Impact of Big Data on Enterprise Business Administration Decision making

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Abstract: *Big data has reshaped the whole world and brought great energy to social development. Under the influence of big data, the way of knowing and understanding the world for people has also changed significantly, and nowadays, people have accepted the Internet-style way of thinking and integrated data and networking into their daily life. The paper introduces the characteristics of big data from the perspective of business administration, analyzes the impact of big data on business administration decision making in enterprises, and summarizes specific countermeasures.*

Keywords: big data; enterprise; business administration decision making; impact

1. Introduction

With the development of big data industry, more and more scholars have conducted in-depth research on the digital development of enterprises from the management and economic perspectives, and big data has gradually entered various types of enterprises, bringing profound impact on the development of enterprises. Also, big data has gradually penetrated into the functional areas of various industries and businesses, becoming an important factor to boost economic development. In this context, big data has also brought profound impact on business administration and decision-making activities of enterprises.

2. Analysis of the characteristics of big data from the perspective of business administration

Looking at the development of human society, whether it is an agricultural society, an industrial society or an information society, in each new stage, people's way of thinking, working and living have changed significantly. Big data, or so-called huge data, massive data, big information, refers to the amount of data involved is so large that it cannot be intercepted, managed, processed, and organized into information that can be interpreted by human beings in a reasonable amount of time. The earliest reference to the term big data can be traced back to the open source project Nutch by apache org. From the management level, big data is high-volume, fast and diverse information according to Gartner, Inc.; Gupta suggests that Big Data is a massive, complex and real-time data volume, as well as a rich information asset. From the perspective of business administration, big data is not only an important information resource for business development, but also a tool of management decision making with several characteristics, which has several features:

First, diversity: big data is diverse and flexible in methods and characteristics, as well as diversified morphological structures; Second, management decision-making effectiveness: the best value of big data is expressed in management decision-making. Big data itself is an objective information with few direct benefits, but more to provide relevant personnel with information for analysis, exploration and discovery, and through transformation, data can be made into valuable knowledge for business management decision-making activities to provide support and security; Third, scarce use value: Big data brings new development opportunities for enterprises and some brand new challenges, a common challenge is its low density of use value; Fourth, diversification of activities: for the differences in the development and design purposes and methods of big data, big data also has multiple functions. For example, according to the international business purposes, big data can be applied in the innovation of business models, online marketing and the analysis of social media behavior; according to the enterprise management objectives, big data can be used in human resource allocation, customer relationship management and marketing management; Fifth is to support repeated extraction: big data resources support repeated mining, any individual or enterprise with big data can extract and mine it, and the data can still be mined again according to the demand even if it has been mined.

3. Impact of big data on business administration decision-making activities of enterprises

3.1. Impact on the decision-making basis

In the era of big data, the decision basis of decision makers has changed significantly and can take into account both empirical decision making and data decision making. Among them, empirical decision-making is the conscious judgment and experience of the decision maker, and the decision maker's thinking pattern and work experience are different, and the empirical decisions derived from them can be significantly different, and such decisions are easily influenced by perceptual factors[1]. After entering the era of big data, it can help decision makers to jump out of this thinking circle and transform from the traditional empirical decision making to the co-emphasis of empirical decision making and data decision making, realizing the complementation of experience, data, consciousness and model, which can significantly improve the accuracy of business administration decision-making activities. In addition, in the era of big data, the types of data and data sources that enterprises rely on for decision-making have also changed significantly. In the past, enterprises did not have many ways to obtain data, and the data they obtained were mostly financial statements, internal information, etc., which were of a single type. Nowadays, enterprises can obtain not only internal data, but also massive external data through multiple channels, which can help enterprises grasp consumer preferences, industry development trends, competitors' business operations, etc., and can significantly improve the reliability of business administration decisions.

3.2. Impact on the decision-making environment

The business administration decision-making environment faced by enterprises in the era of big data has also seen significant changes.

Firstly, the data storage volume has increased significantly, which has higher requirements for enterprises' technical investment. According to the statistics, the data storage volume of some large enterprises has reached the petabyte level and is still growing continuously, in this context, the amount of data that needs to be processed by enterprises' business administration decision making is also increasing. For this reason, enterprises need to increase capital investment in information infrastructure, technology research and development to meet the information processing requirements in the era of big data.

Secondly, in the era of big data, the technicality and comprehensiveness of enterprises' access to information have been significantly enhanced. In business administration decisions of enterprises, data processing and analysis are key points, and the traditional data processing technology cannot fully and completely excavate data, which affects the effectiveness of business administration decisions of enterprises. After the emergence of cloud computing, big data, mobile Internet, machine learning and artificial intelligence, the data acquired by enterprises are more timely and complete, which also significantly enhances the depth and breadth of decision-making.

Again, big data also boosts the upgrading and transformation of enterprise business administration decision support system, and only by constantly updating technology can we adapt to the decision making requirements of enterprise business administration in the new era. In the traditional decision-making system of enterprises, there are more or less defects, such as narrow application scope only for a few people, insufficient openness of the system, and no support for the integration of other data information. Therefore, in the era of big data, enterprises need to upgrade the decision support system, create an open collaborative work model, promote the communication and sharing of information, establish the corresponding big data decision support system interface, integrate internal and external information, and the information system should have prediction, auxiliary and management functions, and create a command platform that integrates the command, coordination and information aggregation process control.

3.3. Impact on decision-making power

From the configuration level, the main reason for the poor effect of corporate business administration decision making is due to the improper decentralization, which does not provide the corresponding participants with the appropriate business administration decision making rights. After entering the era of big data, the allocation of decision-making power is also an important challenge in enterprise business administration decision making. From the type point of view, there are two types of

enterprise business administration decision-making, centralized decision-making and decentralized decision-making, and the suitable business administration decision-making mode for enterprises in different modes varies, and specifically, which decision-making mode to adopt needs to be decided according to the external environment of enterprises, the internal organization of enterprises and the relationship between internal personnel. Generally speaking, centralized decision-making is suitable for higher management, while decentralized decision-making is suitable for departmental management. Research shows that the larger the scale of the enterprise, the fiercer the market competition and the greater the uncertainty faced by development, the more suitable it is to adopt decentralized decision-making mode.

3.4. Impact on decision-making process

The arrival of the era of big data also has a direct impact on the business administration decision-making process of enterprises. In the past, enterprises were using passive decision-making methods, more after-the-fact decisions, while big data makes it possible for enterprises to make decisions beforehand. In the traditional decision-making activities, enterprises usually conduct research and give solutions after encountering problems, and the results of such decisions are not ideal, not timely, and easily restricted by various factors. In the era of big data, various information is growing explosively, and the development opportunities of enterprises are changing rapidly. If the post-decision method is still adopted, it cannot comply with the development requirements of enterprises. However, big data enables enterprises to realize the decision forward and use big data to judge the trend and direction of the situation in advance. According to the data, 93% of human behavior is predictable, and although human daily behavior may seem accidental and random, it can be accurately predicted by using technical means[2]. If enterprises can use big data to establish all kinds of model libraries, technology libraries, scenario libraries, knowledge libraries and theme libraries in advance, and model and formulize information about customer needs, market development and competitive enterprises, which will be able to derive the development direction of events, so as to accurately judge the changes of the state of affairs.

4. Measures of enterprise business administration decision making of big data

4.1. Strengthening the research of information technology construction

In the era of big data, the level of information construction directly affects the quality of business administration decision making of enterprises, and in the new era, if enterprises want to adapt to the development requirements of the market, then they must strengthen the research work of information construction, which requires relevant personnel to collect a large amount of data information, screen, to store and to study in depth on the basis of constructing models in order to grasp the business development direction of enterprises and customer needs, and develop a suitable business administration decision plan for the enterprise according to the data extraction[3]. Specifically, enterprises need to develop strategic plans that match the nature of their business development, analyze and process information construction work from a macro perspective, and do a good job of building decision systems as well as process configuration, so as to improve the level of information construction of enterprises. On the other hand, it is also necessary to improve the level of big data application, especially in response to the changing and complex market situation, enterprises need to adopt a scientific approach to expand the internal storage space, vigorously implement paperless office, strengthen the introduction and cultivation of technical personnel, and ensure that employees in each department can master the processing of advanced technology software to provide effective information support for subsequent data collection, decision-making, and analysis.

4.2. Optimizing the business administration decision-making mechanism

In order to bring into play the application value of big data in enterprise business administration decision-making activities, enterprise managers should have sufficient understanding of big data and establish suitable management decision-making mechanism according to the characteristics of business administration decision-making work. On the one hand, enterprises should continue to optimize the internal mechanism, improve performance assessment and data management, and implement data collection and analysis to each department, so as to improve the timeliness of decision-making; On the other hand, they should strengthen the training and education of existing talents according to the

enterprise's long-term development requirements, encourage employees to participate in a series of training activities related to big data, understand the changes of their jobs in the era of big data, and actively implement them into practice. In addition, we should also strengthen technological innovation, research and development of visualization technology, enterprises can establish cooperation with specialized companies to jointly promote the improvement of enterprise big data processing capabilities, at the same time, enterprises should also develop corresponding management system according to the industry data security management requirements, combine the development of national construction with information data, to ensure that enterprises can accurately assess the state of cloud storage operation and strengthen the control of important information, and the security risks are nipped in the bud.

4.3. Establishing integrated system and expanding decision-making subject

Due to the large amount of current data and information, enterprises need to consider more contents when making business administration decisions, and the actual influencing factors are also very complicated. It is necessary to establish a big data integration system in practice and use cloud computing to give full play to the advantages of big data, which can help enterprises better analyze the value of various types of data and information, and also help them adapt to the changes in the current information environment. Since there are significant differences among enterprises with different levels and scales, enterprises need to start with their own needs when establishing big data integration systems to ensure the comprehensiveness, practicality, and extensibility of the system construction as a way to promote the multifaceted development of enterprises[4]. In addition, considering that the market is always in the process of change, the scope of enterprise business management decision-making is also changing, in this regard, after entering the era of big data, enterprises should break through the constraints of the traditional management model, combine the requirements of the era of big data to establish a more scientific decision-making program, pay attention to the recommendations of specialized consulting agencies and intelligence information agencies, reduce risks in decision-making, and promote the sustainable development of enterprises.

4.4. Adhering to the development strategy of "going out"

In the application process of big data, enterprises need to follow the principle of "driven by two wheels", big data and its application are open processes, and it is difficult for a single enterprise to complete alone. When looking at Europe and the United States and other developed countries, open source mode was adopted in the research of the core technology of big data by the joint efforts of developers in many fields, even gathering the strength of the world. Therefore, in order to play the role of big data in business administration decision-making, enterprises should not carry out research work in a closed environment, and should adhere to the principle of "going out" and "bringing in". The so-called "going out" is to understand the actual situation, to clarify the needs of each department for big data technology, to solve practical problems as the starting point to ensure the relevance of big data applications, and to stop the blind pursuit of the high, the big, and the comprehensive. "Going out" is to provide relevant personnel with opportunities to participate in training and exchange, and actively participate in various high-end academic conferences, so as to enhance the comprehensive ability of Research & Development personnel, and enterprises can also invite experts in relevant industry and scholars in universities regularly to provide training for relevant personnel, actively learn from the mature experience of other enterprises, and introduce common big data models and tools to realize the bending of business administration decisions.

4.5. Establishing big data decision-making management system

Considering the many problems in enterprise business administration decision-making in the era of big data, enterprises need to clarify the impact of big data on business administration decision-making in the current market environment, and then collect, analyze and process data according to their own needs. From a practical point of view, there are several outstanding problems in business administration decision making in enterprises. On the one hand, enterprises are facing a more complex environment, which requires a wide space for business management decision makers due to the excessive amount of information storage, but this also increases the complexity of business management[5]. On the other hand, the information is more difficult to filter, for which a suitable management decision system based on the value of information is needed in order to deal with the corresponding problems scientifically. It is also important to note that the procedure of business administration decision making in enterprises

should be in line with the development of the times. Traditional decision making takes more time and accuracy is not guaranteed, therefore, it is necessary to simplify the whole process of business administration decision making and guarantee the timeliness and accuracy of decision making with the help of big data decision management system. In addition, in order to share the data within the enterprise, avoid the silo phenomenon or the problem of information accuracy reduction caused by the lack of data fluency, and deepen the communication and exchange between various departments, enterprises is required to follow the basic principle of adapting to local conditions to adjust the internal organizational structure, so that big data can be fully applied in decision making, so as to make enterprises grasp the relevant information and improve the decision-making effect.

5. Conclusion

Big data affects the business administration decision-making activities of enterprises through various channels, and in the era of big data, there are obvious changes in the decision-making subjects and decision-making environment, etc. Facing the development characteristics of the era of big data, enterprise managers need to be highly aware of the impact of big data on business administration decision-making, start from various aspects such as information construction, personnel training and data analysis, improve the comprehensive competitiveness, and adjust the business direction according to the data and information.

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