

Design Management and Product Innovation Design

Tong Yijie

School of Art and Design, Wuhan University of Technology, Wuhan, P.R.China, 430070
(E-mail: tong_tong_1015@163.com)

Abstract: This paper focuses on the basic concept of design management, researches on all the factors and patterns in design management through analysing the content of design management, meanwhile, clarifies the relationship between innovation and design management. The purpose of the paper is to clarify how to integrate all levels of design management, and how to use a most appropriate method to coordinate the relationships of necessary design resources, design strategy and design activities, accomplish organization objectives and create an effective production condition.

Key words: Design; Design management; Product; Product innovation

1 Introduction

Management needs design and design must be managed. With the developing of modern economy, the design management as a new subject is inevitable. Design management plays important roles in modern enterprise management. In the global economic integration era, product innovation has become an important tool of the business survival and competition. The development of a new product needs to combine “design” with “management”. A good design management system is the key factor in the process of a new product development in a successful enterprise. In the new product development, how to use this resource of design management is one of the problems that the enterprise must face. In our country, enterprises have to face the keen global competition. If they want to survive and develop, they must depend on the development of new products. But a successful new product in the market depends on the enterprise to improve its design management system. It is the challenge that many enterprises have to face in the new century.

2 The Contents of Design Management

2.1 The concept of design management

Design management, also called DM, means to define the question and target of design, seek qualified designers, reorganize and coordinate the relationships of resources needed in design, apply plan, organization and supervision etc., in the end obtain a rapid and effective solution and realize the fixed target through design strategy, design tactics, and design management activities.

2.2 The range and content of design management

The content of design management gains unceasing enrichment and progress both because of its great importance to enterprises and because of its activities continuous expansion.

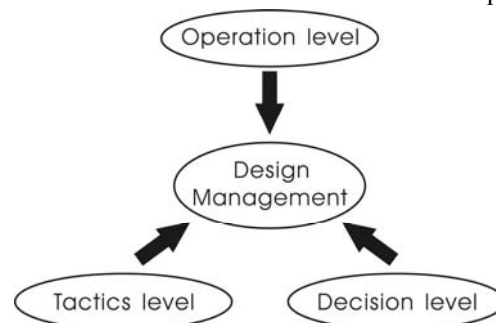


Figure 1 Range and Content of Design Management

According to different management activities and content, some scholars divide range and content of design management into several levels, the typical one is the three—level—management concept. 1) operation level: design project management; 2) tactics level: design organization management which includes enterprise inner organization design and companies outer design, 3) decision level: design innovation management, such as corporate identity, formula of policy and tactics, and so on. (Figure 1)

2.3 Theoretical framework of design management

Basic elements of the theoretical framework of design management system include: design decision,

design organization, design project management and design innovation. All of these related elements supplement each other. There is no successful design without correct decision. Only through rational design, organization, environment and effective design project management can design decision come true. Design innovation is involved in every special design management activity all the time. It is not only the ultimate aim of design management but also the motive force of bringing success to design; therefore design innovation is in a core position from beginning to end. (Figure 2)

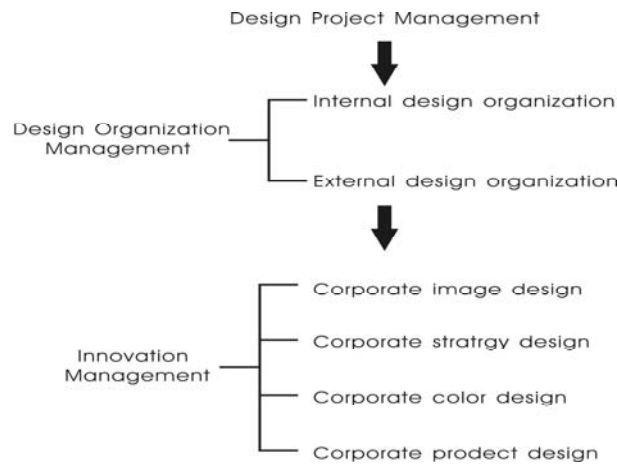


Figure 2 Design Project Management

3 Product Innovation is the Main Content of Design Management Research

If enterprises are going to develop increasingly, they must unceasingly weed through the old to bring forth the new. Economy globalization has been quickening its step, market competition is increasingly becoming fierce, life cycle of product becoming shorter and shorter. All of these changes force enterprises to have to develop new products to meet the market demand. Product innovation has turned into an essential means of developing to enterprises. The core of design management is the development of new products. Therefore the new product development process has become a concrete embodiment of design management. Japanese scholars suggested that the apply of constant design innovation and sell innovation is the reason why Japanese products possess international competitiveness. It can be done because Japanese products have a good design management. The development of new products has strategy significance for enterprises.

3.1 It can maintain the competition superiority

In modern commodity economy, competition is very fierce among enterprises. In order to own consumer and dominate the market share, enterprises apply different kinds of ways and means to obtain competition superiority. Development of new product is an important means to enhance the competition superiority for enterprises own.

Just as Zhang Reimin, CEO of Haier group, said: "The urgent work needed is to improve management, we need to promote the management capacity of information and build an information expressway for our group, make everyone's work link up close with market". To promote design management to a certain height, reorganize design management activities, make design observe management principles and make management contain design factors, are the final means which can enable enterprises to gain benefits from market economy.

3.2 It can model enterprises image

A successful new product can model enterprise image anew and save the life of a enterprise. For example, Xerox Company was once defended by Japanese producer in its main business (duplicator), and then the company put out its Declutch series products. These new products are well received by the customers. The company turned around its unceasingly fallen image after a little while.

3.3 It is favorable to maintenance enterprise capacity for research and development

To maintain certain capacity of research and development can not always guarantee enterprises to win. However, if it is combined with new product development through the integration with design management, the enterprise can obtain a lot of benefit and economic returns which enable enterprises to obtain capital protection in research and development.

3.4 It can enhance the brand competition

Companies can use their brand to determine the marketing plan, and then develop new products. If the marketing plan situation can be better than the other competitor's, and be able to attract loyal customers for a period of time to recognize the value of the brand, then there is extended possibility of new products under the brand name.

3.5 It can accelerate the application of new technology in enterprises

In today's rapid development society, enterprises face varied environment conditions which are constantly changing. This situation means that the original product may decline and that companies must find a suitable replaceable product. Development of new products will help speed up communication and application in new technology, new materials, and new techniques. All of these can improve product performance. To add new features to product, reduce costs, create new demands, and so on, all of these methods is an important foundation for the development of new products.

4 The Management of Innovative Product Development

The management of new product development is divided into the following steps:

4.1 Management of enterprise strategic design

Enterprises must have their own design strategies and good management. Design strategies include product design strategy, corporation image strategy; and it is gradually penetrating into the marketing design, business design, organization design, etc.

4.2 Management of design goals

Design must have clear objectives. Design goal is to satisfy the strategy requirements under the leadership of design department to organize the design activities to achieve expected results. Design department should attain company's recent design goals based on its short-term business objectives. Design management goals should fit business objective, match market forecasts, and identify new products in the right time and occasion for the design and production.

4.3 Management of design program

Design program management, also call design process management. In the design process there must have an effective monitoring and control, ensures that the design progress coordinate product development and all related parties. For example: British standards have divided product innovation process into four stages: motivation demand (including motivation, product plan, feasibility study), creation (including design, development, production), operation (including distribution, use), refuse (including refuse, recycle). (Figure 3) But the division should be based on the actual situation of enterprises, made detailed instructions, and ensure the implementation of different designs management of specific procedures.

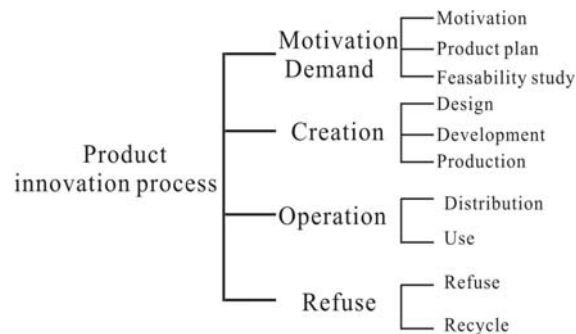


Figure 3 Produce Innovation Process

4.4 Enterprise design management system

In the normal business design activity, design efficiency plays a biggest role; therefore design department must have a management system. It not only exists in the design organization management, but also coordinates the relationships of various departments.

5 Conclusion

Design Management as a new discipline, it is not only the need of designs, but also the need of managements. The basic point of design management is improving the design efficiency of new products development. For designers, design shouldn't only be the artist's improvisation and the designer's individual characters pursuit. In modern commodity economy, design has been increasingly

becoming a purposeful, planned organizational behavior with various disciplines and mutual cooperation of all sectors: 1) Design is supported on the base of enterprises economic foundation, technological level, and production conditions; 2) Design needs the support of market intelligence services; 3) Design must meet the requirements of enterprises development strategies; 4) Design must to meet large-scale socialized production, laws of the market, and the demand of corresponding guidelines and criteria; 5) In addition, the specific design, design methods, design procedures, design concepts, and etc., are necessary to form the enterprises own management characteristics. Under this background, the lack of a systematic, scientific and effective management will inevitably lead enterprises to a blind, inefficient design and the product without vitality. Without a good design management, enterprises will waste a lot of time and precious resources and bear a fatal blow in the end, and at the same time, designers' intention can not be fully put into practice. In addition, design, as a marginal subject, has its own characteristics and scientific laws and promotes the progress of scientific research, production, marketing, and so on. In a word, design management has been playing an increasingly important effect in modern economy.

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