Management Science Letters 2 (2012) 1603–1612

Contents lists available at GrowingScience

Management Science Letters

homepage: www.GrowingScience.com/msl

An empirical study to analyze customer relationship management strategy using balanced scorecard

Zahra Safari Kahreh[a*], Alireza Shirmohammadi [b] and **Mohammad Safari Kahreh[c]**

[a]*MSc in Managerial Finance and Lecture of Bakhtar University, Ilam, Iran*
[b]*Department of Industrial Management, Payame Noor University, Tehran, Iran*
[c]*PhD candidate of Strategic Management, Faculty of Management, University of Tehran, Tehran, Iran*

ARTICLEINFO

Article history:
Received January 8, 2012
Received in Revised form
April, 25, 2012
Accepted 1 May 2012
Available online
May 3 2012

Keywords:
Customer relationship management
Balanced scorecard
Marketing strategy

ABSTRACT

In the new marketing paradigm that is based on the relationship marketing, corporations and organizations look for retaining and enhancing the long run relationships with their customers. Customer relationship management (CRM) as a heart of the new marketing paradigm includes numbers of mechanisms that endeavor to manage sustainable and profitable long-term relations with valuable customers. Every year, there are many programs and resources dedicated for marketing strategy and planning. Evaluation of these endeavors especially the CRM strategy is much important. Hence, the primary purpose of this research is to analyze CRM using balanced scorecard as a valuable strategic tool. Required data was gathered from one of the biggest commercial banks of Iran and they were analyzed using BSC and statistical software packages. Results indicate that there is a meaningful relationship between 3 main aspects of CRM strategy and 4 main aspects of BSC.

1. Introduction

Customer relationship management (CRM) has become one of the leading business strategies in the new millennium. CRM is a broad term for managing business interactions with customers (Kim et al., 2003). CRM can be defined as managerial efforts to manage business interactions with customers by combining business processes and technologies, which seek for understanding customers' needs. Companies are becoming increasingly aware of the many potential benefits provided of CRM. Some potential benefits of CRM are as follows (Kim et al., 2003):

- Increased customer retention and loyalty,
- Higher customer profitability,
- Creation value for the customer,
- Customization of products and services,

* Corresponding author.
E-mail addresses: zsafari62@gmail.com (Z. Safari)

doi: 10.5267/j.msl.2012.05.006

- Lower process, higher quality products and services.

According to CRM, increased emphasis is on developing measures, which are customer-centric and gives managers a better idea of how their CRM policies and programs are working (Winer, 2001).

CRM can be interpreted as a process of digitizing a staff's knowledge about his or her customers. This is because in a usual business process, customer relation staff would normally be required to remember their clients' requirements, behaviours, tastes, preferences, etc. In essence, CRM focuses on building long-term and sustainable customer relationships, which add value for both the customer and the company (Chen & Popovich, 2003).

On the other hand, The Balanced Scorecard (BSC) has been used as a tool for suggesting measures, which could evaluate performance of a company by considering both financial and non-financial perspectives (Hung & Suh, 2005). The continuous process centered on the BSC combines the four processes; clarifying & translation the vision & strategy, communication & linking, planning & target setting, strategic feedback & learning (Hung & Suh, 2005). To implement the part of strategic feedback and learning in the four processes to form a cycle, it is important to derive the total score, which helps a company understand its strategic achievement level (Hung & Suh, 2005).
Therefore, the basic research question of this study is:
What are the relationships between essential dimensions of BSC and the main aspects of CRM encompasses people, process and technology?

2. Literature review

2.1. Customer Relationship Management (CRM)

CRM, is a customer focused business strategy, which aims to increase customer satisfaction and customer loyalty by offering a more responsive and customizes profitability and revenue. It is the most commonly used in functional areas such as customer support and service, sales and marketing is said to combine sales, marketing, support, e-Commerce functionality and e-Commerce content (Fluss, 2000; Butler, 2000; Brown, 2000; Johnson, 1999, Anonymous, 2000).

Still considered as a new science whose central challenge is to use technology to achieve the goal of mass customization, CRM concept is the opposite of the mass marketing model, which builds on the product-centric marketing structure (Battista & Verhun, 2000; Fusaro, 1999).

CRM systems capture a broad range of information about customers such as product purchase history, product satisfaction and customer contact with sales, marketing, support, and service departments. Organization use CRM to collect, store, and analyze customer behaviour information in view of attracting and retaining their customers. (Mitchell, 1998; Butler, 2000; Fluss, 2000, Battista and Verhun, 2000; Brown, 2000; Sheridam, 1999; Sodano, 2000). CRM holds the key to organization success since it organizes itself around customer segments, fosters customer satisfying behaviours, and implements customer-centric process (Maoz, 2000; Fusaro, 1999; Puschmann & Rainer, 2001).

CRM, like any other IT innovation, is not solely technology-driven. CRM is believed to be one of one of the broadest innovation that organizations have encountered so far since CRM technological initiatives normally imply the implementation of customer-centric business strategy, a redesign of functional activities, and a re-engineering of work processes (Galimi, 2000; Nelson et al., 2001). Hahnke (2001). The first stage of the CRM lifecycle, Integration, is to accomplish the integration of front-office systems in sales, marketing, and customer support and service organization functions with centralized customer-related data. The benefits of the CRM integration stage include improved front-office efficiency and productivity. The output of the integration stage is a centralized customer information platform, which provides relevant customer data across all customer touch points (Hahnke, 2001).

The second stage of the CRM lifecycle, Analysis, is believed to be most critical stage to a successful CRM initiative (Hanhnke, 2001). Using CRM analytics, organizations are able to develop customer knowledge and effectively manage customer relationships through a better understanding of customer relationship. Analyzing customer behaviours, identifying customer buying patterns and discovering causal relationships ultimately create customer knowledge. Together, these capabilities help organizations understand their customer assets and reach business decisions, which model and predict future customer satisfaction and customer behaviour. The third and final stage of the CRM lifecycle, Action, is the stage in which strategic decisions are carried out. Based on the findings of the analysis stage, business processes and organizations structures are adjusted. This final stage allows organizations to take actions in all customer-facing activities and refine the necessary business processes. This stage closes the CRM loop and permits organizations to cash in on the valuable insights gained through the Analysis stage (Hahnke, 2001).

Customer relationship management (CRM) is a combination of people, processes and technology that seeks to understand a company's customers. It is an integrated approach to managing relationships by focusing on customer retention and relationship development. CRM has evolved from advances in information technology and organizational changes in customer-centric processes. Companies that successfully implement CRM will reap the rewards in customer loyalty and long run profitability. However, successful implementation is elusive to many companies, mostly because they do not understand that CRM requires company-wide, cross-functional, customer-focused business process re-engineering. Although a large portion of CRM is technology, viewing CRM as a technology-only solution is likely to fail. Managing a successful CRM implementation requires an integrated and balanced approach to technology, process, and people (Chen & Popovich, 2003). The study uses this framework to investigate the relationship of CRM and dimensions of BSC.

2.2. Balanced scorecard (BSC)

The Balanced Scorecard (BSC) is a management instrument developed to measure business performance (Wong et al., 2009). BSC has been adopted by the building and construction industry for years in various areas, such as performance management (Kagioglou et al., 2001), benchmarking organisational safety culture (Mohamed, 2003), measuring business performance (Bassioni et al., 2005), measuring partnering project performance (Lo et al., 2006), and improving suppliers' performance (Doolen et al., 2006).

BSC is an extensive and thorough performance evaluation tool to adequately plan and control an organization so it can attain its goals (Davis & Albright, 2004; Lawrie & Cobbold, 2004; Pinero, 2002). The BSC breaks through the traditional limitations of finance, examining an organization's performance from the four main perspectives of finance, customer, internal business process, and learning and growth (Kaplan & Norton, 1992). It emphasizes both aspects of the financial and non-financial, long-term and short-term strategies, and emphasizes internal and external business measures (Wu et al., 2009).

BSC can be used to assess activity performance of an organisation based on four perspectives, namely (a) *financial*; (b) *customer*; (c) *internal business*; and (d) *innovation and learning* (Kaplan & Norton, 1992). By using the Scorecard, the management should be able to know more about the company's needs and ensure the alignment of the management processes and the long-term strategies (Kaplan & Norton, 1992, 1996). BSC presents the quantitative goals selected from multiple perspectives for implementing the organizational strategy and vision (Abran & Buglione, 2003).

BSC was originally developed by Kaplan and Norton as an evolution of the concepts in the Tableau de Bord which emerged in France at the turn of the 20th century (Epstein & Manzoni, 1997 cited in Abran & Buglione, 2003). The aim of the Tableau had been to translate each company's unitary vision and mission into a set of objectives, through the identification of Key Success Factors and Key

Performance Indicators. Kaplan and Norton defined the BSC (Kaplan & Norton, 1996 cite in Abran & Buglione, 2003) as a multidimensional framework for describing, implementing and managing strategy at all levels of an enterprise by linking, through a logical structure, objectives, initiatives and measures to an organization's strategy. The resulting scorecard provides details of an enterprise view of an organization's overall performance: it complements the financial measures with other Key Performance Indicators around customer perspectives and internal business processes, and around organizational growth, learning and innovation. It must be noted that BSC is not a static list of measures, but rather a logical framework for implementing and aligning complex programs of change, and, indeed, for managing strategy-focused organizations. In summary, a scorecard is to be used to facilitate the translation of strategy into action (Abran & Buglione, 2003). The four basic perspectives of the original BSC are: Financial., Customer, Internal Processes, Learning and Growth (Abran & Buglione, 2003). Fig. 1 shows this model of BSC.

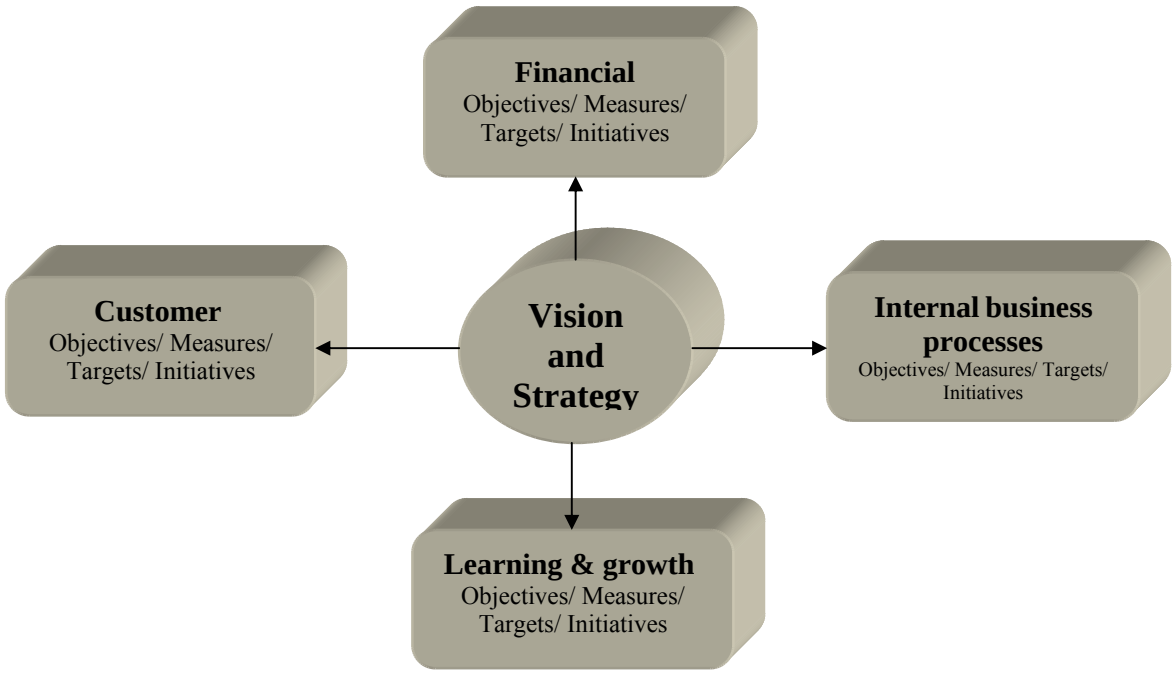

Fig. 1. Balanced Scorecard: original perspectives (Lynch, 1995)

Thus, the main research hypotheses are as follow:

H_1: There are the significant positive relationships between "Financial" perspective of BSC and basic dimensions of CRM including: people, process and technology.

H_2: There are the significant positive relationships between "Customers" perspective of BSC and basic dimensions of CRM including people, process and technology.

H_3: There are the significant positive relationships between "Internal Processes" perspective of BSC and basic dimensions of CRM including people, process and technology.

H_4: There are the significant positive relationships between "Learning and Growth" perspective of BSC and basic dimensions of CRM including people, process and technology.

3. Research conceptual framework

According to the research purpose, questions, also literature reviews, and background of study, in this section the research conceptual framework has been presented. This model provides the basic relationships between CRM essential dimensions, according to a model proposed by Chen and

Popovich (2003), and BSC main aspects. These relationships were highlighted the important dimensions of CRM strategy performance and evaluate these dimensions based on the BSC. Fig. 2 shows this model and its relationships.

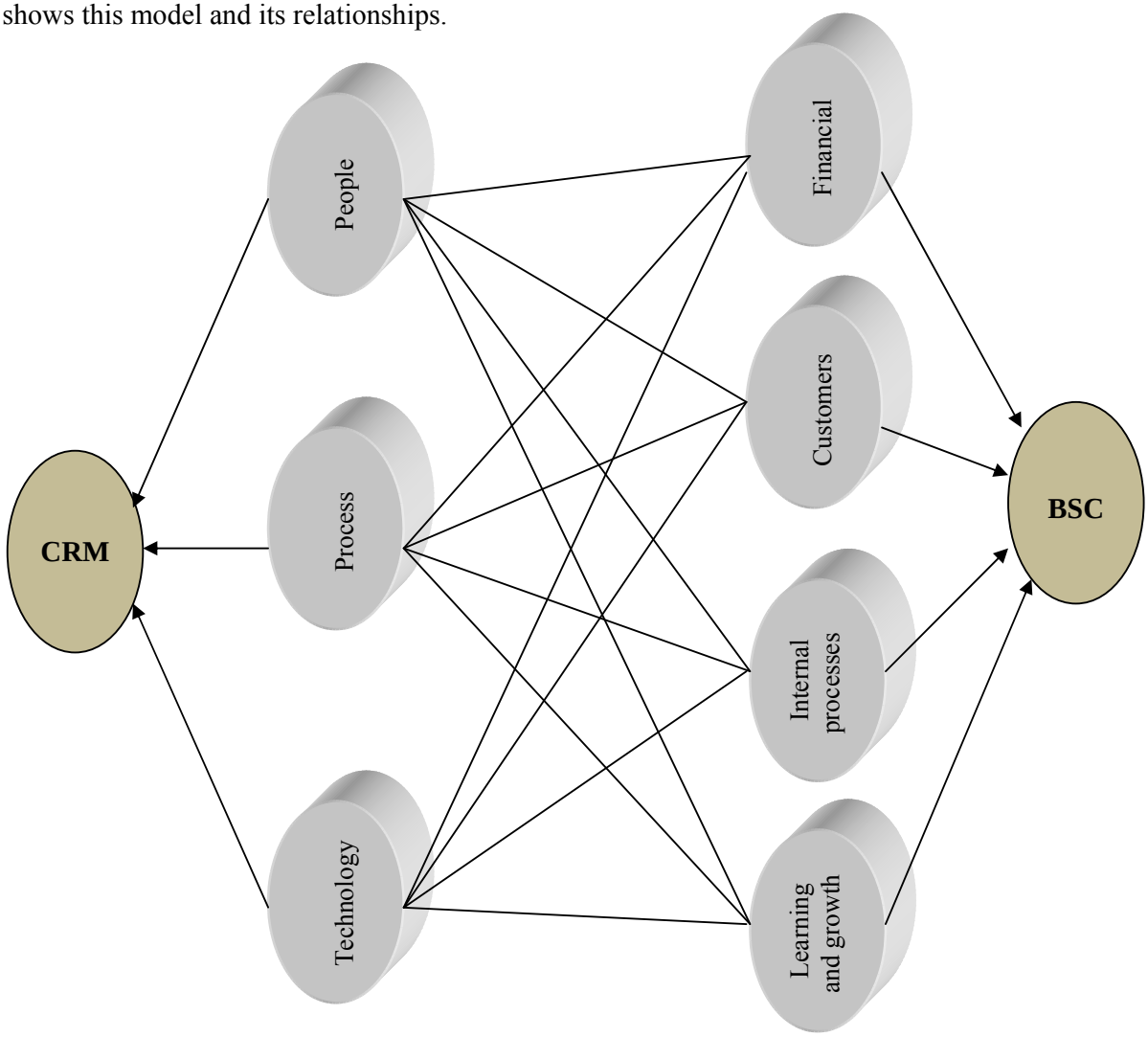

Fig. 2. The research conceptual framework

4. Methodology

4.1. Research method

From the purpose point of view, this study is an applied–developmental research and based on information collection method is classified as a descriptive one. Descriptive study is a set of methods to describe studied circumstances or phenomena. Descriptive study is used to understand current circumstances better and help in decision making process. For doing this study, cross-sectional survey is used to describe research variables and explain the relations between them and construct the research conceptual framework.

4.2. Statistical population and sample

The study consisted of 350 customers of one of the biggest commercial banks in Iran who participated in the survey.

4.3. Data collection

The basic tool for data gathering in this research was questionnaire. Also the most important methods of collecting data in this study are as below:

1) *Documentary studies*: document sources, articles, required books and internet were used in this part in order to collect information about theoretical base and research literature and also to identify the basic dimensions of each of the BSC and CRM variables and constructing the research conceptual framework.
2) *Field Studies*: in this part in order to collect data and information so that analyze and test the basic research conceptual framework, questionnaires were used.

Also for data analysis the SPSS18.0 and LISREL8.7 software were used and according to software basic and related statistical tests were defined and then were run.

4.4. Validity and reliability

Validity and reliability are two necessary features for every measuring material such as questionnaire because these materials should analyze data and provide final conclusions for researchers.

4.4.1. Validity

To sum up, validity means that a measuring material is used to measure the characteristics. In this research to confirm the validity of the research's questionnaire, the Factor Analysis was used. For questionnaire of this research there were 28 questions that after factor analysis, common amounts of all items were above the 0.5 and remained in the analysis. Table 1 shows the KMO of Sampling Adequacy for this research, Sig and Bartlett's Test of Sphericity which all demonstrated that research is so appropriate and valid.

Table 1
Results of factor analysis test for validity of the research

Statistic of the Test	KMO of Sampling Adequacy	Bartlett's Test of Sphericity	df	Sig
Items of questionnaire	0.803	4533.902	288	0.000

4.3.2. Reliability

To meet the reliability confirmation in this research, the Cronbach's alpha was calculated, which yielded 0.991 for reliability and it was 0.871 for the case and they are well above the minimum acceptable ratio. A questionnaire with 24 questions was used for data collection. Questions were evaluated by the Likert 5-choice measurement.

5. Analysis

In this section of paper using both SPSS and LISREL appropriate and related tests have been used. To measure the relationship between each perspectives of BSC and basic dimensions of CRM, Correlation test of Spearman coefficient has been used. Then using regression the standard Beta (β) for each of the relationships illustrated in the conceptual framework has been tested. Also Structural Equation Modeling (SEM) for measure the whole conceptual framework of research has been used.

5.1. Measuring the Hypotheses

In order to measure the hypotheses and determine the relationship between main variables of the research the Spearman coefficient has been used. Results of this test showed that there were significant and positive relationships between four basic perspectives of BSC and three dimensions of CRM including: people, process and technology. This demonstrated that four basic perspectives of BSC were closely related to three basic dimension of CRM and also it was illustrated that

perspectives of BSC could be evaluated based on these basic dimensions of CRM and CRM could predict the perspectives of the corporation correctly.

Table 2
Results of Spearman correlation test for basic variables

	people	process	technology	financial	customers	Internal Processes	Learning & Growth
people	1						
process	.576**	1					
technology	.654**	.468	1				
financial	.614**	.506**	.602**	1			
customers	.721**	.409	.816**	.467	1		
Internal Processes	.686**	.639**	.560	.538	.535	1	
Learning & Growth	.736**	.631**	.558**	.409	.625**	.729**	1

In this section, to achieve the standardized Beta coefficients of the conceptual framework the regression test has been implemented. Table 3 shows the model summary. As clearly obvious, the model was completely appropriate to show the Beta coefficients for all of the relationships inside the conceptual framework of research.

Table 3
Model Summary based on the Regression test analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.876[a]	0.767	0.755	1.77802

a. Predictors: (Constant), technology, process, people

Based on the determination the validity of the model summarized in the Table 4, standardized Beta coefficients for all of the relationships inside the conceptual framework of the research could be analyzed as a basis to decide about the research model.

5.2. Structural Equation Modeling (SEM)

In order to run the basic conceptual framework in the study, the Structural Equation Modeling (SEM) has been used and this model has been run using LISREL8.7. In this model basic perspectives of BSc and basic aspects of CRM have been analyzed. Results show that the model of this study was highly appropriated to present the relationship between basic variables of the study and also between dimensions of basic variables. Fig. 4 shows the SEM results for the model of this research.

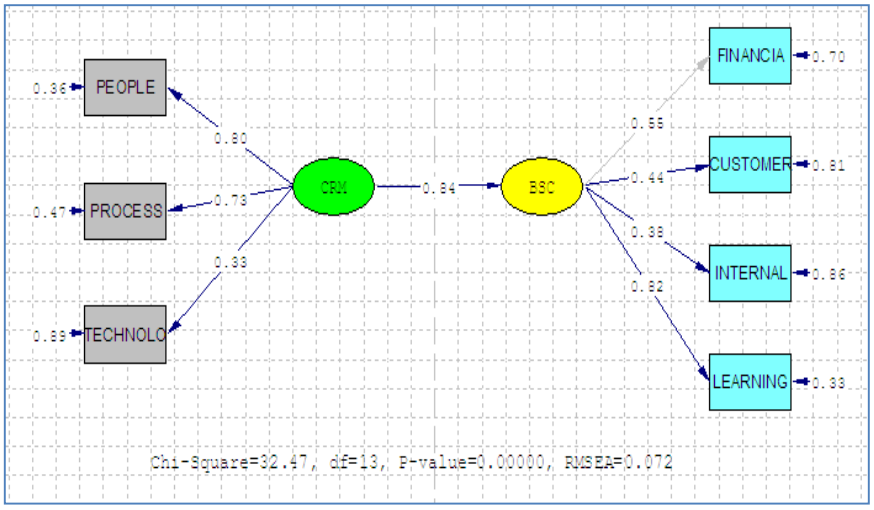

Fig. 4. Standardised Solutions of SEM for basic dimensions of the conceptual framework of research

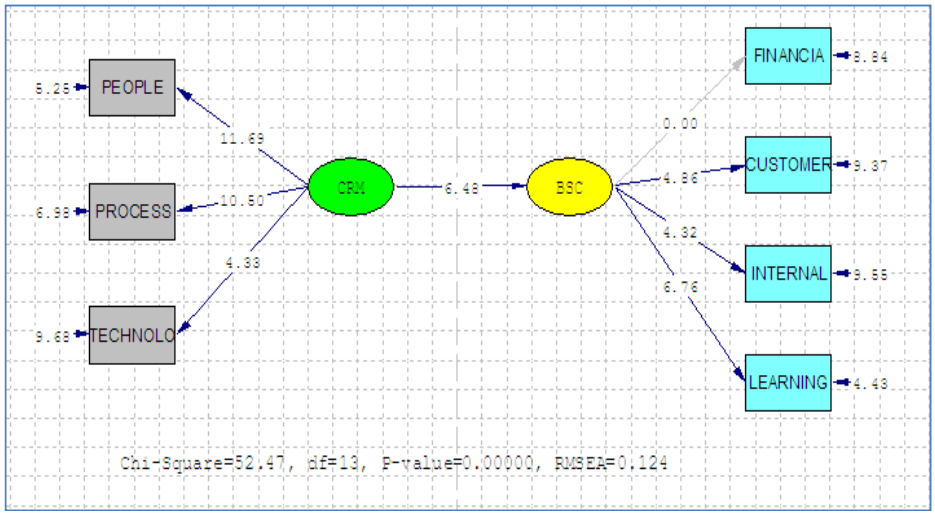

Fig. 5. T-Value amounts of SEM for basic dimensions of the conceptual framework of research

Also Table 4 shows the results of fitness the model of SEM for basic dimensions of the conceptual framework of research. As obvious from the table this model is completely fit to present the relationships between dimensions of CRM and BSC.

Table 4
Indices of Fitness for Structural Model of research

Structural model	χ^2	df	p	χ^2/df	RMSEA	CFI	GFI	AGFI	RMR
Research conceptual framework	32.47	13	0.000	2.49	0.072	0.91	0.88	0.76	0.096

6. Conclusion

This paper aimed to investigate the CRM analysis based on the BSC basic perspectives. In this study, CRM main dimensions included as People, Process and Technology based on the existing model in the literature (Chen & Popovich, 2003). Required data have been gathered from the one of the biggest commercial banks inside Iran. This study consisted of 350 customers that participated in the survey.

Results of data gathering associated with the basic conceptual framework of research demonstrated that main perspectives of BSC model that consisted of: Financial, Customers, Internal Processes and Learning and Growth that are the basic perspectives of any organization or firm were positively and significantly related to the CRM main dimensions. On the other word, financial, customers, internal processes and learning and growth perspectives of the studied commercial bank were greatly could be evaluated based on the CRM dimensions.

Structural equation modeling of conceptual framework showed that the correlation coefficient between CRM and BSC was around 0.84 that was very great amount for relationship between these two basic variables in this study. Also based on the standardized Beta coefficient of the conceptual model we learned that all relationships coefficients were above the average (0.50) and were highly acceptable.

It is clearly inferred from the model that BSC perspectives are valid predictors for the evaluating the CRM strategy of the bank. So, if CRM strategy will be successfully implemented then all basic dimensions of the bank included in BSC model will increased and better performed.

References

Abran, A. & Buglione, L. (2003). A multidimensional performance model for consolidating Balanced Scorecards. *Advances in Engineering Software*, (34), 339–349.

Anonymous (2000). CRM Power 2000. *National post*, September 5, El-E17.

Bassioni, H. A., Price, A. D. F., & Hassan, T. M. (2005). Building a conceptual framework for measuring business performance in construction: an empirical evaluation. *Construction Management and Economics,* 23(5), 495-507.

Battista, P., & Verhun, D. (2000). Customer relationship management: The promise and the reality. *CMA Management*, 74(4), 34-37.

Brown, S.M. (2000). Searching for effective CRM. *Enterprise Systems Journal.,* 15(8), 40-43.

Butler, S. (2000). Changing the game: CRM in the e-world. *The Journal of Business Strategy*, 21(2), 13-14.

Butler, S. (2000). Changing the game: CRM in the e-World. *The Journal of Business Strategy*, 21(2), 13-14.

Chen, I. J., & Popovich, K. (2003). Understanding customer relationship management (CRM): People, process and technology. *Business Process Management Journal.,* 9(5), 672-688.

Davis, S., & Albright, T. (2004). An investigation of the effect of the balanced scorecard implementation on financial performance. *Management Accounting Research,* 15(2), 135–153.

Doolen, T., Traxler, M., & McBride, K. (2006). Using scorecards for supplier performance improvement: case application in a lean manufacturing organization. *Engineering Management Journal.,* 18(2), 26-34.

Epstein, M.J., & Manzoni, J.F. (1997). *The Balanced Scorecard and Tableau de Bord: a global perspective on translating strategy into action.* INSEAD Working Paper 97/63/AC/SM.

Fluss, D. (2000). The future of E-Service is E-CRM. *Inside Gartner Group*, 1-3.

Fusaro, L. (1999). From a market of millions to a million markets of one. *Canadian Manager*, 24(4), 18-28.

Galimi, J. (2000). *Strategic Analysis Report: CRM IT Requirements and Strategies for Payer Organizations*. Gartner Group.

Hahnke, J. (2001). The Critical Phase of the CRM Lifecycle. Without CRM Analytics, your customer won't even know you're there. www.hyperion.com.

Hong, J., & Suh, E. (2005) .A Strategic Model for Consolidating BSC Measures Based on the Desirability Function: A Case Study of a Website Company. *GESTS Int'l Transaction on Computer Science and Engineering,* 18(1), 99-110.

Jonghyeok, K., Euiho, S., & Hwang, H. (2003). A model for evaluating the effectiveness of CRM using the Balanced Scorecard. *Journal of Interactive Marketing,* 17(2), 5-19.

Johnson, A.M. (1999). The customer who would be king. *CIO*, 12(21), 182-186.

Kagioglou, M., Cooper, R., & Aouad, G. (2001) Performance management in construction: a conceptual framework. *Construction Management and Economics,* 19(1), 85-95.

Kaplan, R.S., & Norton, D.P. (1996). *The Balanced Scorecard: Translating Strategy into Action.* Harvard Business School Press.

Kaplan, R. S., & Norton, D. P. (1996). Using the balanced scorecard as a strategic management system. *Harvard Business Review*, 75-85.

Kaplan, R. S., & Norton, D. (1992). The balanced scorecard measures that drive performance. *Harvard Business Review,* 70(1), 71–79.

Lawrie, G., & Cobbold, I. (2004). Third-generation balanced card: Evaluation of an effective strategic control tool. *International Journal of Productivity and Performance Management,* 53(7), 611–623.

Lo, T., Wong, P. S. P., & Cheung, S. O. (2006) Using balanced scorecard (BSC) approach to measure performance of partnering projects. *Surveying and Built Environment,* 17(1), 45-57.

Lynch, R., & Cross, K. (1995). *Measure up!*. 2nd ed. Blackwell Publications.

Mazo, M. (2000). *Management Update: The Benefits of Extending the Contact Center to the Web*. Inside Gartner Group, pp. 1-4.

Mitchell, P.J. (1998). Aligning customer call center for 2001. *Telemarketing and Call Center Solutions*, 16(10), 64-69.

Mohamed, S. (2003). Scorecard approach to benchmarking organizational safety culture in construction. *Journal of Construction Engineering and Management,* 80-88.

Neson, S, & Breg, T. (2000). *Customer Relationship Management: An overview*. Gartner Group.

Pinero, C. J. (2002). The balanced card: An incremental approach model to health care management. *Journal of Health Care Finance,* 28(4), 69–80.

Puschmann, T., & Rainer, A. (2001). *Customer Relationship Management in the Pharmaceutical Industry*. Proceedings of the 34th Hawaii International Conference on system Sciences.

Sheridam, N. (1999). Mining for Gold. *Communication International.,* 26(9), 51-54.

Sodano, A. (2000). Leveraging CRM to build better products. *National Underwriter, Cincinnati*, 104(26), 23-27.

Wong, F. W. H., Lam, P. T. I., & Chan, E. H. W. (2009). Optimizing design objectives using the Balanced Scorecard approach. *Design Studies,* (30), 369-392.

Wu, H.Y., Tzeng, G.H., & Chen ,Y.H. (2009). A fuzzy MCDM approach for evaluating banking performance based on Balanced Scorecard. *Expert Systems with Applications*, (36), 10135–10147.

Wa, K., & Li, P. (2001). *The critical success factors of customer relationship management (CRM) technologies initiatives* (Doctoral Dissertation). Retrieved from ProQuest dissertations and theses database.

Winer, R. S. (2001). A Framework for Customer Relationship Management. *California Management Review*, (43), 89–105.