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Investigating the Relationship between Customer Relationship Management (CRM) Information Systems and Performance of Economic centers; case study: Bank Parsian

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Abstract
In the information and communication era, management information systems play an undeniable role in organizations. Bank Parsian is a Iranian banking and financial services company, which has a network of 273 banking branch, known as the largest Iranian private bank. This research examines the gaps in customer relationships systems in Bank Parsian based on characteristics of management information system and in this study tries to answer this question "is there a significant relationship between customer relationship management (CRM) information systems and performance of Bank Parsian? The study place is the territory between the employees of Parsian Bank in Tehran. The study was conducted for 6 months in 2015 and the population is consisted of all managers and experts. This study conducts in Parsian Bank, which the number of employed managers and experts about 168 people estimated. In this study, simple random sampling was used and sample size was determined using Cochran formula. The sample was calculated according to confidence level 95% and probability of error 5% and the population size was 168, the sample size is 117 people. The results showed there is a significant relationship between customer relationship management (CRM) information systems and internal performance and process performance and financial performance in Parsian Bank. As well as there is a significant relationship between customer relationship management (CRM) information systems and performance in Parsian Bank.

Key words: *Parsian Bank, management information systems, internal performance, financial performance, process performance, customer relationship systems*

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Introduction

Nowadays, customer relationship management information systems is developed with analysis technology, customer relationship comprehensive information, multi-channel communications and person to person interactions in order to provide customized products and services to every segment of the market (Akhavan, 2006: 23). In the information and communication era, management information systems play an undeniable role in organizations. On the other hand, in the challenging environment of the new millennium and competition among organizations and companies, focus on the tasks of customer relationship management is one of enhancing criteria for success of performance in the organizations. The activities of customer relationship management need to have the right information at the right time. The activities included in the customer relationship management each possess its data and information flow and increase their volume and manager's need to appropriate information at different levels of the organization, necessary to organize and create the correct system for that is important. Management information system by producing, organizing, storing, and distributing information to the organization's manager at different levels of decision-making, used as a very valuable tool. Therefore, such an organization should be created information systems and support them using the organization's strategy (Rahmani, 2014: 65).

Bank Parsian is an Iranian banking and financial services company, which has a network of 273 banking branch, known as the largest Iranian private bank. Bank Parsian has started its activities as the second largest Iranian private bank in 2001. The bank received revenue of £ 101 billion in fiscal year 2012 and ranked in the eighth of the biggest companies in Iran. Bank Parsian considered the fourth largest Iranian bank after Bank Melli, Bank Mellat, and Bank Maskan based on the annual income. Last registered capital of the Bank 1. 320 billion is declared. In this study, it tries to answer this question "is there a significant relationship between customer relationship management (CRM) information systems and organizational performance of Bank Parsian?

This research examines the gaps in customer relationships systems in Bank Parsian based on characteristics of management information system because as long as we are not aware of the status quo cannot achieve a better situation.

Strategies presented in this study can help to eliminate weaknesses of performance in Bank Parsian and providing useful and valuable information to practitioners and policy makers in Bank Parsian. The importance and necessity of this research include:

1.Lack of attention to customer relationship management information systems losses performance of Bank Parsian;

2.If customer relationship management information systems improved in Parsian Bank, it can be effective in qualitative improvement of the services in the bank.

In line with this research, Hasangholipour et al (2012) conducted a study entitled "An evaluation model for customer relationship management process in the private commercial banks in the country". In this study, a qualitative approach using grounded theory, a model provided for evaluating the performance of customer relationship management that eliminates the shortcomings of existing models, with a comprehensive and systemic approach, tangible and intangible aspects of customer relations were evaluated as process in the private commercial banks in the country. Finally, after analyzing and comparing the developed model, suggestions for bank managers and future researchers in this field is presented.

Haji Karimi and Mansourian (2012) conducted a study as "investigating and explaining the role of customer knowledge management in improvement of organizational performance". To test the hypotheses and research conceptual model a multivariate regression analysis

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and SPSS software is used. The results showed that receive data; knowledge development and customer relationship management affects the improvement of organizational performance. In addition, data processing influence on development of customer knowledge and development of knowledge affects the receiving data. On the other hand, data processing on customer knowledge development and knowledge-based development affects the data received. The research showed in Bank Tejarat receiving data on customer data processing and data processing subsequently affects the improving organizational performance. Kim and Kim (2007) with a review of literature and research background and in-depth interviews with experts and professionals in this field have developed balanced scorecard model for the customer relationship management. They also using the analytic hierarchy process to evaluate and prioritize the factors to demonstrate the applicability of their model, testing it in one of the famous commercial banks in South Korea. This operational and applied model had relative advantage compared to other models but still confront shortcomings of the lack of theoretical and integrity support.

Organizational performance in external dimension of variable includes organizational effectiveness while organizational effectiveness in addition to external factors encompasses domestic factors as well. The importance of organizational performance in academic studies in application areas and in the field of management rewards and survival of organizations, leads to sufficient knowledge on the structure, and how to measure it and understanding the factors that can affect it is very importance (Fathi et al., 2007: 265).

Overall performance of the organization, in three dimensions is generally identifiable, that is:

1.Financial Performance: the dimension includes performance on market, such as profitability, growth of stock returns rates;

2.Process Performance: This dimension includes the quality and process efficiency in doing things.

3.Internal performance: this dimension related to people abilities such as the ability, satisfaction and creativity of employees (Carolina López et al., 2011).

According to the mentioned above for evaluation of the interaction of these two variables, the model is suggested in Figure 1.

Research Hypotheses

The main hypothesis

There is a significant relationship between customer relationship management information systems and performance of Bank Parsian (financial performance, process performance, internal performance).

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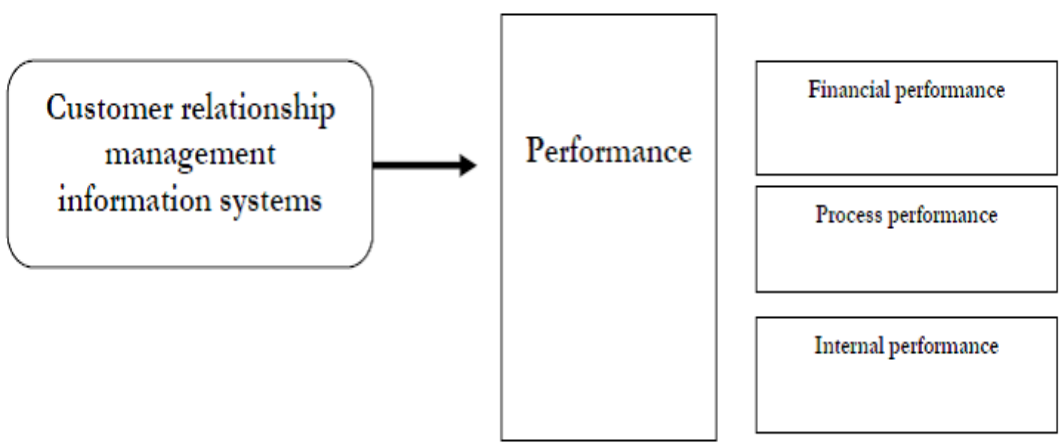

Fig 1. Conceptual Model proposed (derived from research Carolina López et al., 2011)

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Sub hypothesis

1. There is a significant relationship between customer relationship management information systems and financial performance of Bank Parsian.
2. There is a significant relationship between customer relationship management information systems and process performance of Bank Parsian.
3. There is a significant relationship between customer relationship management information systems and internal performance of Bank Parsian

Research Methodology

The research in terms of type and purpose of the study, according to the tangible results is practical, and in other view is a descriptive study, it intended to variables such as the status quo, as it is reported. This study in term of method is a cross-sectional (survey) research. The study place is the territory between the employees of Parsian Bank in Tehran. The study was conducted for 6 months in 2015.

Sampling and sample size

The population is consisted of all managers and experts. This study conducts in Parsian Bank, which the number of employed managers and experts about 168 people estimated. In this study, simple random sampling was used and sample size was determined using Cochran formula. The sample was calculated according to confidence level 95% and probability of error 5% and the population size was 168, the sample size is 117 people.

Data collection tools

To data collection both library and field methods was used.

A) Library method: review of books, articles and other research makes researchers more familiar with the topic, objectives and aspects of it. With this feedback, the results of scientific assessed and appropriate proposals will be presented. Also in order to completing the research background and review of domestic and foreign research by visiting libraries and study materials and books and also review of scientific- research papers contained in the Quarterly and monthly magazines in the field of research and using the Internet required data gathered.

B) Field methods: In this study, two questionnaires to measure customer relationship management information systems variables and performance of the bank based on three dimensions (internal, process and financial) are used.

Reliability and Validity

In this study, in order to high valid questionnaire, it was tried in the early design questions, the questionnaire structure and how to use sentences, has any ambiguity. After the initial design, to increase the questionnaire validity, academic experts' opinions were used. In addition, according to the population, including experts related to research, it is hoped that most of them to be familiar with this technique. In this study, the importance questionnaire of criteria completed by experts, and in order to test the questionnaire reliability Cronbach's alpha coefficient was used. According Nunnally (1978), the result will be valid if Cronbach's alpha is larger than 0.7. At first, 30 questionnaires randomly selected and completed by sample and SPSS software calculates reliability coefficient using Cronbach's alpha test.

Data analysis method

In the data analysis section, the data that was obtained from the questionnaires were using SPSS software in two parts: descriptive and inferential analysis. In the descriptive part operations related to demographic statistical sample using SPSS software performed. The tables and charts that contain mean, frequency, percentage and cumulative percent..., in this section will be used. In the inferential part, testing research hypotheses using correlation and regression tests will be conducted.

Data Analysis

To analyze the collected data statistical analysis in both descriptive and inferential statistics is proposed. First, by using descriptive statistics, situational awareness and demographic

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characteristics of respondents achieved and in inferential statistic, the status of variables by central tendency and dispersion and t tests will be discussed. In the end, research hypotheses using the regression test will be discussed.

Demographic statistics

Gender

In Table 1 show frequency and frequency percentage of respondent's gender. The most frequency related to male gender, which formed 63% of the samples.

Level of Education

In Table 2 show the frequency and frequency percentage of respondent's education. Most frequency is the bachelor's degree comprises 66% of the samples.

Age

Table 3 shows the frequency and frequency percentage of respondent's age. The highest frequency is 31 to 35 years.

Work experience

Table 4 shows the frequency and frequency percentage of respondents work experience they provided. The highest frequency is 6 to 10 years.

Inferential statistics

Research variable

In Table 5, central tendency and dispersion

Gender	Frequency	Frequency %
Man	74	63
Woman	43	37

Table 1. Frequency of respondent's gender

Level of Education	Frequency	Frequency %
Diploma and lower	5	4
Associate Degree	11	9
Bachelor	77	66
Master's and more	24	21

Table 2. Frequency of respondents' education

Age	Frequency	Frequency %
20 to 25	7	6
26 to 30	32	27
31 to 35	56	48
above 35	22	19

Table 3. shows the frequency of respondents' age

Work experience	Frequency	Frequency %
5 years or less	11	9
6 to 10 years	77	66
11 to 15 years	15	13
More than 15 years	14	12

Table 4. shows the frequency of respondent's work experience

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Parameters	Number	Average	Standard deviation
To promote organizational tasks for the further expansion of relations with customers	117	3.2479	1.15897
The qualitative and quantitative improvement of staff capabilities to develop more relationships with customers	117	3.3248	1.21647
Attention to create solutions in accelerating banking services	117	2.5983	1.06722
Staff access to coherent information base for further expansion of relations with customers	117	3.0085	1.23523
Support staff activities to provide a wide range of customer service	117	2.1282	1.03005
New technologies are used to processing huge volumes of customer data.	117	2.0256	.80367
Staff access to comprehensive information about the customer's hobbies, interests and preferences	117	2.4103	1.16821
Provide extensive information to help customers take their favorite media.	117	2.1538	.81595
Interactions between customers and banks promote exchange of information and transactions	117	3.0171	1.11404
A codified system for strategic decision making in the organization	117	2.0513	.76391
managers have sufficient mastery on matters related to information technology	117	3.0427	1.27572
Efficient use of consultants to managers to make strategic decisions	117	2.1368	.86009
Decision support systems in the organization	117	2.2564	.93913
There are support systems for senior managers in the organization	117	2.7607	1.09584
Managers have the creative power to make unexpected decisions	117	2.8632	1.29924
A data collection system for making strategic decisions at the discretion of senior manager	117	3.5043	1.06370

Table 5. Central tendency and dispersion parameters of customer relationship management information systems variable

parameters of customer relationship management information systems variable have reported.

In Table 6 Central tendency and dispersion of parameters in performance variable have been reported.

To check the status of variables t-test is used. Table 7 central tendency and dispersion of

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Parameters	Number	Aver-age	Standard deviation
How much is complaints deal in the bank?	117	1.9402	.78004
How much is development of new meth-ods in the bank?	117	2.5897	1.09980
How much is management initiatives in the bank?	117	2.3846	.95454
How is the quality of staff in the bank?	117	2.0855	.97885
What is the scientific literacy of director in the bank?	117	2.5299	.97000
What is taking responsibility for providing services?	117	3.0256	1.19237
What is the optimal use of resources?	117	3.3077	1.16309
To what extent exists harmonized assess-ment of the performance in the banks?	117	1.9316	.72785
What is importance of evaluation of the result in the bank?	117	3.4872	1.22203
How much is importance given to the com-pensation of employees in the bank?	117	2.3077	1.02941
To what extent is earnings given in bank?	117	2.4017	1.16011
To what extent will pay attention banks to the performance?	117	2.4017	1.02604
To what extent is costs control in the bank?	117	2.7179	1.08156

Table 6. Central tendency and dispersion of parameters in performance variable

Variables	Number	Average	Standard deviation
Customer relationship management information systems	117	2.6581	.40783
Internal performance dimension	117	2.3060	.51164
Process performance dimension			
	117	2.9380	.62964
Financial performance dimension	117	2.4573	.62912
Performance	117	2.5671	.52273

Table 7. The central tendency and dispersion

variables have reported.

To check the status of variables Simple t-test is used. In this section, we first refer to the column level of significance. If the amount smaller than 0.05 this test was significant in that variable and there is a significant difference with the average value of 3. If the value of the mean difference in this case is positive, it shows middle to upper statues of variable and in the case is negative show middle to lower statues of variable. If the significant level is larger than 0.05 indicates no significant difference in the amount of 3, and it show the average statues.

According to Table 8 it is determined due to significant level is smaller than 0.05 and there

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	T static	Degrees of freedom	Significance level	Average difference	95% confidence level	
					Minimum	Maximum
Customer relationship management information systems	-9.068	116	.000	-.34188	-.4166	-.2672
Internal performance dimension	-14.672	116	.000	-.69402	-.7877	-.6003
Process performance dimension	-1.065	116	.289	-.06197	-.1773	.0533
Financial performance dimension	-9.331	116	.000	-.54274	-.6579	-.4275
Performance	-8.958	116	.000	-.43291	-.5286	-.3372

Table 8. Research variable

is a negative difference between customer relationship management information systems, internal processes, financial performance and performance status are middle to lower. The process performance variable is in the middle status due to significant level greater than 0.05.

Variables Normality

Before getting to the stage of hypothesis testing, it is required of the normality of variables to be informed. According to normal or not normal variables, non-parametric and parametric tests e.

To test normality of the components of the model Kolmogorov-Smirnov used. If the value of the significant level is greater than value of error 0.05 distribution is normal.

Due to the larger significance level of 0.05 it is determined all variables are normally distributed. Therefore, parametric tests are used to test hypotheses.

Testing hypotheses

* There is a significant relationship between customer relationship management information systems and internal performance of Bank Parsian; In order to examine the study hypothesis a simple linear regression analysis was used. As seen in the table below significance level was equal to 0.000 and less than 0.05 and it demonstrated that there is a linear relationship between customer relationship management information systems and internal performance of Bank Parsian. Comparative R-value is equal to 0.366, which represents 37% changes on internal performance resulted by customer relationship management information systems. Correlation coefficient is equal to 0.609, which represent the role of customer relationship management information systems in predicting dependent variable of internal performance.

The regression equation written as follows:

customer relationship management information systems = 0.765 + 0.274 internal performance; Due to positive sign of beta coefficient, it can be said that the relationship between these two variables is positive. The rise of one increased another. According to the results of analysis, this hypothesis is proved.

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a	Test statistics	significance level	Result
Customer relationship management information systems	.844	.474	Normal
Internal performance dimension	.929	.354	Normal
Process performance dimension	.683	.740	Normal
Financial performance dimension	.893	.402	Normal
Performance	.842	.478	Normal

Table 9. Kolmogorov - Smirnov test

	Non-standard	Standard	T static	Significance level	
	Beta	standard error	standard error		
Constant	.274	.249		1.097	.275
Customer relationship management information systems	.765	.093	.609	8.244	.000
ANOVA significant level	0.000	R factor	0.609	Comparative R value	0.366

Table 10. Regression test for the first hypothesis

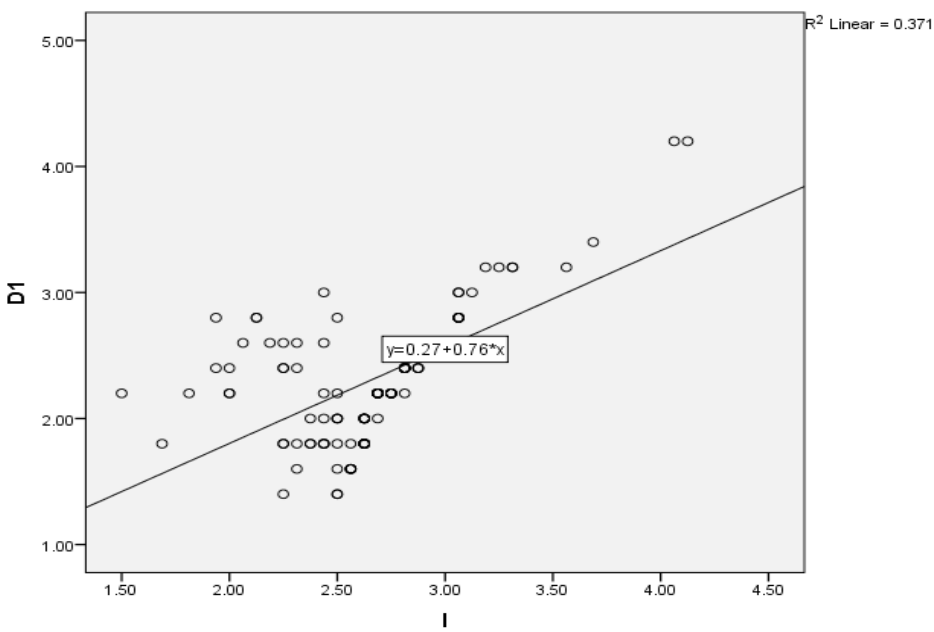

Figure 2. scatter plot of the first hypothesis

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	Non-standard		Standard	T static	Significance level
	Beta	standard error	standard error		
Constant	.948	.339		2.800	.006
customer relationship management information systems	.749	.126	.485	5.945	.000
ANOVA significant level	0.000	R factor	0.485	Comparative R value	0.228

Table 11. Regression test for the second hypothesis

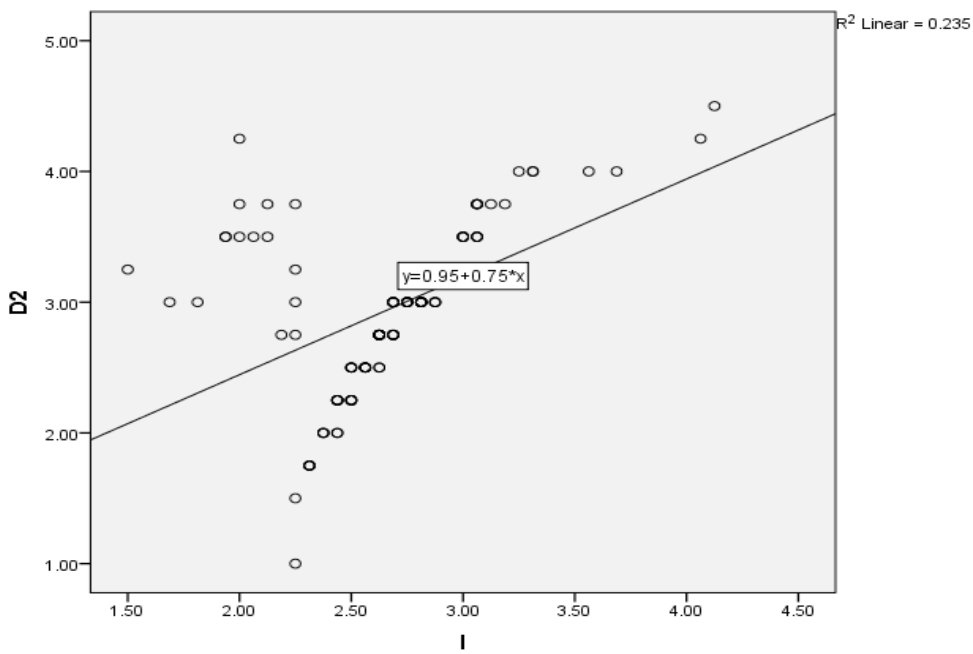

Figure 3. scatter plot of the second hypothesis

There is a significant relationship between customer relationship management information systems and process performance of Bank Parsian. In order to examine the study hypothesis a simple linear regression analysis was used. As seen in the table below significance level was equal to 0.000 and less than 0.05 and it demonstrated that there is a linear relationship between customer relationship management information systems and process performance of Bank Parsian. Comparative R-value is equal to 0.228, which represents 23% changes on process performance resulted by customer relationship management information systems. Correlation coefficient is equal to 0.485, which represent the role of customer relationship management information systems in predicting dependent variable of process performance.

The regression equation written as follows:

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customer relationship management information systems = 0.948 + 0.749 process performance; Due to positive sign of beta coefficient, it can be said that the relationship between these two variables is positive. The rise of one increased another. According to the results of analysis, this hypothesis is proved.

There is a significant relationship between customer relationship management information systems and financial performance of Bank Parsian. In order to examine the study hypothesis a simple linear regression analysis was used. As seen in the table below significance level was equal to 0.000 and less than 0.05 and it demonstrated that there is a linear relationship between customer relationship management information systems and financial performance of Bank Parsian. Comparative R-value is equal to 0.622, which represents 62% changes on financial performance resulted by customer relationship management information systems. Correlation coefficient is equal to 0.790, which represent the role of customer relationship management information systems in predicting dependent variable of financial performance.

	Non-standard		Standard	T static	Significance level
	Beta	standard error	standard error		
Constant	-.784	.237		-3.308	.001
customer relationship management information systems	1.219	.088	.790	13.838	.000
ANOVA significant level	0.000	R factor	0.790	Comparative R value	0.622

Table 12. Regression test for the third hypothesis

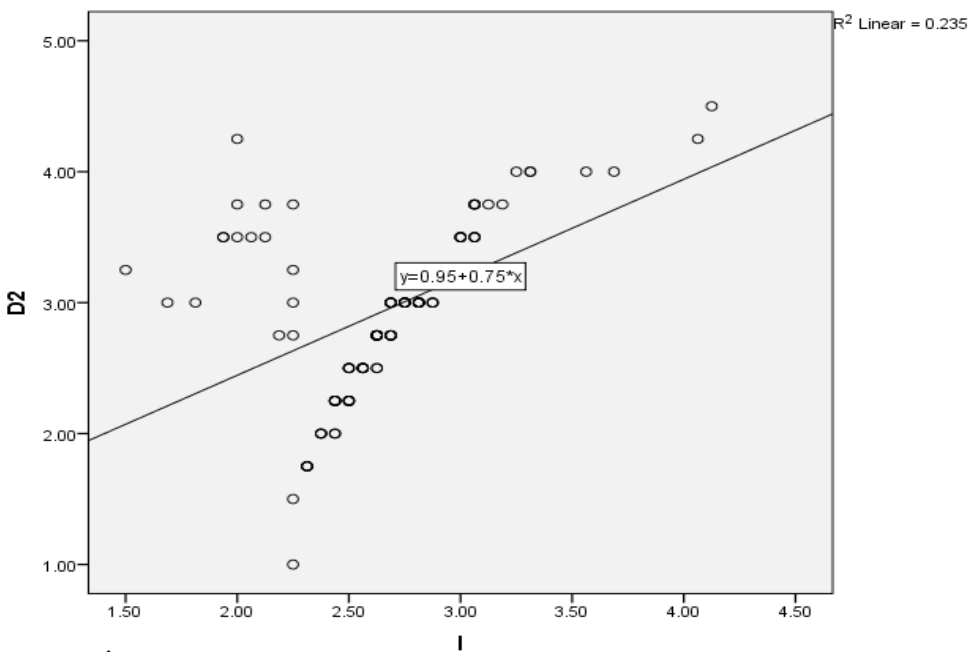

Figure 4. scatter plot of the third hypothesis

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The regression equation written as follows: customer relationship management information systems = -0.78 + 1.219 financial performance; Due to positive sign of beta coefficient, it can be said that the relationship between these two variables is positive. The rise of one increased another. According to the results of analysis, this hypothesis is proved. There is a significant relationship between customer relationship management information systems and performance of Bank Parsian. In order to examine the study hypothesis a simple linear regression analysis was used. As seen in the table below significance level was equal to 0.000 and less than 0.05 and it demonstrated that there is a linear relationship between customer relationship management information systems and performance of Bank Parsian. Comparative R-value is equal to 0.501, which represents 50% changes on performance resulted by customer relationship management information systems. Correlation coefficient is equal to 0.711, which represent the role of customer relationship management informa-

	Non-standard		Standard	T static	Significance level
	Beta	standard error	standard error		
Constant	.146	.226		.646	.520
customer relationship management information systems	.911	.084	.711	10.831	.000
ANOVA significant level	0.000	R factor	0.711	Comparative R value	0.501

Table 13. Regression test for the main hypothesis

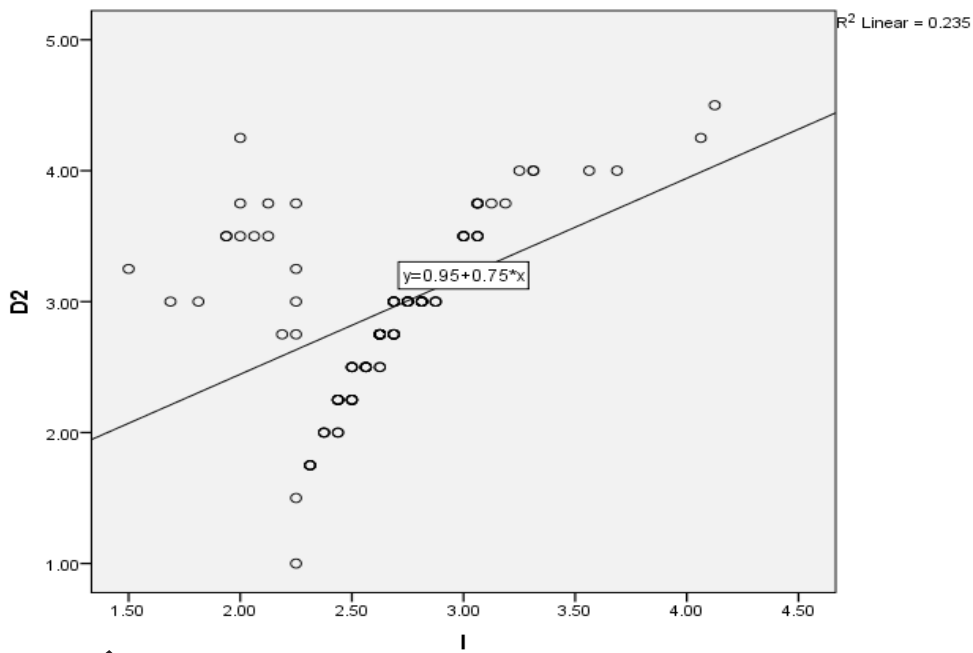

Figure 5. scatter plot of the main hypothesis

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tion systems in predicting dependent variable of performance.

The regression equation written as follows:

Customer relationship management information systems = 1.46 + 0.911 performance;

Due to positive sign of beta coefficient, it can be said that the relationship between these two variables is positive. The rise of one increased another. According to the results of analysis, this hypothesis is proved.

Conclusions and suggestion

First, the status of demographic statistics was discussed. The results showed that the most frequency related to male gender, which formed 63% of the samples.

In relation to respondent's education, the most frequency related to bachelor's degree which formed 66% of the samples as well as 4% diplomas and 9% associate degree, and 21% is master's degree or higher. In connection with age, the most frequency is 31 to 35 years. Also 6% was 20 to 25 years, 27% 26 to 30 and 19% is over 35. In connection with the work experience, most frequency related to 6 and 10 years which formed 66% of the samples, also 9% is 5 years or less, 13 % is 11 to 15 years and 12 % more than 15 years of service experience. After data processing by statistical software and tools, the following results were obtained, which can reject or confirm the hypotheses proposed in the research. The results showed:

There is a significant relationship between customer relationship management information systems and internal performance of Bank Parsian.

This hypothesis states that there is a direct relationship between customer relationship management information systems and internal performance of Bank Parsian. The research findings confirmed the hypothesis in relationship 0.609 with a significance level of less than 0.05. This result suggests that there is a significant relationship between customer relationship management information systems and internal performance of Bank Parsian.

There is a significant relationship between customer relationship management information systems and process performance of Bank Parsian.

This hypothesis states that there is a direct relationship between customer relationship management information systems and process performance of Bank Parsian. The research findings confirmed the hypothesis in relationship 0.485 with a significance level of less than 0.05. This result suggests that there is a significant relationship between customer relationship management information systems and process performance of Bank Parsian.

There is a significant relationship between customer relationship management information systems and financial performance of Bank Parsian.

This hypothesis states that there is a direct relationship between customer relationship management information systems and financial performance of Bank Parsian. The research findings confirmed the hypothesis in relationship 0.790 with a significance level of less than 0.05. This result suggests that there is a significant relationship between customer relationship management information systems and financial performance of Bank Parsian.

There is a significant relationship between customer relationship management information systems and performance of Bank Parsian.

This hypothesis states that there is a direct relationship between customer relationship management information systems and performance of Bank Parsian. The research findings confirmed the hypothesis in relationship 0.711 with a significance level of less than 0.05. This result suggests that there is a significant relationship between customer relationship management information systems and performance of Bank Parsian. The research results are consistent with previous results Haji Karimi and Mansourian in 2012, Doaee and Dabagh in 2010, Ardan Ebraham et al in 2009, Sachs and Sandho in 2008 and Kaltman et al in 2007.

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5.3 Research suggestion

The research results showed that customer relationship management information systems are associated with the performance of Bank Parsian. Hence, it is necessary to improve the performance of Bank Parsian, the components of customer relationship management information systems improved. In this regard, it is necessary to improve the organizational tasks in order to develop more relationships with customers given special attention. As well as qualitative and quantitative improvement of staff capabilities to develop more relationships with customers is essential. In this regard, educational courses are recommended. Customer relationship management courses at introductory and advanced levels, as well as courses for this course are to handle customer complaints. In this section, courses also use software applications for customer relationship management and data-mining techniques are recommended. It also established a mechanism system to employees' coherent information base for further expansion of relations with customers. The system is designed in such a way that consumers' personal data to be recorded as well as information related to customer performance will be included. As well as senior management support systems and decision support systems strengthened. You should also pay attention to the infrastructure. This infrastructure includes customer relationship culture, processes and structure infrastructure. In connection with the structure of the database, structure should be designed to facilitate the relationship process with the customer. In the field of cultural infrastructure must also be given to the development of customer-oriented bank and major investment banks have been treated in such a way that all his staff are responsible to the customer.

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