

# Research on Business Strategy Innovation Mode of Engineering Enterprises based on Big Data Analysis

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## Abstract

Under the background of big data era, the business strategy management of engineering enterprises has become more scientific and refined, making up for the lag of the business strategy of engineering enterprises in the past traditional era. With the increase of the business content of engineering enterprises, the complexity of management business, and the innovative application of big data analysis system in the complex and changing market environment, it has become the main influencing factor to measure the core competitiveness of engineering enterprises. Based on this, engineering enterprises need to constantly strengthen the construction of big data analysis system, and give full play to the convenience of big data in the entire process of enterprise operation and management. It provides powerful help for the improvement of business value and economic efficiency of enterprises. Based on big data, this paper analyzes and discusses the operation innovation mode of engineering enterprises.

## Keywords

Big Data; Engineering Enterprises; Business Strategy; Innovation Mode.

## 1. Introduction

In the rapid development process of modern science and technology, strengthening the application of information technology has become an effective means for enterprises to improve their operating efficiency, improve their service quality and enhance their core competitiveness in the market in the fierce market competition. With the rapid development of modern science and technology, the traditional business management model of enterprises no longer meets the needs of their own development, affecting the healthy and sustainable development of enterprises. Therefore, under the background of big data information age, how to innovative use and development of information technology has become the proper meaning of enterprise development.

## 2. Big Data Analysis Features in the Business Strategy of Engineering Enterprises

Big data has the advantages of large storage data volume, diversified storage content, fast processing speed, etc. In the process of processing big data information, new computing organizational structure and big data only algorithm need to be used to optimize the enterprise management process through electronic information technology, with more emphasis on online closed-loop process optimization. For the application of big data in the business strategy of engineering enterprises, it is a systematic management method with engineering projects as the object. With the help of big data, it processes engineering information and puts forward effective solutions and optimization suggestions, so as to finally achieve the goal of improving the level of project management. Statistics, management, planning, organization, coordination, decision-making and evaluation of all work and resources within the life cycle of the project are

carried out through the perspective of big data analysis, the theory of big data analysis and the method of big data analysis, so as to improve the project quality, improve the project schedule and enhance the core competitiveness of the enterprise. Its main task and goal is to improve the quality Analyze and demonstrate the investment and schedule objectives, and conduct quality control, schedule control and cost control. Project management under the background of big data is based on different application scenarios, and corresponding processing methods and means are designed accordingly, so that the complex and massive information involved in project construction can be classified and analyzed, and the analyzed data can be used to help managers better manage project resources until the completion of business objectives.

### **3. Strategic Innovation Mode of Engineering Enterprises in the Context of Big Data Analysis**

In recent years, with the rapid development of modern information technology, in order to support and promote the application of big data in enterprise operation and management, China has successively issued the Action Plan for Promoting the Development of Big Data, Several Opinions on Promoting the Opening of Public Information Resources, and the Development Plan of Big Data Industry (2016-2020), New requirements and goals are proposed to promote the integration and development of big data technology industry. In the process of accelerating the construction, effective integration and safe utilization of big data resources in key areas, we can see that the era of big data analysis has come. It has become the consensus of engineering enterprises to take big data as a guide, promote industrial innovation, and use big data to drive industrial development.

#### **3.1. Drive the Digital Transformation of Enterprises and Enhance the Vitality of Business Management**

The operation of engineering enterprises involves production and operation management, project management under construction, safety management, human resource management, financial data management and many other contents. Through the big data analysis system, the production and operation of all projects of the engineering enterprises can be included in the dynamic monitoring scope of the company's operation and management, and effective means can be taken to adjust the contents of projects that lag behind and deviate from the target in a timely manner, which helps the engineering enterprises realize the effective utilization and sorting of resources, and plays an important role in helping the engineering enterprises maximize their operating profits and help them carry out intensive operations, The progress, quality and expenditure of construction in progress are guaranteed throughout the business scope of the enterprise. Based on the effective inheritance function of big data analysis, the realization of scientific operation based on big data analysis at the enterprise level can ensure the controllability of multi project construction management and the realization of objectives, and enhance the vitality of enterprise operation and management. With big data based credit reporting as the guarantee, and with the help of Internet information technology, the digital transformation of engineering enterprises has been accelerated and the business vitality of enterprises has been improved.

#### **3.2. Lead the Whole Process Change of the Project and Improve the Project Management Level**

For the operation and management strategy of engineering enterprises, project engineering has the characteristics of complexity, involving different posts, different professions and all parties to participate in the construction of engineering enterprises. The cooperation and resource integration between different tasks and types of work in project operation and management play an important role in promoting the project duration and ensuring the project quality. With

the help of BIM+PM (project management) professional application and smart site application as the key, and with the help of big data analysis function, it has integrated the optimal utilization of various requirements of "people, machines, materials" of the project under construction, realized comprehensive and all-round intelligent management and supervision of the business process, helped coordinate and interact different contents of the project, and formed a big data management center for project management, It has played an important role in helping the on-site personnel of engineering enterprises to manage the construction, optimizing the project management process, coordinating the use of engineering resources, better carrying out the joint cooperation of all parties with the project construction as the center, strengthening the multi-party linkage cooperation, management pre control, integrating the formation of an efficient and innovative management system, and improving the safety of the project. Therefore, engineering enterprises should apply big data analysis to the whole process of engineering project management, maximize the use of big data analysis capabilities, achieve management and coordination between projects, and thus promote the continuous improvement of engineering project management.

### **3.3. Promote Project Supervision and Improve Industry Supervision Service Level**

The application of big data analysis in the business strategy of engineering enterprises has completely changed the traditional passive supervision and management means, become a sword on the road of promoting the reform of the construction industry to strengthen "decentralization, management and service", improve the transparency of engineering projects and the fairness of bidding. Based on the big data analysis system, the integrity supervision system of engineering enterprises can be further deepened, and the project construction units, project construction personnel Unified management of project works. The big data analysis system can help the engineering enterprises to dynamically supervise the projects under construction and completed, all parties in the market and workers in key positions, and standardize the behavior of construction and management personnel of engineering projects; Using big data to comprehensively analyze the financial information of the enterprise has curbed the generation of bid rigging, collusion and other illegal acts. Through the analysis ability of big data, information sharing and utilization between projects can be realized, which helps project management personnel timely find hidden problems in projects under construction and completed, strengthen project quality inspection and detection, and improve project quality, It can trace the quality of the project and conduct real name management for the project participants, which improves the integrity awareness of the project participants and managers, and plays an important role in helping the competent industry departments to strengthen the quality management of the project, improve the safety of the project management, and ensure the life safety of the participants and managers.

## **4. Challenges and Difficulties of Big Data Analysis in the Application of Business Strategy of Engineering Enterprises**

Engineering enterprises involved in the operation of a large amount of data need to be counted and analyzed, but the content of these data involves different levels such as the enterprise itself, government agencies, project third parties and posts. Therefore, the ability to collect and integrate data has become the key to whether big data analysis can be scientific. How to improve the analysis and management ability of engineering enterprises on big data, make full use of big data technology to assist engineering enterprises to achieve digital and information transformation, and drive the adjustment and upgrading of engineering enterprises' business strategy has become the focus of the engineering construction industry.

The application of big data analysis in the business strategy of engineering enterprises needs to be improved in many aspects. The first is the ability to mine and collect big data. For engineering enterprises, on the one hand, they need to make up for the past data as much as possible, and they need to timely enter the big data system when data changes occur, so that the enterprise's big data content and information can be as comprehensive as possible; On the other hand, it is necessary to strengthen the integration ability of big data. Based on the actual situation of engineering enterprises, a platform level system should be established to help the company integrate data. For example, data inheritance should be carried out for the project level, enterprise level and industry level respectively, so as to lay a foundation for more scientific analysis of big data in the later period. Finally, how to connect and integrate the operation and management mode of engineering enterprises with big data. For example, after applying big data analysis to bidding, the analysis ability of big data can help engineering enterprises judge whether bid rigging is likely to occur. Through sufficiently extensive data analysis, the accuracy and rationality of the results are ensured.

## 5. Conclusion

The era of big data information has become the synonym of the new era. The application of big data technology in the business strategy of engineering enterprises will be more extensive. Big data can be seen in both the enterprise's own business planning and the construction of subprojects. As engineering enterprises, they need to seize the opportunity of the big data era, promote the active integration of big data and engineering project management, and make important contributions to the optimization and upgrading of engineering enterprises.

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