# An Investigation of the Factors Affecting Performance Improvement of Public Libraries based on Customer Relationship Management (CRM)

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**Abstract**

**Purpose**: The purpose of this study was to investigate the relationship between factors affecting the performance of libraries and the components of customer relationship management (CRM).

**Method**: The research uses a survey method. The study population was patrons of public libraries in Mazandaran province, Iran. The data collection instrument was questionnaire.

**Findings**: The results showed that the correlation coefficient for the focal point variables for specific subjects, proper organization of processes, knowledge management, and technology were 0.682, 0.927, 0.900, and 0.810 respectively, indicating that the linear relationship between these variables is to improve the performance of libraries. In other words, the results of the research indicated that there is a direct linear relationship between CRM and library performance levels.

**Discussion and Conclusion**: Customer relationship management elements seem to play a significant role in improving the level of library performance. Given the identification of the weaknesses and strengths of libraries with respect to these components, it is imperative that public library managers and librarians provide innovative ideas for improving and improving the level of services.

**Keywords**: Customer Relationship Management (CRM); Public Library; Library Function; Customer Satisfaction.

## 1. Introduction

Among the different types of libraries, public libraries are unique in their objectives, patrons served, supremacy, collection development and range of services. These libraries are regarded as the storehouses of scholarly heredity of our ancestors (Bhui & Sahoo, 2018). As part of the information infrastructure, they play a key role in promoting the level of general knowledge in the community and provide free access to information and information resources for all members of the community. Due to the large size of the members of these libraries from all walks of life of all ages, they are faced with a variety of user needs and desires. They have to provide special services in order to attract users. Current libraries are organizations whose success in providing desirable services and satisfying users is not possible with a rich and up-to-date collection. Today, librarians have come to believe that clever measures are needed to increase access to resources and information in the library, and to access each user in the most accurate information possible in the shortest time possible. Since increasing user satisfaction with the services provided is the goal of every library and information center, the need to use updated techniques from the librarians' managers is felt more and more. One of the most effective of these techniques is using the Customer Relationship Management (CRM).

For any organization to prosper, it is critical to develop a better understanding of its customers and how the customers' needs are changing and evolving (Cristobal, 2018). Therefore, libraries are believed to be aware of the needs and desires of their users and tailor their services to their customers by employing CRM (Edalatiyan, Sanatjoo & Nowkarizi, 2017). The idea of CRM dates back to the mid-1990s and returns to business context (Jalilpour & Baryaji, 2015). CRM is essentially a business strategy that focuses on the customer's tendencies (Meyliana & Budiardjo, 2016) and attracts, maintains and upgrades the clients, and serves as a key element in providing citizens' public services. Nowadays, CRM data is one of the most important and comprehensive information management needs in many organizations (Stein, Smith, & Lancioni, 2013). With the proper implementation of CRM, organizations will be able to pay for their tasks at a lower cost and less time.

Today, a large number of organizations have set up CRM systems to support their own services (Hsieh, Rai, & Zhang, 2012) and some libraries have paid attention to this, given the many theoretical bases around user orientation. As information and technology resources and information are constantly increasing, the libraries and visitors' attention and their needs and satisfaction and loyalty are increasingly on the rise. One of the important advantages for libraries is attracting people's attention and encouraging them to go to libraries. To successfully manage each organization, the

optimal and optimal implementation of all management tasks is essential, and for this purpose managers need specialized information. Considering that libraries and document centers are organizations whose primary purpose is to provide services to specific groups of users. The central user and efforts to match the activities and services with the needs and desires of the users and users is essential (Rahimi & Ostovari, 2010). Since libraries are service organizations, they must try to provide services tailored to the needs of the respondents and work to satisfy them and increase their loyalty. This increase in loyalty is not achieved in the short term, but all necessary measures must be taken to achieve it.

To measure the satisfaction of users of public libraries, it is essential to review the function of libraries. As organizations use different methods to improve their performance, public libraries also try to identify factors that affect the quality of library services. Therefore, the present study intends to consider whether the factors identified in CRM can be influenced by considering the effective factors in improving the performance of public libraries, as well as the relationship between them and the components of CRM. In developing and improving the level of library services? And is there a connection between the factors that affect the performance of public libraries and the components involved in CRM?

The analysis of this issue is due to the study of factors affecting the performance of libraries, taking into account the objectives of the public libraries' vision landscape document and the correlation between it and the components of CRM. Because, if there is a link between these components, library managers can more accurately review the strengths and weaknesses of libraries and take the necessary steps to ensure that each of the agents is properly implemented in the library. With regard to the above, this research aims to analyze and evaluate the performance of public libraries in Mazandaran province (Iran) by investigating the relationship between the factors affecting the performance of libraries and the components of CRM. In this regard, the following hypotheses are studied in this study:

1. Infrastructure factors affect the performance of libraries.

2. There is a significant relationship between the factors affecting the improvement of performance and the components of CRM.


## 2. Literature review

In recent years, several studies have focused on CRM in different sectors, including banking, hotel, and sports. For example, Taherpour and Tayebi (2010) investigated the relationship between CRM and performance in central banks of the

public and private sector of Iran and concluded that CRM has a significant impact on the marketing performance of organizations. Nikoo and Morovati (2017) using the questionnaire, investigated the effect of CRM on aspects of organizational performance in hotels in Iran. The results showed that CRM has the most impact in terms of financial aspect and learning and growth, internal processes and customer performance. But in the field of information science and science, there is not much research in the field of writing. Hariri and Shahvar's research (2010) seems to be the first research to be done with special attention to CRM approach in Iranian libraries. In a mixed study, they examined the satisfaction of the users of the Central Management Library of the Industrial Management Agency using the Customer Relationship Management System and, using the CRM capabilities, provided solutions to increase user satisfaction.

Furthermore, Edalatiyan, Sanatjoo and Nowkarizi (2017) studied the human resource perspective on the strategy and implementation of CRM in Iranian university libraries. Their research community was made up of librarians from the central libraries of Iranian universities. The results showed that the level of familiarity of librarians with CRM is high and the necessity of establishing and using CRM is too moderate. Hsieh, Rai and Zhang (2012) examined the satisfaction of staff using the CRM system and its impact on service quality in one of the service organizations in the telecommunications sector in China. The results of their research showed that the overall satisfaction of employees with compulsory use of the CRM system has a positive impact on the quality of services provided. In a research entitled "Customer Relationship Management in the E-Environment," Jamali et al. (2013) introduced a method for assessing the level of managerial communication with customers in electronic libraries. Their research, conducted on 381 users of the electronic library service at Yazd University, showed that among the 78 items under study, 37 have the capability to use it to measure CRM in electronic libraries.

In sum, reviewing the records suggests that the focus of the country's writing has been on the readiness of libraries to implement user-management and user satisfaction improvements using this system. In general, the results of research show that attention to CRM has a prominent role in improving organizational performance in different aspects, and it can address many organizational problems with regard to resource constraints. In fact, the results of this study will show that CRM components can be used to improve the performance of libraries. By managing and implementing the necessary changes to implement CRM in libraries, managers can improve the quality of service and push more people into the library.

## 3. Research methodology

The present study uses a survey method. The statistical population of the study consisted of the members of the public libraries in Mazandaran province, Iran. A sample of 248 subjects was selected based on the Cochran's formula. In this research, simple random sampling method was used. The data collection instrument was questionnaire that was based on the study of backgrounds. The validity of the instrument was confirmed by a panel consisting of several university professors in Management and Library Science. The instrument was tested for reliability and the Cronbach's alpha coefficient of the results was 0.765 (Table 1). This suggests that the instrument is stable enough to be used in the study.

Table 1. Cronbach's alpha for the instrument

| Cronbach's alpha coefficient of the users questionnaire | | |
|---|---|---|
| Test component | Number of points | alpha |
| Focus on specific customers | 4 | **0.712** |
| Proper organization of processes | 10 | **0.733** |
| Knowledge Management | 7 | **0.747** |
| Technology | 7 | **0.869** |
| Total | 28 | **0.765** |

After distributing and collecting questionnaires, for statistical analysis, in addition to descriptive statistics indices such as mean and frequency, inferential statistics methods including independent t-test, Kolmogorov-Smirnov test (for normal distribution of data) And Pearson correlation coefficient and regression analysis were used to test the hypotheses.

## 4. Results

Table 2 summarizes the demographic characteristics of respondents based on variables such as gender and educational level. The analysis of data shows that 56% of respondents are female and 44% are male; 45% of respondents have diploma education and less, while the rest (55%) have higher education.

Table 2. Demographic characteristics of respondents

| Demographic characteristics | Gender (%) | | Education | |
|---|---|---|---|---|
| | Female | Male | Diploma | Higher than diploma |
| | **56%** | **44%** | **45%** | **55%** |

**Hypothesis 1**: Infrastructure factors affect the performance of libraries.

To analyze this hypothesis, regression analysis was used. For this purpose, firstly, the normalization of the dependent variable data distribution through the improvement of the level of libraries' performance was studied using the Kolmogorov-Smirnov test, the results of which are presented in Table 3.

Table 3. Kolmogorov-Smirnov test to examine the normal distribution of libraries' performance enhancements

| Variable | Kolmogorov-Smirnov | The significance level | Error value | Test result |
|---|---|---|---|---|
| Upgrade performance level | 0.519 | 0.951 | 0.05 | **Normal** |

According to Table 3, the significance level of the test is equal to 0.519. Since the error value is greater than 0.05, the assumption of zero (the normal distribution of the variable of the level of performance of the libraries) is accepted. In other words, the distribution of variable data to improve the performance level of libraries is normal. The results of regression analysis to predict the performance of libraries by the variable of infrastructure factors are presented in Table 4.

Table 4. Regression results to predict the level of performance of libraries by the variables of infrastructure factors

| Source of change | SS | fd | SM | F | R | $R^2$ | Sig |
|---|---|---|---|---|---|---|---|
| regression | 5.746 | 4 | 1.437 | 21.772 | 0.98 | 0.96 | **0.000** |
| remaining | 1.000 | 15 | 0.066 | | | | |
| Total | 6.746 | 195 | | | | | |

The results of Table 4 show that the observed F is significant (F = 21.772), and the predictor variables together account for about 0.55 variance in improving the performance level of the libraries. The multiple correlation between variables was also 0.96 (r = 0.98).

Table 5. Regression analysis results to predict the level of performance of libraries by variables related to library infrastructure factor

| Predictive variables | B | standard error | β | T | Sig |
|---|---|---|---|---|---|
| Location of physical location and location | 0.25 | 0.000 | 0.254 | 56426013 | **0.000** |
| Facilities and equipment | 0.25 | 0.000 | 0.354 | 55908991 | **0.000** |
| Human resources | 0.25 | 0.000 | 0.272 | 55666992 | **0.000** |
| Library resources | 0.25 | 0.000 | 0.230 | 5797436 | **0.000** |

Table 5 shows that the variables of location and physical space with regression coefficient of 0.254, equipment variables with coefficient of regression of 0.354, human resource variable with regression coefficient of 0.272, and variable of library resources with regression coefficient of 0.230 It can predict the level of performance enhancement of libraries, because the significance level for all regression coefficients is 0.000 which is smaller than the test error value (0.05).

Regarding the above, the regression model is as follows:
Improvement of the libraries' performance level = 0.254 (location and physical space) + 0.354 (facilities and equipment) + 272/0 (human resources) + 0.230 (library resources).

- **Second hypothesis**: There is a meaningful relationship between the factors affecting the performance of the library and the components of CRM.

To investigate this hypothesis, Pearson correlation coefficient test was used in which the following hypotheses were formulated:
Zero Assumption: There is no meaningful relationship between the factors affecting the performance of libraries and the components of CRM.

The results of the Pearson correlation test on the relationship between the factors affecting the performance improvement of libraries and the components of CRM are presented in Table 6.

Table 6. Pearson correlation coefficient between factors affecting the performance improvement of libraries and CRM components.

| Variables | The correlation coefficient | The significance level | Error value | Test result |
|---|---|---|---|---|
| Factors affecting the performance of libraries and the components of CRM | 0.964 | 0.000 | 0.05 | **There is a relationship** |

According to the data in Table 6, the results of Pearson correlation coefficient show that the correlation coefficient is equal to 0.964, which indicates a linear relationship between the variables between the factors affecting the performance of libraries and the components of CRM. Also, the significance level is 0/000, which is because the test error value (0.05) is smaller. The zero assumption is rejected. In other words, there is a relationship between the variables that affect the performance improvement and the components of CRM.

## 5. Discussion and conclusions

Studies have shown that today the absorption of the new user is much more difficult than maintaining the user; therefore, in order to be more efficient and effective, organizations seek to cultivate and build strong, beneficial, deep, and long-term relationships with Their customers are (Nikoo & Morovati, 2017). In this regard,

numerous studies have been conducted on CRM in various organizations and libraries. In the present study, the relationship between the factors affecting the performance of libraries and the components of CRM in libraries was studied.

The results of Pearson correlation coefficient for the hypotheses indicated that there is a relationship between these variables and the level of performance of libraries. The results of this study are consistent with the findings of Karimi (2014). In the same vein, it can be stated that libraries should also be able to improve user engagement capabilities, like businesses looking to attract customers. Also, if libraries do not try to provide innovative services, they will be at risk of losing their users (Koloniari, Vraimaki, & Fassoulis, 2019). The findings also showed that there is a significant relationship between the factors affecting the performance of libraries and the components of CRM. In this regard, the results of the present study are consistent with the findings of Karimi (2014), which showed that organizational capacity is effective on customer knowledge and CRM performance.

The overall result is that the implementation of CRM can be highly desirable for any profit-making and nonprofit organization. Therefore, it is proposed to manage the public libraries with the results of this research to identify the strengths and weaknesses of libraries regarding the observance of the components affecting CRM. It also improves the quality of service provision, so that more people can lean toward library and reading, and have full satisfaction with the services of their public libraries.

## References

Bhui, T., & Sahoo, S. (2018). Trend Of Public Library Research In India: A Bibliometric Study. *Library Philosophy and Practice (e-journal)*, 1826. https://digitalcommons.unl.edu/libphilprac/1826

Cristobal, A. S. (2018). Expectations on library services, library quality (LibQual) dimension and library customer satisfaction: relationship to customer loyalty. *Library Philosophy and Practice (ejournal)*, *1706*. https://digitalcommons.unl.edu/libphilprac/1706

Edalatiyan, Z., Sanatjoo, A., & Nowkarizi, M. (2017). Review of Acquaintance and Necessity of Implementing Strategy of Customer Relationship Management from the Perspective of Human Resources of Academic Libraries in Iran. Library and Information Science Research (LISRJ), 7(1), 239-256. https://doi.org/10.22067/riis.v7i1.51207

Hariri, N., & Shahvar, S. (2010). Improving the Satisfaction of Library Users Using the Customer Relationship Management System: A Report of an Experience. *National Studies on Librarianship and Information Organization*, No. 83, 22-39.

Hsieh, J. J., Rai, A., Petter, S., & Zhang, T. (2012). Impact of user satisfaction with mandated CRM use on employee service quality. *MIS Quarterly*, 36(4).

Jalilpour, P., & Baryaji, M. (2015). Review and ranking of infrastructure of customer relationship management in the libraries of Shahid Chamran University and Jondishapoor University of Medical Sciences. *Library and Information Science Research (LISRJ)*, 4(1), 93-108. https://doi.org/10.22067/riis.v4i1.15859

Jamali, R., Moshabaki, A., Aramoon, H., & Alimohammadi, A. (2013). Customer relationship management in electronic environment. *The Electronic Library*, 31(1), 119-130.

Karimi, L. (2014). Investigating compliance with the components of the 4th model of customer relationship management in the central library of Tehran's public universities from the point of view of managers and librarians. Master's thesis in librarianship, Alzahra University, Tehran.

Koloniari, M., Vraimaki, E., & Fassoulis, K. (2019). Factors affecting knowledge creation in academic libraries. *Journal of Librarianship and Information Science*, *51*(1), 20-33.

Meyliana, Hidayanto, A. N., & Budiardjo, E. K. (2016). The critical success factors for customer relationship management implementation: a systematic literature review. *International Journal of Business Information Systems*, 23(2), 131-174.

Nikoo, H., & Morovati, Ali (1396). The Effect of Customer Relationship Management on Organizational Performance Aspects (Case Study: 3 to 5 Star Hotels of Mashhad). Tourism Management Studies, 12 (39): 27-48.

Rahimi, F., and Ostovari, S. (2010). Creativity and Innovation in Public Libraries: Proceedings of the General Meeting of the General Directorate of the Research and Training Unit of the Public Library of Iran. Tehran: The institution of public libraries of Iran.

Stein, A. D., Smith, M. F., & Lancioni, R. A. (2013). The development and diffusion of customer relationship management (CRM) intelligence in business-to-business environments. *Industrial Marketing Management*, 42(6), 855-861.

Taherpour, H., & Tayebi, A. (2010). Customer relationship management with performance. Journal of Business Management Perspective, 9 (1), 109-123.