



INVESTIGATING THE RELATIONSHIP BETWEEN CUSTOMER RELATIONSHIP MANAGEMENT INFORMATION SYSTEMS AND THE PERFORMANCE OF PRIVATE BANKS

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ABSTRACT

In the information and communication age, the role of management information systems in different organizations is undeniable. This study examines the gaps in customer relationship systems in a private bank based on the characteristics of the management information management system, and in this study we seek to answer the question of whether the customer relationship management information system is related to organizational performance in the private bank. Does it make sense? The spatial scope of this research is among the employees of a private bank in Tehran province. The statistical population of this research includes all managers and staff experts. The present study will be conducted in a private bank, which is estimated to employ about 225 managers and staff experts. The sampling method in this study will be a simple random sampling method. In this study, the sample size was determined using Cochran's formula. The sample will be 132 people. The results showed that customer relationship management information systems have a significant relationship with the performance of internal performance, process performance, and financial performance of the private bank. Also, customer relationship management information systems have a significant relationship with the performance of the private bank.

Keywords: Private bank, Management information system, internal performance, financial performance, Process performance, Customer relationship systems

INTRODUCTION

Nowadays, customer relationship management information systems have been developed by using analysis technologies, comprehensive information on customer interactions, multi-channel communication, and person-to-person interactions to provide customized services and products to any market segment (Akhavan, 2006; İlhan *et al.*, 2022).

In the information and communication age, the role of management information systems in different organizations is undeniable. On the other hand, in the challenging environment of the new millennium and the field of competition between companies and organizations, one of the components of increasing success for the performance of organizations is focusing on customer relationship management tasks. Customer relationship management activities all need the right information at the right time. Each of the activities in customer relationship management has its data flow and information, and with the increase in their volume and the type of need of

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managers at different levels of the organization for appropriate information, the need to organize this and create the right system for it is important. The management information system can be used as a very valuable tool for producing, organizing, maintaining, and distributing information to the managers of the organization at different levels of decision-making. Therefore, an organization should be able to create such information systems and use them to support the organization's strategies (Rahmani, 2014; Liu *et al.*, 2022).

On the other hand, organizational performance is a broad combination of both intangible receipts, such as increasing organizational knowledge, and objective and tangible receipts, such as economic and financial results. Evaluating the performance of a business is one of the most important management agendas because the key to gaining continuous improvement is the ability to continuously determine and measure the performance of the organization. Several organizations have also realized the importance of continuous performance appraisal and use a variety of performance appraisal systems in the organization (Fernandes *et al.*, 2006; Mobeen & Dawood, 2022).

Customer relationship management information systems involve fundamental changes in the organization's business that will necessitate changes in human resources, processes, and technology. However, the correct use of these three factors is the basic condition for the success of an organization. In examining the application of this new approach in customer relations, it is inevitable to pay attention to the two basic points of its ease of use and people's resistance to this phenomenon (Rigby *et al.*, 2002; Cirik *et al.*, 2023).

In this study, we try to answer the question of whether the customer relationship management information system has a significant relationship with organizational performance in a private bank.

This study examines the gaps in customer relationship systems in a private bank based on the characteristics of the management information management system, because until we are aware of the current situation, there will be no way to achieve a better situation. The strategies presented in this study can help eliminate the weaknesses of private banks' performance and can provide useful and valuable information for private bank stakeholders and policymakers. The following can be mentioned as the importance and necessity of this research:

1. Not paying attention to customer relationship management information systems can cause a lot of damage to the performance of a private bank.
2. If the customer relationship management information systems in the private bank are improved, they can be used to improve the quality of the services of this car bank.

In conjunction with this research, Gholipour *et al.* (2012) did a study called Customer Relationship Management Process Evaluation Model in Private Commercial Banks. In this study, a model for evaluating the performance of customer relationship management is presented using a qualitative approach and the data theory method. It eliminates the shortcomings of existing models by taking a comprehensive and systematic approach to the visible and intangible dimensions of customer relations as a process in commercial banks. The private country evaluates. Finally, after assessing and comparing the constructed model, recommendations are provided to future bank managers and researchers in this field.

Haji Karimi and Mansoorian (2013) conducted a study entitled "Study and explanation of the role of customer knowledge management in improving organizational performance."



Multivariate regression analysis and SPSS software were used to test the hypotheses and conceptual model of the research. The results showed that data acquisition, customer relationship management, and knowledge development affect the improvement of organizational performance. Data acquisition, customer knowledge development, and data processing also affect customer relationship management. On the other hand, data processing affects the development of customer knowledge, and knowledge development affects the receipt of data. This study showed that in Tejarat Bank, receiving data affects the processing of customer data, and subsequent data processing improves organizational performance.

Also, Kim and Kim (2007) have developed a balanced customer relationship management scorecard model by thoroughly studying the thematic literature and the background of research and in-depth interviews with experts and professionals in this field. They also prioritized evaluation factors using hierarchical process analysis and tested it on a well-known commercial bank in South Korea to demonstrate the applicability of their model. This model has a comparative advantage in terms of operation and application compared to other existing models but still has the disadvantage of a lack of theoretical support and comprehensiveness (Taher *et al.*, 2022; Asar *et al.*, 2023).

The external component of the organizational effectiveness variable is part of organizational performance, whereas internal and external components are both part of organizational effectiveness. Gaining adequate knowledge of this structure, how to measure it, and the factors that can affect it is crucial due to the significance of organizational performance in academic studies and applied fields, as well as in the areas of managerial rewards and organizational survival (Fathi *et al.*, 2007).

In general, the performance of the organization can be identified in three general dimensions, which are:

1. Financial performance: This dimension includes performance in the market, for example, profitability, growth of stock returns, and
2. Process performance: This dimension also includes the quality and effectiveness of the work process.
3. Internal performance: This dimension is also related to the abilities of individuals, such as the capabilities, satisfaction, and creativity of employees (López-Nicolás & Meroño-Cerdán, 2011). According to the above, to investigate the effect of the two variables on each other, the following model is proposed in **Figure 1**.

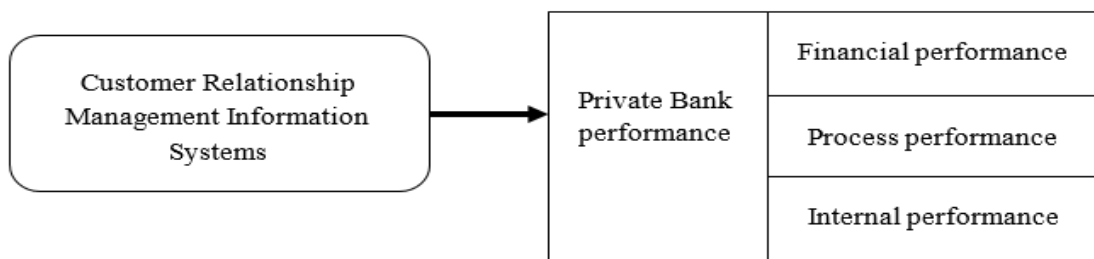


Figure 1. A Proposed Conceptual Model of Research (Adapted from Research by López-Nicolás & Meroño-Cerdán, 2011)

MATERIALS AND METHODS

The present study is applied research in terms of the type and purpose of the research, considering that it seeks tangible and practical results, and from another perspective, it is also descriptive research, because it intends to present some of the variables of the current situation as they are. The present study is a cross-sectional survey in terms of method. The spatial scope of this research is among the employees of the private bank of Tehran province. The temporal realm of this research will be conducted in 2015 for 6 months.

The statistical population of this research includes all managers and staff experts. The present study will be conducted in a private bank, which is estimated to employ about 225 managers and staff experts (Yudhawati & Yuniawati, 2021).

The sampling method in this study will be a simple random sampling method. In this study, the sample size was determined using Cochran's formula. The sample will be 132 people.

Both Library and Field Methods are used to Collect Information

- Library method: Studying books, articles, and research of others makes the researcher more familiar with the research topic, goals, and dimensions. And using these opinions, the research results are evaluated scientifically, and suggestions are made accordingly. Also, to complete the research background and review domestic and foreign research by referring to libraries and reviewing various materials and books, as well as reviewing scientific-research articles in journals, quarterly magazines, and periodicals in the field of current research, and using the Internet, the required information will be collected.
- Field method: In this research, two questionnaires have been used to measure the variables of customer relationship management information systems and bank performance based on three dimensions (internal, process, and financial).



In this study, to make the validity of the questionnaire appropriate, in the initial design of the questions, the structure of the questionnaire and how to use the sentences were unambiguous. After the initial design, to increase the validity of the questionnaire, the opinions of academic experts were used. Also, given that the statistical population of the study includes experts related to the research topic, it can be hoped that most of them are familiar with this technique. In this study, a questionnaire to assess the importance of the criteria was completed by experts, and Cronbach's alpha coefficient was utilized to assess the reliability of the questionnaire. According to Nonali (1978), if Cronbach's alpha is greater than 70, the result will be valid. For this purpose, initially, 30 questionnaires were completed by a randomly selected statistical sample, and the reliability coefficient of the questionnaire was evaluated by SPSS software using Cronbach's alpha test.

In the data analysis section, the data obtained from the implementation of the questionnaires will be analyzed in two inferential and descriptive sections using SPSS software. In the descriptive part, operations related to demographic information of statistical sample people will be performed using SPSS software. Also, tables and graphs that contain the average, frequency, cumulative percentage, etc., will be used in this section. In the inferential section, the test of research hypotheses will be performed using correlation and regression tests.

Descriptive and inferential statistics are examples of analytical statistics used to analyze the data that was gathered. The status of the research variables using central indicators, dispersion, and t-test is then investigated in the inferential statistics of this study after the demographic features of the respondents and their perception of the status are first acquired using descriptive statistics. Research hypotheses are tested using regression analysis in the final step.

RESULTS AND DISCUSSION

Demographic Statistics

Table 1 shows the frequency of respondents' gender and their frequency percentage. The highest frequency is related to the male gender, which includes 63% of the sample size.

Table 1. The Frequency of Gender of the Respondents

Gender	Frequency	Frequency%
Male	74	63
Female	43	37

Level of Education

Table 2 shows the frequency of the level of education of the respondents and the percentage of their frequency. The highest frequency is related to the bachelor's degree, and it includes 66% of the number of samples.

Table 2. Frequency of Education Level of Respondents

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

Age

Table 3 shows the frequency of respondents' age status and their frequency percentage. The highest frequency is related to 31 to 35 years.

Table 3. Frequency of Age Status of Respondents

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

Years of Service

Table 4 shows the frequency of respondents' service history and the percentage of their frequency. The highest frequency is related to 6 to 10 years.

Table 4. Frequency of Respondents' Service History

Years of service	Frequency	Frequency%
5 years and less	11	9
6 to 10 years	77	66
11 to 15 years	15	13
More than 15 years	14	12

Inferential Statistics

Check the status of research variables.

Table 5 reports the central indicators and dispersion of variable items of customer relationship management information systems.

Table 5. Examines the Central Indicators and Dispersion of Variable Items of Customer Relationship Management Information Systems

Item	Number	Average	Standard deviation
Attention is paid to improving the level of organizational duties to expand customer relationships as much as possible.	117	3.2479	1.15897
Attention is paid to the quantitative and qualitative improvement of employees' abilities to expand customer relationships as much as possible.	117	3.3248	1.21647
Attention is paid to creating solutions to speed up the provision of banking services.	117	2.5983	1.06722
Employees have access to coherent databases to further develop customer relationships.	117	3.0085	1.23523
Employee activity support is provided to provide a wide range of services to customers.	117	2.1282	1.03005
New technologies are used to process large volumes of customer information.	117	2.0256	.80367
Employees have access to comprehensive information about the customer in terms of their interests, tastes, and preferences.	117	2.4103	1.16821
Extensive information is provided to customers with the help of their favorite media.	117	2.1538	.81595
Interactions between customers and the bank in the field of information exchange and transactions.	117	3.0171	1.11404
There is a codified system for making strategic decisions in the organization.	117	2.0513	.76391
Managers have sufficient knowledge of IT-related matters.	117	3.0427	1.27572



Managers use effective consultants to make strategic decisions.	117	2.1368	.86009
There are support systems for senior managers in the organization.	117	2.2564	.93913
There are decision support systems in the organization.	117	2.7607	1.09584
Managers have the creative power to make unexpected decisions.	117	2.8632	1.29924
There is a good data collection system for senior managers to make strategic decisions.	117	3.5043	1.06370

Table 6 reports the central indicators and the distribution of variable performance items.

Table 6. Investigation of Central Indicators and Dispersion of Variable Performance Items

Item	Number	Average	Standard deviation
To what extent are complaints handled in the bank?	117	1.9402	.78004
How much is the development of new methods in the bank?	117	2.5897	1.09980
What is the managerial initiative in the bank?	117	2.3846	.95454
What is the quality of the employees in the bank?	117	2.0855	.97885
What is the scientific literacy of the manager in the bank?	117	2.5299	.97000
What is the responsibility for providing services?	117	3.0256	1.19237
How efficient is the use of resources?	117	3.3077	1.16309
To what extent is there a coordinated performance appraisal in the bank?	117	1.9316	.72785
How important is the evaluation of the final result in the bank?	117	3.4872	1.22203
How much attention is paid to the remuneration and salaries of employees in the bank?	117	2.3077	1.02941
How much attention is paid to income in the bank?	117	2.4017	1.16011
To what extent are payments made in the bank according to the level of performance?	117	2.4017	1.02604
How much control does the bank have over expenses?	117	2.7179	1.08156

A simple t-test was used to check the status of the variables. This test is significant in that variable if this value is less than 0.05 and there is a noticeable difference with the mean value of 3. If the mean difference is positive, it indicates the average to the high status of the variable, and if it is negative, the difference between the mean indicates the average to the bottom of the variable. No significant difference with the value of 3 if the significance level is greater than 0.05 and the result is variable on the average condition. Based on the results, because of the smaller significance level of 0.05 and the negative difference between the averages of customer relationship management information systems, the internal processes dimension, financial dimension, and performance are in the middle to the low position. Being a significant level of 0.05 is in the average position.

Check the Normality of Variables

Before entering the test phase of hypotheses, it is important to know the normal status of the variables. Parametric or non-parametric tests should be used based on the normality or abnormality of the variables. The Kolmogorov-Smirnov test was utilized to evaluate the normality of the components of the model dimensions. If the value of the significance level is greater than the error value of 0.05, the distribution is normal.

Because of the larger significance level of the test, it is determined from 0.05 that all variables have a normal distribution. Therefore, parametric tests are used to test the research hypotheses.

Examining Research Hypotheses

- Customer relationship management information systems have a significant relationship with the internal performance of a private bank.

To test the research hypothesis, a simple linear regression test was used. The significance level was 0.000, which is less than 0.05. This shows that there is a linear correlation between internal performance and customer relationship management information systems. The adaptive R-value is also 0.366, which indicates that 37% of internal performance changes are made by customer relationship management information systems. Also, the correlation coefficient value of 0.609 shows the role of the variable of customer relationship management information systems in predicting the dependent variable of internal performance.

The regression equation can also be written as follows:

Internal performance = .274 + .765 Customer Relationship Management Information Systems

Given the positive sign of the beta coefficient, it can be said that the correlation between these two variables is positive. That is, increasing one causes the other to increase. Based on the results of the analysis, the above hypothesis is proved.

- Customer relationship management information systems have a significant relationship with the process performance of a private bank.

A simple linear regression test was used to test the research hypothesis. The significance level is 0.000, which is less than 0.05. This shows that there is a linear correlation between customer relationship management information systems and process performance. The adaptive R-value is also 0.228, indicating that 23% of process performance changes are made by customer relationship management information systems. Also, the value of the correlation coefficient, 0.485, indicates the role of the variable of customer relationship management information systems in predicting the dependent variable of process performance.

The regression equation can also be written as follows:

Process performance = .948 + .749 Customer Relationship Management Information Systems

Given the positive sign of the beta coefficient, it can be said that the correlation between these two variables is positive. That is, increasing one causes increasing the other. Based on the results of the analysis, the above hypothesis is proved.

- Customer relationship management information systems have a significant relationship with the financial performance of a private bank.

A simple linear regression test was used to test the research hypothesis. The significance level is 0.000, which is less than 0.05. This shows that there is a linear correlation between customer relationship management information systems and financial performance. The adaptive R-value



is 0.622, indicating that 62% of financial performance changes are made by customer relationship management information systems. Also, the value of the correlation coefficient of 0.790 shows the role of the variable of customer relationship management information systems in predicting the dependent variable of financial performance.

The regression equation can also be written as follows:

Financial Performance = -0.784 + 1.219 Customer Relationship Management Information Systems

Given the positive sign of the beta coefficient, it can be said that the correlation between these two variables is positive. That is, increasing one causes increasing the other. Based on the results of the analysis, the above hypothesis is proved.

- Customer relationship management information systems have a significant relationship with private bank performance.

To test the research hypothesis, a simple linear regression test has been used. The significance level is 0.000, which is less than 0.05. This shows that there is a linear correlation between customer relationship management information systems and performance. The adaptive R-value is also equal to 0.501, which indicates that 50% of the performance changes are made by customer relationship management information systems. Also, the value of the correlation coefficient of 0.711 shows the role of the variable of customer relationship management information systems in predicting the dependent variable of performance. The regression equation can also be written as follows:

Performance = .146 + .911 Customer Relationship Management Information Systems

Given the positive sign of the beta coefficient, it can be said that the correlation between these two variables is positive. That is, increasing one causes increasing the other. Based on the results of the analysis, the above hypothesis is proved.

CONCLUSION

First, the status of demographic statistics was examined. The results showed that the highest frequency is related to the male gender, which includes 63% of the sample. Regarding the education of the respondents, the highest frequency is related to the bachelor's degree, which includes 66% of the sample. Also, 4% have a diploma or lower, 9% have a master's degree and 21% have a master's degree, or higher. Concerning age, the highest frequency is related to 31 to 35 years. 35. Concerning service history, the highest frequency is related to 6 to 10 years, which includes 66% of the sample; also, 9% have 5 years and less, 13% have 11 to 15 years, and 12% have more than 15 years of work experience. After processing the data by software and statistical tools, the following results were obtained, which can confirm or refute the hypotheses presented in the research. The research results showed:

- Customer relationship management information systems have a significant relationship with the internal performance of a private bank.

This hypothesis states that there is a direct relationship between customer relationship management information systems and the internal performance of a private bank. The research findings confirm this hypothesis with a correlation of 0.609 and a significance level of less than 0.05. This result indicates that customer relationship management information systems have a significant relationship with the internal performance of a private bank.



- Customer relationship management information systems have a significant relationship with the process performance of a private bank.

This hypothesis states that there is a direct relationship between customer relationship management information systems and private bank process performance. The research findings confirm this hypothesis with a correlation rate of 0.485 and a significance level of less than 0.05. This result indicates that customer relationship management information systems have a significant relationship with the process performance of a private bank.

- Customer relationship management information systems have a significant relationship with the financial performance of a private bank.

This hypothesis states that there is a direct relationship between customer relationship management information systems and the financial performance of a private bank. The research findings confirm this hypothesis with a correlation of 0.790 and a significance level of less than 0.05. This result indicates that customer relationship management information systems have a significant relationship with the financial performance of a private bank.

- Customer relationship management information systems have a significant relationship with private bank performance.

This hypothesis states that there is a direct relationship between customer relationship management information systems and private bank performance. The research findings confirm this hypothesis with a correlation rate of 0.711 and a significance level of less than 0.05. This result indicates that customer relationship management information systems have a significant relationship with private bank performance. The results of the research are in line with the results of Haji Karimi and Mansoorian in 2012, Doaei and Dabbagh in 2010, Jordan Ibrahim and others in 2009, Sachs and Sandho in 2008, and Coltman *et al.* in 2007.



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