following aspects: creating the Tencent ecosystem, covering social, games, advertising, finance, and other fields; creating an innovative organization, using artificial intelligence technology to improve user experience and service quality; sharing data and resources with partners in various industries, achieving mutual benefit and win-win. These management style

transformations conform to the management concepts that unit leaders need to create platform organizations, ecological organizations, and wisdom organizations in the AI era, achieving the maximization of user needs.

3.3 Baidu: Creating an AI First Platform Management Style Transformation

Baidu is China's largest search engine platform and one of the world's largest artificial intelligence companies [9]. Baidu actively applies artificial intelligence technology to provide users, developers, and partners with more accurate, faster, and smarter services. Baidu has undergone a management style transformation of an AI first platform in the AI era, mainly reflected in the following aspects: creating Baidu Brain, providing the world's leading artificial intelligence technology and applications; creating an innovative organization, using artificial intelligence technology to improve search accuracy and user experience; building an AI ecosystem with developers and partners in various industries, achieving technology innovation and value sharing. These management style transformations conform to the management concepts that unit leaders need to create technology organizations, innovative organizations, learning organizations, etc., in the AI era, achieving the continuous advancement of technology innovation.

3.4 JD.com: Creating a Smart Retail Management Style Transformation

JD.com is one of China's largest e-commerce platforms and one of the world's largest retail companies [10]. JD.com actively applies artificial intelligence technology to provide consumers, merchants, and partners with higher quality, more convenient, and smarter services. JD.com has undergone a management style transformation of smart retail in the AI era, mainly reflected in the following aspects: creating JD.com Mall, providing a large number of high-quality goods and one-stop shopping experience; creating an innovative organization, using artificial intelligence technology to improve logistics efficiency and service quality; building a retail ecosystem with partners in various industries, realizing commodity

circulation and value circulation. These management style transformations conform to the management concepts that unit leaders need to create service organizations, collaborative organizations, data organizations, etc., in the AI era, achieving the maximization of user needs.

3.5 Huawei: Creating a Globally Leading ICT Solution Provider Management Style Transformation

Huawei is China's largest telecommunications equipment manufacturer and one of the world's largest providers of information and communication technology (ICT) solutions [11]. Huawei actively applies artificial intelligence technology to provide customers, partners, and society with more advanced, reliable, and intelligent ICT solutions. Huawei has undergone a management style transformation of a globally leading ICT solution provider in the AI era, mainly reflected in the following aspects: creating Huawei Cloud, providing the world's leading cloud computing and big data services; creating an innovative organization, using artificial intelligence technology to improve communication network performance and service quality; building an ICT ecosystem with customers and partners in various industries, achieving technology empowerment and value co-creation. These management style transformations conform to the management concepts that unit leaders need to create professional organizations, international organizations, future organizations, etc., in the AI era, achieving the continuous improvement of application value.

4. Suggestions for the Transformation of Unit Leaders' Management Styles

4.1 Learn and Understand AI Technology

Unit leaders should actively learn and understand AI technology, understand its potential and limitations, in order to better use AI technology for management style transformation. This includes participating in relevant training courses, reading relevant books and articles, and communicating with experts and scholars, constantly improving their understanding and understanding of AI technology. For example, Jack Ma, the founder of Alibaba Group, once said that he

spends a certain amount of time every day learning about artificial intelligence technology and communicating with the company's internal technical experts in order to better grasp the direction of development of artificial intelligence technology.

4.2 Formulate Reasonable Plans and Strategies

Unit leaders should formulate reasonable plans and strategies to promote the implementation and improvement of AI technology applications. This includes determining the direction and focus of AI technology application based on the unit's development strategy, business needs, competitive advantages, etc.; formulating support measures, coordination mechanisms, supervision and evaluation, and other auxiliary contents for AI technology application based on external environment and internal conditions; collecting and analyzing various feedback information according to the implementation process and results, and timely discovering and solving various problems and difficulties. For example, when Tencent promoted the application of artificial intelligence technology, it formulated detailed plans and strategies and set up a special artificial intelligence research institute to coordinate cooperation between various departments and promote the widespread application of artificial intelligence technology within the company.

4.3 Pay Attention to Talent Cultivation and Team Building

Unit leaders should pay attention to talent cultivation and team building to provide human support for management style transformation. This includes selecting and training talents with AI technology background and experience to provide technical support for the unit; building and improving cross-departmental, cross-level, cross-field team collaboration mechanisms to provide organizational guarantee for the unit; creating and optimizing a culture atmosphere that encourages innovation, tolerates failure, and pursues excellence to provide spiritual motivation for the unit. For example, Baidu has invested a lot of energy and resources in talent cultivation and has set up a special talent cultivation plan aimed at selecting and cultivating excellent talents with an artificial

intelligence background and experience.

4.4 Strengthen Cooperation with Governments, Society, and Industries

Unit leaders should strengthen cooperation with governments, society, and industries to jointly promote the development and innovation of the artificial intelligence industry. This includes actively participating in the formulation and implementation of relevant government policies to strive for more policy support for the unit; actively carrying out exchanges and cooperation with all sectors of society to expand a broader development space for the unit; actively participating in competition and cooperation within and outside the industry to obtain more development opportunities for the unit. For example, Huawei has always been committed to carrying out extensive cooperation with governments, society, and industries, and has established many research centers and innovation centers worldwide to promote the development and innovation of artificial intelligence technology.

5. Conclusions

As the development and application of artificial intelligence technology continue, unit leaders need to constantly adjust and optimize their management styles to adapt to the changes in the AI era. At present, the academic community has begun to pay attention to this issue and has conducted preliminary research on the impact mechanism and path of AI technology on the transformation of unit leaders' management styles. However, there are still some shortcomings in existing research. First, there is still a lack of in-depth research on the specific mechanisms and paths of how artificial intelligence technology affects the management styles of unit leaders; second, there is still a lack of in-depth discussion on the disruptive challenges that artificial intelligence technology brings to organizational management; third, there is still a lack of in-depth research on how artificial intelligence technology affects management objects, management methods, management goals, and management means; fourth, there is still controversy about the application of artificial intelligence technology in enterprise management, and a unified view has not yet been formed.

In the future, the academic community can further study the impact mechanism and path of AI technology on the transformation of unit leaders' management styles, and explore how to better use AI technology for management style transformation. In addition, it can also pay attention to the differences and characteristics of unit leaders' management style transformation in different industries, different regions, and different cultural backgrounds, to provide unit leaders with more targeted and practical guidance. It is hoped that more research will focus on this field in the future, providing more theoretical guidance and practical references for unit leaders to transform their management styles in the AI era.

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References

- [1] Zhao Changhao. Optimization of Corporate Strategic Management Based on the Era of Artificial Intelligence. *Modern Enterprise*, 2024(02):13-15.
- [2] Xu Peng, Xu Xiangyi. Logic and Analysis Framework of Enterprise Management Transformation in the Era of Artificial Intelligence. *Management World*, 2020, 36(01):122-129+238.
- [3] Xu Yinzhou, Li Danqi, Gong Siying. Preliminary Exploration of the Combination of Artificial Intelligence and Enterprise Management Innovation. *Business Economics Research*, 2020, (10):113-116.
- [4] Cai Qiang. Research on Artificial Intelligence and Enterprise Strategic Management. *Productivity Research*, 2021, (08):91-94.
- [5] Li Yuying. Reform of Enterprise

- Management in the Era of Artificial Intelligence. Small and Medium Enterprises Management and Technology, 2022, (03):17-19.
- [6] Zhao Chuanpeng. Exploration of the Development Path of Enterprise Management in the Era of Artificial Intelligence. Enterprise Science and Technology and Development, 2023, (01):126-128.
- [7] Wu Yuling, Xu Jing. Organizational Structure Transformation of Enterprises Facing the Intelligent Era - Taking Alibaba Group as an Example. Modern Marketing (Business Edition), 2020(07):127-129.
- [8] Shen Guoliang. In the Era of Cross-Border Transformation, You Need Non-Traditional Strategies - Starting from the 2020 "Double 11" and Tencent Smart Retail. China Advertising, 2020(12):98-100.
- [9] Zhang Hefei. Baidu Cloud under the Prelude of Intelligent Transformation. Modern Enterprise Culture (First Ten Days), 2018(08): 74-75.
- [10] Guo Yungui, Xue Yuping. Causes and Enlightenments of JD Group's Organizational Structure Change. Management Engineer, 2021, 26 (01): 20-24.
- [11] Zhao Bo. Huawei's Digital Transformation and Practice of Enterprises. Construction Enterprise Management, 2023(01):104-107.