

Research based on Production Management

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Abstract: Currently, China's market economy is in a stage of rapid growth. With the advent of economic globalization, it is both an opportunity and a challenge for China's economy, and the global competition within China is becoming increasingly fierce. How to seek survival and development under complex and ever-changing market conditions is a key issue in front of enterprise managers. At present, due to the large number of small and medium-sized enterprises in China and their relatively small production scale, enterprise managers need to further improve the production and operation management system of Chinese small and medium-sized enterprises to enhance their comprehensive strength in combating high business risks. Therefore, by conducting sufficient research on the problems faced by the production and operation management system of small and medium-sized enterprises in China, it is possible to assist enterprise managers in providing countermeasures and promoting the sustained growth of their benefits.

Keywords: Production Management; Enterprise Decision-making; Market Environment.

1. Introduction

The scale of an enterprise's own development determines its market environment and the supply-demand relationship it faces. Therefore, it is necessary to conduct research on the strategic mode of production operation management to improve production efficiency. Production operation management is the core of the future development of enterprises and has a profound impact on them. Strengthening the supervision and management of company product operations can not only meet the needs of consumer groups, but also enhance the core competitiveness of enterprise operations, thereby promoting long-term stable and vigorous development of the enterprise.

2. Overview of Enterprise Production Management

2.1. Production Management Concept

Production management refers to a series of processes that manage work plans, organization, and control in practical production operations. The level of enterprise operation and management is a powerful guarantee for promoting the development of enterprise efficiency, and can greatly improve enterprise efficiency, creating huge profits for the company. Production and operation management plays a crucial role in the development of the enterprise, and enterprise managers must pay more attention to it. In today's era, we are in the era of the internet, digital information, and the integration of the economic world. The internal market strength of the company is becoming increasingly strong, and various external factors seriously affect the company's own development, indirectly increasing the production and operation management of the enterprise. At present, the effective management of production operations by enterprises directly affects the improvement of their competitiveness and the key to their ability to stand in the fierce market [1]. Conceptually, production operation management can be broadly divided into production operation and production operation management.

Production operation refers to the workflow of an

enterprise's input of raw materials and output of products, achieving value-added products that meet social needs, thereby improving the economic benefits of the enterprise. Production operation is the core component of the enterprise; Production operation management refers to the specific planning and design of production operations, the specific implementation and completion of plans, and the management and control of production operations. Planning and design refers to the formulation of scientific, reasonable, and implementable production plans by enterprises based on their own development situation; The specific measures for production operation refer to the steps taken by the enterprise from purchasing raw materials to product input; Management control refers to the establishment of specific control and supervision systems by enterprises to achieve effective production operations [2].

2.2. The Significance of Enterprise Production Management

Enterprises can strengthen production and operation management to meet the needs of consumers. At present, there are a large number of enterprises in China, with a relatively large proportion. Although the scale is small and the technical equipment rate is low, as an organic component of society, it must have its value in existence. To meet the needs of the public, enterprises can focus on market research, purchasing raw materials, formulating development plans, clarifying production processes, and after-sales services, in order to improve their own production operation management. If the enterprise pays special attention to product quality issues during the production stage, puts forward higher and more comprehensive requirements for quality, and is easily welcomed and trusted by the consumer group, gradually cultivates consumer loyalty, and ultimately occupies a certain share in the market, with the ability to cope with various challenges faced by competitors. Thus, it has the ability to refine and deepen the reform and improvement of enterprise production and operation management, improve enterprise technical capabilities, introduce excellent process equipment, and form a good circular effect. When carrying out production activities, the company must comprehensively do a good job in the early stage of market research to grasp the needs of

society and consumers, and can predict the trend of market changes in advance. On the basis of scientific analysis, the company must put forward practical production plans and future development strategies to ensure that the company's production and operation activities are carried out in a healthy and orderly manner. As guides for the development direction of enterprises, enterprise management personnel must have a high vision and plan for the enterprise from a development perspective. They can propose effective measures in the selection of raw materials, talent selection and cultivation, introduction of process equipment, improvement of production technology, and optimization of enterprise service capabilities, in order to improve the level of enterprise production and operation management[3]. A forward-looking company product operation management system can improve the efficiency of the company, reduce product manufacturing time, and improve service quality, thereby enhancing the core competitiveness of the enterprise and further cracking down on competitors.

3. Problems in Enterprise Production Management

3.1. The Production Organization Model of Enterprises is Disconnected from Reality

In Chinese enterprises, there is a common phenomenon of production organization models being disconnected from reality. Many enterprises blindly produce without fully conducting market research, without understanding the actual needs of the consumer group; In addition, excessive pursuit of economic benefits and lack of emphasis on ensuring product quality seriously reduce the overall competitiveness and market reputation of the enterprise, seriously affecting its future development [4].

3.2. Low Efficiency of Production Management System

As a key link in enterprise production and operation management, on-site management needs to adhere to scientific management ideas and methods, achieve reasonable allocation of on-site production factors, and maximize value. However, at present, some enterprises lack relevant management personnel to maintain and manage the order of the production site, which cannot ensure the reasonable use of all production materials and employees, thereby affecting the rise and fall of the enterprise.

3.3. Product Assembly Space Limitations

Many companies are completely unaware of the necessity of controlling production assembly space, without a clear in-depth consideration of the work process or a specific implementation of each work link; In the design phase, the lack of sufficient investigation into the product's assimilability directly affects the product's assembly performance, resulting in cost waste [5].

3.4. Weak Ideological and Ideological Awareness

Many companies still have problems in safety management and other aspects. The company's leaders are concerned about how to obtain more profits, but they lack attention to many aspects of safety production management, and even lack safety management. Production management is chaotic, and

there are serious violations of regulations in production; In addition, the quality of employees is generally low, and there is a lack of unified training and education.

4. Analysis According to Research Methods

After organizing the collected literature, it can be found that the research methods of production operation management can be divided into decision-making, optimization, and control categories

(1) Management research refers to the research on production scheduling process, supplier control, Inventory control and other fields based on Operations research, Game theory, behavioral science, etc. [6]. Representative studies mainly include: Zhang Zhaohua [7] applied Game theory to the research on collaboration and cooperation in public services, and improved cooperation based on understanding the prisoner's dilemma. Zou Xibing, Hou Linlin [8] and others adopted the theory of Game theory to conduct in-depth research on issues such as profit and loss distribution and information resource sharing in the automobile supply chain management system, and proposed solutions. They applied the Linear programming theory to the problem of automobile allocation, built a dynamic and open model of automobile management and allocation system, and analyzed and compared the solution algorithms of different models. They believe that human irrational behavior can have an impact on inventory management systems, and use research on irrational behavior in decision-making and supply chain to analyze newsboy decision-making experiments and the bullwhip effect.

(2) The optimization category mainly focuses on research on inventory management optimization methods, scheduling algorithm optimization methods, supply chain optimization methods, and other aspects. Representative studies mainly include Li Deng et al. establishing a two-stage random integer model in the context of uncertain demand to solve the constraint problems of multi-objective batch production and inventory material balance in multi-objective scheduling. Li Hu [9] carried out in-depth research on the Inventory control problem of spare parts in three aspects of single point inventory optimization, multi-point inventory transfer and collaborative optimization of storage and handling, constructed a mixed integer programming model of the multi cycle inventory path problem that needs to change with time, built a mathematical model of workpiece production in the machining workshop with the shortest production time limit as the goal, and based on the premature convergence and low accuracy problems in SGA calculation, The improved genetic algorithm is given, and the global search ability is improved by introducing the Chaos theory to optimize the mutation operator. In the research process of introducing the conditional dangerous value into the supply chain optimization and collaboration problems, the conditional dangerous value modeling, the best predictive ordering modeling and the collaborative sharing contract modeling of the two-level supply chain under random requirements are constructed, It demonstrates the degree of risk avoidance between enterprises and international retailers and its impact on the coordination between the best expected order quantity and customers.

(3) The control category mainly focuses on the research of facility layout methods and tracking control methods for

production plans in operational strategies. Representative studies mainly include: Duan Zirui [10], based on the concept of agile manufacturing, proposed the idea of transforming the dynamic facility planning problem into the collection of papers at the 2020 annual meeting of the Society for Management science and Engineering in static planning, studied the dynamic facility layout of the flexible workshop, established a production planning tracking control reference model with the purpose of dynamic tracking of production process information and the batch as the integrated unit, and targeted at the tracking of production process information, A plan control model with batches as tracking units.

5. Optimize the Company's Product Operation Management System and Enhance the Company's Strength

5.1. Product Innovation

Product design innovation plays a driving role in achieving the overall goals of the company, which directly affects consumers' confidence in the quality of the company's products and indirectly affects the market promotion of the company's product quality. Although consumers have vastly different requirements for products, overall, the product is "harmonious but different" because only by meeting consumer needs can the product have market development prospects. Design innovation and quality have an important impact on product development, as they are key factors in their emergence and are also interrelated. Therefore, the foundation of product popularity is product quality. Of course, design must also be practical and feasible, but if the difficulty of design is too great, it will lead to mass production and manufacturing of products, affecting the company's business efficiency. Appearance design directly reflects the appearance and function of a product. Good product design can distinguish a company from competitors in terms of appearance. The CEO of Samsung Electronics understands that product design also belongs to productivity, and Sony, Samsung Electronics, and others view product design as the company's "second core technology". The foundation of product creation is also product design, which can be seen by manufacturers as an important means to avoid homogeneous competitors and achieve brand strategy. It is understood that some companies invest one dollar in the appearance of their products through design calculations, which is expected to generate a profit of around 1500 dollars. However, the increase in sales by companies is mostly related to product design. It can also be said that the proportion of internal product design in the company is 15%. Of course, excellent product design can reduce costs for the company's products, thereby increasing customer acceptance. This is a disguised increase in the amplitude of products, driving product development through product design, and the company will also increase the strategic value of the enterprise in this process [11]. One of Apple's core values is product design. For consumers, an attractive product design image makes them willing to spend more money on it. Of course, the use value of a product is also inseparable from it. When designing, it is also necessary to consider both the use value and the impact of later use, so as to reduce the occurrence of repair problems and material waste in the later stage of product design. At the same time, it also shortens the manufacturing time of the total production volume, enabling products to be put into the market more quickly. In addition, due to the

increasing emphasis on the economic promotion value and recycling of products in the consumer market in recent years, designers can also consider the recycling of production materials based on actual conditions.

5.2. Focus on Technical Processes

Focusing on product processes can ensure more effective and safe company products, while also helping companies convert resources into goods and technology. The impact of product technology processes on the company is enormous, so the company must take it seriously. The quantity of products in factories is relatively large, so production must adopt a plan-oriented process, and processing operations must be carried out in batches according to various production structures. At the same time, professional technology and modern automation technology are adopted to standardize the production process in the factory, because such small-scale production can reduce the manufacturing cost of products, and the production cost of products can also be relatively reduced. The overall manufacturing process will also be relatively simple. At the same time, during the technical process, it is also necessary to operate strictly according to the actual production situation of the factory and the on-site situation.

5.3. Optimal Decision

In the process of optimizing workflow, companies often require strong support from relevant management personnel within the company. Because workflow optimization has a significant impact on the company, it is necessary to first require relevant management personnel within the company to form a unified understanding of the work process before proceeding with the work. On this basis, the management personnel within the company also need to objectively examine and evaluate the current business development status of the company, as well as the future development prospects of the company, such as the company's industrial positioning, business positioning, customer needs, company treatment policies for employees, and development platforms. The mainstream process usually refers to the accumulation of more resources beneficial to the company's development in the daily management process of the company, thereby effectively enhancing the company's core competitiveness in the business market. When determining the dominant program, attention must be paid to selecting business processes that have a high impact on the overall value of the company, and following the characteristics of commonly dominant programs in industry markets.

6. Future Development of Production Management Strategy

Based on the analysis of the research on enterprise production and operation management above, combined with the current market economy situation and social development status, the preliminary conclusion is that there are several major development trends in production and operation management in the future.

(1) The global development trend of China's production and operation management model. Due to the trend of internationalization in the market economy, many companies are no longer satisfied with the local market and are starting to move towards the world, forming a worldwide business management model. The main factors to consider in the study

of global operational management are: due to differences in political, economic, cultural and other factors among countries, enterprises face significant risks; The wide scope of management can lead to poor internal information transmission within the enterprise; Due to trade barriers and technological blockades, the development of enterprises has been hindered.

(2) Green production operation management. Green production operation management is a management approach that comprehensively considers environmental protection and resource allocation efficiency. Eliminating waste, reducing pollution, and sustainable development are the core ideas of green production operation management. The research on green production operation management mainly considers two aspects: firstly, resource conservation in the investment process and the utilization of renewable resources; The second is the waste treatment in the production and use stages.

(3) Modern service industry production and operation management. As the focus of the global economy gradually shifts from manufacturing to services, the focus of global competition will also gradually shift from products to service quality. Manufacturing enterprises will shift from producing products to providing services, becoming the direction of future manufacturing transformation. Therefore, increasing research on the production and operation management of the service industry is also the direction of future development.

(4) More emphasis on research on operational strategies. The development of the economy has made the business environment faced by enterprises increasingly complex, and the production and operation mode led by enterprise strategy can no longer adapt to the development of enterprises. In the process of production and operation management development, operational strategies have gradually been elevated to an important position [12]. Without the successful implementation of operational strategies, the overall development strategy of the enterprise cannot be achieved. Therefore, the future development of the enterprise must require research on operational strategies.

(5) Data driven production operation management. Against the backdrop of highly developed information technology, information technology has become a key factor affecting a company's competitiveness. How to extract and process the information resources accumulated in the production and operation process of enterprises, making them the basis for enterprise production and operation management, is also a direction for future research.

7. Conclusion

Through a research review of the company's product operation model, a comprehensive analysis of the existing problems of the company's product operation model, and a research summary of the company's product operation model from two aspects: scientific research methods and optimization of the company's product operation model, it can be found that the company's product operation model is closely related to the company's strength. It is the fundamental source of the company's rapid development and growth, and

only by focusing on the product operation model, only then can it help the company quickly occupy the economic market of the same industry. Therefore, the Chinese government needs to timely introduce relevant support and preferential policies to protect the development of the company and promote its growth. In addition, the company itself must improve the quality of its production and operation mode, gradually establish an effective production and operation management system, form new production concepts, and actively absorb advanced technology and equipment to further enhance the core strength of the enterprise, laying a solid foundation for the long-term and stable development of the company. The development directions of modern industrial production and operation models can be summarized as international development, green industrial production and operation models, modern service industry production and operation management models, emphasis on operational strategy research, and data-driven production and operation management.

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