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A Novel Digital Transformation Strategy for Enterprise Business Management with Big Data

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Abstract: *The development of social-economy has led to the change of the market circumstances, and the requirements for business management are becoming increasingly higher. The continuous development of information digitization brings increasing data scale. The algorithms and calculation standards of continuous reform and innovative development also bring great difficulty to the management and decision-making work of enterprises. Business decision-making is the most important part of business management. The work of business management decision itself is based on the existing information, data and models, with the help of digital technology and algorithms, and summarized into the guidance for the future development. Through the analysis of the application of Big Data in business management, this paper clarifies the market environment that enterprises should contact in the development, and proposes how to use the advantages of Big Data to improve the economic benefits of enterprises and reduce costs.*

Keywords: *digital transformation, digital economy, enterprise business management, big data, digital technology*

1. Introduction

With the continuous development of science and technology, the combination of information Big Data and traditional production management mode has become a new development direction of all walks of life[1-3]. Through scientific analysis methods and calculation methods, can be more scientific, more in-depth understanding of the current needs of customers, continue to meet customer needs is the foundation of the enterprise. The staff of business management uses the characteristics and advantages of Big Data to analyze the comprehensive, scientific and accurate data obtained through information technology[4-5]. According to the obtained data to determine the real needs of customers, and provide goods and services in line with the needs, to help enterprises to achieve their own profits and other business goals[6]. Managers of enterprises should be good at making good use of Big Data, integrate Big Data into the management of enterprises, and pay attention to promoting the application of Big Data in the whole enterprise, establishing a scientific training system, so that employees can master the usage of Big Data technology[7-8].

Application of Big Data technology in the digital transformation of enterprise business management[9]. The application of Big Data technology in enterprise management has brought large-scale data, and has the characteristics of large volume, fast speed, diversity and authenticity[10]. In the current background of technology development, enterprise managers can through the Big Data technology platform and system ,in order to get a job and the decision-making needs for the corresponding data, due to the characteristics of Big Data technology, objective, scientific and accurate data source, the sources including enterprise internal management statements, market information, competitive enterprise information in the same industry, these data through Big Data, information and other technology for processing, calculation, analysis and induction. This function for managers from the

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busy data collection, calculation, analysis, induction of work, can no longer put most of the energy on the processing data, more to the center of the work to decision-making work, for the development situation of the enterprise and the industry, according to the forecast results adjust the development direction of the enterprise, enhance the competitiveness of the enterprise and the ability to obtain economic benefits[11].

Traditional business management and decision-making are to observe and understand the internal competition from the perspective of the manager and the changing needs of customers. Due to the limitations of the perspective, in the decision-making and management of production and HR resources, we pay too much attention to short-term interests or insufficient acceptance of long-term investment, and cannot combine the current development trend, the future trend development direction and the business opportunities and development direction brought by the development of the network. With the development of Big Data technology and the application in enterprise management and decision-making, managers can take advantage of Big Data technology and convenience, further away from the current objective conditions and the constraints of enterprise development degree, will look in the long run, see the development trend of the external market and business opportunities, let the enterprise in the management level and decision-making level for more cutting-edge information, more economic interests and more lasting development.

2. Practical challenges in applying digital technologies such as Big Data to business management and decision-making

2.1. High screening requirements

For work such as data analysis and mining, the cost of manpower, financial resources and time required to obtain sample information is the highest percentage of the cost required for all segments of the work. With the combination of management decision making and Big Data technology, it is easier to obtain information and data of many kinds and sizes than the traditional work management mode. Combined with the current actual situation, still using the traditional screening keywords, filtering useless, bad information screening method, can no longer meet the needs of enterprises to quickly and accurately find information and data. However, the traditional solution of increasing staff and labor time cannot solve the problem completely, which also leads to the collection, analysis and summarization of decision-making information into labor-intensive work, which not only wastes human resources but also takes up too much office resources. In this case, companies have to solve the real problems they face by using new technologies to improve their efficiency. One of the most effective ways to do this is for managers to increase their demand for data and information for management and decision-making. Identify and analyze the sources of information and filter out information that is useless and irrelevant to the business. Filtering out effective and useful information can help managers of enterprises to improve their decision-making and management efficiency.

2.2. The current decision-making methods implemented by enterprises are not innovative enough

The traditional decision-making methods are generally based on cost as the main basis for decision-making, which is a tedious process with a long-time cycle. In this process, as enterprises dare not make decisions easily, managers and staff miss many development opportunities to expand production and scale because of hesitation. With the development of digital society, the current production and business models are divided into two modes of online and offline operation. Some of the enterprises' previous development models rely on urban and offline operations and are more familiar with the customer needs and business models in offline operations. For the online business model is not familiar with, lack of online business experience as well as decision-making basis and decision-making ability. Enterprises need to change their thinking in the face of the developing industry trend of online business, pay attention to the change of the past for the implementation of the decision, rely on the Internet platform and Big Data information technology, develop more customer resources and business methods, follow the development of the times and industry changes to improve the response to the risks in the process of enterprise development, and make scientific and reasonable decisions for the operation and development of enterprises.

2.3. Enterprises in the operation and development to face the rapidly changing market environment

For the enterprise, in the process of development will certainly face the corresponding problems. For

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example, the development to a certain stage, the enterprise itself has a certain scale, whether to continue to expand the scale or conservative development. The combination of Big Data technology and business management decision-making has greatly simplified the workflow of enterprise management and decision-making. However, Big Data technology is a new type of technology that has developed rapidly in recent years, and the current technology cannot completely solve the problems faced in business operation and decision making. So for now, although the application of Big Data technology can simplify the workflow and improve efficiency, it still can't completely replace manual work, and it is difficult to achieve a complete and accurate understanding of the rapid response to unexpected problems and the complex market environment. The best way is for business operators and staff to make measurements according to the actual situation of the enterprise and find a balance between the traditional way of business decision-making and the application of Big Data technology for the development of the enterprise.

2.4. Costs need to be controlled in the work of business management and decision-making

The fundamental purpose of enterprise managers to make decisions is to forecast and plan the future development of the enterprise, and put forward specific requirements and implementation methods in detail. This fundamental purpose requires that the enterprise's decisions should be based on economic efficiency and the development of the enterprise itself, and for the selection of programs and the formulation of decisions, priority should be given to development programs and human resource management programs that can reasonably control costs. Big Data technology can be used to analyze the management and decision making of the enterprise for any waste of resources. Big Data technology gives conclusions and also gives certain solution orientation to solve unreasonable and potentially wasteful human resource management and decision making solutions with the existing technical level and manual conditions, which helps enterprises to reduce resource waste and can get better development.

3. Big Data and other digital technology in enterprise business management decision specific application method

3.1. Use Big Data to analyze business information

Enterprise decision-making will affect the development direction and specific work of the enterprise for a period of time in the future. Therefore, enterprise decision-making generally needs to be measured and compared to determine whether this decision has certain value for the enterprise and meets the development needs of the enterprise. If the decision makers make does not meet the needs of enterprises, the development of enterprises will stagnate or even lag behind the development of the entire industry. In the contemporary society with rapidly changing market environment, a wrong decision may make the development of enterprises lag behind that of the same volume of enterprises, and make the user group of their own enterprises become the target customers of other enterprises because their needs are not met. At present, the continuous development of enterprises is to improve their economic efficiency and production scale by constantly seizing the market, expanding customer resources, having the service capabilities that other enterprises do not have, and transforming the customers of other enterprises into their own customers. Or directly annex small and medium-sized enterprises and directly occupy existing resources and production scale for development. In addition, Big Data technology and Internet platform make the information of people living in the information society more transparent, and enterprises can also obtain customer information more conveniently. According to this situation, the management and decision-making of enterprises should also attach importance to the application of Big Data technology, and managers should transform their thinking and use the advantages of Big Data technology to increase the competitiveness of enterprises.

In the management decision of enterprises, analyze the method of Big Data screening decision information. Faced with the urgent need for the combination of new technologies and traditional management models, enterprise managers and decision makers should attach importance to the docking and mastery of Big Data technology and the Internet platform. The use of Big Data technology can not only better understand the real business and management capabilities of enterprises within enterprises, but also directly use the data collected by Big Data to expand the scale of enterprises, and can reduce the impact of objective conditions on data collection, analysis and induction. By making more use of Big Data information, the decision-making information obtained by enterprises can be given through extensive, comprehensive and scientific analysis of computer algorithms and Big Data technology, which is in line with the development of enterprises and the needs of customers, and can be more stable in the

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entire industry and the volatile market environment, and bring enterprises more conducive to long-term and healthy development of decision-making and management methods. It can also minimize human interference and reduce the inaccuracy and unscientific nature of decision-making. Not only the managers and decision makers of the enterprise, but also the employees inside the enterprise need to have a deep understanding of Big Data technology and consciously use Big Data to integrate into daily work. This requires the managers of enterprises to organize the application training of Big Data for the employees of enterprises, as well as the application in the decision-making management. The combination of internal resources can better let employees understand the decision-making mechanism and management policy of enterprises, be more purposeful in the work and information screening, help the information screening in the enterprise decision-making and management to be more accurate, and the managers, decision-makers and internal employees of enterprises can work together, Understanding the development decisions of enterprises can better help enterprises expand their scale and obtain better economic benefits. Enterprises use Big Data technology to reverse prove whether the screening information used is accurate, compare and discuss the decision methods proposed by managers, improve the decision plans that still have problems, modify and reduce losses before the plan is implemented, obtain a more perfect decision executable plan, and reduce costs. At the same time, we can adjust the development direction and cost input according to the current reality of the enterprise and in combination with the decision-making plan. Make emergency plan for the proposed scheme to ensure the completeness and enforceability of the decision-making scheme.

3.2. Using Big Data mining to support enterprises to implement decision plans

Enterprises can make use of Big Data technology to have a deeper understanding of the implementation requirements and realistic demands of enterprise management. Big Data technology can help enterprise managers more clearly understand the size of the enterprise and human resources, so that they can reasonably arrange the work, so that everyone has the right work content and the right workload. In that way, managers of the enterprise will make the decision plan of the enterprise more scientific, unite the internal staff of the enterprise and increase the cohesion of the enterprise. To help cohesion, it also enables enterprise managers to have a thorough understanding of the human resources inside the enterprise, and allocate workload and staff appointment reasonably, which is conducive to the sustainable development of the enterprise, but also improve the working ability of employees, and avoids the waste of human resources, financial costs in daily work, which also leads to low efficiency. In order to improve the impact of unreasonable personnel allocation on the decision of enterprises, it is necessary to combine Big Data technology, enhance the cohesion of enterprises through reasonable allocation of human resources, and establish a scientific training system to do a good job in personnel allocation.

3.2.1. Enterprise managers should be aware of the overall situation and examine their decision plans from the perspective of the overall development of the enterprise to ensure that the decision plans are not only suitable for the overall environment, but also fit in with the characteristics of the enterprise

Only the decision scheme that is truly suitable for the enterprise itself can be truly implemented to reduce the number of employees who do not understand and are inappropriate in the process of implementation so that they cannot devote themselves to their work. Because some staff do not understand the company's decisions or do not fully understand the company's decisions, they cut corners in their work, leading to difficulties or deviations in the implementation of the company's decisions. In order to solve this problem, enterprise managers should pay more attention to the understanding of internal employees on the decision plan, and use Big Data technology to help them understand, the Big Data technology is applied in the enterprise's internal management system, through the new technology to let the staff more clearly grasp the technology and decision plan. This can improve the quality and efficiency of human resource management and clarify the future development direction of enterprises when implementing decision plans based on data provided by Big Data technology, so as to create development opportunities instead of making decisions limited by cost data.

3.3. Rational use of Big Data in enterprise management decision-making

The impact of Big Data in business management decisions is multifaceted. Therefore, in order to ensure the scientific and rational decision-making, business management decision makers are required to make reasonable use of Big Data. Under this premise, the problems existing in traditional management decision-making can be solved to a large extent and the shortcomings can be made up. Over time, it can build a good environmental atmosphere for the operation and development of enterprises in the market, and at the same time can effectively enhance the enthusiasm of employees and inject more power into

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the innovation of management decisions. In this regard, enterprises can adopt the following strategies to achieve the rational use of Big Data.

3.3.1. Expand the main body of management decision-making

With the development of the era of Big Data, the way of enterprise management decisions has been changed to a certain extent. Therefore, decision makers must change their previous work concepts, attach importance to the important position of employees in the management decision-making process, and realize the rational use of Big Data technology. Specifically, if enterprises want to use Big Data to obtain more scientific management decisions, they should expand the scope of management decision-making subjects and adopt more extensive decision-making entities to avoid subjectivity in the final results. Under this premise, senior managers should play a guiding role and encourage grassroots employees to participate in management decision-making. For example, in the management decision-making process, enterprises can encourage product users, grassroots employees or the public to participate in it, take it as the main body of decision-making, and provide valuable opinions and suggestions for management decision-making based on their own experience, perspective and work needs. Then enterprises use Big Data technology to collect, analyze, and select feasible recommendations. The use of this method can not only give full play to the role of employees, customers and the public, but also fundamentally avoid the subjective problems in management decision-making and ensure that the final management decision meets the development needs of the enterprise. In addition, it is also conducive to the establishment of a good image of democracy and equality in the development of enterprises, and helps their own healthy and stable development.

3.3.2. Select the management decision-making mode

In the operation and development of enterprises, management decisions have important value, which will affect the direction and effect of enterprise operation and development to a certain extent. However, in this process, it is also influenced by the mindset of business managers. If the decision-making entity has rich management experience and profound digital application background, it can ensure the rationality of management decision-making results. In other words, different management decision-making models in the development of enterprises will have different impacts on the final result. In contrast, if enterprises realize the rational use of Big Data during management decision-making, they can fully respect the objective laws of enterprise development and realize the analysis of enterprise development trends and market status based on Big Data information. Management decision-making based on Big Data is fundamentally different from traditional subjective experience decision-making, which can ensure the objectivity and scientificity of the final result, and effectively make up for the shortcomings of the decision-making subject's thinking and ability. Combined with a large number of facts, it can be found that during the use of Big Data for management decision-making, the scientific nature of the final result can be ensured. Under this premise, it can help enterprises reduce the risk of business development and achieve the goal of healthy and stable development. To this end, enterprise managers must realize the adjustment and innovation of traditional thinking patterns, and fundamentally recognize the role and value of Big Data technology, so as to improve the effectiveness of decision-making results and promote the healthy and sustainable development of enterprises.

3.3.3. Decentralize management decision-making rights

In the development of enterprises, although they will be influenced by decision-makers, they must also pay attention to the status of users, employees and the public. Mainly because this part of the population will affect the business efficiency and development status of the enterprise. Due to the application of Big Data technology, the decision-making power of the enterprise has a direct impact on the decision-making power of the enterprise, and the decentralization of the management decision-making power is realized, so in order to obtain more scientific and reasonable decision-making results, the enterprise must guide users, employees and the public to participate in it. It should be noted that the application of this method will increase the uncertainty of management decisions to a certain extent, resulting in corresponding risks in the development of enterprises. In order to achieve more stable development goals, enterprises should reasonably decentralize the traditional management decision-making power in the process of using Big Data for management decision-making, and attach great importance to the role of ordinary managers and grassroots employees. Based on this, it can grasp the future development direction, and at the same time adjust and improve the decision-making management system. Not only that, enterprises should also optimize the traditional organizational structure, otherwise it is difficult to adapt to the trend of decentralized decision-making power. For the application of public opinions and suggestions, enterprises should pay attention to the publication of information such as their own business effects, that is, give play to the supervisory role of the public, and provide basic guarantees

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for enterprises to obtain more healthy and stable development.

4. Suggestions and conclusions of enterprises using Big Data to innovate business management

4.1. Set up Big Data reasonably and scientifically on the basis of training system, improve managers and employees on Big Data product capacity data to the enterprise data management and data assets value has the vital role

The combination of Big Data technology and traditional production and operation decision-making mode will inevitably produce a new type of Big Data enterprise information processing system, in the construction of this new system, the builder in addition to the need to consider the degree of combination of the two, but also combined with the daily working habits of internal staff, according to such information to the internal staff to apply Big Data technology training, and design the corresponding assessment and reward and punishment system. For the application of Big Data technology, staff need to have corresponding knowledge, in the technology of learning theoretical knowledge, learn to use the corresponding Big Data technology tools, manually import information and data into the Big Data information system, filter out qualified effective information and data through the operation of the Big Data system, and finally summarize the final conclusion after the analysis of Big Data. The whole set of work processes has high requirements for the technical requirements and comprehensive ability of relevant staff, and the use of Big Data technology is a necessary skill, so the mastery level of relevant staff on Big Data products is the assessment standard set by managers. In order to stimulate the enthusiasm of employees and have greater workplace competitiveness, managers need to formulate corresponding reward and punishment measures, reward employees who have mastered well, and punish employees who do not meet the standards. Punishment is not the fundamental purpose, but to let employees better master the relevant technology through punishment.

4.2. Change the application state of Big Data technology in the complex market environment

Only by making effective use of Big Data technology can the decision-making scheme made by enterprises be reasonable and effective. For the internal management of the enterprise, the management of labor and technology also needs to be adjusted reasonably according to the Big Data technology. The traditional model only relies on the subjective judgment of managers to judge and determine the survival environment of the enterprise and the development trend of the whole industry, and investigate consumer demand in an imperfect and unscientific way. The conclusions obtained are not enough as objective basis to support the decision-making of the whole enterprise, and the development direction of the decisions made and the problems that need to be solved are also relatively large. This is also not conducive to enterprises to make up for their own shortcomings, so using Big Data technology can get better basis, more scientific data, analyze and summarize the past decision plans, check and fill in the gaps, overcome the problems that have occurred, and determine the scientific development direction and decision plans.

Enterprise managers only have a full understanding of the role of Big Data, master the use of Big Data technology, according to the scientific and accurate actual needs of Big Data analysis, and excavate more customer resources according to the analysis of Big Data. On this basis, managers should pay more attention to the construction of the internal Big Data information analysis and processing system of the enterprise, and build a scientific and reasonable systematic system, which can help the relevant staff of the enterprise understand the internal structure, operation mode and human resources of the enterprise, and can make corresponding adjustments. It can also better cooperate with human and Big Data technology to provide data and scheme support for work and decision-making in all links.

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