

# Studying the Impact of Customer Knowledge Management on Relationship Marketing (Iranian study)

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**Abstract**— The severity of competition in the markets and understanding the importance of customer retention for the organizations made them to gradually take steps towards the creation and retention of long-term relationships with the customers and according to researchers' idea, customer knowledge management and relationship marketing are the most appropriate options in the organizations to achieve this goal. In the present study, the effect of customer knowledge management on the relationship marketing was addressed and studied. 197 questionnaires were distributed among the presidents and deputies and the experts who were the members of statistical population (1440 persons of some branches of Melli Bank in Mazandaran province).

After encoding, the collected data were entered into Lisrel and SPSS software and was tested. The results of regression and correlation coefficient test showed that there is a meaningful relationship between customer knowledge management and relationship marketing. Finally, the results of structural equation model test by Root mean square error of approximation (RMSEA) less than 0.10 and goodness of fit index more than 0.9 confirmed goodness of model and khi-square ( $\chi^2$ ) ratio by freedom degree less than 5 also confirmed the validity of model, totally it showed that the generalization of structural equation model including the effect of customers' knowledge management on the relationship marketing is confirmed among the personnel of Melli banks in Mazandaran province.

**Index Terms**— Customer Knowledge Management, Relationship Marketing, Banking.

## I. INTRODUCTION

Today, companies with superior performance in different industries are going towards customer retentions and their fidelity attraction because most markets are at their maturity stage, the competition is increasing and costs for the new customer attraction have severely been increased (Kotler & Armstrong, 1999). Due to the acceleration of changes in enterprise environments and by entering new competitors, current banks seeking to attract and retain the creditors and their current profitability levels should spend more resources for educational activities and absorption of high efficiency for human resource and should apply new and novel techniques. Knowledge is a key competitive factor in the global economy, but for a successful presence in today's dynamic market, another important component named as the customer should

be considered as well. Applying knowledge management along with the foundations of relationship marketing provides this possibility for the organizations to be able to recognize the opportunities emerged in the market by more probability and to increase their competitive advantage. RM as a long-term database system application by an enterprise to understand a customer's profile and further develop relationships through various communication channels to deliver value and service. (Ing Wu 2012) Moreover, long-term relationship with customers should be created and important and valuable activities should be identified, reinforced and improved through which more customers can be attracted and remained faithful to the organization. Diversity in the services offered is evident and client orientation strategy have been increased (Klerkxa, 2012).

In the direction of the same purpose, Iranian banks always tried to present some guidelines and plans to create and retain long-term relationships with customers and ultimately to make them faithful. However, planning in this way entails the banks understand their own strengths and weaknesses in respect of creating a relationship with the customer and making them faithful and also study the importance level of the performed practices in the view of customers. Therefore, in this research, we study the effect of customer knowledge management on the foundations of relationship marketing in the selected branches of Melli Bank in Mazandaran province.

## II. LITERATURE REVIEW

By extremely severe competition and sale stagnation, the creation of customer fidelity has become difficult for the companies. The researches have repeatedly shown that finding a new customer is 4 to 5 times more costly than the retention of the previous customer. It is recommended to use the knowledge management architecture which organizes customer information (Sheth, 2001).

Creating the value which includes the modern knowledge or by updating the knowledge will capable the organization to achieve a superior position in the future competition (Zhao, 2012). Many organizations utilize appropriate strategies to facilitate the acquisition and absorption of knowledge. Knowledge management is a necessity and a source of competitive advantage in most organizations (Teoa, 2012). On the other hand, the human factor is critically important, since even with the best defined processes and the most advanced technology the relation between people still has a determinant role in the implementation of any business strategy (Moreno, 2011)

Relationship marketing is one of the major paradigms in the marketing literature proposed over 20 years ago and caused many changes in marketing paradigm from transaction marketing towards relationship marketing (Gronroos, 1997).

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Traditional marketing has emphasized on the importance of new customer attraction but relationship marketing obviously emphasizes on the importance of long-term supportive relationship development with current customers and assumes that it is logical to try to spend the energy and resources for the current customers instead of attracting new customers. For marketers, strategic importance of creating long term relationship is based on this assumption that the relation of the existing customer is easier and cheaper than finding new customers (Kalwani & Narayandas, 1995). In fact, organizations which select relationship marketing procedure are able to improve their business performance.

In a research, Sin et al. (2002) addressed to study some performance aspect of the companies in a number of service-based industries in respect of the study of relationship marketing foundations. The results of their studies showed that relationship marketing has a positive and meaningful effect on sales growth, market share and ROI of these companies. Izquierdo and Cillan (2005) investigated the effect of relationship marketing on company's performances. Their findings showed that relationship marketing had an important effect on economic performance of the companies. In Iran, an increase in the competition among the companies have been observed and in the case of introducing into global markets, the severity of competition will be getting even more intense. Perhaps today, these companies can survive by the same traditional concepts of production, product and sale but gradually by introducing foreign companies in these fields, the competitive situations will not be in such manner. Despite of Iran, many organizations abroad, especially in service-based sectors, regarding to its characteristic which is the close relationship between buyers and sellers, have tried to approach the customer and even consider the customer as their partners. They have considered relationship marketing as the sole way to create and develop long-term relationships with customers and have been able to use well the advantages of permanent relationship with the customers. Therefore, during the considered period, this research addresses and reviews the effect of customer knowledge management on the basis of relationship marketing in the selected branches of Melli Bank in Mazandaran province. Hence, in this research, the following questions will be studied;

Do the variables of customer knowledge management have any effect on the foundations of relationship marketing?

Which of the components of customer knowledge management has the most significant effect on the foundations of relationship marketing?

### III. RESEARCH THEORETICAL CONCEPTS

The organizations cannot communicate effectively with the customers unless they understand what kind of services, how and when are valuable to the customers and how much they can pay for them. The organizations which use customer knowledge management, in order to increase the quality of their services to the customers, have found the necessity of using customer knowledge management to overcome customer data gathering portal and applying it correctly (Akhavan, 2008).

Regarding to different industries, researchers have regarded and implemented various strategies for relationship-based marketing.

Chiou et al. (2005) introduced three classes of variables as the foundations of relationship marketing in the banking industry which includes a financial relationship, social relationship and structural relationship. Sin (2002) studied the effect of relationship marketing on business performance of companies, so he investigated trust, social relationships, communications, common values, sympathy and mutual attempt as main variables of relationship marketing. Richard and Perrin (1999) introduced some variables such as durability of relationship, validity, adaptation and marginal sale as the foundations of relationship marketing.

Rashid (2003) introduced trust, commitment, social relationships, sympathy, positive experiences, performance of commitments and communications as main constituent variables of relationship marketing.

Dubisi and wah (2005) introduced trust, commitment, communications, metrics and conflict management as the main relationship marketing variables.

In this research, we address to study the effect of customer knowledge management on the foundations of relationship marketing in some branches of Melli Bank in Mazandaran province. This issue is considered based on a framework obtained by customer knowledge management model adapted from Yingchun (2007) which includes the dimensions of customer knowledge acquisition and production, saving and distribution of knowledge and its implementation; the relationship marketing foundation model is also adopted from the Dubisi model (2005) which has communication management dimensions including conflict management, trust and commitment. Several researches have been performed about knowledge management as well as relationship marketing but there are a few researches about their relationship. In an article by Yichen (2006) entitled "Having knowledge to create a method for relationship with the customer management", the goal of research was to study the factors which have a key effect on the organizational performance and study three variables of customer knowledge source, customer knowledge management and measurable performance of customer knowledge which was finally stated that customer knowledge and customer knowledge management were the factors having key effects on the organization's performance. Akhavan (2008) studied customer knowledge management where knowledge and customer are placed together; the purpose of this article was to show that using management and customer-based value helps the organization to have better understanding of the customer and finally, it was stated that by using customer knowledge management, the organization can acquire many opportunities before the competitors which in fact, increase the sale and attract new customers which also bring some advantages both for the customers and the company. Bose and Sugumaran (2003) studied the role of knowledge management in improving the performance of customer relationship management. Implementation of knowledge management in this research was recognizing the knowledge, saving the knowledge, knowledge distribution and knowledge application which finally, it was concluded that using customer-based knowledge management brings about the development of customer relationship system in the organization. Michael and Marius (2004) recognized five styles for customer knowledge management and how intelligent organizations use them to create the value. The purpose of his study was describing the concept of customer

knowledge management and its implementation which resulted in presenting five implementing styles of customer knowledge management.

Chiou et al. (2005) in a research addressed to study the effect of the variables of relationship associations and customer values on customers' fidelity. This research was performed among three groups of customers, those who retain their relationships with the supplier, dissatisfied customers who cut their relationship with suppliers and satisfied customers who cut their relationship with the supplier. The results of this research showed that in respect of the customers who retain their relationships with the supplier, three kinds of relationship –based associations including financial, social and structural caused to improve customer profitability values and enjoyment values which finally resulted in the improvement of customer fidelity.

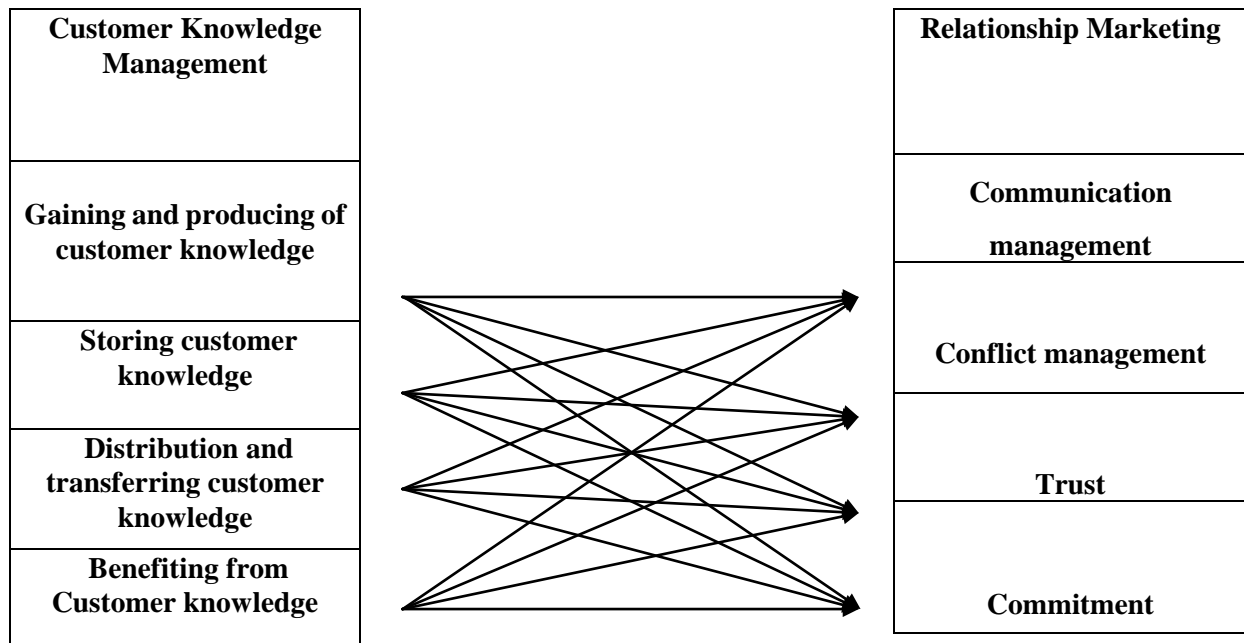
Adamson et al. (2003) in a research titled as "Relationship marketing, commitment and trust of the customer as a strategy for bank sectors of Hong Kong companies", studied the effect of the application of a relationship marketing strategy among Hong Kong Banks regarding the dimensions of commitment

and trust. Their results showed that a relationship marketing strategy causes commitment and trust.

The general conclusion of this research was that the successful banks comparing with unsuccessful banks have attempted more to implement relationship marketing strategy and to create long-term relationship with their customers.

Sin *et al.* (2002) in a research titled as " The Impact of relationship marketing approach on business performance of service-oriented economy", addressed to study the foundations of relationship marketing (trust, social relationships, communications, common values, sympathy and mutual attempt) on the economic performance of the institutions in different industries such as hotel management, insurance, financial, business services and etc. in Hong Kong. The method of data collection was a questionnaire which was sent to 1000 institutions among which, 279 usable questionnaires were collected. The results of their studies showed that the foundations of relationship marketing have a positive and meaningful effect on sales growth, market share and ROI for these companies.

#### IV. RESEARCH CONCEPTUAL MODEL



**Figure1**

: Research Conceptual Model

#### A. RESEARCH METHODOLOGY

The present research according to goal, is placed into applied researches and based on the classification of kinds of researches regarding their nature and method, the present research is regarded in the class of correlation researches.

##### a) Statistical Population:

Statistical population of the present research includes the employees of the branches of Melli Bank in Mazandaran province. The number of these employees is 1440 persons according to the latest statistics and data.

##### b) Determination of Sample Volume:

In this research, the class-based randomized sampling method, suitable for research topic, was used and the statistical population was sampled. Sample volume was determined by the following statistical formula which the volume of the given sample was obtained as number 304 by the following formula, as a result 304 questionnaires were distributed among the statistical population.

$$n = (Z^2 pqN) / (d^2(n-1) + Z^2 pq)$$

$$p = 0/5 \quad q = 0/5 \quad Z = 1.96 \quad d = 0/05 \quad N = 1440$$

c) *Goal of Research:*

The goal of the present research is to study the relationship and the extent of the effect of customer knowledge management components on the relationship marketing foundations in order to provide this possibility with the organizations to improve their relationships with the customer and to increase their fundamental abilities for competition.

d) *The Applied Statistical Techniques:*

In this research, Cronbach –alpha test was used in order to determine the reliability of the questionnaire, and regression correlation coefficient test was used to study the relationship between customer knowledge management and relationship marketing foundations and finally, structural equations model test was used to study the effect of knowledge management on relationship marketing foundations.

B. RESEARCH FINDINGS

a) *Regression Correlation Coefficient test of the relationship between Customer Knowledge Management and Relationship Marketing*

**Research hypotheses:**

Zero hypothesis: There is no significant relationship between customer knowledge management and relationship marketing in Melli Bank of Mazandaran Province.

Hypothesis one: There is a significant relationship between customer knowledge management and relationship marketing in Melli Bank of Mazandaran.

h hypothetical hypotheses:

$$H_0 : P = 0$$

$$H_1 : P \neq 0$$

Coefficients table is used in order to clarify the results of two variable linear regression.

**Table 1:** coefficients table

Significance level	T	Standard coefficient		Coefficient non-standard	Model
		Beta coefficient	Standard deviation	Regression coefficients	
.000.	20.847 19.41	.818	.078	1.626	Fixed Km-mana
.000.			.031	.602	

Regression equation:

Prediction of RM= 1.626 +.602 (effect rate)

**ANOVA:**

ANOVA test examines the acceptability of the model statistically. The regression row shows the changes in the present model and the remaining row illustrates changes which are not counted in the present model.

**Table 2:** ANOVA table

Model	Sum of squares	Degrees of freedom	Mean Square	F	Significance level
Regression	<b>33.488</b>	<b>1</b>	<b>33.488</b>	<b>71.402</b>	<b>.000.</b>
Remaining	<b>142.219</b>	<b>303</b>	<b>.471</b>		
Total	<b>175.707</b>	<b>304</b>			

The sum of regression squares and the remaining are equivalent. It shows that half of the changes have been shown by the model. The significance level of F statistic is less than 0.05 which means that the changes in the model are not

occurred by chance. Therefore, there is a significant relationship between customer knowledge management and relationship marketing at Melli Bank in Mazandaran Province.

**Table 3:** Table of Effect Rate

Model	t Correlation coefficient R	Square R (coefficient of determination)	The adjusted R square	SEM sidual standard deviations)
<b>1</b>	<b>.818</b>	<b>.669</b>	<b>.700</b>	<b>1.123</b>

Table 3 reports the intensity of the relationship between the model and the dependent variable. Multiple correlation coefficient shows that the level and intensity of correlation of

the two variables is equal to 81 percent. Since the above ratio has a positive sign, the type of the relationship is straight and aligned. The above coefficient shows a relatively strong



relationship between the variable of customer knowledge management and the variable of relationship marketing.

**Patterns of relationship determining the effects of macro variables of customer knowledge management on foundations of relationship marketing among Melli Bank staffs of Mazandaran Province:**

**Table 4:** Characteristics of the constituent components of variables of knowledge management and relationship marketing (dependent variable)

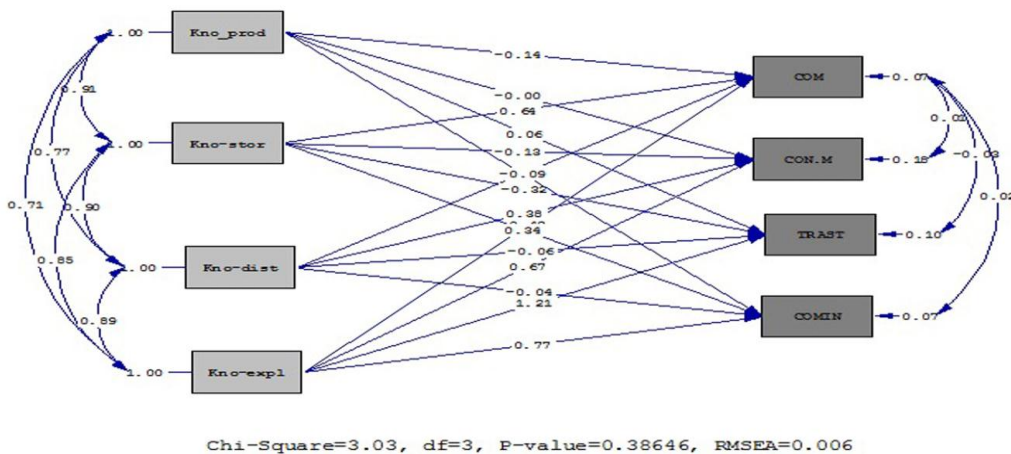
Row	Independent variables	Title in the diagram	Title in the Equation
1	Producing of customer knowledge	Prod	X1
2	Storing customer knowledge	Stor	X2
3	Distribution customer knowledge	Dist	X3
4	Benefiting from Customer knowledge	Expl	X4
Dependent variables			
1	Communications management	Com	Y1
2	Conflict management	Con.m	Y2
3	Trust	Trust	Y3
4	commitment	commit	Y4

**Statistical hypotheses:**

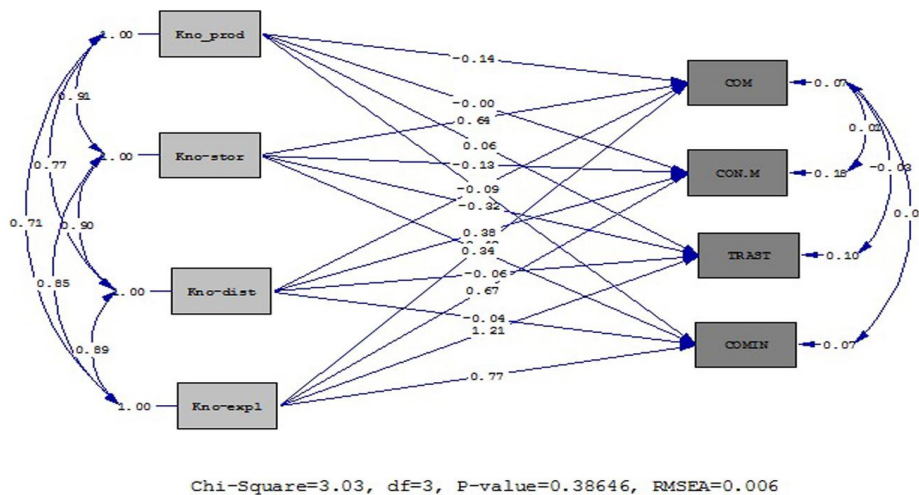
$$H_1 = RMSEA \geq 0.10 \quad H_0 = RMSEA < 0.10$$

The paradigms of causal relationships in the structural equation model for the components of customers knowledge

management on the components of relationship marketing among the staffs of Melli Bank in Mazandaran based on Lisrel structural equations software is as follows:



**Diagram 1:** The estimated diagram of Lisrel software



**Diagram 2:** The Standard estimated diagram of Lisrel software

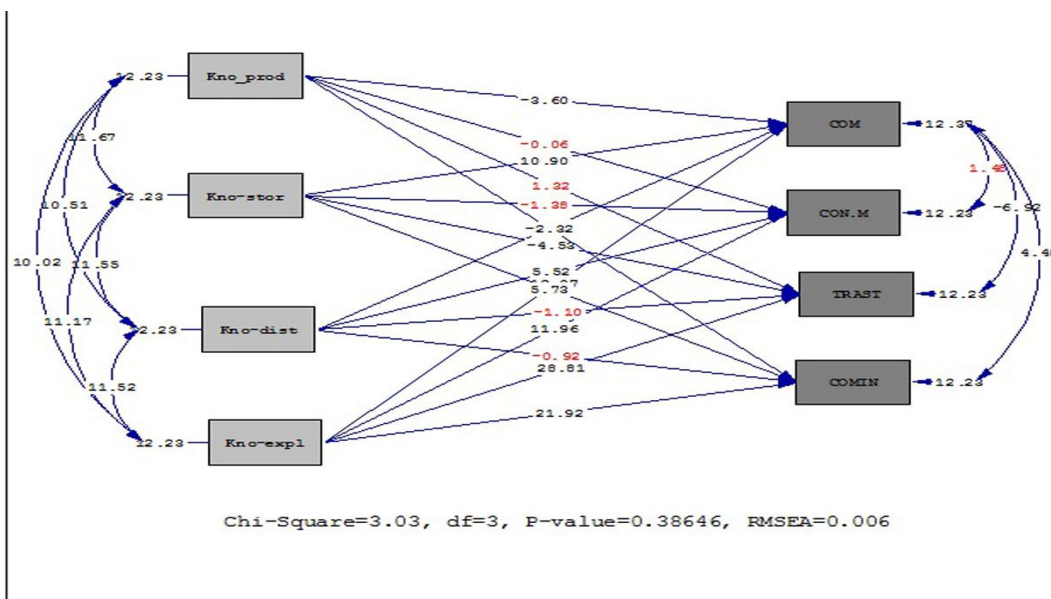


Diagram 3: Estimated t-value diagram

T-value diagram determines which variables of the model have been confirmed (Du toti & Du toti, 2001). T-values diagram has determined that the influence of some variables of customer knowledge management, especially the components of the variables of customer knowledge production on commitment and conflict management, customer knowledge absorption on the conflict management, customer knowledge storing on commitment and trust, and in

the model was not confirmed (which the color of these variables is red in the diagram), however the effect of the other variables was confirmed. Studying the influencing results of components of customer knowledge management on the components of relationship marketing, it was determined that the component of customer knowledge implementation has the highest effect on the component of the commitment by an influencing value of 28.81.

Table 5: Test results and output of LISREL software

Chi-square	df	Chi-square /df	RMSEA	AGFA	CFI	NFI	NNFI	RFI
3.03	3	1.01	0.006	0.97	1.00	1.00	1.00	0.99

Test result shows that regarding to RMSEA index or root mean square error of approximation is less than 10 percent (RMSEA=0.006) and goodness of fit index= GFI (goodness of fit index), AGFI (adjusted goodness of fit index), PNFI (parsimony normed fit index), CFI (comparative fit index),

NNFI (non-normed fit index) , NFI(normed fit index) is more than 0.9 (RFI=0.99, NNFI=1.00, NFI=1.00, CFI=1.00), therefore, it can be said that the above-mentioned model has had a good fit (goodness) of real world data and also , regarding to the ratio of khi-square ( $khi^2$ ) to freedom degree is less than 5(1.01), it confirms the validity of the model which means that the generality of structural equation model including the effect of the variable of customer knowledge production and acquisition on the components of customer relationship management among the staffs of Melli Bank in Mazandaran province is confirmed.

Generally, goodness of fit index places between zero and one. The coefficients which are higher (more) than 90 percent, are considered as acceptable (Hooman, 2005). As a result, the present model enjoys an acceptable goodness of fit. The other point is to address the ratio of khi-square to freedom degree. If the ratio of khi-square to freedom degree is less (smaller) than 5, the model enjoys a good goodness of fit (Jorsekog, 1970).

V. DISCUSSION AND CONCLUSION:

The review of researches related to the topic shows that any of them was related to the present research in some way. Some of them have only addressed to the topic of customer knowledge management and some others have generally and simply referred to the effect of customer knowledge management on improvement of the relationship with the customer management.

Based on the performed regression analysis , all the variables of customer knowledge management have shown a meaningful relation ship with the variables of relationship marketing and as a result , in this research , lisrel software was used to study the affectivity of the variables of customer knowledge management on the foundations of relationship marketing and the result of structural equations test shows that regarding to RMSEA index or Root mean square Error of approximation is less than 10 percent (RMSEA =0.006), and goodness of fit index including RFI, NNFI (Non –Normed fit index), NFI (Normed Fit Index), AGFI (Adjusted Goodness of fit index), PNFI(parsimony Normed fit index) is more than 0.9 and (RFI=0.99, NNFI=1.00, NFI=1.00, CFI=1.00), therefore, it can be said that the above-mentioned model has

had a good goodness of fit of real world data and also regarding to the ratio of khi-square ( $khi^2$ ) to freedom degree is less than 5(1.01), it confirms the validity of model which means in total, the generality of structural equation model including the effect of the variables of customers knowledge management on the components of relationship marketing foundations among the personnel of Melli Bank in Mazandaran is confirmed. Studying effective results of the components of customer knowledge management of the components of relationship marketing, it was determined that the component of customer knowledge implementation has the highest effect on the component of the commitment by an effective value of 28.81.

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