A review of modern management theory development and its research methods

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Abstract

With the continuous development of China's economy and society, management theory needs to be modernized and transformed under the general environment of economic and technological take-off. It not only needs to develop through diversity, but also carries out the modernization management theory in-depth optimization. In terms of the current research direction of modern management theory, it mainly includes the following research theories: economics, mathematics, modern system theory, information theory, statistics, etc. The birth of a variety of theories can help provide more possibilities for the development of modern management. At the same time, the mode of research also generates a variety of management science approaches and schools of thought, such as decision science, management science and systems management science. The content of this paper mainly discusses the effective development of modern management theory as well as the research direction and methods, with a expectation of having a deeper knowledge and understanding of the value and connotation of modern management theory and effectively promoting the comprehensive development of modern management theory.

Keywords

modern management; theoretical development; research approaches

I. Introduction

For management activities, it has a certain value since ancient times and continues to this day. In the context of the continuous development of the modern social environment, management thinking and concepts need to be gradually upgraded and studied at a deeper level in the process of development. The process of studying modern management theory not only requires to study its ideas and concepts, but also to consolidate methods based on the continuous practice. Through the multifaceted cognition, we can better understand the modern management theory, and by mastering the modern management theory research methods, this theory is constantly enriched and consolidated, which will truly achieve the organic combination of theory and practice.

II. For an overview analysis of the development of modern management theory

2.1 Factors in the development of modern management theory

The foundations of modern management theory are derived from the basic theories of both behavioral and scientific approaches to management, and have developed considerably with the effective combination of both. Modern management is currently at an important stage in the development of western management the-

ory and its ideas, with the emergence of a whole new school of thought after the Second World War. In this stage, new management methods, concepts, ideas and theories had been better displayed. With the increasing level of automation and mechanization of industrial production in the West, electronic computer technology also entered a stage of rapid development, which led to the rapid development of modern science and technology. Capitalist relations of production were also greatly affected at this stage, consequently which brought about the integration of management theory with other scientific disciplines. It is worth noting that anthropology, psychology, sociology, computer science, mathematics, and economics were applied to the management, and the modern management was used more and more extensively by the means of the practice in business,, which gradually led to the formation of modern management theories as well as ideas.

2.2 Theoretical content of modern management theory

As far as we are concerned, modern management is not only a knowledge system, but also a group of disciplines converging which is an adaptive process for responding to the rapid development of society, it has generated more theoretical and practical systems [2]. In the modern thought, management theory has the unique methods and means of modernization as well as certain systematic characteristics. It focuses on human psychological activities, behavior logic, internal and external needs and has a certain social nature, which also indicates that modern management is a more advanced and comprehensive management theory and methods in all aspects. In addition to the traditional management theory, modern management theory now focuses more on the auxiliary application of network information technology, which not only enhances the importance of efficiency and quality, but also receives more and more attention under the dual integration of practice and theory. As a research method with certain foresight, it is better in the effective transformation of management thinking, and can help managers to make certain innovations in the way and method. In the development process of modern management theory, management thinking and management methods bring high efficiency, which directly affects the enterprise support for it, and at the same time can also play a better role in the development when confronting with the changing social economy and is used more widely.

2.3 An important branch of modern management theory

Modern management, as a larger system, has many branches, of which the more prominent is administrative management, and administrative managers are the more important core of administrative management [3]. Today, with the rapid development of modern society, administrative managers must comprehensively improve their own core quality, and improve the ability at the same time. It is understood in depth about management level and management efficiency and other respects, administrative managers should master the law, management, political science and administrative science and other disciplines of knowledge. Modern management theory branch framework chart is shown in Figure 1.

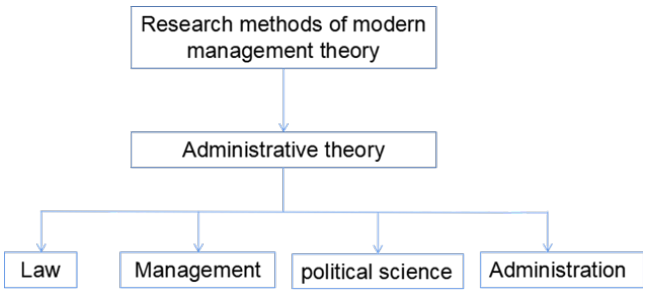


Figure 1 Framework diagram of the branches of modern management theory

Combined with the literature shown in Figure 1, advanced management knowledge is learned by reading literature on the work experience of social groups as well as enterprises and institutions, or by participating in the work of party and government agencies. Only in this way can we better adapt to the current social development. The diversification of administrative objects results in devoting more efforts in management. Meanwhile, it should learn different knowledge with different objects. For example, the current administrative objects include public health, environmental protection, social order, culture and education, economic construction and municipal construction and other fields, if only one kind of management method is applied, it will bring about problems that cannot be solved scientifically and reasonably. Thus, it is necessary to solve problems through the flexible use of a variety of administrative theory and methods[4]. For truly achieving the high quality and high efficiency of localized management, it shall reduce unnecessary waste of financial resources, human resources, material resources and time. For administrative managers, they should improve their own abilities for solving practical problems. To this end, they could improve their own efficiency with scientific and effective methods by consolidating the knowledge of various disciplines and learning other branches of modern management theories, which ultimately is

III. Analysis of the research methods of modern management theory

The content of the analysis of research methods in modern management theory is shown in Figure 2.

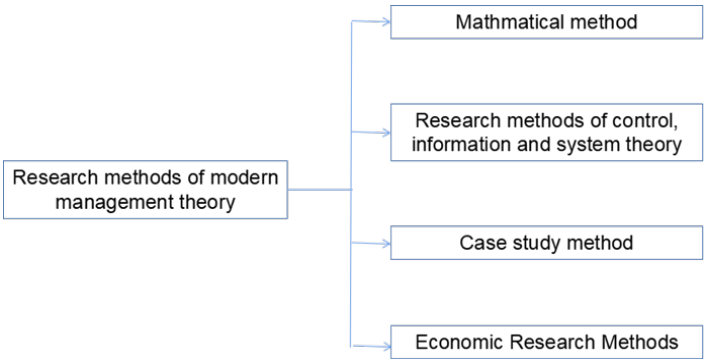


Figure 2 Research methods of modern management theory

In conjunction with Figure 2, the following is a detailed analysis of the four research methods in Figure 2, as described below.

3.1 Mathematical methods

Mathematical methods are widely used in the study of modern management theory, and they include mathematical planning, statistics, discrete mathematics and combinatorial mathematics. By using mathematical research methods quantitative analysis can be carried out, as well as applied to expressions, data and icons. It even can play a huge role in the study of system analysis, the way of which is to study the pattern of its development and the direction of change based on the change of state [5]. Although the application of purely mathematical models in the reality of complex management aspects cannot be exhaustive, but in essence it is impossible to ignore the important role played by managers. For management science schools using mathematical quantitative analysis methods as well as modeling, although used more frequently, it can play a quantitative role from the field of management, which is one of the important factors that enable the successful application of mathematical methods. It is worth noting that the current rapid development of computer science

and technology as well as Internet information technology has played an important role in the in-depth study of the widespread use of mathematical methods in management science, as well as playing a supporting role in the field of research.

3.2 Research methods in control, information, and systems theory

As an organic whole combined with multiple parts with interactions and dependencies, the system should consider it is one of examining criteria by adding the object to it. In general, it shall analyze the relationship of the interactions and constraints between the system and the new object from a systemic point of view[6]. Even if the various parts of the system do not perform superiorly, they can be optimized in unison under the coordination if the parts is structurally coherent. The enterprise as a system not only requires theoretical support, but also needs a research approach that examines the practice from a macro perspective. It shall analyze elements such as the organization and structure of the enterprise through a multi-perspective viewpoint and manage them under the premise of finding diversity from multiple perspectives such as control, information and systems.

The study on cybernetics can play a scientific role of regulation as well as control on inter-management systems, and its research methods include, functional simulation, black box system identification, and feedback control. Among them, synergy theory, mutation theory and dissipative structure theory are the core of the more important components of information theory as well as a system self-formation theory. For the further study, these theories are applied in the mechanism of the systems formed spontaneously and combined with the intrinsic structure of the organization and orderliness of the study. Besides, the rate theory is applied for the transmission and control of the communication system and control system . Systems theory requires a number of interdependent and interacting structures, including a holistic structure of properties and functions, and its approach relies on a combination of systemic aspects with reference to the characteristics of things themselves. By integrating the study object into the system and studying the influence, constraints, and connections between the external environment and the whole, there are greater advantages in terms of the effect even if the mutual cooperation between the two cannot form a unified whole,, and this kind of the formation can better highlight the role of the research method and the close integration of multiple elements [7]. If the elements within the system are superior, but lack a certain unity as well as coordination, then the role of the whole system could not display a more desirable effect. How to scientifically use the system theory in modern management can directly affect the analysis and weighing of the management, organizational elements and processes of the enterprise organization. Therefore, for effectively optimizing the management as well as deeply exploring the overall function of the enterprise organization, it is necessary to effectively carry out all-round improvement by quickly achieving management efficiency as well as management goals.

Information theory, systems theory, and cybernetics are the main points that must be concerned in the modern management research. Once the research methods of mathematical theory are used effectively, it is helpful for the theory as well as dynamic planning to be better applied, while it plays a role in helping mathematical planning such as nonlinear planning as well as linear planning. Contingency theory, decision theory, reliability theory and queuing theory can also be enhanced to some extent for modern management theory [8]. The modern management theory of operations research, which includes several elements such as operations planning, matching people, selecting goals, and decision planning, can be better studied by modern management theory for content as well as methodology with the help of multifaceted, multidimensional, and multi-per-

spective theories.

3.3 Case study methodology

As two major schools of modern management theory, the power theory school and the empiricist school are more focused on the case study method, and the two schools are compared and contrasted, as shown in Table 1.

Table 1 Contrasting elements of the two university schools

Serial number	affiliation	angle
1	theory of power change (physics)	On the case
2	empiricist school of thought	a private firm

As shown in Table 1, this approach not only provides effective reference cases, but also draws out the more obvious strengths and weaknesses of the cases. Although both schools of thought are derived from modern management theory, they have their own differences.The weight theory school focuses more on the in-depth study of cases. Based on effective induction and summary, it filters and summarizes the strengths and weaknesses into the relevant experience through filtering. Besides, it will come to a more comprehensive conclusion by the means os the scientific model research method and practice to combine.

The empiricist school, on the other hand, focuses on the management of individual companies. The comprehensive evaluation is analyzed through a combination of several case studies, and the results are summarized by setting up an in-depth study of the analysis and case content. The analysis of organizational and operational aspects is used to derive the results in terms of information technology. The results of marketing and strategic management are simulated by comparing multiple layers of data, so that the findings can be better integrated with case studies in various fields.

The commonality between the two research approaches is that they both start with the company culture and analyze through the company's core competencies and supply chain management, and combine multiple perspectives such as strategic objectives and balanced scoring method.

3.4 Economics research methods

The economics research method is mainly aimed at helping the field of scarce resources encountered in the process of management theory research. With the economics research method, it shall solve the characteristic problems effectively and quickly from the basic perspective. Although there are major differences between management and economics, but it does not affect the crossover from the object of study and research perspective. Economics focuses on issues such as efficiency and cost, and allows for effective management improvements and maximum profits at minimal cost through continuous scientific optimization. This characteristic also makes the economic research method have a more profound impact on the study of modern management theory. The more obvious use of economics research in modern management theory research is value engineering, which also shows that economics research can be efficiently applied to management.

The economics research method also involves corporate strategy and industrial organization, which fundamentally has a greater similarity with the strategic management in management theory, and the focus of corporate strategy is also the goal pursued by economics and management [9]. This shows that there is a large

intersection and extension in the theoretical aspects of the two studies [10]. In fact, from the basic level of many research results, the difference between the two is not very big, even to the extent that it is difficult to define, but this does not affect the relationship between the two and their commonality. Besides, it can be seen from the modern management research process that management and economics can not be separated from each other, there is a close relationship between the two which then can be better used in practice.

IV. Concluding remarks

With the rapid development of economy and society, modern management theory is also undergoing effective development at multiple levels and angles, and modern management can be promoted more quickly for using elements of information and modernization through the research and development of technology and networking. This has also provided multiple channels for research methods focusing on modern management theory, and do a full range of in-depth research through different research methods and research perspectives. There is a certain amount of interoperability and crossover between the various research methods, and depending on the inclusion of multiple research methods, it can be seen that the content of modern management theory has also been influenced in a variety of positive ways, which allows it to play a huge role in its advantages. No matter which management theory research method is used, its ultimate research purpose is to better optimize management methods and management strategies, and to promote various management activities and management organizations to achieve long-term management efficiency problems and quality. Enterprises can better use management theory for optimization through the improvement of all aspects, which will truly enhance the core cohesion and competitiveness of enterprises.

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