Research on Management Uncertainty Solution Based on Environmental Change by big data Technology

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Abstract. In the development of China's socialist market economy, there are many environmental uncertainties, which depend on the complexity and variability of the environment. What enterprises need to do is to let management accounting take the initiative to deal with the uncertainty of the environment. In the development of an enterprise, management accounting can strengthen the internal management of the enterprise and improve the economic benefits of the enterprise. It adopts a series of special methods to collect and analyze the enterprise data, and controls the business of the enterprise by forecasting and making plans. Secondly, the competition among enterprises will become more and more competition among supply chains. The competition between supply chains is increasingly inseparable from the research of modern management solutions. On the basis of studying the current situation of supply chain demand uncertainty management, it is proposed to realize the synergy of lean management and flexible management in supply chain management with the concept of collaborative collaboration. Through the analysis of the delicate cooperation mechanism of supply chain, this paper analyzes the uncertainty factors in management accounting and supply chain management based on environmental changes.

1. Introduction
For enterprise organizations, whether it is to formulate strategies, implement management and control, or cultivate core competitiveness, it is inseparable from the analysis and evaluation of environmental factors. Environmental uncertainty has always been one of the important aspects of management accounting research [1]. Environmental uncertainty refers to all factors that exist outside the boundaries of an organization's organization and have a potentially direct impact on the organization. With the intensification of global competition, the increase of economic uncertainty and the rapid development of information technology, supply chain management faces enormous challenges [2]. In the formulation of enterprise development plans, insufficient consideration is given to environmental uncertainties, resulting in increased pressures and risks faced by enterprises in competition [3]. In order to enable enterprises to achieve sustainable development, management accounting methods should be studied on the basis of environmental changes. No matter from the analysis of the actual economic development strategy of the enterprise or from the management accounting control, its main goal is to cultivate and enhance the core competitiveness of the enterprise in the economic market [4].

Since the 1990s, with the continuous application of various automation and information technologies in manufacturing enterprises, manufacturing productivity has increased to a fairly high level [5]. The potential of technological means in the manufacturing process itself to improve the competitiveness of the entire product is beginning to diminish. At present, significant changes have taken place in the external market environment. Changes in the external market environment have also promoted the evolution of supply chain management ideas, from early lean management to flexible management, and...
then to the concept of refined and flexible mixed management [6]. Along with the trend of globalization of the world economy, the focus of business management also comes down to the adoption of advanced production models and the optimization of the entire supply chain management project. The supply chain has been widely used in manufacturing management and has become a new management model [7]. Affected by the current fierce competition in the international market and the uncertainty of economic users’ demand, the time proposed by the supply chain is not long, but it has attracted widespread attention [8]. It provides further decision support information that enables companies to assess the impact of changes in various uncertainties on the business.

2. Overview of Environmental Uncertainty and Management Accounting

2.1 Environmental Uncertainty

Environmental variability is environmental uncertainty. The environmental changes faced by Chinese enterprises are mainly divided into the changes of external environment and internal environment, of which the external environment has great influence on enterprises. Environmental uncertainty depends on the complexity and variability of the environment. Complexity refers to the diversity of external factors faced by enterprises [9]. Environmental variability refers to the degree of stability of the external environment, which depends on the changes of constituent elements and the visibility of such changes. Environmental uncertainty increases the risk of various strategic failures of enterprises, making it difficult for enterprises to calculate the costs and probabilities related to various strategic options. In the operation of supply chain, the uncertainty of the environment mainly refers to the changing external environment, including the characteristics of the industry, government support, natural disasters, etc. These events are often difficult to predict, but they are given. The supply chain has brought great instability [10]. This is also called environmental uncertainty.

The increase of the level of environmental uncertainty reduces the satisfaction and enthusiasm of the members of the organization for work, and thus affects the value-added goals of the enterprise. Uncertainty means that when the time factor is introduced, the characteristics and state of things cannot be observed, measured and foreseen sufficiently and accurately. Enterprises should combine their own development strategies, not only to consider the domestic market, but also to collect information on foreign markets, and then organically combine domestic and foreign oriented information, comprehensive consideration, so that enterprises can more accurately understand the domestic and foreign markets. Analyzing the uncertain business environment, considering various influencing factors related to the organization, increasing the information content and carrying out the prediction accordingly will help to improve the probability of successful prediction of future events. However, in the process of supply chain management of enterprises, due to the differences in their positions and roles, there will be some uncertain factors that will affect the original intention of supply chain management. Environmental uncertainty in an enterprise cannot be determined by itself. The main reason lies in the complexity of environmental factors and the variability of enterprise development strategies.

| Maturation of Economic Society | Individualization and Highlighting of Product Demand--Multi-variety and Small-batch Production |
|-----------------------------|------------------------------------------------------------------------------------------|
| Grouping of Enterprises     | Competition with the World’s Big Powers--All-round Big Competition                        |
| Development and popularization of IT | Application of Big Data, Product Differentiation and Expansion of Low Cost--Intensification of Competition |
| The Increase of Corporate Sociality | Contribution to Society and Consideration of Environment--Expansion of Strategic Scope     |

2.2 Management Accounting under Uncertain Environment

Management accounting refers to a series of management activities carried out by enterprise organizations around information support systems and management control systems to achieve enterprise value-added goals. The main function of management accounting is to serve the
comprehensive management level, management efficiency and overall management level of the enterprise. The ultimate goal is to promote the core competitiveness of the enterprise and realize the long-term development of the enterprise. With the development of science and technology, management accounting provides guarantee for the formulation of the system's goals, and integrates information resources with better value, which provides a scientific basis for the formulation of enterprise development strategies. In the enterprise, it is mainly to make full use of the information and make quantitative analysis of the data to assist the management department to grasp the data information, thus improving the scientific rationality of prediction and decision-making. In the enterprise organization, need to set up more positions, to achieve external contact with relevant departments, and need comprehensive management personnel to scientific and reasonable coordination of the relationship between various departments. Under the circumstance of high uncertainty of external environment, the uncertainty of environment makes enterprises face full competition. Enterprise decision makers usually need to take corresponding actions in combination with the actual environment. Then how to highlight the economic value of the enterprise requires managers to actively adapt to the needs of market development and realize active change and remodeling in the environment.

Under the uncertain environment, the relevant research and analysis of enterprise management need to continuously consider the factors that are related to various influencing factors of organizational development, increase the amount of environmental information and carry out prediction. It is to integrate the customer values in the corporate culture and the subjective initiative in the behavioral motives to better cope with the environmental uncertainty faced by the organization. Under the condition of environmental uncertainty, the behavioral school represented by self-determination theory pays attention to the intrinsic motivation of the members of the organization, that is, respects the self-determination ability of the members. And extension will help reduce the coordination cost of the organization and improve the efficiency and effectiveness of the management accounting control system. Taking into account the differences in corporate culture, the accounting management information support system should adopt a differentiated strategy in order to facilitate the management of accounting information more practical. China's application management accounting will also be affected by many factors. It is necessary to analyze the uncertainty of the environment and promote the management information to obtain targeted information support through the combination with the organizational culture of the enterprise.

3. Guide the development of organizational culture and give full play to the usefulness of management information

3.1 Carefully analyze the external environment

The decision-making of an enterprise will be influenced by many factors, including internal and external factors. The internal factors are mostly controllable, while the external factors are difficult to determine. This is mainly due to its complexity and variability. Enterprises will also be affected by the legal environment. The main function of enterprise management accounting is to provide effective market information to enterprise management activities. However, a good market economy environment is the prerequisite to play this role well. We should firmly establish the awareness of attaching importance to the management accounting control system. In the past, management accounting was often regarded as one of the information support systems, and the role of the control system was neglected. The development of China's economy is affected by various factors in China, resulting in a volatile socialist market economy. Then for the general organization, the information related to the external environment is not important. The externally oriented management organization needs to fully recognize the external environment and set the organizational innovation caused by new things and new phenomena as a new positioning.

Under the condition of environmental uncertainty, it is necessary to determine the self-evaluation of the members of the organization, realize the self-function of the members of the organization, and coordinate between the control and autonomy of the organization. The comprehensive governance of the
uncertainty of the environment must always adhere to the belief that value added. The information support system of management accounting is an important means for managers to fulfill value-added responsibility under the condition of environmental uncertainty. The organizational culture that affects environmental uncertainty can promote people's awareness of the effective use of management accounting information. The control system of management accounting should be perfected. Facing the new environment, enterprises should consciously combine the control system of management accounting with other disciplines. When faced with the impact of environmental uncertainty, the establishment of a preliminary information system can effectively improve work efficiency and provide favorable decision-making basis for enterprises in the first place. Management accounting can directly transfer data from the information support system, and the data are presented in the form of statistical tables. Enterprises can check their own actual operation situation for a period of time to ensure the accuracy and timeliness of enterprise decision-making and promote better development of enterprises. Organizational culture is a combination of values, norms and beliefs that are internalized among members of an organization. Organizational cultures that affect environmental uncertainty are diverse, especially those that have a greater impact. In organizations that maintain a long-term perspective, it is important to achieve long-term goals. In organizations that maintain a short-term perspective, it is important to achieve short-term goals. Once the environment changes, even if the task cannot be completed according to the original plan, it will not pose much threat to the organization, the stress level of the work will not be very high, and the environmental change will not be over recognized. Therefore, organizations do not have excessive cognition of environmental uncertainty, and the level of environmental uncertainty is low. The organization responds strongly to environmental changes and has a high level of environmental uncertainty.

![Figure 1 Impact of Organizational Culture on Environmental Uncertainty](image)

### 3.2 Internal and External Guidance

When the cost of information technology is reduced, when the barriers to information communication between companies are reduced, when more advanced management theories enter, the management uncertainty of environmental changes will be better resolved. Some of the company's business philosophy and corporate culture are steadily growing, and the management accounting information support system needs to output the information data to be related to the future, and at the same time to give a variety of analysis programs, and are all directly able to obtain practical benefits. While exerting its own functions, the management accounting control system describes the internal relationship between behavioral motivation and control system by means of self-determination theory of behavioral motivation, so that the organization's choice behavior can achieve self-control and optimization in a satisfactory situation. Examining the usefulness of management accounting information from the perspective of organizational culture includes authenticity and rationality, stability and change, internal orientation and external orientation. To build a management accounting system with Chinese characteristics, we must invest corresponding time and cost in the structure and operation of the system, which cannot be ignored.

In an internal-oriented organization, little attention is paid to the information of the external environment, and the emphasis is placed on the information of the internal environment. It mainly relies on the creativity of internal personnel to carry out innovation, thus promoting the development of the
company's management accounting. Externally oriented organizations need to recognize changes in the external environment and take innovation caused by new things and phenomena as an important orientation. Accounting information is highly useful and its utilization is greatly improved. External future information reduces the instability of the environment. External current and past information is the necessary information for the purpose of reducing the complexity of the environment. Decision makers need raw data related to the future and the future information of the analysis processing is not taken seriously. In this organizational culture, in the face of increased environmental uncertainty, the highly processed management accounting information is not allowed to be used, and it is often used for a wide range of information that is not processed by analysts. Strengthening research on applicability through management accounting control systems is indispensable.

4. Conclusion
In this paper, qualitative analysis is used to discuss the management problems under the environment uncertainty, focusing on organizational culture and behavioral motivation theory. Based on the analysis of the uncertainty of the environment, the solution should be studied through the combination with the organizational culture of the enterprise. The business philosophy and corporate culture of some enterprises are growing steadily, while the information and data that the management accounting information support system needs to output are related to the future. At the same time, it is necessary to provide various analysis schemes, all of which can directly obtain actual benefits. Taking into account the differences in corporate culture, the accounting management information support system should adopt a differentiated strategy in order to facilitate the management of accounting information more practical. In short, the comprehensive governance of environmental uncertainty needs to adhere to the belief that the value of enterprise value is unwavering. The information support system of management accounting is the key way for managers to fulfill their value-added responsibility under environmental uncertainty. In other words, companies in the 21st century should establish the notion that all value-added activities of enterprises should be centered on customers, and only by creating value for customers can enterprises realize value added.

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