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Research on the Innovation Path of Enterprise Management Mode in the Era of Big Data

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Abstract: With the continuous development of the market economy and the advent of the big data era, traditional management models cannot meet the requirements for enterprise development, which poses certain obstacles to business growth. Therefore, enterprises must continuously leverage the commercial value embedded in the big data era to innovate their management models. In practical terms, internal managers and relevant personnel can innovate based on traditional management models, fully utilizing the advantages of big data to optimize and innovate enterprise management models. By utilizing information technology for extensive data analysis and integration, businesses can be guided in the right direction, provided with reasonable operational plans, and ensured safe decision-making, thereby achieving healthy and sustainable development. This approach enables enterprise management to keep pace with the progress of the times and enhances the role of management in business operations.

Keywords: Big Data Era, Enterprise Management, Innovation Path.

1. Introduction

In the era of internet information, big data technology has developed rapidly, driving the fast growth of the economy and society. Big data refers to vast and massive data sets, where enterprises analyze large amounts of data to identify patterns and characteristics, yielding more accurate and effective big data analysis results. As society continues to evolve and competition intensifies, enterprises face increasingly fierce competition. Thus, the innovation of management models should involve developing corresponding management plans to achieve progress and growth in the big data era. The innovation of enterprise management models can leverage big data to explore business information, accelerate the transmission speed of financial and operational information, and improve the efficiency of business processes. Enterprises can analyze market changes in a short time and respond quickly by implementing appropriate strategies and decisions, thereby enhancing the accuracy of decision-making. Therefore, internal managers and relevant personnel should adapt traditional management concepts to the demands of the times, actively seek innovative modern enterprise management models, and thus promote better business development.

2. The Significance of Big Data in Enterprise Management

2.1. Improving Enterprise Management Efficiency

To enhance the quality and efficiency of enterprise management work, it is necessary to improve various work processes based on practical experience, thereby promoting production and operational results and bringing objective benefits to business development [1-2]. In traditional enterprise management, during the optimization of various work processes, the accuracy and authenticity of information data and subjective factors like "insiders being too close to see the big picture" often make it difficult to identify weak points in business operations promptly, thus affecting work efficiency improvement. However, big data technology can compensate for these shortcomings by continuously collecting various production and operational data and classifying and organizing various information data to establish a vast enterprise data resource library [3-4]. During management processes, businesses can utilize the database for systematic analysis, promptly identifying gaps and deficiencies in overall management. Additionally, professional analysis software can be used to analyze key areas like finance, human resources, and sales, ensuring the scientific and rational operation of work processes, identifying weaknesses, proposing optimization paths, and ensuring smooth operation in critical business areas.

2.2. Scientific Management of Human Resources

In the context of the big data era, the competition between enterprises also extends to talent competition. Multidisciplinary talents, possessing unique expertise and skills, can bring innovation, efficiency, and competitive advantages to businesses (see Table 1). To meet the needs of long-term development, attracting and retaining outstanding professionals is of great significance. Therefore, internal managers must excel in human resource management, utilizing big data technology to contribute to the company's growth. Through big data technology, HR departments can conduct more precise talent recruitment and selection, identifying candidates that meet the enterprise's development needs. By comprehensively analyzing employees' performance and behavior, potential talents can be identified and cultivated, enhancing their career satisfaction and development space. Furthermore, big data technology can assist HR departments in managing talent mobility and performance. By analyzing employees' work performance and background information, HR can better arrange job rotations and promotions, enabling employees to fully realize their potential and talents.

Table 1. The Application of Big Data Technology

Aspects	Applications
Attract and retain talent	Using big data to accurately locate candidate preferences and optimize the recruitment process; Analyze employee satisfaction data and develop personalized retention strategies
Recruitment and Selection	Analyze historical candidate data to predict job performance. Use AI to screen resumes and improve recruitment efficiency
Employee performance analysis	Monitor performance data in real time to identify high potential employees; Customized training and development programs
Talent flow management	Analyze the matching degree between employee's job performance and position, and make the job rotation plan. Predict promotion paths and promote internal mobility

2.3. Enhancing Macroscopic Management

Modern enterprises often exhibit regional characteristics during development, meaning they typically establish and conduct business activities in specific regions, often limiting product sales to a defined area. However, with continuous social and economic development and the improvement of transportation infrastructure, modern enterprises cannot confine themselves to specific regions during business activities. They need to connect with national or even global markets to ensure they are not eliminated by the market. In practice, however, businesses may be unclear about regional policies or uncertain about market expectations, making them hesitant to expand into unfamiliar regions [5]. The inclusion of big data technology in enterprise management can effectively analyze and evaluate target regional markets using vast data resources, combining various elements to derive scientifically accurate analysis results. This approach helps businesses expand into external markets with focus, increasing market share and product market penetration, thus significantly enhancing the company's macroscopic management capabilities and levels.

3. Problems in Enterprise Management in the Big Data Era

3.1. Weak Digital Concept

Currently, some enterprises have not yet established a strong digital mindset during management processes. They do not fully understand the significance of big data applications and introduce it passively, applying it for the sake of application without achieving deep integration of enterprise management and big data, or improving the digitization level of enterprise management. Although some companies have introduced big data technology, they have not deeply studied or considered the integration of big data with enterprise management, nor have they developed a big data application plan tailored to the company's actual situation. Insufficient hardware investment in equipment, facilities, and applications, along with inadequate training for senior management, middle management, and application personnel, are also evident [6-7]. Additionally, even though some businesses place significant emphasis on the application of big data technology, investing human, material, and financial resources to promote management informatization and establish OA (Office Automation) systems and ERP (Enterprise Resource Planning) systems, there is still a lack of awareness of the potential of big data technology to improve enterprise management efficiency during practical application.

3.2. Limited Digital Application

When handling relevant data, enterprises often face issues where both data application and platform application are limited, directly affecting the improvement of management efficiency. Currently, most companies have established ERP systems to enhance their digital management capabilities. Although these systems have strong resource integration capabilities, businesses rely solely on the platform's application abilities without providing the platform with sufficient data resources. On one hand, some data resources are not included within the platform system, leading to an insufficient data foundation for the system. This lack of data support during analysis can easily result in erroneous conclusions. On the other hand, due to the varying nature of different enterprises, the data resources generated are also different. During the initial construction of platform systems, data modules were developed based on the common needs of most companies. However, in practice, companies have not developed personalized data modules that reflect their specific characteristics, thereby limiting the impact on improving overall management quality.

4. Innovation Paths of Enterprise Management Mode in the Era of Big Data

4.1. Enhancing Digital Management Concepts

With the in-depth implementation of national strategies, the scope of big data technology application has expanded, leading to increasingly significant positive impacts on business development. Modern enterprises, in this context, should seize the opportunities presented by the era to comprehensively enhance digital thinking. Senior management should place great importance on the application of big data, clearly define long-term, medium-term, and short-term objectives, and increase investment in big data applications to promote the deep integration of big data technology with enterprise management. Organizations should conduct educational training at different levels for senior management [8], middle management, and employees, raising awareness of the importance of digital and information technology, thereby fostering a comprehensive digital atmosphere within the company. Meanwhile, during the decision-making process, management should strengthen data support. When formulating corporate strategic plans and short-term objectives, comprehensive statistical analysis of both internal and external relevant data should be conducted to fully understand the company's internal conditions and external market situations. All decisions should be data-driven, relying on statistical analysis results to enhance the scientific nature of business management.

4.2. Improving Digital Application Platforms

To leverage the power of big data technology, the application platform serves as a crucial carrier and an essential support. Companies should recognize the importance of building a big data platform and its role in enterprise management. Regarding information data application platforms, companies should focus on constructing a three-dimensional information data system. This includes collecting outcome data from various departments, process data, and enhancing the efficiency of

data collection. Promptly gathering data reflecting all aspects of work provides comprehensive data support for the application platform. According to development needs, companies can use big data technology to innovate management models. Based on the current application platform or by developing new platforms, enterprises should establish data modules that match their specific situations and industry needs, providing professional data support for the application platform. This approach enhances the relevance of big data in improving management efficiency, offering more macro, scientific, and accurate data support to continually enhance the timeliness of enterprise management.

4.3. Cultivating Professional Management Talent

In the current social context, for businesses to develop steadily amid fierce industry competition, they should focus on cultivating multidisciplinary talent and increasing the proportion of excellent management professionals. The era of big data brings the need for departments to analyze vast amounts of complex data. Therefore, companies need to nurture more outstanding talents who can analyze data with business value to provide the correct direction for business development and management planning. Management professionals can innovate traditional management models by using big data environments to analyze financial and business data, ensuring the safety of business decisions [9]. In the context of the internet age, companies also face the transformation towards informatization and paperless operations. Emphasizing the cultivation of big data management talent is essential, providing a talent pool for big data management and continually optimizing enterprise management, allowing businesses to progress and develop in the era of big data.

4.4. Innovating Corporate Management Systems

In traditional corporate management, maximizing economic benefits is often the primary goal. Corporate decisions and management systems primarily focus on profitability, leading to certain issues within the management system. However, in the context of the big data era, companies should shift their traditional business development and management models by incorporating big data into management systems, ensuring healthy business growth. The big data management model is relatively diverse, encompassing data management, business information mining, and data-driven decision-making. It involves collecting and storing relevant information within the company, extracting and converting useful data, and processing and analyzing diverse information in a timely manner, contributing to business decisions and continuously innovating management systems. Innovating enterprise management models is an optimization path for business development and a crucial strategy for growth in the big data era. Today's market is constantly changing with no fixed patterns, so companies must continuously innovate. Management innovation is a critical decision for business survival in the era of big data. Companies should search for new management concepts in the big data era, continually learn and update, and fully utilize modern technology to enhance management levels.

4.5. Correctly Understanding the Decision-Making Entities

Public demand, opinions, and behavior data are crucial reference points for business decision-making. In the era of big data, companies should comprehensively understand consumer behavior, preferences, and social media activities. By collaborating with social media platforms and using their advertising tools and promotion features, businesses can achieve precise ad targeting (see Figure 1). For example, younger consumer groups are often active on various social media platforms, such as Weibo, WeChat, and TikTok [10-12]. These platforms provide opportunities for businesses to interact with young consumers and promote products, allowing them to deeply understand the interests, preferences, and behaviors of this group. Companies can segment them into different consumption levels and offer corresponding personalized products and services. On the other hand, middle-aged consumers tend to focus more on health-related products. By conducting market research and gaining insights into their health needs and concerns, companies can collaborate with professional organizations and medical institutions to offer scientifically reliable health products and services. Thus, by using data analysis and mining methods, companies can filter out valuable insights from vast amounts of data to support decision-making and marketing efforts [13-14].

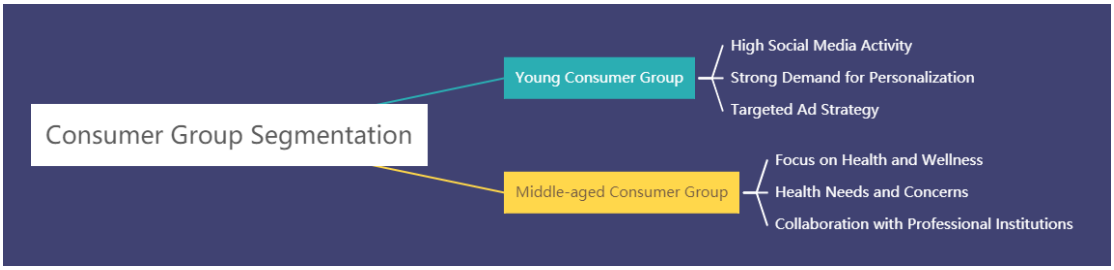

Figure 1. Consumer Group Segmentation

5. Conclusion

In summary, enterprise management plays a crucial role in business development. The application of big data in business management can effectively enhance the scientific, efficient, and macro aspects of management. In the context of the big data era, companies must fully utilize the leading role of big data in business development and innovate their management models. However, due to objective factors, enterprise management still faces challenges such as insufficient digital concepts and limited digital applications. Therefore, companies need to comprehensively enhance their digital management concepts and continually improve their digital application platforms to enhance competitiveness in the market, ensure business profitability, and support healthy business development.

References

[1] Zhao, Y. (2024). Research on the Innovation Path of Enterprise Management Models in the Era of Big Data. Industrial Innovation Research, 2024(05), 163-165.

[2] Liu, B. (2024). Research on Enterprise Management Innovation Models in the Context of Big Data Era. Guangdong Economics, 2024(05), 66-68.

[3] Zhou, Z., & Huang, B. (2023). Analysis of Innovation and Development of Enterprise Management Models in the Context of Big Data Era. Modern Business, 2023(24), 83-86. https://doi.org/10.14097/j.cnki.5392/2023.24.021

[4] Wang, Q. (2023). Innovation of Enterprise Management Models in the Era of Big Data. Quality and Market, 2023(15), 28-30.

[5] An, C., & Ma, M. (2022). Innovative Exploration of Enterprise Management Models in the Era of Big Data. Enterprise Technology and Development, 2022(12), 169-171.

[6] Liu, J. (2017). Analysis of e-commerce enterprise management mode under the background of big data era. Business Economics Research, 5, 99–101.

[7] Qiu, Q. Y. (2018). A brief analysis of Sino-US trade relations under the new era. Malaysian E-Commerce Journal, 2(1), 06–08.

[8] Chen, Y. X. (2018). Analysis on the efficiency of financial subsidies for vocational training of new technology workers in Jiangsu. Malaysian E-Commerce Journal, 2(1), 13–15.

[9] Li, G. S., & Wang, X. L. (2016). Audit research on Financial Sharing Service Mode in the era of big data. Friends of Accounting, 19, 123–126.

[10] Kartika, M., Melati, H. A., & Ratih, Y. (2019). The development of Corak Insang weaving craft creative economy in Pontianak city. Malaysian E-Commerce Journal, 3(2), 27–29.

[11] Lahafi, F., Muchsin, A., & Semaun, S. (2019). Development of creative industries training towards sharia economic empowerment in Bilalangnge community, Parepare City, South Sulawesi. Malaysian E-Commerce Journal, 3(2), 33–35.

[12] Benaroch M. Managing Information Technology Investment Risk: A Real Options Perspective [J]. Journal of Management Information Systems, 2002, (2):43-84.

[13] Maas J B, Paul C van Fenema, Soeters J. ERP system usage: the role of control and empowerment [J]. New Technology Work & Employment, 2014, (1):88–103.

[14] Nasir S. The development, change, and transformation of Management Information Systems (MIS): A content analysis of articles published in business and marketing journals [J]. International Journal of Information Management the Journal for Information Professionals, 2005, (5):442-457.