Original Research

Critical Success Factors (CSF) for Enterprise Resource Planning (ERP) in Financial Institutes (Case Study: Bank Saderat Iran)

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Abstract

Enterprise Resource Planning (ERP) in financial and credit institutions and banks has a special place due to the diversity of sections and the structure of these institutions. In this paper, In addition to analyze the basic concepts associated with ERP and its various implementation methods, attempts have been made to analyze the efficiency of each of these methods for financial institutions. Then, by executing customized questionnaire, Critical success factors of ERP implementation for financial and credit institutions and banks are extracted. According to the experts, the integrated banking system of Saderat Bank has the conditions of an ERP, and is therefore selected as a case study. By executing the questionnaire and conducting interviews with a number of managers, experts and employees of the bank, the critical success factors in relation to ERP in Saderat Bank of Iran were identified. The results of the questionnaire were analyzed by SPSS software and the result of the interviews was extracted using descriptive statistics. Finally, the resulting factors are ranked in terms of their impact rate on the goal ERP. According to the results of this research, the appropriate selection factors for software, training and practice, and senior management support ranked first to third rank among the most important critical success factors of ERP implementation in Saderat Bank.

Keywords: Enterprise Resource Planning (ERP), Financial Institutions, Critical Success Factors, Saderat Bank.

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1. Introduction

Financial and credit Institutions and companies are confronted with various sources of financial, human, physical equipment and infrastructure and, most importantly, information. The efficiency of financial organizations and the improvement of their level of quality and rank depend on the integrated planning of these resources for their goals. On the other hand, efforts to global promotion of these institutions have created a competitive environment among them (Ullah Khan, H., et al., 2017). In the past two decades, efforts have been made to find an integrated solution to work processes. This solution is called *Enterprise Resource Planning* or ERP (Metaxiotis, K., & Liagkouras, K., 2017).

Financial institutions and banks are present in the money and capital market as economic enterprises. They are competing today in various economic fields. These centers should choose new approaches to information management and corporate circulation to maximize use of human, material and software resources. Therefore, in order to efficiently exploit their infrastructures, they must move towards integrated systems such as ERP (Sherry Finney, M. C., 2007).

Organizational infrastructures, especially financial and banking centers, generally become more powerful through information systems. So reducing costs, increasing production and improving service to customers is the primary outcome of launching such systems. ERP systems have been created to automatize the tasks and processes that provide integrated data (information) solution around an organizational infrastructure (Robert Jacobs, F., & Ted & Weston, F.C., 2007). These systems have evolved based on pre-constructed application programs thinking and in them the workflow model embedded in application program software (Frimpon, M., 2012).

Most organizations provide separate application program to meet the needs of each of their resources, which are as multiple islands with the ability to difficult exchange and update information. ERP therefore tries to integrate information and services to provide the ability of managing and planning for different processes, and naturally simultaneously with increased efficiency, reduces costs (Eric T.G. et al., 2007).

The implementation of ERP projects in some large financial centers has not been successful and has not met the goals. Therefore, it is necessary to identify the key factors for ERP implementation in financial institutions and banks with a high accuracy and sensitivity (Martin R.W., 2017). The development of ERP-systems shows that almost 90% of ERP implementations face with time and budget deficiencies, and 70% do not meet predicted expectations (Chien, S.W., 2007).

Implementing ERP is time-consuming, costly and requires changes that make it very difficult to implement. Hence, in order to exploit the benefits of these systems, the changes that have been made must be carefully managed so that the lack of success in organization does not dissuade organization from competing and continuing survival. In this regard, identifying the critical success factors seems essential.

The critical success factors in ERP implementation are the limited dimensions, factors and regions that ensure competing successful performance for the organization, if the results are satisfactory. The properties, variables and conditions, if properly upgraded, maintained and managed, can greatly affect the enterprise's success in the specific industry's competitive domain (Amberg, Fischl et al., 2005, Darvish Rouhani, et. all, 2014).

In this paper, we try to study on and evaluate the factors of an integrated system in the form of ERP for financial information, and to identify the critical success factors in its implementation. At first, the success rate of ERP factors has been measured in various levels from the user's point of view, and has been attempted to determine its relevance to the amount of attention to the critical success factors in ERP implementation and if possible, suggestions are made to improve its implementation's final path.

2. ERP as a comprehensive solution

Over the past three decades, the trend has been to find an integrated solution to improve work processes in financial institutions and has been considered in the form of ERP projects. Conceptually, ERP is an information system for identifying and planning resources throughout the organization that includes from receiving customer orders to perform and deliver services and receiving service costs (Heizer and Render, 2016). This integrated program must support activities of the organization, such as procurement and construction, financial and accounting, sales and marketing and human resources.

The primary purpose of the ERP system is to automate the tasks and work processes and provide an integrated data (information) solution across of the entire organizational infrastructure. This kind of

system is generally developed based on the pre-constructed application programs thinking in which the workflow model is placed in software of the application program (Fernandez, D., et al., 2017).

Institutions and organizations, in order to meet the needs of each of their resources, provide separate application programs, like multiple islands, and it is very difficult to exchange and update information between them if it is not possible. Hence, ERP provides the ability to manage and plan different processes by integrating information and services. Thus, simultaneously with increasing efficiency, it can reduce costs (Sudhaman, P., Thangavel, C., 2015).

2.1. The main components of ERP

The ERP system consists of a variety of components that are identified according to the type of activity, geographical distribution, magnitude, and complexity of the organization and its subsystems and are customized according to the needs of the organization (Frimpon, M., 2012; Robert Jacobs, F., & 'Ted' Weston, FC, 2007). These components are as follow:

Table 1. The general components of ERP

Information	Systems
1. Basic information set of organization	7. Support and procurement subsystems
2. Basic information set of project control	8. production subsystems
3. Basic information Set of production / service	9. Financial subsystems
4. Basic information set of support and procurement	10. Human Resource Management subsystems
5. Basic information set of human resources	11. Technical information subsystems
6. Basic financial information set	12. official subsystems

The main architecture of an ERP system based on a single database is an application program and an identical user interface throughout the organization. The most powerful architecture that can support the above is the client / service environment, which can provide a global database for the whole of organization, allow immediate access to information and integrate the various modules. In continue, we check out the opportunities and threats of implementing ERP in organizations.

2.2. Opportunities and Threats of implementing ERP in organizations

Comprehensive studies show that the benefits of implementing ERP for different organizations are very diverse. The most important benefits are as follow (Robert Jacobs, F. & Ted, Weston, F.C., 2007, Amberg, M., 2005).

- **Organizational integrity** in information and increasing the consistency of organization's information.
- **Standardization** of organizational processes based on the best experiences of software provider companies.
- **Reengineering** organizational processes and reducing the time to do them.
- **Converting processes** from implicit mode to explicit mode by complete reengineering.
- **Quick installation** of ERP-related systems or special softwares of organization.
- **Developing new systems and technologies** with better possibilities and sufficient facilitation of related affairs.
- **Changing the focus** from mere computer programming to improve processes in the organization.
- **Cooperative business and joint ventures**, by integrating and changing the structure of sub-sectors by maintaining performance for organizations at a lower cost, better returns and better results.
- **Effective Infrastructure** for Supply Chain Management (SCM) and Customer Relationship Management (CRM).
- **Providing e-commerce platform** in the form of an expandable infrastructure.

The advantages mentioned above can create values that will be at the disposal of the organization through the use of ERP capacities. However, there are problems with the implementation of ERP, which can greatly increase the cost of running it. These problems include important issues such as: the costs incurred due to the time-consuming of the ERP Implementation, the difficulties associated with the compatibility of modules, the necessity of the development of main modules such as CRM, SCM, etc., the combination and complexity of creating a huge structure, the need to measure and evaluate components in ERP. On the other hand, other benefits of successful ERP implementation that have a more direct relationship with profit are: (Sherry Finney, M.C. 2007):

- Profit resulting from reduced warehousing costs
- Profit resulting from lowering the stored capital in warehouse
- Profit resulting from lowering the cost of communication between different parts of the organization
- Increasing employee productivity
- Profit resulting from reducing the likelihood of human error
- Profit resulting from reduced ordering time.

3. ERP's Critical Success Factors

As mentioned before, it is very important to evaluate the success factors in implementing ERP, because they spend the large amount of financial and human resources and resources. One study found that 57% of companies surveyed and interviewed on their ERP status, had no evaluation of the efficiency of their ERP systems due to lack of effective and empirical assessment models (Bradford and Florin, 2003).

In order to success of the ERP implementation in an organization, it must focus on its critical success factors. But these factors need to be studied especially for each specific organization and in any given circumstances. To identify the critical success factors, there are several ways, such as questionnaires, case studies, interviews, analysis, and even literature review (Amberg, M., F. Fischl et al., 2005). However, implementing a questionnaire is the most common way of identifying critical success factors. Therefore, this paper also attempts to identify and study the critical success factors for financial institutions and specifically in Iran's Saderat Bank.

3.1. Benefits of identifying critical success factors

Identifying critical success factors for implementing ERP projects in organizations is necessary in many respects. Not identifying these factors will cause the consequences of ERP implementation challenges it very quickly and will cause many problems in practice. Some benefits of identifying critical success factors are as below:

- It helps the manager to find the factors that should focus on them.
- It forces the manager to define good status indicators and keep track of their reports.
- It identifies the appropriate amount of information and prevent the time and cost of collecting unnecessary data.
- It rescues the organization from collecting simple data cluster and helps the organization develop its information system around the essential data.
- It identifies temporary and related to management factors so that information systems are prepared to change the requirements and reports.

3.2. The Framework of critical success factors

Figure 1 shows the framework of the critical success factors for ERP implementations in three phases. These three phases are: 1) before implementation or installation; 2) implementation; 3) after implementation or evaluation.

According to a study conducted on four American companies, it has become clear that conscious, gradual, documented implementation, along with managing changes, networking communication and cultural readiness, can make a successful implementation. Motwani, J., 2005). So these are nowadays one of the most important critical success factors of ERP.

As discussed in Figure 1, it can be concluded that the clear vision and commitment of senior management are the bases of a successful implementation in the organization's ERP. In addition, evaluating and monitoring the implementation of the ERP system (i.e., after the implementation) can make the organization more consistence to the program of change, so that it maximizes the benefits of investing in ERP.

Figure 1. Framework for critical success factors of ERP (Motwani, J., 2005)

3.3. Grouping the success critical success factors of ERP

In 2001, Nelson and Somers asked a number of executive directors of US companies to rank critical success factors in their ERP implementation. The table below shows the 10 first critical factors that are ranked based on the average (mean from 1 = low to 5 = critical) (Somers & Nelson, 2001).

Table 2. An example of ranking ERP critical success factors based on its Importance in Implementation

The Critical Success Factor
Support from senior management
Competence of the project team
Interdepartmental cooperation
Specific goals and programs
project management
Interdepartmental communication
Expectation management
Project champion
Seller support
Precise selection of software packages

The critical success factors in ERP implementations over the past decade have been included a significant part of the research (Singhal, S. et al 2011, Ansarinejad, A., et al., 2011). According to the experience, three quarters of ERP projects are judged not succeeded by incumbent companies. Hence, the success and failure are the current fields of research in the study of the subject of ERP and the literature of information systems.

3.4. The success factors of an ERP-related information system

The information systems and their structure are an important part of the changes caused by the ERP implementation. Hence, success factors in the information system effect on the success of ERP. These factors are also very sensitive, because an information system has many stakeholders and each has a specific definition from system's success. From a software developer's point of view, it is a successful project that ends on time and with the defined budget, and includes a complete set of desired features that work properly. But from an innovator perspective, the successful system is a system that captures a large and growing set of loyal users. From the management perspective, it is a successful system that stabilizes outputs, reduces risk and increases scarce resources (Shih-Wen Chien, 2007). Here, as you can see, the difference in view provides different definitions of success. In this way, models and criteria for assessing and measuring the success and its extent in the information system were invented. For example, four criteria for the success of the system are listed below:

1. Satisfaction from the development process
2. Satisfaction from using the system
3. Satisfaction from the quality of the information system
4. The information effect on the organization

One of the most important and famous models of success in the information systems is Delon & McLean's success model, which has been reviewed, refined and completed a number of times. A version of this model is presented in Fig. 2.
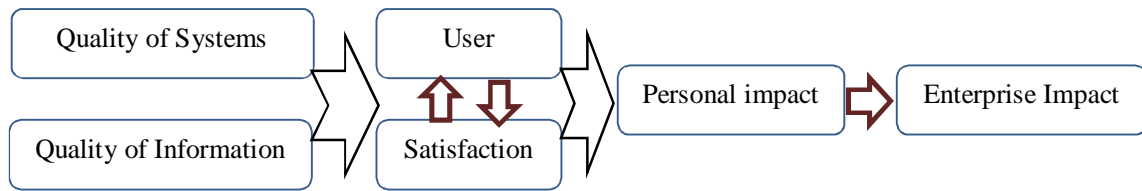
Figure 2. Success Model of Information Systems (Urbach, N., & Müller, B., 2012)

In this model, a number of factors, including the following, mentioned as key success factors.

- **System quality:** The system's productivity and performance, such as information accuracy, system efficiency and response time.
- **Quality of information:** being up-to-date, relevant, reliable and complete.
- **Use:** refers to the number of times an information system is used, and includes Examining things like the number of functions used, the number of accesses, and the duration of the connection.
- **User satisfaction:** The degree of satisfaction reported by users of the system, which includes overall satisfaction and satisfaction from the user interface.
- **Individual impact:** Measures the impact of the information system on users, Such as changes in efficiency, decision making, and decision-making models.
- **Organizational impact:** Investigates the changes made by the information system in the organization. For example, reducing operating costs, saving on labor costs and increasing profitability.

In 2003, the model was modified as follows. Here, the service aspects of the system's business layer have been specifically studied, including critical success factors in an information system and, consequently, ERP.
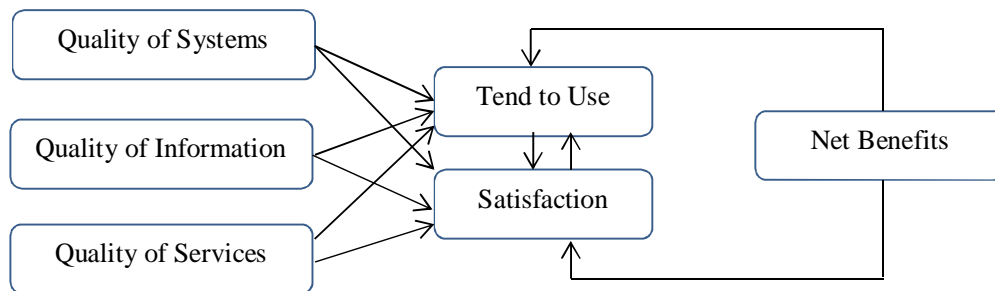

Figure 3. Success Model of Information Systems (Delon & McLean 2003)

3.4. Classification of critical success factors in ERP implementation

In the research (Amberg, Fischl et al. 2005), the following properties are presented for critical success factors:

- **Hierarchy and Group:** The hierarchy is based on organizational levels in which strategic issues are raised. Group factors are, for example, critical success factors of the industry (a particular industry), or the job (managers with the same job in the organization) or other specific groups.
- **Temporary and Ongoing:** A temporary agent can only be important in a certain time period. All the critical success factors can be defined so that they can be evaluated temporarily and differ in temporality only. It means taking more time during different stages of the project.
- **Internal or External:** Works related to outside factors, outside the organization and internal factors are related to issues that are within the control of the director of the organization.
- **Building or Monitoring:** on the one hand, depends on the amount of control in the management sector and, on the other, on the

nature of the structure applied. The monitoring critical success factors are related to the organization's existing status, and building critical success factors are relates to changes in organization or future planning. Maintaining technological excellence is a critical success factor that can be created and controlled. Conversely, customer statistical changes need to be monitored and not controlled.

- **Strategic or Tactical:** Strategic Factors are the goals to be achieved, while the tactical factors describe the various ways to achieve the goals. Strategic factors are created on the basis of opportunities and therefore are associated with a high risk, and long-term initial planning is required by senior executives. But tactical factors, which deal with strategic goals, require mid-term planning by mid-level managers.
- **Perceived or Actual:** Known factors for an organization do not necessarily apply to all organizations. Each organization must set its success factors according to its goals and needs. This determines the difference between the perceived and actual critical success factors.

4. Research method

This research was carried out through a survey method through the implementation of a questionnaire and conducting interviews with practitioners in three sections implementing, consulting and supervising the implementation of the integrated banking system and also experts using the system at Saderat Bank to identify critical success factors in implementing ERP financial institutions. According to experts, the integrated system of Saderat Bank can be considered as an example of ERP systems. Therefore, it was tried to identify critical success factors specifically for financial institutions in relation to the integrated system of the Iran Saderat Bank.

Firstly, by conducting a library study from valid sources, critical success factors in ERP implementation were extracted. Then, a researcher made questionnaire was used to collect data. Also, the accuracy of the data was improved by conducting a face-to-face interview. Finally, the data were analyzed by SPSS 18 software.

The reliability of the questionnaire was calculated with Cronbach's alpha for the total of 40 questions that was performed on 71 questionnaires. This amount was 0.808 which showed that the questionnaire has the excellent reliability. Also, the

evaluated critical success factors were ranked in terms of effectiveness. Finally, the appropriate selection of software, training, practicing and senior management support has been identified as the most important critical success factors of ERP implementation for financial institutions.

4.1 Research Questions

1. What are the critical success factors of ERP implementation at the Saderat Bank?
2. Has the implementation of the current integrated system in Saderat Bank been successful from the various stakeholders view?
3. Are the attentions and rules relevant to the critical success factors observe in implementation of this project?
4. What has been the impact of each of these factors on the success or failure of the project?

2.4 Research hypotheses

In this research, the Saderat's Sepehr software system is considered as an integrated reference system. This system claims to be ERP for the following reasons:

- Integrated databases
- Central management system
- Having the best business practices
- Being operational in different businesses and variety of supported activities

5. Analysis of research results

Before setting up the questionnaire, four success measures and eight critical factors were selected. These 8 factors include:

Table 3

1. The coordination of the system and its implementation goals	**General**
2. Expected user satisfaction	
3. Organizational culture	
4. Training and practice	
5. Re-engineering processes and business planning with software	**Specific**
6. Supported senior management	
7. Project Management	
8. Choosing the correct software	

The choice of these factors was done by reviewing the subject literature and consulting with the experts. After determining the characteristics, a standard questionnaire with Likert scale was arranged in three main sections. Part I: Demographic information, including 4 measures, Part II: General part: Includes four critical factors that consist of 16 questions and their answerer prioritizes them in order of importance. Part II: specific part of the questionnaire, which consists of four critical factors and has 19 questions and the answerer prioritizes them in order of importance. Tables 4 and 5 show the variables used for the measurement separately.

Table 4. Variables related to general questions of the questionnaire for measuring

Number	Question
5-9	Reviewing and coordinating the system and its implementation goals
10-13	Assessing the Expectations of Users
14-17	Organizational Culture
18-21	Training and practice

Table 5. Variables and questions of interviews and specific questionnaires

Number	Question
22-26	Project Management
27-30	Choosing the correct software 27 to 30
31-34	Supporting senior management 31 to 34
35-39	Re-engineering processes 35 to 39

5.1 The validity of the questionnaire

To approve the validity of the questionnaire and determine the instrument validity, the content validity method was used, which is usually used to examine the components of the instrument and its questions. When the questions from instrument identify the features that the researcher intends to measure, content validity is confirmed. This work is carried out by expert individuals (Sarmad & others, 1395). In this regard, all questionnaires and interviews were examined, and after the experts' opinion, the necessary corrections were made and re-examined so that the instrument validity of the research was confirmed.

5.2. The validity of the research instrument

In this research, Cronbach's alpha test was used to determine the reliability of the method. The responses from 71 questionnaires were analyzed by SPSS software in 3 groups. The total score of 0.808

for Cronbach's alpha was as a result of which the reliability of the questionnaire was confirmed.

5.3. Statistical community

The statistical population of this research consists of 3 groups including managers, staff and support experts. Using a simple random sampling method, a sample of 71 people was selected.

5.4. The research's domain

- **Subject domain:** The present research is a thematic study of critical success factors of ERP implementation.
- **Temporal domain:** The research time domain is 96 years.
- **Spatial Domain:** The spatial domain of this research is Saderat Bank of Iran.

5.5. Analysis of statistical results

The data were analyzed by descriptive statistics of demographic variables including: 1- age, 2- education, 3-job history, and 4- job grade. Then by analytical statistics, the structural equation model (confirmatory factor analysis) was used to evaluate the desirability of environmental indicators.

5.5.1 Structural Equation Model (Factor Analysis)

To investigate the causal relationships between the variables in a coherent way, we use the structural equation model or multivariable analysis with latent variables. This model provides a comprehensive statistical approach for testing hypotheses about the relationships between observed variables and latent variables. In this way, we can test the acceptance of our theoretical model in specific societies using correlation, non-experimental, and experimental data.

5.2.5. The necessity of using structural equation model in present research

The analysis of covariance structures or causal modeling, called Structural Equation Model, is one of the main methods for analyzing the complex data structure. This research consists of several independent variables whose effects on the dependent variable should be investigated. So we use structural equation modeling.

5.5.3 Descriptive statistics

Before examining the hypotheses of the research, we first mention some of the general characteristics of

the collected sample. It should be noted that for this purpose, SPSS software has been used.

The age of people in the five categories was less than 25, 26 to 30, 31 to 35, 36 to 40, and more than 40, with the majority of people between the ages of 30 and 35, followed by the age group of 35-40 years.

The level of education is according to Table 6. The highest percentage of respondents is bachelor students, followed by master degrees and diploma and associate degrees.

Table 6. Respondents' educations

Degree	Cumulative percent	Valid percent	Percent	Repeat
diploma and associate	10.7	6.4	25.3	18
bachelor	18.6	12.1	49.2	35
master	85.0	66.4	21.1	15
PhD	100.0	15.0	04.4	3
Total	100.0	141	100	71

The grouping of the statistical community of respondents is more employees.

5-5-4. Average score of each question

The following table summarizes the average score of the answer to each question, along with the number of respondents who answered the question. As you can see, the average of answers to the set of questions from 5 to 30, which has a general aspect, tends to 3 and 4. These answers, confirm the questions. In other words, these responses can intuitively be concluded that integrated software has been successful in its view.

5-6. Inferential statistics

To make the appropriate test for the research hypothesis, we use appropriate statistical tests in each section. To measure the validity of each of the measured factors, Cronbach's alpha is used in Table 7.

Table 7. Cronbach's alpha for each factor

C1	C2	C3	C4	C5	C6	C7	C8
0.800	0.697	0.835	0.891	0.670	0.860	0.847	0.780

It can be seen that the obtained value for each factor is in the acceptable range for Cronbach's alpha for each variable.

Question 1: What is the difference between different groups of society (managers, staff and support experts) about different factors?

To answer this question, we use analysis of variance (Anova) methods. For this purpose, for different people, the ratings of the Likert scale are summed up and then compared using Anova test and the design of single-entry for each factor separately.

The first factor: the coordination of the system and its implementation goals.

H_0: There is no difference between the opinions of employees, managers and experts about the first factor, i.e. the success of the system.

H_1: There is a difference between the opinions of employees, managers and experts about the first factor, i.e. the success of the system.

The H_0 hypothesis is rejected by the Anova test at the level of the first type error of 0.05. Therefore, the opinions of staff, managers and experts are different in the first factor. This difference is more noticeable between the views of staff and technical experts, and the views of managers are close to two other group.

The second factor: The tendency of users to use the system.

The difference between the opinions of technical experts and the staff is very significant. The view of managers is still medium, but closer to experts.

Third factor: The achievement extent of users' expectations.

Staff expectations are met; managers expectations are met somewhat, and experts expectations are not met.

Table 8. Average respondents' views for 1 to 8 factors

Type of user	C1	C2	C3	C4	C5	C6	C7	C8
Employee	3.5752	3.5955	3.3265	2.9561	3.8206	2.1071	3.0921	2.4120
Advisor	3.0333	2.8600	2.8476	2.7767	4.3120	2.7440	2.2709	3.1602
Manager	3.2708	3.1389	3.0714	3.1528	4.2000	2.9333	3.1685	2.8507
Total	3.4524	3.4250	3.2199	2.9404	3.9417	2.2943	2.5278	2.6787

Table 9. ANOVA Analysis for the first to eighth factors

		Sum of Squares	df	Mean Square	F	Sig.
	Between Groups	6.340	2	3.170	5.647	.004
C1	Within Groups	76.912	137	.561		
	Total	83.252	139			
	Between Groups	11.956	2	5.978	9.960	.000
C2	Within Groups	82.229	137	.600		
	Total	94.185	139			
	Between Groups	4.910	2	2.455	3.852	.024
C3	Within Groups	87.956	138	.637		
	Total	92.867	140			
	Between Groups	1.236	2	.618	1.374	.257
C4	Within Groups	59.819	133	.450		
	Total	61.055	135			
	Between Groups	5.725	2	2.862	10.670	.000
C5	Within Groups	36.484	136	.268		
	Total	42.209	138			
	Between Groups	13.496	2	6.748	10.499	.000
C6	Within Groups	86.769	135	.643		
	Total	100.265	137			
	Between Groups	45.854	2	3.628	7.351	.000
C7	Within Groups	10.111	133	.271		
	Total	26.823	127			
	Between Groups	7.019	2	5.170	4.873	.015
C8	Within Groups	84.311	138	.440		
	Total	88.526	134			

Table 10. Multiple comparison of the first factor

S1 LSD					95% Confidence Interval	
Type of user (I)	(J) Type of user	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
Staff	Experts	.43090*	.14785	.102	.2305	.7901
	Managers	.29330	.20734	.132	-.1633	.6661
Expert	Staffs	-.43080*	.14684	.002	-.7399	-.3063
	Manager	-.12649	.24290	.427	-.6213	.2587
Manager	Staffs	-.29330	.20744	.152	-.7295	.1530
	Experts	.12649	.25232	.297	-.2616	.7246
*. The mean difference is significant at the 0.05 level.						

Third factor: The achievement extent of users' expectations.

Staff expectations are met; managers expectations are met somewhat, and experts expectations are not met.

Fourth factor: communication

There is no significant difference between different groups. As a result, often a notification has been made for a group of managers.

Fifth factor: organizational culture

There is a huge difference between staffs and the two groups of experts and managers.

Sixth factor: training and practice

In this factor, there is also a large difference between the views of the staffs and the two groups of experts and managers. But the result is that there is not enough training and practice for all three groups.

Ranking of variables in each factor is provided in appendix separately by factor analysis.

Question 2: Rating of factors based on the extent of effect:

Using the results of the evaluation of the critical success factors of ERP implementation for Iran's Saderat Bank, the ranking of these factors was extracted as follows. The factors of Precise selection of software packages (4.0027), training and practice (3.8748) and senior management support (3.04210) are significantly more important than other factors using the mean value of the resulting information.

Table 11. Ranking critical factors based on the average of results of the questionnaire

Ranking	The critical success factor	average
1	Precise selection of software packages	4.0027
2	Training and practice	3.8748
3	Support from senior management	3.04210
4	Reengineering processes	3.0449
5	the achievement extent of users' expectations	2.9404
6	project management	2.7152
7	Communications	2. 8571
8	Organizational culture	2.3643

The success measures used in this research are ranked as below. Here, a measure of success in matching has the highest rank.

Table 12. Ranking of success measures based on the average of the results of the questionnaire

Ranking	The success measure	Average
1	(Success in matching). Reengineering process and business planning with software	3.8101
2	(Success in interaction) system coordination and its implementation goals	3.5287
3	(Success in expectations)The achievement extent of users' expectations	3.4316

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6. Conclusion

This paper studies the status of the integrated system of the Saderat Bank of Iran, to identify the critical success factors in implementing ERP projects. The factors of Precise selection of software packages, training and practice and senior management support were identified as the most important critical factors, respectively, and in terms of the extent of effect to ERP projects achievement to the desired goals. This means that the high degree of success in identified critical success factors will ensure a high degree of success in implementing ERP for higher education institutions. The analysis of the data from the questionnaire and the results of the interview with the experts of the ERP project indicates that the transparency of the process of re-engineering and coordination of the system with the goals of its implementation, along with the consideration of the expectations of system users, are the bases of a successful ERP implementation in Saderat bank. Also, the evaluation and monitoring of the ERP system, which is the next phase, can make the bank more consistent with the program of changes, and maximize the benefits from investing in ERP.

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