

Designing interactive model of Key success factors of customer relationship management using structural-interpretive modeling

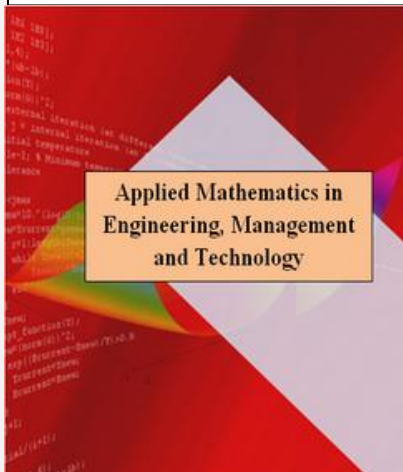
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Abstract

The present study is an attempt to determine and prioritize the key factors in success of customer relationship management. Study population was comprised of employees and customers of Bank Refah branches based in Qom, Iran. Questionnaires were used for collecting the data and the data analyses were carried out using Cronbach's alpha (to check reliability of questionnaire), confirmatory factor analysis, Lisrel, and interpretative structural modeling. The aspects of successfulness of customer relationship management included culture of customer relationship management, support of top management, formation of multidisciplinary teams, goals definition, coordination among departments of organization, determination and implementation of customer relationship management strategy, commitment of the employees to customer relationship management, customers information management, knowledge management, integrity of information management, and customer contact management. It was

concluded that presence of customer relationship management had the most profound effects on interactions and prioritization of the key aspects of success of customer relationships.

Keywords: customer relationship management (CRM), confirmatory factor analysis, structural interpretative modeling

Introduction

Peter Drucker stated that the purpose of a business is to create customer. His emphasis was on keeping the customer and deepening relationships with them. Studies by Reichhold and Sasser (1996) in Harvard School of Business showed that majority of the customers were profitable only during the 2nd year that they do business with the company. Cost of new customers usually exceeds the profit they bring to the company – costs of advertisement, marketing, perceiving the customer's needs, and finding the way of dealing the customers. Among many, CRM is one of effective tools in the hands of managers to gain customers' loyalty. (Anderson, Kerr, 2002)

The wide range of definitions of CRM hints wide range of viewpoints in this regard. According to Swift's definition, CRM is an organizational approach to perceive and influence the customer's behavior through meaningful relationships, to improve business process, to keep the customer, and to increase the customer's loyalty and profitability (Mohammadi, 2002). Kincaid defined CRM as strategic utilization of information, processes, technology, and employees to manage relationship with customer over the customer life period. Ko et al. (2004) believed that CRM was an integrated customer strategy in the organization, which was aimed at implementing more effective customer management through providing special services and products and maximizing value of the customer's life period. Kumar and Ramani defined CRM, in contrast with marketing programs, as the process of creating and preserving a continues relationship with customers through adopting proper and variety of behaviors with each customer based on their interests. To succeed in implementation of CRM, companies try to spot key factors and adopt the most appropriate factors based on the purpose they sought after by CRM (Mohammadi, 2003). Today's, strong customer relationship is key to success of any business. In light of this, organizations have made considerable investments in CRM. On the other side, these investments are not risk free so that Gartner reported that success rate of these investments is less than 30% and it is not easy to justify these investments in many cases. The many applications of CRM, on the other hand, in different sectors and service in particular is undeniable. (Rigby et al., 2002)

Given the vital importance of implementing CRM in banking industry, as one of the main tools of competition in the market and gaining permanent competitive advantage, there is a need to find an effective mechanism to cut the risks of CRM and facilitate the implementation. As argued by many researchers, one of the causes of failure of CRM programs is lack of proper measures and tools to evaluate success of the program. In addition, paucity of comprehensive studies in this regard is an issue that neglecting it leads to several negative outcomes for the organization whether it is public, private, service, producing, industrial, or non-industrial.

CRM is a macro variable in marketing and market monitoring field, which makes it worthy of deeper studies to determine its aspects and the variables effective in success or failure of CRM projects. Organizations that plan for development have to determine the factors effective in success of CRM project (Payen and Flow, 2004). On the other hand, as suggested by the statistics, failure rate of CRM project is more than 65% (Plesis and Boon, 2004). This means that the factors effective of CRM project are not completely known and there is a need for further studies in this regard.

Lindgeen et al. (2006) concluded that totally 9 factors (organizational structure, customer strategy, culture, individual, customer interaction strategy, process, IT, knowledge creating strategy, and knowledge management) influence success of a CRM project

Mendoza et al. (2006) introduced 16 factors effective on success of CRM projects including top management support, formation of multidisciplinary, definition of objectives, coordination among departments of the organization, notification of the management's strategy as to customers relationship, commitment of the employees, customer information management, customers services, sale automation, marketing automation, operational management support, customers contact management, and integrity of information systems. Each one these factors covers one or more of the triple aspects- i.e. individuals, process, and technology.

Mehrabi et al. (2009) conducted a study titled "an integrate model for implementing the concept of CRM in Bank Mellat" and concluded that cultural, technological, and structural changes have positive effects on successful implementation of CRM projects.

Methodology

Study population was comprised of employees of Bank Refah branches based in Qom, Iran (n =122; 113 men and 9 women). Based on Morgan's table and Cochran's formula, a sample group with participation of 90 employees was selected randomly. The aspects and indices under study were determined through literature and library review. Validity of the questionnaire was affirmed by a group of experts and the key factors model was developed through interpretative structural modeling. To put it another way, the key factors of success of customer relationships were determined at first and their effects was affirmed using confirmatory factor analysis; afterward, the final matrix was formed based on the viewpoints of the employees of Bank Refah. The matrix determines the dependent and independent factors so that the factors with higher level of independence were placed at top in the independence cluster and dependent factors with higher level on dependency were placed at top in dependent cluster. Reliability of the questionnaire was checked using Cronbach's alpha ($\alpha = 0.91$); according to the references, values of alpha higher than 0.7 or 0.6 are reliable. Data analyses were carried out using factor analysis in Lisrel; as the method requires, all factor loading must be higher than 0.4 or 0.3, RMSEA-RMA must be less than 0.1, goodness of fit index (GFI) must be higher than 0.9, and X^2/Df ratio must varies between 1 and 3.

Data analysis

Figures 1 and 2 picture outputs of Lisrel in standard and meaningful moods respectively. Factor loadings higher than 0.3 are acceptable and the extracted factors are hidden. The factors were arranged as follows:

1. CRM culture
2. Top management support
3. Formation of multidisciplinary teams
4. Defining objectives,
5. Coordination between the departments
6. Notification of the management's strategy regarding customer relationship
7. Commitment of the employees to principles of CRM

8. Customers information management
9. Knowledge management
10. Integrity of information systems
11. Customer contact management

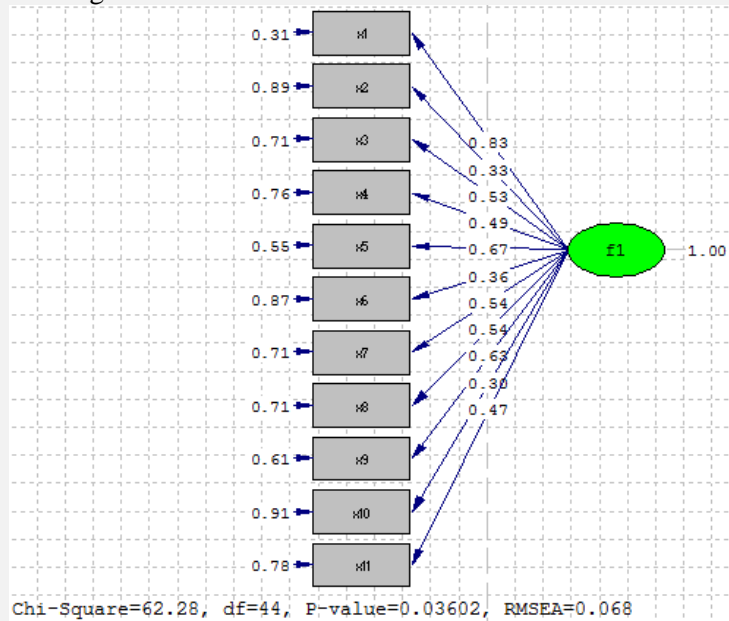


Figure 1- standard output of Lisrel of the extracted aspects of the key factors in success of CRM

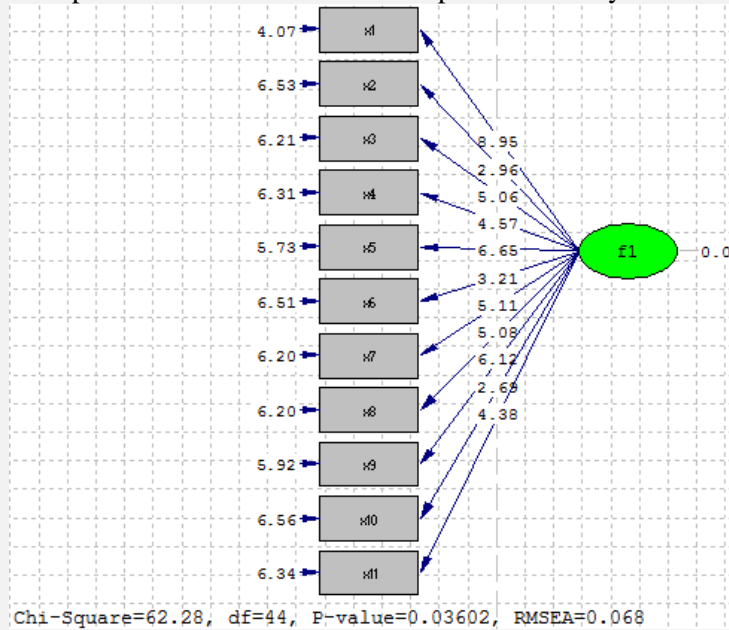


Figure 1- meaningful output of Lisrel of the extracted aspects of the key factors in success of CRM

Clearly, all the loading factors are higher than 0.3-04, while their significance level is higher than 1.96. Therefore, all the aspects are confirmed. Indices of the model are listed below.

Table 1- indices of goodness of fit of the factor model

Result	Obtained value	Acceptable range	Index
Confirmed	0.06	<0.1	RMSEA
Confirmed	0.047	<0.1	RMR
Confirmed	0.90	>0.9	GFI
Confirmed	1.4	1-3	X2/DF

As listed above, all the indices are confirmed and thus the model is confirmed. Therefore, interpretative and structure analysis was carried out with 11 aspects.
 The table below represents the structural and self-interactive matrix of the experts' viewpoint.

Table -2 structural and self-interactive matrix

Factor	1	2	3	4	5	6	7	8	9	10	11
1	X	V	V	V	V	V	V	V	V	V	V
2	A	X	V	V	V	V	V	V	V	V	V
3	A	A	X	A	V	V	V	V	V	X	V
4	A	A	V	X	V	V	V	V	V	V	V
5	A	A	A	A	X	V	O	V	V	A	V
6	A	A	A	A	A	X	A	V	A	A	V
7	A	A	A	A	O	V	X	V	V	A	V
8	A	A	A	A	A	A	A	X	A	A	X
9	A	A	A	A	A	V	A	V	X	A	V
10	A	A	X	A	V	V	V	V	V	X	V
11	A	A	A	A	A	A	A	X	A	A	X

Penetration and dependency matrix is as follows:

Table 3- factors penetration and dependency matrix

Factor	1	2	3	4	5	6	7	8	9	10	11	Level of penetration
1	X	V	V	V	V	V	V	V	V	V	V	11
2	A	X	V	V	V	V	V	V	V	V	V	10
3	A	A	X	A	V	V	V	V	V	X	V	8
4	A	A	V	X	V	V	V	V	V	V	V	9
5	A	A	A	A	X	V	O	V	V	A	V	5
6	A	A	A	A	A	X	A	V	A	A	V	3
7	A	A	A	A	O	V	X	V	V	A	V	5
8	A	A	A	A	A	A	A	X	A	A	X	2
9	A	A	A	A	A	V	A	V	X	A	V	4
10	A	A	X	A	V	V	V	V	V	X	V	8
11	A	A	A	A	A	A	A	X	A	A	X	2
Level of dependency	1	2	5	3	6	9	6	11	8	5	11	

Classified input/output sets table and matrix are as follows:

Table 4- classification of the factors

Factor	Output set	Input set	Common set	Level
1	1,2,3,4,5,6,7,8,9,10,11	1	1	8
2	2,3,4,5,6,7,8,9,10,11	1,2	2	7
3	3,5,6,7,8,9,10,11	1,2,3,4,10	3,10	4
4	3,4,5,6,7,8,9,10,11	1,2,4	4	3
5	5,6,8,9,11	1,2,3,4,5,10	5	5
6	6,8,11	1,2,3,4,5,6,7,9,10	6	2
7	6,7,8,9,11	1,2,3,4,7,10	7	5

8	8,11	1,2,3,4,5,6,7,8,9,10,11	8,11	1
9	6,8,9,11	1,2,3,4,5,7,9,10	9	3
10	3,5,6,7,8,9,10,11	1,2,3,4,10	3,10	4
11	8,11	1,2,3,4,5,6,7,8,9,10,11	8,11	1

The structural interpretative modeling is organized as follows:

Factor Matrix is:

Dependent cluster 9-6-5-7-8-11	Connection cluster
Independence cluster	Penetration matrix 10-3-4-2-1

Conclusion and recommendations

Based on confirmatory factor model, culture had the higher factor load among the other factors. Taking into account that factor loading indicates correlation between the aspects and the latent variables, factor loading here indicates correlation between culture and success of CRM project.

In addition, structural interpretative model showed that culture, top management support, and operational definitions had the highest effect on other factors in success of CRM project; and customer contact management and customer information management are realized when these three aspects are realized. In addition, formation of multidisciplinary teams, integrity of information system, knowledge management, notification of customer relationship instruction by the management, and employees' commitment to principle so CRM were classified as moderate aspects. In other words, the effects of these aspects are less than that of culture, top management support, and definition of objectives and higher than customers contact and information management. Furthermore, our results indicated that the aspects culture and knowledge management from Lindengern et al. (2006) and the aspects top management support, formation of multidisciplinary teams, defining objects, coordination among the department, notification of management's customer relationship strategy to the employees, employees' commitment, customer information/contact management from Mendoza et al.'s model (2006) had significant effect and goodness fit for the factor model of the key factors of success of CRM projects. In other words, there was correlation between this study and the mentioned studies regarding this aspect.

Given the results, we recommend the managers and authorities of Bank Refah branches based in Qom to use Parato's principle to realize the key factors of success of CRM. Pareto law states that 80% of the issues and events are caused by 20% of the factors. Consistently, our results showed that 3 factors of culture of customer relation management, top management support, and defining the objectives were more important than the other factors. To put it another way, by dealing with these factors and doing what is needed as to them, other key aspects of success in CRM are achievable.

Customers should be taken as a group or a system as they might want a service or a product more than once. Thereby, observing the principles of CRM is imperative. Customers can be taken as competitive advantage of an organization such as Bank Refah, which is competing with state and private banks. In this competitive market, dissatisfaction with one service may be enough to convince a customer to change their bank.

To enhance CRM culture, the manager and authorities of the bank can initiate culture promotion programs and ask the staff to show respect and value the customer.

As to top management support, the managers must be informed about benefits that customers bring to the business and that they should support any measure that keeps the customers loyal to the bank.

Moreover, objectives of CRM project must be realistic, measurable, and clear as otherwise CRM project will be a failure.

Implementation of comprehensive and integrate information system instead of disintegrated information system along with forming multidisciplinary teams were other effective factors in success of CRM project. It is notable that teamwork increases motivation and performance. Therefore, through reward and penalty strategies, multidisciplinary teams can be formed to help CRM projects. Using Information system software and having knowledge-employees on these systems should be on the agenda of the managers of Bank Refah.

Employees' commitment and unity among the employees must be taken into account as well. By employing verbal and practical rewards and penalty, the management can support the employees to improve their relationship with the customers. In addition, unity and coordination among the different department is facilitated by defining clear lines between the departments and clear tasks assignment. To this end, control reference points must not be forgotten.

Principles of knowledge management such as preserving and sharing knowledge are imperative. Observing these principles facilitates customers contact and information management.

Prioritization of the factors effective on success of CRM using fuzzy and definite hierarchy technique or determining the factors using fuzzy or definite Delphi technique can be subject of future studies.

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