

Studying the Relationship between Different Dimensions of CRM and Innovation Capabilities in Melli bank of Iran

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Abstract—This paper investigates the relationship between different dimensions of customer relationship management and innovation capabilities in Melli Bank of Iran. Five dimensions of CRM include information sharing, customer involvement, long-term partnership, joint problem solving and technology-based CRM are selected to measure their relationship with innovation capabilities including innovation in product, innovation in process, innovation in administrative affairs, innovation in marketing, and finally innovation in services. Research findings indicate that there is significant relationship between CRM dimensions and innovation capabilities in Melli bank of Iran.

Keywords—Customer relationship management, Innovation capabilities

I. INTRODUCTION

IN today's world which is highly undergoing technological evolutions and its everyday effects on human life, organizations cannot survive without adjusting to external environment and creating new ideas and commercializing them. So for successful presence in world markets, organizations should try to develop and apply new ideas. In fact, innovation is a response that organizations show against evolutions and changes so that they can survive and develop themselves in competing with other companies. On the other hand customer relationship management (CRM) system in organization not only retains the customers but it encourages the customers to offer valuable recommendations and suggestions for improving and promoting products and services. Today customer relationship management realized as a factor for improving innovation capabilities and obtaining competitive advantages in the market and it will be effective and efficient for organizations performance.

II. CUSTOMER RELATIONSHIP MANAGEMENT

Various definitions have been suggested for customer relationship management. The commonality of all these definitions is that first, CRM is related to business strategy especially that part which focuses on customer. Second, CRM is about business processes and supports and reinforces

interaction between the business and its customers. Thirdly: CRM is not identical with technology (e.g. software).

Generally it can be said that CRM is a constant process including creation and application of market intelligence knowledge in order to create and maintain customer relationship portfolio which has the highest output [1].[2] believes that a company's real value relies on the value which it creates for its customers and a value that returns the customers to the company. So it is important to bear in mind that value does not rely on more information and more developed technology. Value is created by knowledge about customer and that how the company uses this knowledge for customer relationship management. Knowledge is the base of CRM and unfortunately few companies change the information in to customer knowledge, therefore most companies lose the opportunity of value creation for customers. Anyway, CRM, if used properly is an instrument for increasing profitability [2].

A. Key Dimensions of Customer Relationship Management

Generally, researchers divide different mechanisms of customer relationship management into internal and external programs. Internal programs emphasize on organizational structure, culture and knowledge management while external programs include interactive activities with customers (for example information exchange with the customer or involving him/her). From this point of view the present paper has focused on external programs of customer relationship management five famous activities of customer relationship management are explained as follows.

B. Information Sharing

Information sharing refers to the exchange of essential and exclusive information between organizations and their customers through interactive activities. This information includes some matters such as market demand, customer preferences, sales promotion, introducing new products to the market and so on [3].

C. Customer Involvement

This term means involving the customer in activities related to development and improvement of a new product, holding technical meetings, supply chain annual conferences, and market evaluation conferences. Usually, customers provide market trend and technical support for the organizations there pore; it should lead to better understanding of future market demands [4].

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D. Long-term Partnership

Long-term partnership means that there is commercial relationship with trust and commitment between two parties or two organizations. In this partnership both parties must have similar goals and follow mutual profits based on a reliable and dependable base [5].

E. Joint problem-solving

This term can be described as a kind of collaboration between organizations and customers for solving problems and also sharing the responsibility when a problem occurs or difficult and unexpected conditions are encountered [6].

F. Technology-based CRM

Reference [4] believe that this term includes organizations that use computer technology to facilitate different activities of CRM and actively offer technical aids including data storage, data mining and CRM software systems to their customers [4].

III. INNOVATION

Innovation is derived from the Greek word "Innovare" meaning building a new thing. Schumpeter (1934) was the first to state innovation in a scientific form. In fact, he sought to realize the factors influencing on the economic growth of countries when he found the crucial role and importance of innovation in the growth of countries [7].

Peter Drucker (1985), the father of management science, introduced innovations a special tool of entrepreneurs through which one can use change as an opportunity to offer service and business considered innovation as a learnable and applicable capability in organizations. The most important point in Drucker's definition is the learnable capability of innovation in organizations by entrepreneurs for changing the threats into profitable opportunities [8].

A. Different Dimensions of Innovation Capabilities

Looking more meticulously at Joseph Schumpeter's definition, we could find that he has distinguished four kinds of innovation; furthermore, this division can be seen in the new edition of Oslo instruction. The four kinds are: product innovation, process innovation, marketing innovation and organizational innovation [9].

B. Product Innovation

Product innovation is the introduction of goods or services, the features and intended uses of which are new or completely improved. This requires considerable revisions in technical characteristics, components and materials, installed software, simplicity in use and befriending consumer or other functional specifications. To arrive at product innovation, we can use new knowledge or technologies or blend new knowledge and technologies with the present knowledge and technologies. It should be kept in mind that the term "product" is used to cover goods or services [9].

C. Process Innovation

Process innovation is executing and implementing a delivery method or a new or highly improved production method that can be in the form of fundamental changes in methods, equipment and/ or software. Product methods include

techniques, equipments and software which are used in producing goods or offering services. Equipping of production line with a new automation and using –computer-aided design for producing product are the examples instances of new production methods [9].

D. Marketing Innovation

Marketing innovation is implementing new marketing methods including fundamental changes in designing or packing the product, product advertising, supply place or product pricing. The goal of marketing innovation is better understanding of customers, needs, opening new markets and introducing the organizations new product of agency in the market, in order to increase the company's sale. One of the aspects of marketing innovation is a change in product design which is a part of new marketing concept. Here, change in product design means change in the shape and appearance of the product without any change in the applied or functional features of the product. Innovation in pricing includes using new strategies of product pricing and company's services in the market. For example a new method is used for the first time to diversifying the price regarding to demand (when demand is low, price is also low) or a new method is introduced allowing the customer to select his/her desired specifications of products in the website of company and observes the prices [9].

E. Administrative Innovation

Administrative innovation is implementing new organizational methods in business approaches of the agency, workplace organization or external relation. The goal of administrative innovation is increasing company performance by a decrease in administrative costs and exchange costs, improving satisfaction in the work environment, having access to non-tradable incomes (such as non-codified external knowledge) or decreasing in logistics costs [9].

Administrative innovations and administrative changes are different in that administrative innovation is implementing a new organizational approach which has not been used in the organization before. Moreover, these innovations are the result of organizational decisions which are made by the managers. Administrative innovations in business practices include implementing new methods for organizing routine activities and approaches of work guidance. For example implementing a new way for the improvement of learning and knowledge sharing in a company is amongst these innovations [9].

IV. RESEARCH HYPOTHESES AND CONCEPTUAL MODEL

A. Information Sharing and Innovation Capabilities

Inter-organizational information exchange is very important for creating and developing innovation in the organizational unit. Organizations can use the received information from customers about trends, demand and market competition to introduce more new products and services. Information which provided by customers, facilitates the development of more various and newer products and the correction of the function

of present products in order to reply to the needs of the target markets. Information sharing between organizations and customers on market design and processes also enables organizations to adopt technologies that can improve processes and designing innovation capabilities [10]. Information sharing, related to market competition, sale discount, and market demand and trends enable the organization to develop innovative mechanisms in pricing, sale discount, distribution and better marketing strategies. Based on customers' ideas and information, organizations can improve their customer service systems [11]. According to the two above cases, the first hypothesis can be defined as follows:

H1: There is a significant relationship between information sharing and exchange and innovation capabilities in Melli Bank.

B. Customer Involvement and Innovation Capability

Customer involvement in developing new products in order to offer and supply new products successfully is a key factor for organizations. Customer involvement in the primary stages of developing a new product, holding sessions for manufacturing it and market evaluation conferences can encourage the customer to involve in development processes of the new product, the improvement of manufacturing techniques and the design of the product in order to enjoy the innovation process [10]. Through customer involvement, organizations that promote CRM are more capable of understanding and predicting future changes of the market. So, it is very suitable for organizations to apply mechanisms for product volume and internal management (such as volume removing, omitting problems of process and adjusting work shifts and promotion systems) and also cooperate with customers to apply innovative management approaches [12]. According to these explanations second hypothesis is defined as follow:

H2: There is a significant relationship between customer involvement and innovation capabilities in Melli Bank of Iran.

C. Long-term partnership and Innovation Capability

A significant and important degree of loyalty and trust will develop since both the organization and the customers want to have a long-term partnership. Through strategic agreements and joint companies, organizations are more intended to invest in special equipments, increase volumes, set work shifts and harmonize with swinging needs of the market. As a result, it is more probable that innovative products to develop in such conditions [13]. Based on mutual understanding and trust, organizations can have a close partnership with their customers and as a result, they can more precisely recognize the customers' needs so they can offer more agreeable prices, discounts, marketing strategies and retailing [11]. According to the above mentioned information:

H3: There is a significant relationship between long-term partnership and cooperation with customer and innovation capabilities in Melli Bank of Iran.

D. Innovation Capability and Joint Problem-Solving

Joint problem-solving is considered to be the main and key factor for product success and market development. When the customer voluntarily helps with solving the problems related to product designation or technical processes, organization can improve the product quality and the capability of technical processes more easily. So, joint problem-solving factor influences innovation which causes more improvement in present products, processes or services. As it is expected, organizations need to reinforce administrative procedures so that joint problem-solving process is facilitated [6]. Organizations which are equipped by joint problem-solving mechanisms are in a better position to offer after-sale services, investigation and resolving claims and offering guarantee and maintenance services [11]. According to these explanations, the fourth hypothesis is defined as follows:

H4: There is a significant relationship between joint problem solving and innovation capabilities in Melli Bank of Iran.

E. Technology-based CRM and Innovation Capabilities

The role of information systems and technology in reinforcing and backing process innovation has been proved in numerous researches. In order to understand and communicate with customers, organizations should use information technology including online data analysis, data mining, customers' information systems and services centers. So, organizations can quickly offer new product innovation for customers' demand. As a result, technology-based CRM will promote innovation in products [14]. If, through technology-based CRM, organizations gain access to customers' precise information, they would reply to customers' demands and would offer better ordered services. In this case, specific marketing strategies would be designed for each group of the target customers. Technology-based CRM, therefore, has a significant relationship with marketing innovation [15]. The developing information systems and a high concentration on the customer would improve service quality and customer satisfaction. By using data mining instruments some organizations can use insight and recognition derived from data storage to increase sale and offer the products or better and new services. As a result, it can be said that technology-based CRM would increase the operational efficiency, increase the production and improve service quality [16]. According to the above mentioned explanations, the fifth hypothesis is defined as follows,

H5: There is a significant relationship between technology-based CRM and innovation capabilities in Melli Bank of Iran.

According to the hypotheses the main research hypothesis can be define as follows:

H6: There is a significant relationship between customer relationship management and innovation capabilities in Melli bank of Iran.

Fig.1 shows the relationship between different dimensions of CRM and innovation capabilities.

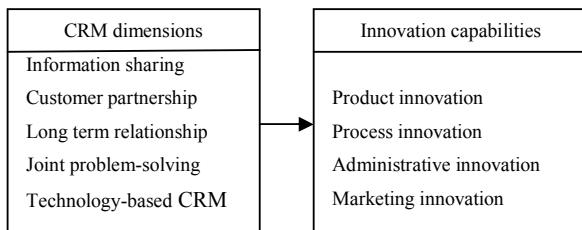


Fig. 1 Conceptual Model of the Research

V. METHODOLOGY

Present research is an applied research and its method is a correlation one. The data was collected by using "researcher-made" questionnaire composed of 24 questions that evaluate the relationship between different dimensions of CRM and innovation capabilities in Melli Bank of Iran and the reliability obtained by Cronbach's alpha coefficient is 0.89. Experts and specialists confirmed its validity according to formal or external validity. The statistical population included general top managers including the

Managing director, board of managers, affairs managers, department heads and assistants of Melli Bank of Tehran. According to the bank's general department of human investment there were 136 participants. Sample size was calculated by the use of Cochran formula which showed that 72 samples were needed for carrying out the present research.

In order to study the statistical population with the sample size of 72 participants, 85 questionnaires were distributed out of which 78 questionnaires were returned. According to the questionnaires applicability for analysis, 6 questionnaires were not analyzable and 72 questionnaires were used for carrying out the research. The answers of the sample group were analyzed according to the scoring method of Likert scale of and seven scales. The data related to the variables were obtained by calculating the average score of each element. Also, the indexes were calculated. By using Kolmogroff-Smirnof test, the normality of the dependent variables was evaluated. Also Durbin-Watson test was applied to evaluate the presence of any correlation between errors and variance analysis. In addition, variance analysis was applied to evaluate the linearity or nonlinearity of the relationship between variables. Finally, Pearson correlation coefficient and linear and multiple regression was applied to evaluate the quality of the relationship between the variables.

VI. RESEARCH FINDINGS

After collecting and analyzing data by SPSS software following findings was obtained:

Kolmogroff-Smirnof test was used to study the normality of dependent variables that results are shown in table 1 in 0.01 meaningful level.

TABLE I
RESULTS OF KOLMOGROF-SMIRNOF TEST FOR STUDYING THE
NORMALITY OF DEPENDENT VARIABLES

Variables	Amount	Result
Innovation Capabilities	0.447	Normal

Test results of first to fifth hypotheses and main hypothesis in 0.01 significance level are determined in table2.

TABLE II
TEST RESULTS OF RESEARCH HYPOTHESES

Hypothesis	Correlation Coefficient	Determination Coefficient	Durbin-Watson	Result
1	0.768	0.590	1.934	Supported
2	0.717	0.514	1.890	Supported
3	0.713	0.509	1.972	Supported
4	0.717	0.515	1.595	Supported
5	0.794	0.631	1.652	Supported
6	0.852	0.726	1.896	Supported

Variance analysis (ANOVA) results show linear relationship between all CRM dimensions and innovation capabilities.

VII. CONCLUSION AND RECOMMENDATIONS

Customer relationship management as an imperative strategy is emphasized for improving the organization's innovation capabilities. This paper is based on the fact that CRM and innovation capabilities are multi-dimension concepts. So, Managers should pay attention to how different Activities of CRM are related to different dimensions of innovation capabilities. Considering the points posed in this paper, it can be stated that, in addition to creating recognized advantages, CRM system result in the improvement of the organization's innovation capabilities as well. Different dimensions of CRM system including information sharing and exchanging with customer, customer involvement, long-term partnership, joint problem-solving and technology-based CRM system result in the increase in process, product, marketing, administrative activities and services innovation capabilities. Therefore the organization managers' attention to establishing CRM to improve innovation capabilities will result in the Improvement of the organization's performance.

REFERENCES

- [1] Rigby, D. K., Reichheld, F. F., & Scheffer, P. (2002) 'Avoid the four perils of CRM', *Harvard Business Review*, 80(2), 101-109.
- [2] Newell, F. (2000). *Loyalty.com: customer relationship management in the new era of Internet marketing*. McGraw-Hill. ISBN 0-07-135775-0.
- [3] Mentzer, J.T., Min, S. and Zacharia, Z.G. (2000), The nature of inter-firm partnering in supply chain management, *Journal of Retailing*, Vol.76, No.4, pp. 549-68.
- [4] Sin, L.Y.M., Tse, A.C.B. and Yim, F.H.K. (2005), CRM: conceptualization and scale development, *European Journal of Marketing*, Vol.39, No.11/12, pp. 1264-90.
- [5] Handfield, R.B. and Bechtel, C. (2002), The role of trust and relationship structure in Improving supply chain responsiveness, *Industrial Marketing Management*, Vol.31, No.4, pp.367-82.
- [6] Huang, H.C. and Chang, C.W. (2008), embedded ties and the acquisition of competitive advantage, *Journal of Intellectual Capital*, Vol.9 No.1, pp. 105-21.
- [7] Schumpeter, J. (1934), *The Theory of Economic Development*, Harvard University Press, Cambridge, Massachusetts.
- [8] Drucker, P. (1985), *Innovation and Entrepreneurship*, New York, Harper & Row Published.
- [9] OECD (2005), *Oslo Manual Guidelines for Collecting and Interpreting Innovation Data*, Third edition, A joint publication of OECD and Eurostat.
- [10] Lagrosen, S. (2005), Customer involvement in new product development: a relationship marketing perspective, *European Journal of Innovation Management*, Vol. 8, No.4, pp. 424-36.
- [11] Lin, X. And Germain, R. (2004), Antecedents to customer involvement in product development, *European Management Journal*, Vol. 22, No.2, pp. 244-55.
- [12] Slater, S.F. and Narver, J.C. (2000), Market orientation and the learning organization, *Journal of Marketing*, Vol.59, No. 3, pp. 63-74.
- [13] Jack, E.P. And Raturi, A. (2002), Sources of volume flexibility and their impact on performance, *Journal of Operations Management*, Vol.20 No.5, pp. 519-48.
- [14] Dyche, J. (2001), *The CRM Handbook: A Business Guide to Customer Relationship management*, Addison-Wesley, Upper Saddle River, NJ.
- [15] Wei, J., van der Ende, L. and Lin, B. (2009), Customer-focused e-business model for the oil industry, *The Journal of Computer Information Systems*, Vol.49, No.3, pp. 11-12.
- [16] Groznik, A., Kovacic, A. and Trkman, P. (2008), the role of business renovation and information in e-government, *The Journal of Computer Information Systems*, Vol.49, No.1, pp. 81-89.

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