

Quality Function Deployment (QFD) and Patterns in the style of Communication in Organizations

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Abstract

This paper illustrates how the Quality Function Deployment (QFD) managerial approach can affect the style of communication in organizations. First, a review of the Quality Function Deployment technique is described; second, a discussion of the style of communication that results from the application of Quality Function Deployment technique is made; lastly, final considerations regarding the use of Quality Function Deployment and its influence in the communication patterns of organizations are presented.

Key words: quality function deployment, customer voice, communication styles, organizational development.

Despliegue de la función de calidad y patrones en el estilo de comunicación en las organizaciones

Resumen

Este artículo ilustra cómo el enfoque y técnica gerencial denominado Despliegue de la Función de Calidad puede afectar los estilos de comunicación en las organizaciones. En primer lugar, se describe en qué consiste la técnica de Despliegue de la Función de Calidad; en segundo lugar, se discute el estilo de comunicación que resulta de la aplicación de la técnica de Despliegue de la Función de Calidad; por último, algunas consideraciones finales son presentadas acerca de la influencia que tiene el uso de la técnica de Despliegue de la Función de Calidad sobre los estilos de comunicación en las organizaciones.

Palabras clave: Despliegue de la Función de Calidad, voz del consumidor, estilos en la comunicación, desarrollo organizacional.

1. INTRODUCTION

The field of organizational behavior and its interrelationship with the managerial science has gained important attention in the last twenty years. It is almost impossible that a successful manager does not consider how the individuals behave in the context of the organization.

Communication is one of the concepts that managers and organizational behavior researchers have to study the dynamics of human behavior in groups or corporations. Communication has been considered the most visible of all group activities and it is critical to effective group functioning (Northcraft & Neale, 1994). Through the study of the phenomenon of communication, researchers and managers can understand and predict the behavior of the individuals, and as an extension, the behavior of the organization. In this sense, the study of communication in organizations has been one of the pillars in the field of organizational behavior, therefore the comprehension of the communication patterns among the

members of organizations need to be studied in depth by researchers and managers.

On the other hand, the quality dimension has appeared as one of the solutions for fulfilling the objectives of any organization. It has been proven in many firms that the quality function in the organizational field is an important dimension that managers and behavior researchers should consider as a way to define the management concept. In this sense, the quality must be reflected not only in the expansion and profitability of the company, but also in the satisfaction and effective communication among the different units of the organization.

The managerial aspect in the creation of new products has proven that products will be more successful if research and development (R&D) and engineering understand the customer needs, marketing understands technological capabilities and constrains, and all understand the implications for manufacturing and competitive strategy. In this sense, the utilization of quality control in developing new products has proven important success in companies that have used quality control as part of the managerial approach.

One of the total quality management processes that has gained a great deal of attention in the last two decades is called Quality Function Deployment (QFD) and one of its most important components is the Voice of the Customer. Among the quality control approaches, QFD is a new technique that blends two important concepts, the quality function and the effectiveness of the communication. QFD has proven its efficacy and efficiency in the improvement of the quality of products. In addition to that, QFD has shown to improve the style of communication patterns among the different units that utilize this technique.

2. DESCRIPTION OF QUALITY FUNCTION DEPLOYMENT (QFD)

Quality Function Deployment has been defined as a total quality management process in which the voice of the customer is deployed throughout management, marketing, research and development (R&D), engineering, and manufacturing of a product deployment. This process is based on inter functional teams, consisting of all the units of the organization, who assess a series of matrices, which look like "houses," to de-

ploy customer input throughout the design, manufacturing, and service delivery (Griffin & Hauser, 1993).

Quality Function Deployment is also an organizational technique that focuses on the lens model proposed by Brunswik (in Griffin & Hauser, 1992). It uses verbalized perceptions of customers as model or "lens," to see what the customers want, what their preferences are, and how competition and sales could be affected by these perceptions. One important condition of QFD is that the work is made in teams, and the people working in the project must stay together, at the same level of making decisions throughout the development of the product. The different components of the organization should be involved in all aspects of the process, including technical design and introductory or advising plans (O'Neal & LaFief, 1992). Another important feature of QFD is the quality dimension. QFD considers that each phase of the process must be focused with the quality criterion. Consequently, delivery, service, and the other components of the managerial process have a quality dimension. QFD emphasizes quality in all of its scope; the main weight lies on the physical characteristics of the product, as well as on a depth communication among the units involved in the process.

The foremost aim of the technique is to obtain a complete, creative, in-depth understanding of customers' needs (and their perception of what they want) related to the creating or improving of some product or service, with the expectation that these customers will buy what they are describing and stating what they want.

Quality Function Deployment was developed in 1972 at Mitsubishi's Kobe shipyard in Japan (Stephens, 1972 in O'Neal & LaFief, 1992). In the late 1970's, Toyota adopted this methodology and prospered greatly, and for two decades Japanese firms have used it with important accomplishments. QFD was brought to the United States of America by Ford and Xerox firms in 1986. By 1989, twenty-four US companies used this methodology, and in the 1990's, more than one hundred firms have been reported to have utilized it (O'Neal & LaFief, 1992).

Quality Function Deployment is very useful in the automotive industry, and now has been used successfully at over 100 firms in the US and Japan. Among the firms that utilize the Quality Function Deployment processes are: Ford, Kodak, General Motors, Procter & Gamble, Colgate, Gillette, IBM (Griffin & Hauser, 1993). Other types of firms

that are using the QFD model are manufacturers in different fields such as customer stationery products, customers' tools, lightweight chemical mixing devices, new surgical instruments and, office equipment; besides these manufacturers, financial institutions and entertainment and insurance companies are experimenting with Quality Function Deployment with considerable success (Hauser, 1993).

Quality Function Deployment has risen in contrast to the traditional sales buying concept. In traditional approaches, marketing and other departments have their "own departments" in the whole firm. In the QFD model, marketing unit interacts with other components of the company and the customers, generating a real interaction among the units of the organization. As a consequence of this interaction, when QFD is applied, different departments of the firm have "team spirit," removing departmental barriers and accomplishing cooperative work (O'Neal & LaFief, 1992).

3. STYLES OF COMMUNICATION AND QUALITY FUNCTION DEPLOYMENT

Efficient communication has resulted in being one of the key operational concepts to accomplish success in organizations. There is important evidence in the literature that describes a positive relationship between the style of communication of different units of an organization and the development of a new product (Griffin & Hauser, 1992). O'Neal and LaFief (1992) also consider that product development is more successful if there is a good level of communication among the team working on the project. In the field of new product development (e.g., automobile industry), if there is greater communication among marketing, engineering, and manufacturing, and these units share information on customer needs, technology and manufacturing capabilities, competitor strategies, business strategies, and pricing, the likelihood of enhancing the product with success is much greater (e.g., creating the product with the precise characteristics and profitability, satisfaction of the customer or user, finishing the task on time) (Dougherty, 1987, in Griffin & Hauser, 1992).

One of the advantages of utilizing QFD is that this technique has proven to encourage communication and cooperation among the different units by requiring input from marketing (the consumers voice), en-

gineering, and agreement on interrelationships. Griffin & Hauser (1992) conceive QFD as one representative of the quality concept in communication and cooperation among different teams in the organization. These authors pointed out that one of the functions of the teams that apply QFD is understanding and accepting the inputs generated by the customers through the communication of specific plans. The underlying factor in QFD is the inter functional communication among the different units involved in the process of creating or improving a product or service. When QFD is used, all the teams of the organization participate in the creation of the new product; therefore, all teams accept the inputs from different units. In this sense, research has shown that QFD enhances communication among functional groups, such as marketing, engineering, and manufacturing.

In this tenor, the authors above mentioned (Griffin & Hauser, 1992) conducted a study in which the patterns of communication were analyzed. These authors contrasted the patterns of communication that resulted from the application of two different quality control managerial techniques, Quality Function Deployment and Phase-Review Development. These techniques were applied by two different units to improve products in a car-platform firm. The traditional phase team (phase-review) worked in sequential steps before commercializing the product. The QFD team worked systemically as they performed the task of improving the product. The two different teams worked on improving the product, so that each one had its functions and each one was responsible for completing each phase. Each phase was reviewed by the top management before the process went on to the next phase. In the firm studied, both teams reported to the same manager, both had similar functions, and both worked on the same project. The only difference between the teams was the managerial technique that each team used to approach the development of the product.

The findings suggested that the team that used the QFD model had less communication (in social terms) but displayed more efficient patterns of interaction than the team that used phase-review. The communications of the QFD team were more horizontal, with better functions than the style of communication showed by the other team. The authors conclude that the team that used the QFD approach tended to present more overall communication, more communication within functions, and more communication among functions. The team utilizing the QFD

talked together directly to one another rather than through the top of management (Griffin & Hauser, 1992).

One point that needs to be stressed is that the QFD team led to less communication with the external information sources. However, the interactions of the QFD team with customers were greater. The QFD team used the interaction with the sources (customers) more efficiently. Apparently, the phase review team spent more time in conversations dealing with administrative and logistic topics instead of working on the project directly. In this sense, QFD appeared to reduce communication from the core team management. It appears that the team members talk directly to one another more than through management.

Griffin & Hauser (1992) point out that QFD encouraged the team to become more integrated, cooperative, and self sufficient, as well as to solve problems through horizontal communications, and to be more communicative in all the non administrative aspects of new product development.

Considering the results of this study, it is important to stress the significance of the style of communication that was generated when the QFD model was used. Souder (1987 in Griffin & Hauser, 1992) considers inter-functional communication the decisive component for having success in the development of a new product. Evidently, the QFD model encourages this type of communication among the units of the firm, because each team understands the function of the other, and each gives the necessary information to meet the needs of the customers.

Another inference that might be made from this study, is the fact that QFD gave feedback immediately to the job done by the members who were involved. In contrast to the other approach, QFD generated an immediate response in the interchange of the information.

The advantages of the QFD model lie not only in the satisfaction of the client but also in the enhancement of the communication within the organization. In this sense, QFD could be considered indirectly as an organizational development (OD) approach, because an integration among the personnel involved within the firm is obtained. In addition, when QFD is used, because of the cohesiveness that it s generated in the teams, all the units involved are empowered, and by doing that, one can infer that much of the personal needs of the members are fulfilled.

4. FINAL CONSIDERATIONS

Quality Function Deployment is a structured approach that links engineers, customers, and product personnel, optimizing the use of groups in defining product requirements. From the ideas above exposed, it can be inferred that QFD is a technique that favors the cohesiveness of the units involved and improves the exchange of information. Compared to the phase-review technique, it appears that QFD enhances the communication patterns and provokes more horizontal styles of communications among the units of the organization. In this sense, if utilized appropriately, QFD can be considered as an organizational development technique, due to the positive cohesion that this approach generates on the team.

Quality Function Deployment generates an environment in which communications among the different units involved in the development of new products are enhanced in a horizontal dimension. This style of communication represents major autonomy and power in the process of making decisions by each of the members. Indirectly, QFD might be considered as an organizational developmental approach, because the technique encourages teams to become more cohesive, more integrated, more cooperative, more self-sufficient, and more communicative, generating less dependency from the top management. The utilization of QFD and the changes in the style of communication as a result of this approach can be studied as an interpersonal process in which different units of the organization are not only improving the quality of the product but also improving the style in the exchange of information, and by doing that, enhancing the efficacy and efficiency of the communication patterns.

Quality Function Deployment was inspired as a technique for planning, based on customers' needs. To apply QFD is mandatory that the different units of the firm have the disposition to work as an integrated, systemic team. This means that it is necessary that the people involved in the project of the development of a new idea should reach a level of engagement as members of this company. The different "houses" (departments) of the firm need to be very interconnected and they must have in mind that the objective of their work will be the satisfaction of the client as well as having a real commitment to work in the interchange of information.

As stated above, QFD generates a sense of cohesiveness in the different units who work in the creation of new products. From this premise, the organizational behavior field can have an important tool to encourage a sense of cohesiveness in the individuals who work for the organization. Having a sense of cohesiveness is a way of empowering the individual, because his or her ideas are integrated in the creation of products, "owing" part of the idea. In this sense, QFD can take wide avenues in the study of organizational behavior.

Because QFD is a relatively new approach, more research needs to be done in this area. In this respect, QFD needs to be validated not only as an approach that improves the quality of products but also needs to be validated as a tool that can be used to enrich the communication, involvement and membership, and power of the individuals in organizations.

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