ABSTRACT

Corresponding to the turbulent market conditions and improving TQCS of the enterprises, a star organization structure based on Warnecke’s Fractal Company theory is put forward in this paper. The basic theory and characteristics of star structure are illustrated in detail, and an application instance is provided.

Keywords: Fractal Company; Organization Structure; Star organization structure; Organization Model

1. INTRODUCTION

The fast moving markets, technologies and information systems lead to high pressure on the companies. In order to survive, enterprises must learn to secure market shares and profitability in a turbulent environment by developing adaptability; enterprises are forced to optimize their organization by adapting structures to the highly dynamic environment frequently. The current functional company structures and inflexible automation concepts no longer meet market demands. In order to master the future, ways of thinking and points of view must be changed radically. The considerations must move away from static systems toward dynamic systems. It is necessary to bring forward an altered organization structures and technical concepts to keep up with 21st century’s highly innovative competition. Fractal Company is a structural concept adapted to an innovative environment.

2. THE FRACTAL COMPANY CONCEPT ACCORDING TO WARNECKE

The concept of the fractal company represents an attempt to bring the existing organizational and management approaches together to form a new organization concept. The idea of the fractal company refers back to the geometry of objects with non-trivial scaling behavior. Analyzing these objects according to the principles of fractal geometry resulted in the insight that complex structures—occurring in various forms in nature—are built from few self-similar elements, called fractals.

2.1 Definition of the fractal company

The fractal company is an open system, which consists of independently acting self-similar units—the fractals—and is a vital organism due to its dynamic organizational structure. In this sense, a “fractal” is a partial system of an enterprise, which offers opportunities for entrepreneurship to all employees. The goal of the fractal company concept is to ensure long–term success as well as to ensure the survival of enterprises acting on turbulent markets.

2.2 Characteristics of the fractal company

Table 1 illustrates the principles of the fractal company as defined by Warnecke. The characteristic of self-similarity refers to not only the structural characteristics of organizational design. It circumscribes the manner of performing a service as well as the formulation and pursuance of goals. Self-organization contains aspects of self-regulation, self-coordination, and self-administration. Self-organization implies degrees of freedom for the fractals in the organizational structure as well as for the handling of the processes.
Table 1 Principles of the fractal company

<table>
<thead>
<tr>
<th>Features of a fractal entities</th>
<th>Description</th>
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<tbody>
<tr>
<td>Self-similarity</td>
<td>Fractals are self-similar: each one performs services.</td>
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<tr>
<td>Self-organization</td>
<td>Fractals practice self-organization: - <strong>Operatively</strong>: procedures are optimally organized by applying suitable methods. - <strong>Tactically and strategically</strong>: Fractals determine and formulate their goals in a dynamic process and decide upon internal and external contacts. Fractals restructure, regenerate and dissolve themselves.</td>
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<tr>
<td>Goal- orientation</td>
<td>The system of goal that arises from the goals of the individual fractals is free from contradiction and must serve the objective of achieving corporate goals.</td>
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<tr>
<td>Dynamics</td>
<td>Fractals are networked via an efficient information and communication system. They themselves determine the nature and extent of their access to data. The performance of fractals is subject to constant to assessment and evaluation.</td>
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A fractal must have the decisive characteristic of dynamics. Fractals can adapt to turbulent influences from the environment without any formal organization structure hindrances. In this sense, fractals are very similar to a living organism functioning as a learning and flexible organization, as well as similar to the group concept as proposed by Weick.\[4\]

3. THE FUNDAMENTAL PRINCIPLE OF STAR ORGANIZATION STRUCTURE

Modern companies have been organized according to the idea of specialization of labor of Adam Smith, but the fast changing demands of the business environment create an urgent need for organizations to break away from the traditional organizational model, because the classic target system with cost, time and quality has been complemented by a new dimension that comprises innovative capability and adaptability (see Fig. 1). To become adaptable was one of the major business challenges. Companies tried out different strategies within the existing organizational paradigm to cope with the challenges of the external environment but they were only modestly successful: matrix organizations, decentralization, increased customer involvement did not give satisfactory bottom-line improvements. The basic reason for the relatively poor results of these structures is based on function or product or a combination of both.

In recent times, a number of approaches have been developed concerned with models for an ideal company structure in a turbulent environment.\[5\] For the first time, the philosophies of fractal are breaking with the tradition as they favor self-organization and self-optimization.\[6\] Warnecke’s fractal company is a structural concept adapted to an innovative environment. So a star organization structure based on this concept is put forward in this paper.

![Fig.1 The new dimension in a corporate target system.](image1.jpg)

![Fig.2 The star organization structure model](image2.jpg)
3.1 Star organization structure

When transferring fractal concept to enterprises, the demand arises for introducing the self-similarity in an enterprise. This means that companies have to form units aligned with a common target system. The star organization structure model is showed in figure 2.

In figure 2, team is used to represent the dynamic team with the project or product for the center; it is made up of organization unit (OU)\(^7\) or basic organization unit (BOU). Here, the basic organization unit is used to represent the bottom basic unit of organization structure. It may be composed of one person or some persons, and belongs to an organization unit. Some organization units and some basic organization units form an organization unit. A team can complete the whole project or process and directly face customers and solve all of relevant problem that customers put forward.

Service center consists of information center, human resource center, and finance center, administration logistics, and is responsible for the information management, financial administration, resources support and etcetera. Since organizational member are not belonging to pre-defined organization units, and the projects or processes being performed within the organization are not stable as far as their existence is concerned, human resource center has to contain all organizational members, and is used for training and education. Basically belonging to human resources center, individuals are temporarily assigned to project-positions, and returning to the center after having finished their assignment.

Because of the diversity of the project being performed within the organization, there are conflicts among teams. Corporate goal will improve team’s collaboration; increase efficiency and effect of projects being completed. Corporate goal is set up under the condition that TQCS of the enterprise is improved.

3.2 Characteristics of star organization structure

The star organization structure not only is suitable for an enterprise, but also the alliance of enterprises—virtual enterprise. Teams are constructed into an organic integral around market, and according to the demand of the market, related teams are regulated (forming, dissolution, or its dimension adjusting), so that the enterprise is dynamic and open; and the enterprise can fully absorb the social resources, increase nucleus competition. The star organization structure accords with operate mode of net-company under electronic commerce. The star organization structure encourages individual responsibility. No-one can say, “I did my part well” if the company’s collective effort do not bring success in the market. Team’ interaction is based on openness, corporate culture and mutual trust.

3.3 An example of star organization structure

With a vehicle manufacturing company for the instance, the application of star organization structure is illuminated. Unlike many other companies, no matrix organization structure is introduced to coordinate global tasks. Instead, the vehicle manufacturing company deliberately chooses a star organization structure. Three main teams and a service center are identified: team1—the production of old model vehicle; team2—the production of new model vehicle; team3—the creation of new model car and service center providing basic services (information management, financial management, human resource management, canteen ……).

4. CONCLUSIONS

Companies face serious environment change and harder global competition at the moment. To cope with these new demands, companies have started seeking new organization structure models. The concept of the fractal company, based on western structures, mentality and strengths, is a European answer to Japanese “lean production.”

In this paper a star organization structure mode is put forward. The basic theory and characteristics of star structure are elucidated, but a crucial cornerstone of this new organization structure is Warnecke’s Fractal Company theory. History teaches us that structures and organizations which only concern with hanging onto power and which no longer offer new ideas and solution, will sooner or later disappear and be replaced by new ones. The new star organization structure not only is suitable for an enterprise inner, but also the alliance of enterprises—virtual enterprise, so it is very important to the development of 21st century’s enterprises.

ACKNOWLEDGMENTS

We express sincere thanks to the National Natural Science Foundation of China for the financial support under the grant number No 70271049.
REFERENCES


