



ELSEVIER

Available online at www.sciencedirect.com



Procedia Computer Science 3 (2011) 1243–1248

Procedia
Computer
Science

www.elsevier.com/locate/procedia

WCIT 2010

Ranking Branches of System Group Company in Terms of Acceptance Preparation of Electronic Customer Relationship Management using AHP Method

Mohammad Hossein Moshref Javadi, Zahra Azmoon*

Department of Management, University of Isfahan, HezarJerib.st, Isfahan, 81746-73441, Iran

Abstract

The purpose of performing of this research is to determine the importance and effectiveness of major factors on electronic customer relation management (ECRM) capabilities in System Group branches. Also it is specified which changes should be created by this company to implementing such system and which capabilities should be stressed in order to gain success based on the existing circumstances in each of the branches. A hierarchical model based on six major dimensions and sixteen indexes has been applied in this research to evaluate preparation of System Group branches for accepting of electronic customer relation management. In this research AHP method is applied to analyze data and Expert Choice software is used as analysis tool. Research results revealed that strategy has the most importance and priority among major factors of preparation for implementing of electronic customer relation management system. Also among the branches of the group that are called hereinafter as "Base", Tehran North Base has the priority in implementation with regard to main dimensions and indexes.

© 2010 Published by Elsevier Ltd. Open access under [CC BY-NC-ND license](https://creativecommons.org/licenses/by-nc-nd/4.0/).

Selection and/or peer-review under responsibility of the Guest Editor.

Keywords: Customer Relationship Management; Electronic Customer Relationship Management; Analytical Hierarchy Process Method

1. Introduction

Studies and researches show that increasing of products' demand on the part of customers is not proportional to increasing of producers. This issue has resulted in severe competition in increasing of products. As a result, the customer has various choices in performing of shopping and is not loyal to each company easily [10]. On the other side, the business world has moved from production orientation towards customer orientation. So, in competition arena victory belongs to the organizations that can attract more customers and keep them satisfied for next shopping

* Corresponding author. Tel.: +98-913-2259975; fax: +98-311-2252383.

E-mail address: azmoon.zahra@gmail.com.

[3]. Now companies are intensely looking for ways for better interaction with customers and influencing on them. Electronic customer relation management is looking for better and faster accountability to customers' needs and demands and consequently stabilization of such relation with them which will result in durability of the organization [4]. ECR improves relationship between the company and its customers through establishing and increasing of relationship with customers through modern technology [8].

Today, updated and organized relation with customers is the most suitable way for increasing of market share and success in competition field in the complex competitive conditions especially in the IT industry [1]. System Group has the first grade in IT industry across the country at present time which is the largest software collection of private sector in the country. Managers of this company have mentioned that offering software without suitable supports won't meet main needs of customers. This group has been trying to provide basis for organizations' success by relying upon its experience and proficiency along with offering of effective and efficient services related to information technology projects. With regard to activities of this company in IT industry it appears that it could provide basis for strengthening of its long-term relations with customers through implementing of ECRM system. Accordingly, studying of current capabilities and readiness of this company for accepting of ECRM system and changes which should be created before implementing the system are the main purposes of research that will be focused in this paper. With regard to general environment of the organization and tendency of managers of System Group, it seems there exists a need to perform studies about preparation of subset companies of this group for acceptance of electronic customer relation management system. So the exact problem of the research was to study branches of group and attempting to rank them in order to determine preparation for implementing ECRM. We are going to explain concepts of CRM and ECRM and main factors for accepting of these systems. Subsequently research background will be introduced.

2. Customer relation management (CRM)

CRM is a strategy for selecting, keeping and managing of customers in order to create value in long-term[5]. Academic researchers have proposed CRM as a business process which includes all processes of customer identification, creating of customer's knowledge, establishing of relation with customer, formation of imagination and perception of the organization and its products [9]. CRM applies information technology in order to gather data that could be used later for creating of required information and developing of personal and unique relations with customers [6].

3. Electronic customer relation management (ECRM)

ECRM is a strategy for marketing, selling and integration of an online service that plays a role in identifying, obtaining and maintaining of customers who are considered the largest capital of company. It ECRM improves and enhances the relationship between a company and its customers by means of creating and increasing of relationship with them through modern technology. ECRM software establishes profiles and histories of each organization's contact with its customers. It is a combination of management software, hardware, applications and commitments [10].

4. Research background

Chen and Popovich have presented an ECRM implementation model. According to theory of Chen and Popovich, this model depends on three main factors including individuals, process and technology. Their research resulted specifying that most cases of suspended or defeated projects with regard to CRM are often due to the point that companies have no deep understanding about initiatives of CRM [2].

Ocker and Mudambi introduced their model about evaluating of ECRM preparation based on three dimensions in 2002 including mental dimensions, social dimensions and technologic dimensions. According to Ocker and Mudambi's model, major factors of organization's preparation for ECRM are: strategy, structure, scheduling, culture, interactions of beneficiaries, scope knowledge, customer relation management software, capability of information technology and knowledge management [7].

Paying attention to the most important parameters in successful execution of ECRM, Ocker and Mudambi have

stressed that organizations follow CRM strategy with the aim of increasing business performance and obtained value of organizational challenges in relation to this attempt. They have suggested that organizations should perform a **deep analysis of organizational preparation** before utilizing ECRM in order to reduce danger of the organization's failure. Therefore a model has been developed to evaluate preparation which enhances business value through regulating of complementary factors that are occurred during these three dimensions (mental, social and technological). They have indicated that organizations could gain a high predicting power through filtration of the above model [7].

5. Methodology of Research

This research is an applied one in terms of purpose, and method of performing is descriptive– field. The case study of this research includes branches of System group company. In this research the most important dimensions and factors that are effective on accepting of ECRM have been classified based on the theoretical model presented by Chen and Popovich. Finally, after adaptation of general factors with intended purposes of managers, a hierarchical model based on six major dimensions and sixteen indexes has been prepared to test preparation of System Group branches for accepting ECRM. This is a quantitative research in which Analytical Hierarchy Process method is applied to analyze data and Expert Choice software is used for analysis of data. We have used historical study for compiling of theoretical principles literature review and research background. Questionnaire and direct interviews are two methods of data collection. Due to the strategic role of decision making about the importance of effective factors on preparation for accepting ECRM system, opinion of senior management of the group has been used in order to collect data related to pair comparisons between dimensions and indexes. Because of this reason we have performed an interview with the group's chief of board of directors. Paying attention to the point that for collection of data related to pair comparison among branches, there was a need for guidance of those who were aware of all branches conditions, therefore a questionnaire was applied. Director general of the group, vice chairman of the group's board of directors, manager of customer supervision and market management' staff, chief of management information unit, chief of product management unit, general financial unit management, planning office management, chief of marketing and selling unit, research and development unit management, planning unit management and management reforming have been among the respondents of this section.

6. Main questions of the research

1. How are System Group branches (that are called Base) being ranked in terms of each of the effective dimensions on accepting ECRM?
2. How much is the relative importance of each of the effective dimensions on accepting ECRM?

7. Data analysis

As it has been stated, we have used a hierarchical model that general diagram of it is illustrated in figure 1.

Weight of dimensions has been applied and calculated after collecting of data and transferring them to Expert Choice software. Then conclusion of dimensions' prioritization was analyzed. Also, weight of each branch with regard to dimensions and indexes and last final weight of each one were achieved that prioritization of branches is another conclusion of this research. A benefit of hierarchical analysis process is controlling of decision compatibility. In other words, it is always possible to calculate amount of decision's incompatibility in the process of hierarchical analysis and then judge with regard to its advantages and disadvantages or its acceptability or unacceptability of it. For instance, if A is too times B and B is three times C, if A is six times C, we call this a compatible judgment. But in practice decisions and judgments of human being is not always compatible. So, incompatibility rate for each matrix has been calculated after inserting data in Expert Choice software. Matrices with incompatibility rate higher than 0.1 have been regulated at a meeting with specialists' opinion in order to be compatible.

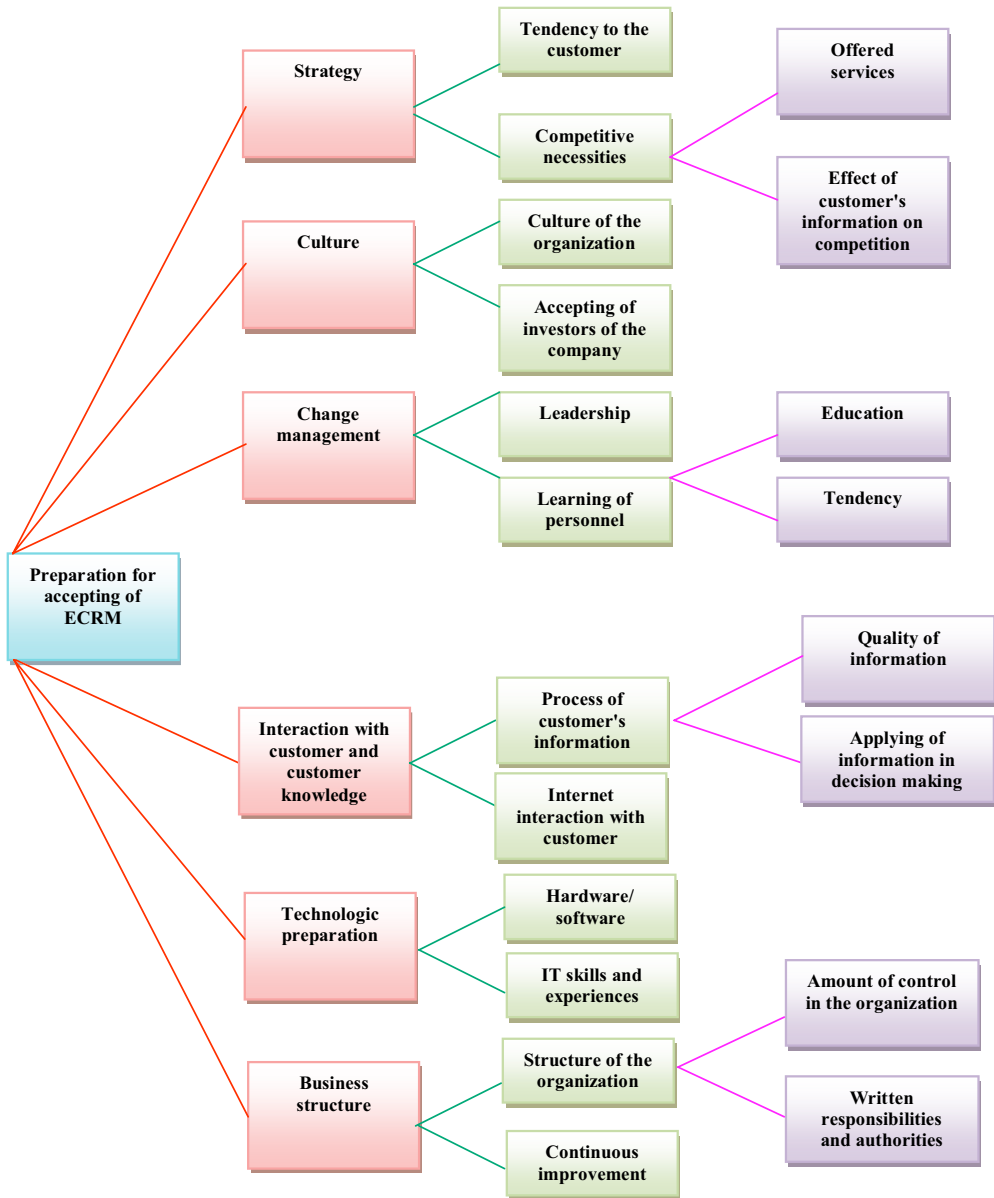


Figure 1: Hierarchy of effective dimensions on preparation for accepting of ECRM

7.1. Determination of proportional importance of main dimensions:

Six main effective dimensions on preparation for acceptance of ECRM have been compared initially. Their final weights are as the following based on the obtained data:

Table 1: Prioritization of main dimensions through AHP method

Dimensions	weight	priority
Strategy	0.435	1
Interaction with customer	0.207	2
Culture	0.204	3
Technologic preparation	0.065	4
Change management	0.058	5
Business structure	0.032	6

The first priority among main dimensions is related to strategy dimension and following that is interaction with customers, culture, technological preparation, change management and business structure. In this section incompatibility rate has been obtained equal to 0.08 which is lower than 0.10. Thus, it shows that opinions are compatible about relative importance of main dimensions.

7.2. Ranking branches of System Group in terms of each effective dimensions on acceptance of ECRM:

In this section branches of the group have been compared two by two with regard to each index. Weight of each branch with regard to indexes has been obtained after collecting of data and inserting them into the Expert Choice software. After combining of branches' weight with regard to indexes and relative weight of indexes, weight of branches is gained with regard to the major dimensions and indexes. The result is summarized in the following table:

Table 2: Prioritization of branches with regard to main dimensions and indexes

Branches	weight	priority
North of Tehran	0.164	1
West of Tehran	0.161	2
East of Tehran	0.156	3
Tabriz	0.107	4
Yazd	0.080	5
Isfahan	0.070	6
Shiraz	0.070	7
Ghazvin	0.070	8
Khorasan	0.061	9
Karaj	0.060	10

The obtained results demonstrated that Tehran North base is placed in the first priority with the final weight of 0.164 and Karaj Base is at the end. Total incompatibility rate is achieved equal to 0.05 which shows that incompatibility of final results is acceptable too.

10. Conclusion and recommendations for managers

General results are summarized below:

-The strategy dimension has the highest importance and then interaction with customer, culture, technologic preparation, change management and business structure dimensions have importance with regard to the current conditions of System Group branches.

-According to the specified dimensions, North Tehran Base has the first rank and Karaj Base has the last rank in terms of preparation for accepting of ECRM.

With regard to the obtained results the following recommendations are presented:

It is recommended that System Group company acts based on relative importance of dimensions in spending of time and resources and experts. Also it is recommended to act according to the obtained weights of branches in investing and allocating of resources for implementing ECRM. Considering such priorities will decrease degree of failure.

References:

1. Bull, C. (2003). Strategic Issues in Customer Relationship Management Implementation, *Business Process Management Journal*, Vol. 9, No. 5, pp. 592-602.
2. Chen I. J. and Popovich K. (2003). Understanding Customer Relationship Management(CRM) : people, process and technology , *Business Process Management Journal*, Vol. 9, No. 5, pp. 672-688.
3. Dussart, Ch, Transformative Power of e-Business Over Consumer Brands, *European Management Journal* Vol. 19, No. 6, pp. 629–637, 2001.
4. Jukic, N. and Meamber, L. A. (2003). Implementing Polyinstantiation as a Strategy for Electronic Commerce Customer Relationship Management, *International Journal of Electronic Commerce*, Vol. 7, No. 2, pp. 9-30.
5. Lin, Ru-Jen and Chen, Rong-Huei and Shun Chiu, Kevin Kuan.(2010). Customer relationship management and innovation capability: an empirical study *Industrial Management & Data systems*. Vol.110 No.1, 111-133
6. Loria, K., 2005, Customer Relationship Management Implementation: A case study of two service companies, Lulea University, Masters Thesis, 2005
7. Ocker , R. J. and Mudambi S. (2000). Assessing the Readiness of Firms for CRM : A literature Review and Research Model, *Proceedings of the 36th Hawaii International Conference on System Sciences*.
8. Perzon, Hakan. (2008). Assessing the Readiness for Implementing e-CRM in B2B Markets, Master Thesis, Lulea University of Technology.
9. Rainer Alt and Thomas Puschmann . (2006). Success Factors in CRM Implementation, *Advances in Information Management Systes*, Vol. 3, No.5, pp. 69-87.
10. Zablah A. R.(2004). An Evaluation of Divergent Perspectives on Customer Relationship Management: Toward a Common Understanding of an Emerging Phenomenon, *Industrial Marketing Management* , Vol. 33, No 3, pp. 475-489.