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Original article

FACTORS OF SUCCESS OF A COMPANY AND THE CORNERSTONE OF BUSINESS MANAGEMENT

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Organizational structure and design are important factors in the success of a company and the cornerstone of business management. Through the research and practice of organizational structure and design, it can provide effective management methods for enterprises and help enterprises to develop and grow better. In this articles were described the concept and function of organizational structure, practice of organizational design, organizational structure and design challenges and solutions.

Keywords: factors of success; business management; management methods for enterprises.

Научная статья
УДК 33

ФАКТОРЫ УСПЕХА КОМПАНИИ И ОСНОВА БИЗНЕС-МЕНЕДЖМЕНТА

Ли Тэн

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Организационная структура и дизайн являются важными факторами успеха компании и краеугольным камнем управления бизнесом. Благодаря исследованиям и практике организационной структуры и проектирования он может предоставить предприятиям эффективные методы управления и помочь предприятиям лучше развиваться и расти. В этой статье были описаны концепция и функции организационной структуры, практика организационного проектирования, организационная структура, а также проблемы и решения проектирования.

Ключевые слова: факторы успеха; управление бизнесом; методы управления предприятиями.

Organizational structure refers to an institutional arrangement established by an enterprise in accordance with certain laws, principles and procedures in the management organization, that is, a large organization is decomposed into a thousand groups that cooperate with each other and cooperate in the division of labor, and each group is closely linked and combined in a certain order to form an organic whole. On the one hand, the organizational structure reflects the institutional arrangement of the division of labor, layout and coordination of organizational tasks by the manager. On the other hand, it also provides a reliable basis for the organization, enabling the manager to manage the organization effectively.

The role of organizational structure is very important, it can help enterprises to achieve the following goals:

1. Implement task division and responsibility allocation. The organizational structure divides the enterprise into different departments according to different functions, so as to realize the division of tasks and the distribution of responsibilities. Different departments perform their duties, coordinate work, and improve work efficiency and coordination.

2. Information transfer and communication. The realization of the information organization structure provides the basis for the internal communication of the enterprise, and various departments can establish contacts through the organization structure: the transmission is fast and accurate

3. Reduce the waste of decision-making time and human resources. The organizational structure can have a clear decision-making hierarchy, which reduces decision-making time and waste of resources

4. Improve management efficiency and work efficiency. The assignment of responsibilities and division of labor in the organizational structure are conducive to promoting team cooperation, coordinating work, and improving management efficiency.

Practice of organizational design.

Organizational design needs to eliminate unnecessary complexity in the organization so that decision making and implementation can be simpler and more efficient. The practice of organizational design should be realized from the following aspects:

1. Define goals and tasks. Organizational design must first define the goals and tasks of the organization, and design the organizational structure according to the goals and tasks, so that the organizational structure and organizational benchmarks match each other.

2. Analyze the organizational environment and assets. Organizational design also needs to analyze the environment and resources of the organization, master its own strengths and weaknesses, so that it can avoid some problems in the design of organizational structure

3. Establish a suitable organizational structure. Organizational design needs to make appropriate structural design according to the goals, tasks and environments of the organization, so that the business processes and work processes of the organization can be orderly carried out.

4. Optimize the organizational structure. With the development of time and business, the organizational structure of enterprises also needs to be continuously optimized, adjusted and improved. In this process, it is necessary to timely understand and master the allocation of personnel and resources to achieve a stable and efficient organizational structure

Organizational structure and design challenges and solutions.

In the practice of organizational structure and design, there may be some challenges and difficulties. How to deal with these challenges can be the following aspects:

1. Management decisions are not in harmony with organizational goals and tasks. When management decisions do not align with the organization's goals and tasks, organizational structure and design need to be adjusted. At this time, it is necessary to clarify the goals of the organization, establish a reasonable career track and evaluation mechanism, in order to improve the overall efficiency and effectiveness of the organization

2. Insufficient management ability of managers. The lack of management ability of managers is an important obstacle to enterprise organization design. At this time, managers should strengthen their ability and professional knowledge, learn from the classic theory and practice of organizational structure design, and constantly improve their management ability.

3. Insufficient flexibility in organizational structure. When the flexibility of the organizational structure is insufficient, the development of the enterprise will be limited. At this time, the introduction of more flexible organizational structure and design mode should be considered, and the coordination and cooperation between the organization and the main stakeholders should be strengthened to achieve the long-term development of the enterprise. In short, in the modern enterprise operation, organizational structure and design are indispensable core components. Enterprises need to pay attention to the practice of organizational structure and design, and constantly analyze and improve it to meet the needs of organizational development, improve the efficiency and performance of the organization, and realize the sustainable development of the enterprise.

In general, products have three main structural forms, as shown in Figure 1. The first is the "A" type structure, which is processed and assembled by a large number of raw materials into various components and components, and finally assembled into one or a few products, which is the most common form of product structure in discrete industry. The second is the "V" type structure, a small number of raw materials after the process to produce a large number of products, which is the most common form of product structure in the process industry. The third type is the "X" type structure, in which many products of the company are composed of limited parts, and the parts are made of more raw materials. Products for single-assembly manufacturing enterprises are generally "X" shaped structures, which produce a wide variety of final products by managing a small variety of parts.

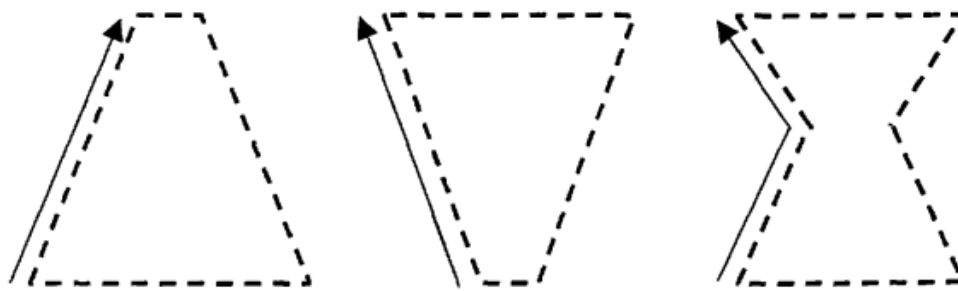


Figure 1 – Three structures of the product

Order-oriented assembly products are serialized and modular products, and multi-variety small and medium-sized batch manufacturing enterprises form product families by adopting order-oriented assembly product design methods to provide customers with a variety of choices. Taking the electronic wall clock as an example, its modular product structure is shown in Figure.

Bill of Material (BOM) is a technical document that defines the structure of a product, indicating the hierarchical relationship and the required quantity of various materials in a product. The products of the order-oriented assembly and manufacturing enterprises have a modular structure, and a wide variety of product families are configured by selecting different parts. For example, product X has five parts, such as A, B, C, D, E, etc. If A part has 20 choices, and B, C, D, E four parts have 10 choices, assuming that all kinds of combinations are feasible. Then there are $20 \times 10 \times 10 \times 10 \times 10 = 200,000$ kinds of product varieties, then there are 200,000 kinds of product BOM, so many BOM is difficult to manage. Therefore, this paper carries on the research of BOM management for order assembly by establishing modular BOM, product configuration to generate BOM, only need to manage a small amount of BOM data can meet the needs of enterprises.

Product design method

Based on the above theories and ideas, in order to adapt to the production mode of order oriented assembly, the traditional design process needs to be improved, and the following methods and technologies need to be adopted:

1. Separation of product development and rapid design.

In the product development stage, the customer base of the enterprise is positioned, the needs of existing customers are analyzed, the needs of future and potential customers are predicted, the corresponding product family structure is established, and a perfect variant mechanism is formed. Rapid design stage on the basis of product development stage, with product configuration as the main means, combined with assembly design, quickly achieve the arrival of customer needs at any time.

2. Parallel workflow.

Concurrent engineering is a method to shorten product design time and improve competitiveness based on the prospect of time competition. It shortens product development time through parallel activities in product design, manufacturing and other fields. In order to improve the design speed, parallelism is also required for product design for assembly to order, and the scope of parallelism is further extended to product sales and service and other fields, becoming the parallelism of the product life cycle.

3. Strengthen cooperation between processes.

When the product family structure can not meet the needs of customers, it is necessary to customize the products. Process collaboration helps to generate design ideas as quickly as possible. Enterprises generally have different product families, in the development stage of the product family should also strengthen the cooperation between the process, in the product module division and parts design to achieve consistency, try to use the same design results, promote the reuse of design results, reduce the total number of parts, increase the number of parts manufactured at the same time, the formation of batch economy.

4. Design for product family.

Combined with the prediction and analysis of the existing customer needs, the variant parameters are extracted according to the customer configuration method to be adopted by the product, and a

family of products are designed. The goal is to provide variable product models that provide the basis for product configuration and rapid design for individual customer needs. The product model should have the following characteristics: the component modules of the product structure can configure the final product for the specific customer; Modular organizations enable sales, design, manufacturing and service departments to reflect corporate capabilities and customer needs in a consistent way: they can be used to evaluate the economics of decisions made during the product life cycle.

5. Modular design.

Carry out functional analysis of different functions within a certain range or products with different performance and specifications of the same function, divide and design a series of functional modules, and form different products through the selection and combination of modules to meet different needs of the market. Assembly to order can provide customers with a variety of options, but it still relies on the processing and manufacturing of parts, which need to be achieved by using standardized or standardized parts modules that are easy to change. Module division can consider the division of product family, repeatability in design and manufacturing, division granularity, the whole life cycle of the product, "comprehensive consideration of all aspects can obtain a better economic product module" and so on.

6. Delay the design.

In order to increase product variety, improve customer satisfaction and manufacturing efficiency, the design method of product variation delay has been developed. The basis is the delay of the moment when the product becomes a specific product in a specific stage of a specific manufacturing process. The manufacturing process can be divided into several stages, each of which requires different parts. Improving the general type of parts in the early stage and shaping them in the later stage can reduce the manufacturing burden and reduce manufacturing costs. In order oriented assembly, delay technology is also applied in manufacturing, until the precise requirements and purchase intention of a customer are known, the final product assembly is not done, and the product is as neutral as possible: moreover, parts can be sent to the market terminal, where the market customer needs to be reassembled into a finished product for the customer.

7. Product configuration.

Product configuration is an important design method for order oriented assembly, which provides options for sales personnel to define the individual needs of customers: finalize the product model according to the options selected by customers, display products for customers and provide quotes. If the customer is satisfied, the product manufacturing model used by the production department can be generated; Otherwise, it provides design basis for designers to reuse their own parts. In order to achieve product configuration, certain requirements should be considered in the product development stage: modules and components should have parametric digital models: the geometric constraints of modules and components can be guaranteed: the constraint relationship between modules and components can be determined, that is, the affected parts and their parameters can be determined when the variant is changed.

8. Standardization and normalization.

The extensive use of standard components in products helps to reduce costs. Enterprises should standardize the parts that have a greater impact on the cost of products, and meet diversified customer needs through the variation of other parts. Standardization refers to analyzing parts, combining similarities, reducing the number of parts, increasing the frequency of use of parts, and thereby reducing parts management and inventory costs.

This research firstly analyzes the product structure of order oriented assembly enterprise, then studies the management of modular product BOM, and puts forward the architecture of BOM management for order oriented assembly. Using the rationalization engineering idea, this paper studies the product design, and puts forward the product design model for order oriented assembly manufacturing enterprises.

References:

1. Ding Pengfei, Zhou Shijie, Wang He, et al. Discussion on Digital Factory Construction Scheme for Aerospace Manufacturing Enterprises [J]. Aeronautical Manufacturing Technology, 2014, 14:51-55.

2. Wang Hua, Wang Zhe, Wang Yan, et al. Development status of digital factory and its realization in Oil refining enterprises [J]. Petroleum Planning and Design, 2013, 2403:1-6+48. [3] WANG Chuangjian. Planning and Application of Material Supply System in construction machinery assembly Workshop for Digital factory [J]. Electrical Technology and Economy, 2014(01):54-58+61.
3. Frank A G, Dalenogare L S, Ayala N F. Industry 4.0 technologies: Implementation patterns in manufacturing companies [J]. International Journal of Production Economics, 2019, 210:15-26.
4. Dalenogare L S, Benitez G B, Ayala N F, et al. The expected contribution of Industry 4.0 technologies for industrial performance [J]. International Journal of Technology production economics, 2018, 204:383-394.
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Список источников:

1. Ding Pengfei, Zhou Shijie, Wang He, et al. Discussion on Digital Factory Construction Scheme for Aerospace Manufacturing Enterprises [J]. Aeronautical Manufacturing Technology, 2014, 14:51-55.
2. Wang Hua, Wang Zhe, Wang Yan, et al. Development status of digital factory and its realization in Oil refining enterprises [J]. Petroleum Planning and Design, 2013, 2403:1-6+48. [3] WANG Chuangjian. Planning and Application of Material Supply System in construction machinery assembly Workshop for Digital factory [J]. Electrical Technology and Economy, 2014(01):54-58+61.
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