

Research on Optimization Strategies for Enterprise Cost Management in the Context of the Digital Economy

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Abstract. The advent of the information age has given rise to the digital economy, with various information technologies such as big data and cloud computing gradually being applied in enterprises, thereby fostering new industries, models, and forces. At the same time, with the development of the digital economy and the increasing environmental requirements, many enterprises are also facing risks and challenges in cost management. This paper first explores the impact of the digital economy on enterprise costs, and then proposes strategies to promote high-quality development of enterprises based on the perspective of the digital economy empowering cost control.

Keywords: digital economy, cost management, enterprise management, optimization

1. Introduction

1.1. Background

Under the wave of digitization and intelligence, network information technology has rapidly developed, and China has entered the era of the digital economy. The digital economy refers to the use of digital information and knowledge as key production factors, based on Internet technology, through the deep integration of digital technology and the real economy, breaking the boundaries of traditional economic development, and promoting the continuous transformation and upgrading of traditional industries towards digitization. In the context of the above development, modern enterprises not only need to cope with domestic market competition and actively participate in international market cooperation, but also need to address the problems existing in the development of the digital economy era itself.

Enterprise cost management is a crucial aspect determining whether an enterprise can sustainably develop. At the current stage, the meaning of enterprise cost management can be understood as the cost control work undertaken by enterprises to achieve the goal of profit maximization, which involves planning, budgeting, cost control, accounting, cost evaluation, and analysis of various costs incurred during the operation process. If enterprise managers lack in-depth understanding of the market, it may lead to higher development costs and result in characteristics such as poor innovation, lack of advancement, and low efficiency in cost management, making it difficult for the management effectiveness of the enterprise to meet expectations.

Therefore, whether it is possible to improve the cost control management system and enhance the effectiveness of cost control in the era of the digital economy is a significant issue facing modern enterprises. This paper focuses on the cost management of enterprises under the background of the digital economy, using the SWOT analysis method to conduct research, and provides relevant suggestions to further optimize enterprise cost management.

1.2. Theoretical Background

The literature closely related to this paper focuses on exploring enterprise cost research under the backdrop of the digital economy. Han Ying analyzes and elucidates the potential problems in cost management for manufacturing enterprises in the era of the digital economy, as well as innovative ideas that can be realized. [6] Zhao Yongchun dissected the challenges and opportunities faced by enterprises in implementing cost management processes under the background of the digital economy, deeply interpreting the specific countermeasures to optimize cost management after identifying the problems existing in current enterprise cost management. [17] Deng Min analyzed the value significance and challenges in carrying out cost control work, proposing specific

practical paths to promote the healthy and stable development of enterprises as the main purpose. [3] Shang Zhensheng, through an analysis of issues in enterprise management innovation, identified the need to upgrade traditional business management strategies, innovate management strategies, leverage cost-effectiveness, and adapt to the development needs of the digital economy to solve innovation issues. [12] Guo Ting analyzed the problems of enterprise project cost control from the perspective of the digital economy and proposed measures for controlling enterprise project costs. [5] Kang Jun conducted research on enterprise cost control issues with the main goal of high-quality development, proposing a path for the digital economy to empower enterprise cost control and drive high-quality development. [7] Qian Yu, through in-depth analysis of data-driven cost forecasting and optimization, as well as automated and intelligent production process control, pointed out the challenges faced by enterprises in implementing cost control empowered by the digital economy and proposed a series of feasible measures. [11] Fan Yuxin discussed the significance of cost control under the backdrop of the digital economy, the current problems in enterprise cost control, and the optimization path for enterprise cost control in the digital context. [4] Yu Qian [15], starting from relevant theories of cost control, explored the current situation of enterprise cost control under the background of the digital economy, analyzed the reasons for insufficient cost control in the digital economy era, and proposed solutions to address the issue of controlling enterprise costs.

Some of the literature focuses on enterprise cost research in a specific industry or on a particular type of cost in the era of the digital economy. Tian Yu, for example, analyzes the internal and external cost management issues of a logistics company and further proposes suggestions for value chain cost management. [13] Zhang Meiyan introduces the significant role of big data in enterprise value chain cost management and, using Company A as an example, deeply analyzes the development strategy of enterprise value chain cost management under the backdrop of big data. [16] Bai Zhixia [1] addresses the insufficient cost control of catering enterprises under the digital economy, combining cost control in catering enterprises with new forms of data utilization under the digital economy to enhance the core competitiveness of catering enterprises. Nie Yuan [10] selects construction companies as the research object, analyzing the problems existing in cost control from the perspective of cost management under the digital economy and further optimizing cost control strategies based on the future development needs of construction companies. Lu Xia starts from the three dimensions of quality, efficiency, and driving force of enterprise digital transformation, explores the challenges faced by enterprises in digital transformation, constructs a framework for enterprise digital strategic cost management, and proposes corresponding measures. [9]

Finally, some literature focuses on enterprise costs from the perspective of digitization and big data applications. Wang Jiao studies listed companies on the Shanghai and Shenzhen stock exchanges to explore the impact of big data applications on enterprise cost control, and also examines the moderating effects of diversification strategies on the relationship between big data application capabilities and enterprise cost control. [14] Chen Jiang conducts a specific analysis of the problems existing in current enterprise cost control, combined with digital financial control methods, to study measures for constructing an enterprise cost management system in order to improve the level of enterprise cost management. [2] Liu Tianchu analyzes the current situation and existing problems of digital cost management in Chinese enterprises and proposes specific strategies and suggestions to address these problems. [8]

2. Main Part

The SWOT analysis method was first outlined by Andrews in “The Concept of Corporate Strategy” and formally proposed by management professors at the University of San Francisco in the mid-20th century. This method, as a key analytical tool in modern corporate strategic management theory, is often used for situational analysis, analyzing the advantages and disadvantages that companies currently possess, as well as the development opportunities and potential threats they face. The contribution of the SWOT analysis lies in the comprehensive and scientific formulation of enterprise development strategies by integrating seemingly independent factors through systematic analysis. In this paper, the SWOT analysis method is defined as a systematic analysis of the internal and external combinations of advantages (S), disadvantages (W), opportunities (O), and threats (T) in the process of optimizing cost management according to the development of enterprises in the context of the digital economy, resulting in analytical outcomes.

2.1. Advantages

Enterprises can achieve cost optimization in various aspects such as market forecasting, production planning and control, and employee accounting and evaluation. In the market forecasting phase, big data technology can improve the accuracy of enterprise market demand forecasting by accelerating information transmission speed and reducing information acquisition costs. In the production planning and control phase, enterprises can dynamically control costs and automate lean production by combining real-time data with production processes and adjusting production strategies in a timely manner based on market conditions using data collection, processing, and analysis technologies. In the cost management of employee management, enterprises can utilize digital technology to monitor employees’ task completion status, understand their work status and efficiency, facilitate the implementation of reward and punishment measures, and reduce enterprise management costs.

2.2. Disadvantages

Corresponding to the rise of legal costs in the era of the digital economy, enterprises will face new cost issues in management. The digital economy era has generated new legal services involving multiple fields, including not only intellectual property protection, data security, and privacy protection but also various application scenarios such as e-commerce and online finance. In 2024, the People's Court of Haidian District, Beijing, handled 4,851 cases involving digital economy intellectual property, accounting for 56.7% of all intellectual property cases. From the demand side, if enterprises only consider cost management and believe that they do not need much legal intervention at their current stage of development, in the long run, once disputes arise in the digital economy, enterprises will face significant compensation and damage to their reputation. This means that enterprises need to deeply integrate emerging technologies such as big data and artificial intelligence with legal work scenarios, but this will also bring high legal costs to enterprises. From the supply side, there is a shortage of outstanding talents in the legal market under the digital background, and the cost of hiring relevant legal personnel by enterprises is usually over 300,000 yuan.

2.3. Opportunities

In the era of the digital economy, innovative technologies are emerging. Under the digital economy era, modern information technologies such as big data utilization, cloud computing, and 5G are developing rapidly. In the research and development phase, with the reasonable application of AI technology, VR technology, and 3D printing technology, simulation and optimization of the research and development process can be achieved, greatly reducing the technology research and development costs of enterprises. In the financial department, the use of emerging technologies such as cloud computing, big data, and artificial intelligence can effectively improve the efficiency and quality of financial shared services. Furthermore, enterprises can also introduce intelligent cost management using the above technologies to predict future cost trends based on historical data analysis, thereby providing a scientific basis for decision-making. In conclusion, the emergence of innovative technologies mentioned above provides excellent opportunities for enterprise cost optimization.

The country attaches great importance to the development of the digital economy and provides policy support. Since the 21st century, the country has continuously supported and developed the digital economy, encouraging enterprises to continuously innovate and develop with the help of relevant technologies. Since the 18th National Congress of the Communist Party of China, General Secretary Xi Jinping has made important statements and clear requirements on the construction of "Digital China" many times, emphasizing the significant importance of developing the digital economy as a strategic choice to seize opportunities for a new round of technological revolution and industrial transformation. The report of the 20th National Congress of the Communist Party of China also pointed out: "We will accelerate the development of the digital economy, promote the deep integration of the digital economy and the real economy, and build internationally competitive digital industry clusters." General Secretary Xi Jinping also emphasized: "We should promote the efficient circulation and use of data, empower the real economy, coordinate the promotion of data property rights, circulation transactions, revenue distribution, and security governance, and accelerate the construction of a data-based institutional system." The strong support of the country for the digital economy is a significant policy opportunity for enterprises to innovate cost optimization strategies in various aspects.

2.4. Threats

There is a lack of human capital related to the digital economy. In terms of quantity, according to the "Research and Development Report on Industrial Digital Talents (2023)," the current overall shortage of digital comprehensive talents in China is between 25 to 30 million, and the gap is still increasing. In terms of quality, factors such as the incomplete training system for digital talents, the lagging occupational standards, and the unreasonable distribution of human resources in China affect the effective supply of talents, making it difficult for digital human capital to keep pace with the times. In this era of talent shortage, enterprises may be unable to fully utilize the functions of digital technology due to reasons such as lack of human capital and the complexity of overcoming digital technology applications, thereby unable to better share the digital dividends. In summary, the lack of talent makes it difficult for enterprise cost management strategies to adapt to the digital economy era, and even faces the dilemma of being eliminated.

Data privacy leakage is easily encountered in the era of the digital economy. With the widespread application of technologies such as big data and artificial intelligence, privacy protection and data security have become significant issues that cannot be ignored in the digital economy era. In practical operations, privacy leaks and data misuse incidents frequently occur due to factors such as technical vulnerabilities and human factors. According to IBM Security's survey report on 550 global enterprises, data leakage incidents can cause an average loss of up to \$4.35 million for enterprises. The leakage of data privacy will expose enterprises to significant legal liabilities and reputational damage, resulting in related costs and property losses, posing a significant challenge for enterprises in the era of the digital economy.

3. Conclusion

3.1. Main Conclusions

This paper elaborates and analyzes the advantages of enterprise cost management in reducing costs at various levels under the backdrop of the digital economy. However, it also points out the downside of rising legal costs for enterprises. Enterprise cost management faces opportunities brought by the emergence of innovative technologies and national policy support in the development of the digital economy. However, it may also face threats such as the lack of human capital and the increase in costs due to data privacy leaks.

3.2. Policy Suggestions

Based on the conclusions drawn from this paper, the strategies can be summarized in the following four points: Firstly, enterprises can leverage the opportunities presented by the development of the digital economy by introducing advanced technologies such as big data, cloud computing, and artificial intelligence to achieve real-time collection and analysis of cost data, thereby enhancing decision-making efficiency and accuracy. Secondly, the government can provide more support for the legal needs of enterprises in the era of the digital economy by offering more intelligent and precise public legal services to assist in the digital transformation of enterprises. Thirdly, keeping pace with national macro policies and adapting to changes in the market environment, empowering enterprise cost management with digital technology to promote business development. Fourthly, enhancing the training of enterprise employees to equip them with certain digital skills and technologies, thereby providing intellectual support for the high-quality development of enterprises. Fifthly, placing emphasis on the construction of secure data protection systems for digital platforms, strengthening data protection and monitoring to ensure the privacy and security of enterprise data.

3.3. Difficulties and Challenges Encountered

In order to successfully complete the project, I encountered some difficulties and challenges during the process. Before starting the writing process, I lacked clear research objectives and methods. My teacher provided relevant suggestions on research directions, and after extensive literature review, I finalized the topic. During the writing process, my teacher pointed out issues with my language expression and lack of coherence, guiding me to continuously revise to ensure internal logical consistency in the article. Throughout the entire process of the project, my teacher patiently answered my questions and doubts, constantly motivating me through encouragement and praise, enabling me to successfully complete the writing of this paper. I will adhere to the rigorous, pragmatic, and innovative scientific research spirit of my teacher and face the difficulties and challenges in scientific research process with an optimistic attitude.

3.4. Project Gains and Reflections

Reflecting on this project, besides learning about the skills of writing academic papers, I have also come to a deep understanding that for enterprises to achieve dynamic and sustainable growth, they must adapt to the challenges and opportunities brought by the digital age. Exploring strategies for optimizing enterprise costs has significant practical significance. Therefore, I will continue to research other aspects of enterprises in response to this transformation. Most importantly, this process has honed my ability to identify and solve problems, think independently, and cultivate a spirit of perseverance and excellence in scientific research.

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