

Introduces the **connotation of analytical design management pdf** the importance of the **new product development process to enterprise development**, and the functional management of design management in the new product development process. Due to fierce market competition, shortening the time for new products wins the opportunity. Design runs through and dominates the entire new product development process. Pay attention to the role of design management in the development of new products. Then improve the competitiveness of enterprises in the market.

## **Here are the articles to explain, New product development process pdf under design management mode**

**Main Keywords: design; design management; new product development process pdf; gate**

With the development of globalization and the diversified needs of consumers. Enterprises must continuously develop new products to cope with fierce market competition. So the product life cycle is shortening year by year. Customers are becoming more and more demanding of products, and their desire for new products is getting higher and higher. Enterprises must have a product mechanism that can continuously develop products according to market demand. The product development process is the most important aspect of R&D management. The systematic product development process must be cross-functional. Excellent products will not produce naturally in the enterprise. It needs to complete through a series of effective management. The design has become the key to creating products to increase added value, and strengthening the combination of design and management is an effective way to further improve the new product development process with pdf.

### **The meaning and necessity of design management**

So far, there is no unified definition of design management. Because design and management have different meanings when considered from two different background disciplines. The definition of design management currently accepted by most scholars refers to:

"Defining design problems and goals, finding suitable designers, integrating, coordinating or communicating the resources needed for design, using management methods such as planning, organization, supervision, and control, and seeking The most appropriate solution, and through the management of design strategies, strategies, and design activities, solve problems in a timely and effective manner within the established budget, and achieve the intended purpose."

In developed countries such as Europe, America, and Japan, companies have a set of systematic methods to manage design to ensure the smooth progress of the entire product development process.

Design management has the following necessity for enterprise development:

- The success of the design is affected by many factors, which not only depend on the designer's ability but also require scientific management design;
- Social division of labor is becoming more and more refined, individual, or independent. The department cannot undertake the entire product research and development at all, and requires the coordination and communication of relevant technical and management personnel;
- The status of design in the enterprise is becoming more and more important, and the design process and objects are becoming more and more complicated.

The design itself not only needs to manage, and is itself a management tool.

### **Analysis of the new product development process**

Somas H. Perry believes: "The process is a method used to replace the old model and guide the company to maintain a constant supply. It does not isolate, nor is it temporary, nor is it used for a while and then abandoned. "New product development is the key to the prosperity of an enterprise, and the battle of product innovation will be unprecedented for global companies. Many companies lose their competitiveness because they fail to innovate and fail to make. Their products conform to the trend of the times and are even eliminated by competitors. A successful product innovation process is an important solution to new product development activities. R&D The new product development process pdf focuses on accelerating product innovation.

### **New product development is the key for enterprises to improve their competitiveness**

Although new product development is the riskiest, it is also the most important strategic requirement of the enterprise. Developing new products requires a lot of manpower, material, and financial resources, but its benefits are huge. According to statistics, the average revenue from new products exceeds 1/3 of the company's total revenue, and this figure is gradually increasing. Even in some dynamic industries, new product revenue is 100% of the company. This figure shows that if you don't innovate, you may face obsolescence. On the other hand, the return on investment of new products is objective.

The average return on investment of successful new products is as high as 96.9%, and the average payback period is 2.49 years. The product life cycle time is shortening because successful new products can not only maintain and improve market competitiveness, but more importantly, the innovation ability of enterprises can predict the long-term investment value. New products are the key to the development of an enterprise. There are inevitable driving factors for innovation behind it.

- First, the exponential development of science and technology has created an objective environment for product innovation, and many fanciful concepts have now become reality;
- second, the needs of customers. Due to the ever-changing needs of consumers, companies must respond quickly To cater to them;

- third, the shortening of the product life cycle (PLM), the time of PLM has been shortened to a quarter of the original, if new products are not developed in time, they will surpass competitors;
- fourth is the trend of globalization, Globalization creates more opportunities for enterprises, so accelerating new product development is the core content of enterprise strategy.

### **The systematic new product development process**

Managers of many companies feel that the speed of launching new products is not as fast as before, and competitors are faster than themselves. There are more customer complaints, and the quality of new products is not as stable as before. The marketing department complains that the R&D department has not perfected the product's functions and quality. The R&D department complains that the customer requirements provided by the marketing department are not complete and timely; product development is still in the serial engineering stage. The most important thing to solve the above problems is to have a systematic product development process.

*First, the goals of the new product development process should be clarified:*

- focus on quality management;
- accelerate concurrent engineering to improve product development efficiency;
- implement a cross-functional approach.

The new product development process is essentially a process of supervision and quality assurance, including the entire process from concept to product.

At the same time, possible risks need to take into account. Implement concurrent engineering to balance the contradictory goals of quality and speed in the product development process. All stages and departments work at the same time, and timely communicate and adjust. If there are problems, that is, to ensure product quality and increase R&D speed, avoid implementation in sequence.

If there is a problem in a certain stage of the traditional serial process, it must rework from the beginning. Concurrent engineering requires that the product development process must be a cross-functional department. Each functional department not only has independent research and development rights. But also must communicate with other departments. Processes should be consumer-centric and market-oriented.

### **Design management in the new product development process**

#### **The product development process requires a design manager**

According to the role of managers, design managers can divide into market managers, financial managers, design project managers, and personnel managers. Market managers are related to designing the market, making preliminary research, analyzing consumers' psychological needs,

etc. The importance of preliminary research determines the important role of market managers. Proper research and evaluation of the market by managers avoid repetitive work in product development. And reduce the amount of rework, and the profits from new products are naturally greater.

Financial managers are responsible for designing project fundraising, budgeting, cost accounting, financial monitoring, and other links. This part of managers ensures that the company implements design projects more efficiently and greatly promotes teamwork. Design project managers are responsible for formulating and controlling design activities, design planning, design quality monitoring, design construction, and other related layouts. As the needs of consumers are becoming more and more diversified. The position of design project managers in enterprises is becoming more and more important.

Managers' decision-making ability and communication abilities can detect failed projects early. If potential projects may fail discover them early. It will save costs for enterprises, shorten product development time, and improve enterprise competitiveness. Personnel managers are responsible for the management of design human resources, and the essence of competition among enterprises is the talent competition. Each gate in the product development process adopts the principles of cross-functional departments.

High-quality design talents need to have the ability to work in a cross-functional team. Although different design managers play different roles in product development. They are in the new There is a common role in the product development process to improve teamwork, reduce rework and repetitive work, increase success rates, catch failed projects early, keep new products running smoothly, and shorten product timelines.

### **Functional management of design management in the new product development process**

Functional management refers to responsibility and performance management, which plays a role in discovering and solving problems. The purpose of functional management is to ensure the continuous, effective, and healthy development of the enterprise. Provide a strong guarantee for the goal and supervise itself and the enterprise's behavior with scientific methods. Market demand-oriented process management will replace traditional supply-oriented functional management and become the core of enterprise management.

The basic functions of design management include planning, organizing, leading, and controlling. Each phase in the product development process consists of a set of pre-planned, cross-functional, simultaneous activities. The new product development process includes the discovery stage, determining the scope, establishing and generating projects, developing testing, and other stages. The discovery stage requires managers to have a strong strategic awareness and plan a solution that meets market demand and is technically feasible.

### **Additional**

If the plan adopts, it will enter the stage of determining the scope, and organizing various departments to conduct investigation and analysis. The next phase establishes the business

project and defines a successful new product. In the product development stage, managers need to organize and lead various departments to carry out concurrent engineering, control product quality, and shorten R&D time. The product at the last stage needs to implement the plan of the marketing department and the plan of the production department to control the smooth progress of a complete plan.

The functional management of design management does not only reflect in each stage of the new product development process but more importantly, it reflects in a gate before each stage. The gate determines whether the development activities can advance to the next stage of the process. It has an important quality control effect. The gate not only has the participation of management personnel but also has relevant technical support and market factors.

## Conclusion

The success of new products is the premise of improving the competitiveness of enterprises. Optimizing the new product development process and making decisions at each stage are the guarantees for increasing the success rate. The new product development process is a complex, cross-functional process that requires different talents to guide its important parts. The product design and R&D department not only runs through the entire product development process pdf. But the most important thing is that the product innovation ability is the driving force for the growth of the enterprise. The purpose of design management is to ensure that the organization effectively allocates design resources. So design management plays a decisive role in the new product development process pdf.



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