

DEVELOPING THE MODEL OF CRM AND QFD IN THE BANKING INDUSTRY BY CUSTOMER PARTICIPATION IN SERVICE DELIVERY

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ABSTRACT

Nowadays, organizations work based on network of relationships. From perspective of organizations, relationships provide a continual flow of profit and earnings in a long time, which lead to creating new business opportunities and increasing efficiency. Therefore, it is profitable to build a strong, positive and mutual relationship. The purpose of this paper is to develop an integrated model of Quality Function Deployment and Customer Relationship Management for service delivery in banking industry. The results of research show that the integration of Customer Relationship Management and Quality Function Deployment lead to an increase in their capability, as well as empowering Customer Relationship Management. The results show that, personnel monitoring and human resource management as the process parameters and the process control characteristics have the first priorities, respectively.

Keywords: Customer Relationship Management, Quality Function Deployment, Service Delivery, Bank

1. Introduction

By dint of two approaches, Customer Relationship Management (CRM) and Quality Function Deployment (QFD), this research tries to provide and develop CRM by customer participation in delivery service.

To achieve this goal, firstly CRM and QFD are introduced briefly, and then two approaches are integrated based on a comparison between different phases of QFD and CRM business cycle. The result of research is implemented in Refah bank, which is a major Bank in Iran.

1.1 Customer Relationship Management

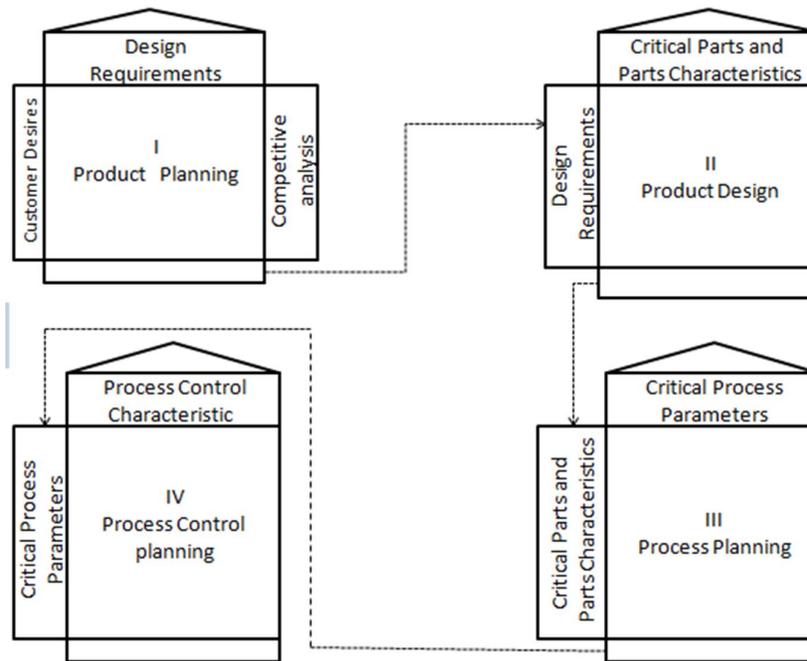
Tendencies to customer relationship management grew in 1990 (Ngai & Xiu et al., 2009). Expansion of relationship with customers may lead to loyalty and retention (Ngai, 2005). Customer relationship management has four dimensions:

- Customer identification
- Customer attraction
- Customer retention
- Customer development (Parvatiyar & Shet, 2001; Swift, 2001).

These four dimensions are called the closed-loop customer relationship management (Au & Chan, 2003; Kracklauer & Mills et al., 2004). Although this subject has been widely applied in businesses, but there has been no accepted comprehensive definition so far (Ngai, 2005; Ling & Yen, 2001). "A comprehensive strategy and process of acquiring, retaining, and partnering with selective customers to create superior value for the company and the customer", is the definition by Richards and Jones (Richards&Jones, 2008). CRM is the combination of processes from customer attraction to retention which utilizes data mining techniques to maximize customer value (Ngai& Xiu et al., 2009) .CRM ensures that a slight change in retention rate would lead to significant market share(Van den Poel & Lariviere, 2004). The first two dimensions of CRM, customer identification and attraction, are costly and confirm the monetary benefits of companies. Although the customer retention is of lower cost for companies, it makes great benefits as well. Reports reveal that numerous companies ignore the latter (Cui, 2010).

1.2 Quality Function Deployment

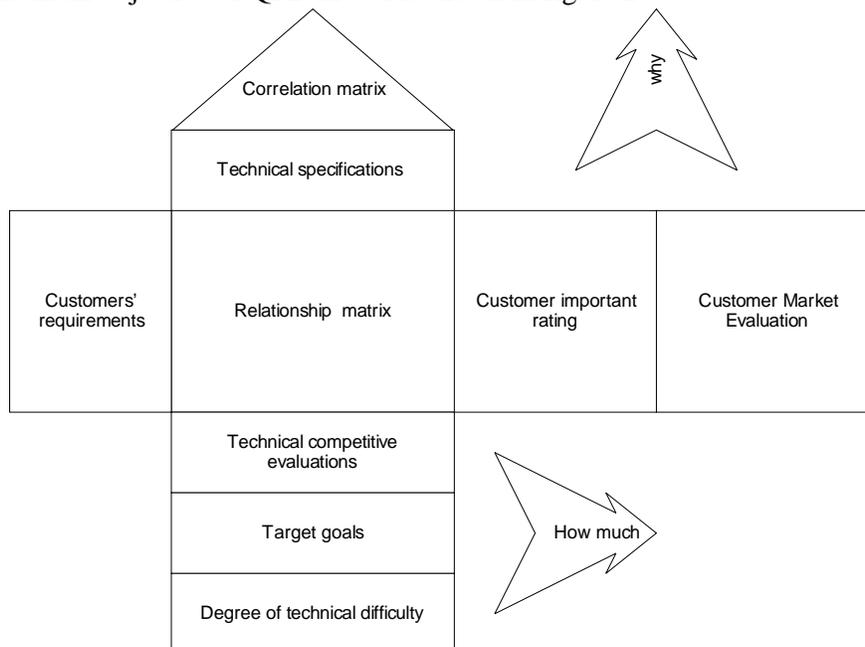
QFD is defined as: "how do we understand the quality that our customers expect and make it happen in a dynamic way" (Martins & Aspinwall, 2001; Chow-Chua & Komaran, 2002). QFD is also directed to as "House of Quality (HOQ)" because the matrix of QFD, are shaped in the form of a diagram house (Kutucuoglu et al., 2001). QFD included a team of people from different sections which participate in product development (Crow, 1996). In QFD, using a set of matrices, a four step approach is employed which guide the development team's activities during the process development by providing standard documentation. According to Cohen's theory, the four phases of QFD is shown in figure 1.



Source: Cohen (1995)

Figure1. The four phases of traditional QFD

Every individual phase is a matrix composed of a vertical column called "Whats" and a horizontal row named "Hows". "Hows" are customer relationships, while "Whats" are the ways to attract them. Every step's "Hows" are the next step's "Whats". As a result, HOQ can be made into different shapes. According to Menks's theory, the main objective of QFD model is shown in figure 2.



Source: Menks et al. (2000)

Figure2. House of Quality (HOQ) in QFD

2. Materials and Methods

2.1 Methodology

Many similarities were found in a comparison between CRM and QFD approaches. In this study, a methodology has been used for relationship between customer relationship management cycle and QFD phases. This methodology is based on customer participation in service delivery.

2.2 The Comparison of CRM Business Cycles and QFD Phases

In terms of phases and stages, CRM and QFD are dissimilar. The CRM Business cycle objective of which is to attract and keep customers, tries to understand and identify customer's need by using CRM. Also, since the various phases of QFD are related to customer activities, the need to control characteristics is essential.

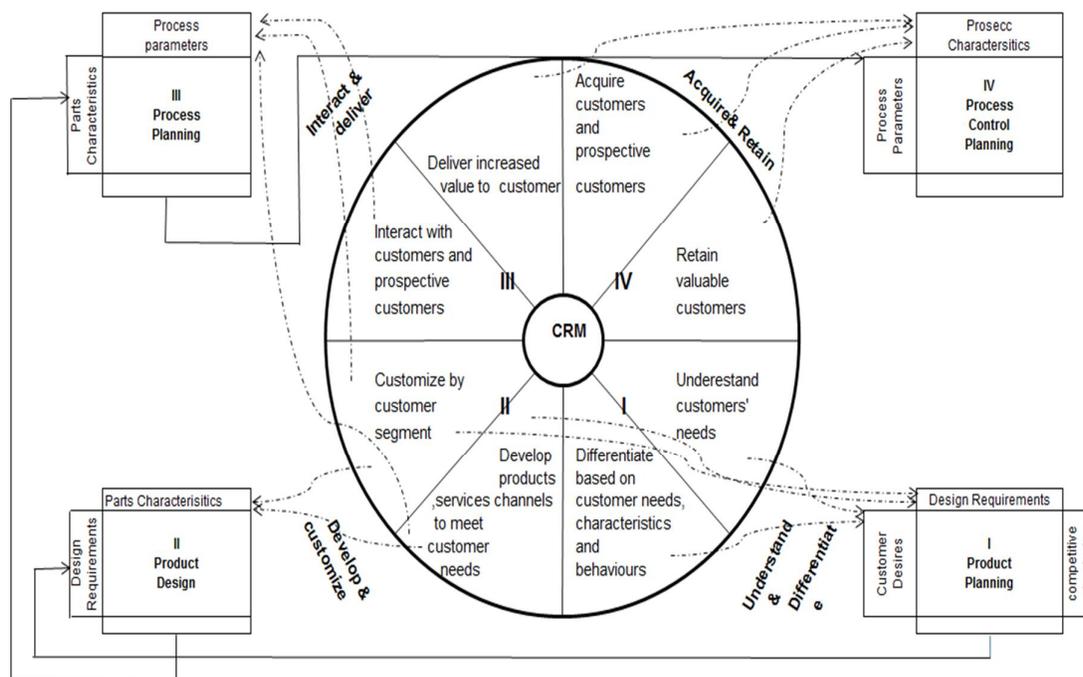


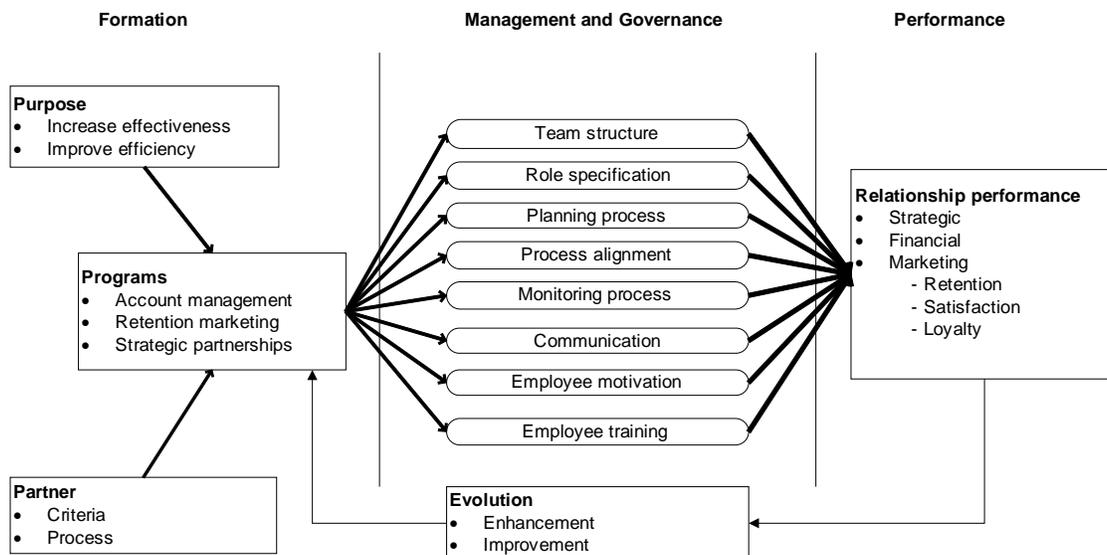
Figure3. Compersion between QFD and CRM

The figure 3 above is the result of a comparison between two QFD and CRM approaches, the following results are obtained:

- The first phase of QFD is integrated with the first and second cycles of CRM. In fact, we can meet both customer's demands and design requirement by understanding and identifying their needs and developing product and service.
- The second phase of QFD is integrated with the second cycle of CRM. "Part characteristics" is determined based on the product development in CRM.
- The third phase of QFD is integrated with the second and third cycle of CRM. Since the development of services is directly influenced by the process parameters, interaction with customers is considered to be a delivery service process. Customize, develop and interact steps of CRM are a parts of the third phase of QFD which provide process parameters. Matrix elements in each of the phases of QFD are divided into two sets of technical and functional items which are related to products and services. This assumption was built in 1999 based on a study by Viaene and Januszewska.

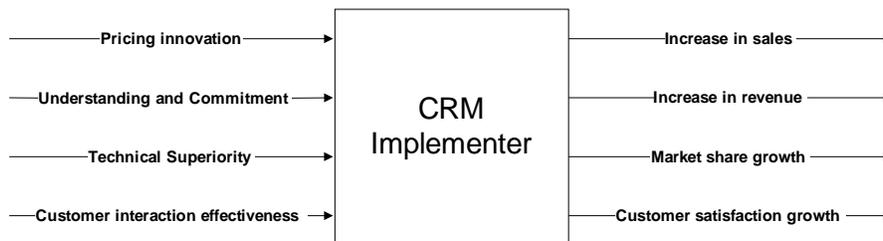
- The fourth phase QFD is integrated with the fourth step cycle and a part of the third step cycle of CRM. In fact, "characteristics of process control" and "determine measures" help to attract and keep customers.

As shown in figure 3, the second stage of CRM contributes to all of the first three phases in QFD. The development and customization of products and services can be related to the process parameters, design requirements and part of the characteristics. Since the technical items are related to the product's attributes, it's not too difficult to determine them. The main problem, however, is identifying functional items.



Source: Parvatiyar and Sheth (2004)

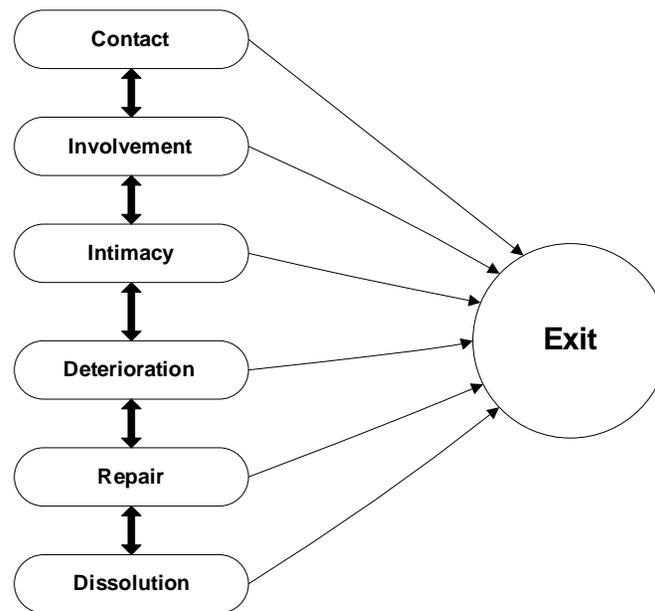
Figure4. CRM process framework



Source: Mukhopadhyay and Nath (2004)

Figure5. Efficiency factors in CRM

Based a study by Mukhopadhyay and Nath (2004), four factors affect CRM implementation (Figure 5). In this model, Quantitative standards and elements in Figure 4 are considered as "process control characteristics ". The main problem of QFD approach is the difference in customer's need (Dahlgard & Kanji, 1994; Bouchereau & Rowlands, 1999; Bouchereau & Rowlands, 2000). Researchers usually use Devito's six-stage model for describing the relationships (Devito, 1993). The six stages are shown in figure 6. According to Bender and Heizer's theory (1997), customers can participate in design and delivery service. Product feature and technical elements are considered in "design". Whereas, service features and functional items are important in "delivery service". We have developed the model based on customers' participation in delivery by applying two phases of QFD.



Source: Devito (1993)

Figure6. Six-stage model of relationship

3. Developing the Model of CRM and QFD by Customer Participation in Delivery

Banking industry has succeeded in relationship with customers; we decided to implement this model in the banking industry. Since satisfaction of customers is related to delivery services, this model tries to improve and increase efficiency. A sample of 80 customers is selected as a target group in Tehran. Target group's customers feature as follows: males, married, over 30 years old, and with postgraduate education.

At first customer requirements should be found, for this reason we used a questionnaire. This questionnaire consists of four dimensions (Table I). Target group answered the questions in terms of both significance and efficiency based on a five-point scale (i.e. 1 the weakest and 5 the strongest). The Cronbach's alpha is calculated for the significance and efficiency ratings as 0.88 percent and 0.84 percent, respectively. The average values of the significance and efficiency ratings are shown in Table I.

Table I. Customers importance and performance ratings

Item	Quality dimension	Significance	Efficiency
1	Responsibility	8.82	2.96
2	Communication	8.57	3.03
3	Security	8.80	3.04
4	Understanding customers	8.70	4.19

The results show that responsibility and security have the highest percentage of Significance, whereas understanding customers and security are the highest percentage in terms of efficiency. In the first phase of QFD, the process parameters are obtained by using elements expressed in Parvatiyar and sheth's study. The second phase of QFD, however, the process control characteristics are obtained through elements expressed in Mukhopadhyay and Nath's study. After that, these elements are compared with the bank processes and finally 10 elements can be obtained for each of the process parameters and process control characteristics, which are shown in Table II.

Table II. Priorities of process parameters and process control characteristics

Process parameters	Process control characteristics
Personnel monitoring	HRM
Personnel motivation	CRR
Personnel training	HRE
Advertisement and marketing	Complaints growth criteria
Technical strength	Complaints handling criteria
Information sharing	ISO 8583
Commitment	Number of customers per day
Accurate job description	Turnover
Planning process	Customer satisfaction criteria
Discipline	Return on investment (ROI)

4. Results and Discussion

The Organizations need to target their customers and spend their time and money to develop features and services that have a significant impact on strategic relationships (Mathur, 2004). Research results shows that human resource management has an important role in the process control. Also, personal monitoring is specified as the first priority among process parameters. This study shows that the staff plays a crucial role in customer satisfaction, increasing income and the development of the market share in service delivery. Encouraging customers to participate in service delivery can strengthen CRM methodology. Relational databases, data warehousing and data mining tools are paramount importance when it comes to CRM systems. The Customer Relationship Management solutions are based on interactive technology (Parvatiyar & Sheth, 2004). It is supposed to help the company to improve its interaction with customers. Also, intelligent agents assist the company in improving its relationship with customers. In this research, the model was developed based on integration of CRM and QFD and was tried encouraging customers to participate in service delivery. The results show that responsibility and security have the highest percentage of significance, whereas understanding customers and security are the highest percentage in terms of efficiency. Also, it shows that personnel monitoring and human resource management as the process parameters and the process control characteristics have the first priorities, respectively.

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