

Investigating the future of the country's banking management system due to the merger of banks

Iraj Dani^a, Reza Najaf Beigi^b, Nasser Mirsepasi^b, Karamolah Danesh Fard^b

^aPublic Administration Department, Qeshm Branch, Faculty of Management, Qeshm Azad University, Qeshm, Iran

^bPublic Administration Department, Research Science Branch, Islamic Azad University, Tehran, Iran

(Communicated by Farshid Khojasteh)

Abstract

The purpose of this research is to investigate the future of the country's banking management system due to the merger of banks. The research strategy in the qualitative part of the research is a library study and in the quantitative part of the research, it is a survey type. The current research in terms of practical purpose and in terms of how to collect information; it is a field. The statistical population consists of all the university and banking experts of West and East Azerbaijan province, whose number is equal to 440 people, and using Cochran's formula, the sample size is equal to 205 people. The random sampling method is simple and in order to collect information from library resources, as well as in order to collect data and information for analysis, a questionnaire made by the researcher was used, and all analyzes were done using software SPSS software was used, which according to the results of prioritizing the opinions of the sample about the merger of banks in the future, in the banking management system of West and East Azarbaijan province, showed that the items "culture management, stress management, human resource reconstruction, resistance to change, insecurity "Jobs, draining talents, lack of motivation are among the challenges in merging banks in the future." With the average (3.52) and coefficient of variation ($cv=0.288$), the item "successful transfer of management depends on changing the management structure in accordance with the functional requirements after the merger and creating the necessary infrastructure based on solving the previous problems." With the mean (3.35) and coefficient of variation ($cv=0.300$), the item "In the integration process, some employees with less skill, less talent or less commitment may not be employed in the new group; "Trying to employ them in subsidiary companies or other work environments and reducing the stress of job loss among them is another important step in managing change in bank mergers." With the average (3.33) and coefficient of variation ($cv = 0.334$), respectively, they play the biggest role in the causes of bank mergers in the future.

Keywords: Future, Integration, Banking, Management system
2020 MSC: 68V30, 90B50

1 Introduction

Knowing and understanding as much as possible the believable and unknown futures that lie ahead of humans and human societies is of great importance. This knowledge helps people avoid the risk of facing the unknown.

Email addresses: irajdani@gmail.com (Iraj Dani), najafbeigi@gmail.com (Reza Najaf Beigi), n.mirsepasi@srbiau.ac.ir (Nasser Mirsepasi), daneshfard@srbiau.ac.ir (Karamolah Danesh Fard)

Received: January 2023 *Accepted:* March 2023

Governments, organizations and nations should better understand the requirements of change and future prospects, because we will all live and work in a future that will be different from today. When people understand the changes; they will get more opportunities for life and a positive impact on the future. Humans have an innate and natural interaction to understand and know the future. Their concern about an unknown future with special characteristics makes it necessary to know the future and plan how to deal with it. Also, predicting future events helps to use the opportunities correctly and fully. Future research includes a set of efforts that visualize potential futures and plan for them by searching for sources, patterns and factors of change or stability. Futurism reflects how tomorrow's reality is born out of today's change (or stability). Future research is of interest because it makes systematic and intelligent speculations about not only one future, but several imagined futures by using a wide range of methods.

Today, changes occur at a faster pace. Technological changes followed by changes in other aspects of life, increasing interdependence of countries and nations, decentralization of existing societies and institutions, increasing desire for globalization and preservation of national, ethnic and cultural characteristics and many other factors; It requires a better understanding of changes and the future for governments, businesses, organizations and people. The future basically has uncertainty, and this uncertainty is a justification for some people's lack of foresight, and for others, it is a precious source of opportunities.

One of the necessary and effective financial tools for the country's economic development is the existence of an efficient banking system. Banks are the pulse of financial activities and the situation governing them can have an important impact on other economic sectors of the society. Banks, by organizing and directing receipts and payments, facilitate trade and commerce, and cause the expansion of markets, economic growth and prosperity. This issue is especially important for Iran. where there is no market for debt. In Iran, banks act as the only provider of funds and their stability is the most important challenge of the country's financial system [1]. In the last few decades, banks have greatly increased in number. During the recent global financial crisis, it has become clear that countries with many banks can impose a lot of risks on their economy [3].

Various researches show that if a large number of investments are made by an intermediary unit, the sum of risks is reduced or eliminated, and therefore the frequency is to reduce costs. Thus, it is predicted that the relationship between size and bankruptcy is inverse. Considering the limited financial resources of the bank, increasing the size of the bank can reduce financial costs and savings [3].

Banks are the main actors of the monetary and financial system of the country, because they provide financial resources needed by industries and individuals and manage the payment system. Therefore, banks are considered as the main tools of governments in the implementation of monetary policies and financing, and they play the role of a vital artery in the society [12].

In all countries, banks play a significant role in providing financial resources and providing financial services. Therefore, the efficiency of banks is always one of the most important issues that has attracted a lot of attention. Banks focus on how they can reduce administrative costs, how they can provide a wide range of services, or how they can strengthen their ability to compete with domestic and international banks. They do [14].

Achieving efficiency can be done in different ways. Mergers are one of the most common methods to achieve efficiency and effective methods in rebuilding banking structures and financial institutions [13].

By doing mergers, it is expected that banks can reduce costs through managerial efficiency. Therefore, the reasons for doing it are: increasing market power, improving risk diversification, reducing costs by achieving economies of scale and increasing managerial efficiency. Among the mentioned reasons, cost reduction is the most important reason for mergers. Establishing financial cooperation and operational cooperation is one of the other benefits of merging banks and financial institutions, which improves efficiency and increases profitability [10].

Integration, if done correctly, can bring significant financial and non-financial results. Usually, mergers are applied when banks face problems in meeting their expenses, or they operate at a size that does not have economies of scale, or they benefit from less management capabilities. In such a situation, banks decide to merge with banks that can cover these deficiencies for them (Report of the Center of Banks and Private Credit Institutions, 2016).

Merging companies and buying rival companies are among the strategies that rival companies implement. The merger of two competing companies will probably increase efficiency; Because these two companies can eliminate a large number of duplicate formations and the management of the buyer company can better understand the purpose of the purchased company [4].

Merger of banks is one of the methods of restructuring banking structures and financial institutions. In addition, because in all countries, banks play an important role in providing financial resources and providing financial services in the economy through granting loans and accepting deposits, the efficiency of banks is always one of the most

important issues that has attracted a lot of attention. As a result, in some cases, mergers are considered the most common method of increasing the efficiency of financial institutions. Also, the merger prevents the bankruptcy of banks. By examining the world's bank mergers, it can be concluded that most of the bank mergers were implemented during the period of banking crises. For example, in the United States during the financial crisis, between 2008 and 2009, there were 16 bank mergers. One of the biggest banking mergers in history took place during this period, so that "Bank of America" bought Merrill Lynch in 2008 for 50 billion dollars [12].

It is obvious that the merger of banks as a stage of reforming the banking system after stabilizing the banking system and determining the assignment of imaginary assets (or at least having a strategy to determine its assignment) is very appropriate. On the other hand, the issue of merger for troubled banks, if they have a lot of pending claims, maybe it can be solved by the management of the new bank, but the aforementioned banks do not have such a feature and have very large debts, and their merger will make the new bank It will face a lot of legal, financial, managerial and software problems, including consolidation and integration of accounts, and it will impose a lot of cost on the country's banking system. Therefore, according to the proposed positions, in this research, the future of the country's banking management system due to the merger of banks is investigated.

2 Research Background

Razini and Suri [11], stated that the merger of good and bad banks increases the efficiency of banks and the merger of banks is useful in the case that a good bank is merged with a bad bank. Suri et al. [15], show that the average efficiency of the banking industry in the studied period is 54% and with the merger of rival banks, the average efficiency increases to 70%. Shahrastani and Ghobadi [13], showed that the merger of banks increases efficiency in a situation where the inefficient bank is merged with the more efficient bank. Isazadeh and Mazhari Ava [9], show that the existence of economies of scale reduces the cost after the merger, but closing the branches of the target bank after the merger cannot reduce the cost of these two merged banks. Issazadeh and Mazhari Ava [9], show that the hypothetical merger between these two banks will reduce the cost due to the existence of management efficiency, but the removal of branches cannot reduce the cost of the merged bank. Jafari Samet [12], showed that the merger of banks is one of the most effective economic mechanisms to save an economic enterprise from financial disorder and bankruptcy. De Young [6], showed that the ability of banks to transfer cost efficiency cannot be clearly related to the efficiency of the acquiring bank, on the contrary, the efficiency potential is clearly related to the inefficiency of the departments before the merger. Gejira [7], states that efficiency is not constant over time and there is a negative relationship between efficiency growth and the timing of mergers. It means that the efficiency of integration units deteriorates with time. Issazadeh and Mazhari Ava [9], show that the hypothetical merger between these two banks will reduce the cost due to the existence of management efficiency, but the removal of branches cannot reduce the cost of the merged bank. Jafari Samet [12], showed that the merger of banks is one of the most effective economic mechanisms to save an economic enterprise from financial disorder and bankruptcy. De Young [6], showed that the ability of banks to transfer cost efficiency cannot be clearly related to the efficiency of the acquiring bank, on the contrary, the efficiency potential is clearly related to the inefficiency of the departments before the merger. Gejira [7], states that efficiency is not constant over time and there is a negative relationship between efficiency growth and the timing of mergers. It means that the efficiency of integration units deteriorates with time.

2.1 Efficiency of banks by the method of data coverage analysis

The inventors of data envelopment analysis (DEA) expanded the definition of efficiency that was limited to the ratio of one cluster to one or more inputs (X/Y) to the ratio of multiple clusters to multiple inputs as follows:

$$\text{Total Productivity} = \frac{\alpha_1 Y_1 + \alpha_2 Y_2 + \dots}{\beta_1 X_1 + \beta_2 X_2 + \dots} \quad (2.1)$$

In this regard, α_i and β_i are the coefficients of output and input, respectively, in other words, β_i shows the relative importance of input X_i in production. The efficiency of an industry that includes N companies, K production factors or inputs, and M products or outputs is calculated from this relationship:

$$\text{Max} : \frac{u'Y_i}{v'X_i} = \frac{\text{Weighted Set, of products}}{\text{The weighted set of the production factor}} \quad (2.2)$$

as if

$$\frac{u'Y_j}{v'X_j} \leq 1 \quad j = 1, 2, \dots, N, \quad u \geq 0, \quad v \geq 0 \quad (2.3)$$

In the mentioned equation, u is a $1 \times M$ vector expressing the weight of products and v is a $1 \times k$ vector containing the weights of production factors. X is an $N \times K$ matrix of factors and Y is an $N \times M$ matrix of products, with the aim of obtaining the optimal values of v and u so that the ratio of the total weighted total of products to the total weighted total of production factors (the efficiency of each company) is maximized, provided Because the efficiency of each company should be less than or equal to one.

In this regard, the goal is limited by only one constraint and the two vectors v and u are unknown. Therefore, there are countless optimal solutions. This problem was solved by (CCR) by adding $X'v = 1$ adverb. In this method, the problem becomes the maximization of the total weight of the product in the condition of normalizing the total weight of the production factors and maintaining other constraints:

$$Max : \mu'Y_i \quad (2.4)$$

as if

$$v'X_i = 1, \quad \mu'Y - X_i \leq 0 \quad (2.5)$$

The latter problem can be solved with linear programming methods, and because in this method, fewer constraints make solving the problem easier, the aforementioned relationship can be solved by calculating its double; In particular, in this case, the binary form presents the technical efficiency (θ) for each firm separately:

$$Min : \theta \quad (2.6)$$

as if

$$v'X_i = 1, \quad \mu'Y - X_i \leq 0 \quad (2.7)$$

In this regard, the first proviso indicates that the amount of production of the i -th company must be at most the production size of the reference (efficient) company, and the second proviso states that the amount of production facilities used by the i -th company must be at least the size of the reference (efficient) company). λ is also a $1 \times N$ vector including fixed numbers that show the weights of the reference set. The aforementioned linear programming model is solved N times and each time for one of the companies, and in this way, the efficiency (θ) will be obtained for each company.

2.2 Data envelopment analysis and variable returns to scale

The analysis of the efficiency of companies in the case of fixed return to scale can be considered as the long-term situation and the state of variable return to scale as the short-term state of the companies. Assuming constant return to scale, the CCR model presents technical efficiency, which includes pure technical efficiency (efficiency from management) and efficiency from economies of scale of a firm. Banker, Charnes, and Cooper (BCC) [2], expanded the CCR model to include returns to scale. This is done by adding the constraint $N\lambda \leq 1$ to the previous linear programming:

$$Min : \theta \quad (2.8)$$

as if

$$Y_i - Y\lambda \geq 0, \quad \theta X_i - X\lambda \geq 0, \quad N\lambda \leq 1, \quad \lambda \geq 0. \quad (2.9)$$

2.3 Factors influencing the merger of banks

Hu and Moskowitz [8], criterion were used to measure the price reaction delay criterion. It is worth mentioning that this criterion is used to measure the efficiency of the stock price. Based on Hu and Moskowitz's model, the average delay of price reaction to the lack of transparency of published financial information for each company is calculated using the following regression:

$$R_{i,t} = \alpha_i + \beta_i Rm_t + \sum_{n=1}^4 \gamma_{i,t-n} Rm_{t-n} + \varepsilon_{i,t} \quad (2.10)$$

In this formula, $R_{i,t}$ is the weekly return of each share during period t , Rm_t is the return of the total index per week, $Rm_t - n$ is the delayed return of the total index, n in this formula can be between 1 and 4. Using this formula, $R2_t$ is calculated, which is called R2 without restrictions. Then, in the above formula, $y_{i,t} - n = 0$ is placed and $R2$ is calculated again, and $R2$ is determined. The bounded regression formula is as follows.

$$R_{i,t} = \alpha_i + \beta Rm_t + \varepsilon_{i,t} \quad (2.11)$$

If the stock price reacts to the published information and its reaction rate with a delay, some of the $y_{i,t}$ estimated in relation (2.13) will find a significant difference with zero [5]. They increase the description of regression. But assuming that all $y_{i,t} - n$ are zero, equation 13 is also derived. Then the price reaction delay is calculated based on the coefficient of determination calculated using the weekly returns and the above relationships as follows:

$$Delay_{i,t} = \frac{\text{unrestricted } R^2 - \text{restricted } R^2}{\text{unrestricted } R^2}. \quad (2.12)$$

Efficiency in the weak form means that there should not be any profit opportunities based on past price movements of the asset. Therefore, an efficient market must be an unpredictable market. This issue is calculated by simple regressions as below.

$$r_t = \beta_0 + \sum_{i=1}^P \beta_i r_{t-i} + \varepsilon_t \quad (2.13)$$

where r_t is the return rate of assets at time t and if there is efficiency $\beta_i = 0$ and $i \geq 0$, this hypothesis is often tested by estimating such equations with both OLS and GMM methods and has been done with appropriate statistical tests.

$$r_t = \beta_{0t} + \sum_{i=1}^P \beta_{it} r_{t-i} + \varepsilon_t \quad (2.14)$$

In this equation, the coefficients are accompanied by the subtitle of time and can change over time. A common feature of bond yield models is that the error process may not have the full conditions of independent normal distribution (NIID).

$$\begin{cases} r_t = \beta_{0t} + \sum_{i=1}^P \beta_{it} r_{t-i} + \varepsilon_t & \varepsilon_t \sim N(0, h_t) \\ h_t = \alpha_0 + \alpha_1 h_{t-1} + \alpha_2 \varepsilon_{t-1}^2 \end{cases} \quad (2.15)$$

ε_t as a normal distribution with zero mean and conditional variance h_t .

3 Research conceptual model

Figure (1), shows the research conceptual model.

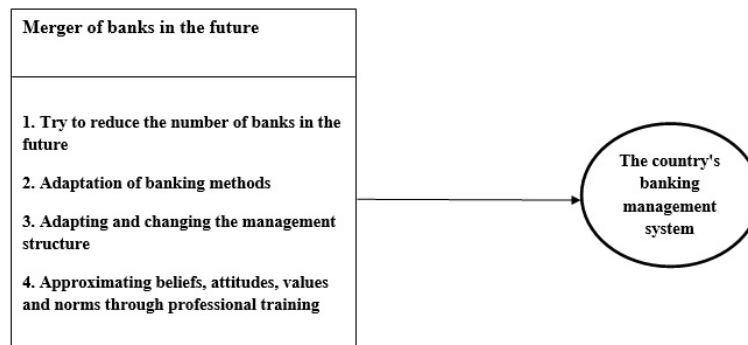


Figure 1: Research conceptual model

4 Methodology

The approach of the upcoming research is inductive-deductive. The research strategy in the qualitative part of the research is a library study and in the quantitative part of the research, it is a survey type. The current research in terms of practical purpose and in terms of how to collect information; It is a field that has been conducted in a survey way. The statistical population of this research consists of all university and banking experts of West and East Azerbaijan province, whose number is equal to 440 people. In this research, using the Cochran formula for the statistical population, the sample size was selected based on the Cochran formula. The random sampling method is simple. In

this sampling method, the chance of each respondent to be selected is the same. Then about 205 questionnaires were randomly distributed among late respondents. The main formula for calculating Cochran's sample size is as follows:

$$n = \frac{\frac{Z^2 pq}{d^2}}{1 + \frac{1}{N} \left(\frac{Z^2 pq}{d^2} - 1 \right)}$$

N: the size of the statistical population

d: permissible error (usually considered equal to 0.05)

z: the value of the normal variable with confidence level $\alpha-1$. In the two-domain test, the z value for the 95% confidence level is 1.96 and for the 99% confidence level is 2.58.

p: Proportion of possessing the desired trait

q = (p-1): the ratio of not having the desired attribute (for example, the population of employees). Usually, p and q are considered 0.5.

Note: This calculation is done with an error level of 5%.

In this research, in order to collect information about theoretical foundations and research literature, library resources, required books, and global information networks were used, and also in order to collect data and information for analysis from a questionnaire that It was made by the researcher and used. According to the assumptions and objectives of the research, appropriate questions and options were used in the form of a five-point Likert scale. After being approved by the professors, this questionnaire has been given to the statistical sample for study. Inferential statistics in this research helps us to reach results by analyzing the data, which is involved in our decision-making. In this research, the coefficient of variation (CV) was used to check the research hypotheses. All analyzes were done using SPSS software.

5 Findings

Based on the information, it can be seen that the average age of the respondents (academic and banking experts) in the current research is 41.29 years, the median is 40 years, the mode is 45 years; The lowest age in the studied sample is 19 years and the highest age is 76 years. From a total of 205 subjects in this research; 5.3 percent are women (11 people) and 94.6 percent are men (194 people). The average service experience in the current research is 18.58 years, the median is 15 years, the mode is 20 years; The lowest record in the examined sample is 1 year and the highest record is 55 years. Due to the fact that the average is greater than the median and the mode, therefore, the age distribution in the present study is skewed to the right. Based on the results regarding education, 17.1% of the respondents (35 people) have an associate degree, 16.1% of the respondents (33 people) have a bachelor's degree, 25.4% of the respondents (52 people) have a master's degree and 41.5% of The respondents (85 people) had doctoral education. It seems that the merger of banks in the future will have a positive effect on the country's banking management system. Examining the opinions of sample people about the role of bank integration in the future in the banking management system of West and East Azarbaijan province is summarized in table (1-4). Based on the findings, it can be seen that:

41 percent of the respondents considered the importance of the variable "the merger of banks in the future can reduce the number of banks and help empower them" at a low level, 27.3 percent at a medium level, and 31.7 percent at a high level as integration. Banks have evaluated the country's banking management system in the future.

33.7 percent of the respondents of variable importance "mergers can reduce risk and increase diversification through the formation of a financial complex, and on the one hand, through the elimination of additional branches, increase the adjustment of the workforce and reduce the level of competition, causing a decrease in social welfare. have evaluated at a low level, 25.9% in an average level and 40.5% in a high level as the integration of banks in the future in the country's banking management system.

34.6 percent of the respondents of the importance of the variable "simulation technique is a vision for the future of what financial institutions believe about the potential effect of mergers on costs." Such analyzes are effective and useful in predicting the pattern of mergers because the expansion of mergers can be influenced by considering costs. have evaluated at the low level, 31.2% in the average level and 34.1% in the high level as the integration of banks in the future in the country's banking management system.

32.7 percent of the respondents considered the importance of the variable "mergers can create economic savings through increasing the assets of banks, increasing the size and raising the lending power" at a low level, 31.2 percent

at an average level, And 36.1 percent have evaluated as the merger of banks in the future in the country's banking management system.

36.1 percent of the respondents of variable importance "It seems that the adaptation of banking methods in the integration will be the most important challenge in the future of the country's banking management system." prescribed that it is considered a positive step in the direction of the transparency of taxpayers' economic activities and the efficiency of the tax system" at a low level, 28.8% in the medium level and 35.1% in the high level as the merger of banks in the future. have evaluated in the banking management system of the country.

34.2 percent of the respondents considered the importance of the variable "it seems that in the absence of a proper legal and logical structure in the implementation model of merger and acquisition in Iran's financial markets, it will cause management challenges in the future" at a low level, 30.2 percent. In the average level and 35.6% in the high level, they have evaluated as the merger of banks in the future, in the country's banking management system.

33.7% of the respondents of variable importance "before starting operations, it is necessary to consider things such as 1-strategic suitability, 2-organizational suitability, 3-characteristics of the merger process and 4-the composition and quality of the resources of the banks involved in the merger." have evaluated at a low level, 30.2% in the average level and 36.1% in the high level as the integration of banks in the future in the country's banking management system.

26.4% of the respondents rated the importance of the variable "economic scale and scope is the most important motive before merger for acquiring other banks" at a low level, 29.3% at a medium level, and 44.4% at a high level. As the integration of banks in the future, they have evaluated in the banking management system of the country.

18% of the respondents considered the importance of the variable "successful transfer of management depends on changing the management structure to suit the functional requirements after the merger and creating the necessary infrastructure based on solving the previous problems" at a low level, 39.5% at an average level and 42.4 percent have evaluated to a large extent as the merger of banks in the future, in the country's banking management system.

15.6 percent of the respondents considered the importance of the variable "culture management, stress management, human resources reconstruction, resistance to change, job insecurity, draining talents, lack of motivation as challenging issues in the merger of banks in the future" at a low level. 29.8% in the average level and 54.6% in the high level have evaluated as the integration of banks in the future in the country's banking management system.

42.9% of the respondents of variable importance "it is possible that many mergers will undergo changes in the future due to improper change management." have evaluated at a low level, 28.8% in a medium level and 28.3% in a high level as the integration of banks in the country's banking management system.

39.5% of the respondents rated the importance of the variable "Executive managers of the merged banks should focus on the integration project instead of focusing on day-to-day activities" at a low level, 25.4% at a moderate level and 35.1% at a high level as bank integration. have evaluated in the country's banking management system.

38.6 percent of the respondents considered the importance of the variable "in the merger process, an expert and experienced team in the field of human resources should be formed from all the banks to be merged to identify elites and valuable forces" at a low level, 34.1 percent at a medium level, and 32.7% have evaluated to a large extent as the integration of banks in the country's banking management system.

22.4 percent of the variable importance respondents "In the integration process, some employees with less skill, less talent or less commitment may not be employed in the new group; "Trying to employ them in subsidiary companies or other work environments and reducing the stress of job loss among them is another important step in managing change in bank mergers." have evaluated at a low level, 26.3% in a moderate level and 51.2% in a high level as the integration of banks in the country's banking management system.

25.3 percent of the respondents of variable importance "in case of cultural incompatibility of merging organizations, it will definitely lead to organizational conflict, approximating beliefs, attitudes, values and norms through professional training according to the scientific tastes of employees and providing the necessary facilities to promote A culture of human resources can minimize the biggest cultural challenge of integration." have evaluated at a low level, 28.8% in a medium level and 45.8% in a high level as the integration of banks in the country's banking management system.

Table 1: Frequency distribution of respondents' opinions about the role of bank mergers in the future, in the banking management system of West and East Azarbaijan provinces.

No.	object	Abundance	very little	Low	medium	Much	very much
1	The merger of banks in the future can reduce the number of banks and help to empower them	Percent	17	67	56	46	19
		Abundance	3/8	7/32	3/27	4/22	3/9
2	Mergers can reduce risk and increase diversification through the formation of a financial complex, and on the other hand, through the elimination of additional branches, increase the adjustment of the workforce and reduce the level of competition, causing a decrease in social welfare.	Percent	18	51	53	65	18
		Abundance	8/8	9/24	9/25	7/31	8/8
3	The simulation technique is a vision for the future of what financial institutions believe about the potential effect of mergers on costs. Such analyzes are effective and useful in predicting the pattern of mergers because the expansion of mergers can be affected by considering costs.	Percent	17	54	64	48	22
		Abundance	3/8	3/26	2/31	4/23	7/10
4	Mergers can create economic savings by increasing the assets of banks, increasing their size and increasing their lending power.	Percent	16	51	64	45	29
		Abundance	8/7	9/24	2/31	22	1/14
5	It seems that the adaptation of banking methods in the integration will be the most important challenge in the future of the country's banking management system.	Percent	21	53	59	50	22
		Abundance	2/10	9/25	8/28	4/24	7/10
6	It seems that in the absence of a suitable legal and logical structure in the implementation model of merger and acquisition in the financial markets of Iran, it will cause management challenges in the future.	Percent	26	44	62	57	16
		Abundance	7/12	5/21	2/30	8/27	8/7
7	It is necessary to consider things such as 1-strategic fit, 2-organizational fit, 3-characteristics of the merger process, and 4-composition and quality of resources of the banks involved in the merger before starting operations.	Percent	19	50	62	46	28
		Abundance	3/9	4/24	2/30	4/22	7/13
8	Economic scale and economic scope is the most important motivation for acquiring other banks before the merger	Percent	12	42	60	67	24
		Abundance	9/5	5/20	3/29	7/32	7/11

continued ...

... continued

No.	object	Abundance	very little	Low	medium	Much	very much
9	The successful transfer of management depends on changing the management structure in accordance with the functional requirements after the merger and creating the necessary infrastructure based on solving the previous problems.	Percent	7	30	81	58	29
		Abundance	4/3	6/14	5/39	3/28	1/14
10	Culture management, stress management, restructuring of human resources, resistance to change, job insecurity, draining of talents, lack of motivation are some of the challenges in merging banks in the future.	Percent	7	25	61	78	34
		Abundance	4/3	2/12	8/29	38	6/16
11	It is possible that many mergers will undergo changes in the future due to improper change management.	Abundance	13	75	59	46	12
		Percent	3/6	6/36	8/28	4/22	9/5
12	Executives of the merged banks should focus on the merger project rather than on day-to-day operations	Abundance	18	63	52	48	24
		Percent	8/8	7/30	4/25	4/23	7/11
13	In the merger process, an expert and experienced team in the field of human resources should be formed from all the banks to be merged in order to identify elites and valuable forces.	Abundance	28	51	70	41	15
		Percent	7/13	9/24	1/34	20	3/7
14	In the merger process, some employees with less skill, less talent or less commitment may not be employed in the new group; Trying to employ them in subsidiary companies or other work environments and reducing the stress of job loss among them is another important step in managing change in bank mergers.	Abundance	16	30	54	79	26
		Percent	8/7	6/14	3/26	5/38	7/12
15	In case of cultural incompatibility of merging organizations, it will definitely lead to organizational conflict. Approximation of beliefs, attitudes, values and norms through professional training according to the scientific tastes of employees and providing the necessary facilities for the cultural promotion of human resources can be the biggest cultural challenge of integration. to the minimum possible.	Abundance	13	39	59	72	22
		Percent	3/6	19	8/28	1/35	7/10

Prioritizing the views of the respondents regarding the merger of banks in the future, in the banking management system of West and East Azarbaijan Province The prioritization of the opinions of the sample about the merger of banks in the future in the banking management system of West and East Azarbaijan can be seen in Table(2).

Based on this, the topic "Culture management, stress management, human resources reconstruction, resistance to change, job insecurity, draining of talents, lack of motivation are the challenges raised in the merger of banks in the future." (cv=0.288), the item "The successful transfer of management depends on changing the management structure in accordance with the functional requirements after the merger and creating the necessary infrastructure based on solving the previous problems." (cv=0.300), Item "In the integration process, a number of employees with less skill, less talent or less commitment may not be employed in the new group; "Trying to employ them in subsidiary companies or other work environments and reducing the stress of job loss among them is another important step in managing change in bank mergers." (cv = 0.334), the item "in case of cultural incompatibility of integrated organizations, it will definitely lead to organizational conflict, approximating beliefs, attitudes, values and norms through professional training according to the scientific tastes of employees and providing the necessary facilities for Cultural promotion of human resources can minimize the biggest cultural challenge of integration. (cv=0.333), "Economic scale and economic scope is the most important motive before merger to acquire other banks." (cv=0.336), the item "Mergers can create economic savings by increasing the assets of banks, increasing their size and increasing their lending power." (cv = 0.375), the item "it is necessary to consider things like 1-strategic suitability, 2-organizational suitability, 3-characteristics of the merger process and 4-the composition and quality of the resources of the banks involved in the merger before starting the operation." (cv=0.384), the item "Mergers can reduce risk and increase diversification through the formation of a financial complex, and on the other hand, through the removal of additional branches, increase the adjustment of the workforce and reduce the level of competition, reduce social welfare " (cv=0.367), The subject is a technique of simulating a vision for the future of what financial institutions believe about the potential effect of mergers on costs. Such analyzes are effective and useful in predicting the pattern of mergers because the expansion of mergers can be influenced by considering costs. (cv=0.373), the item "It seems that the adaptation of banking methods in the integration will be the most important challenge in the future of the country's banking management system." (cv=0.388), the item "Executive managers of merged banks should focus on the merger project instead of focusing on daily activities." (cv = 0.392), the item "It seems that in the absence of a suitable legal and logical structure in the implementation model of merger and acquisition in the financial markets of Iran, it will cause management challenges in the future." (cv = 0.387), "The merger of banks in the future can reduce the number of banks and help empower them." (cv=0.384), the item "There is a possibility that many mergers will undergo changes in the future due to improper change management." (cv=0.362), were identified as the most important case in the future merger of banks in the banking management system of West and East Azerbaijan province.

Also, "In the merger process, an expert and experienced team in the field of human resources should be formed from all the banks to be merged to identify elites and valuable forces." (cv=0.398) was the least important item.

Table 2: Prioritization of respondents' views on the role of bank integration in the future, in the banking management system of West and East Azerbaijan province.

objects	Average	standard deviation	Coefficient of variation	rank
Culture management, stress management, restructuring of human resources, resistance to change, job insecurity, draining of talents, lack of motivation is some of the challenges in the merger of banks in the future.	52/3	1/017	0.288	1
The successful transfer of management depends on changing the management structure according to the functional requirements after the merger and creating the necessary infrastructure based on solving the previous problems.	3/35	1/006	0.300	2
In the merger process, some employees with less skill, less talent or less commitment may not be employed in the new group; Trying to employ them in subsidiary companies or other work environments and reducing the stress of job loss among them is another important step in managing change in bank mergers.	3/33	1/115	0.334	3

continued ...

... continued

objects	Average	standard deviation	Coefficient of variation	rank
In case of cultural incompatibility of merging organizations, it will definitely lead to organizational conflict. Approximation of beliefs, attitudes, values and norms through professional training according to the scientific tastes of employees and providing the necessary facilities for the cultural promotion of human resources can be the biggest cultural challenge of integration. to the minimum possible.	24/3	080/1	0.333	4
Economic scale and economic scope is the most important pre-merger motivation for acquiring other banks.	23/3	087/1	0.336	5
Mergers can create economic benefits by increasing banks' assets, increasing their size, and increasing their lending power.	09/3	159/1	0.375	6
It is necessary to consider things such as 1-strategic fit, 2-organizational fit, 3-characteristics of the merger process, and 4-composition and quality of resources of the banks involved in the merger before starting operations.	06/3	177/1	0.384	7
Mergers can reduce risk and increase diversification through the formation of a financial complex, and on the one hand, through the elimination of additional branches, increase the adjustment of the workforce and reduce the level of competition, causing a decrease in social welfare.	06/3	126/1	0.367	8
The simulation technique is a vision for the future of what financial institutions believe about the potential effect of mergers on costs. Such analyzes are effective and useful in predicting the pattern of mergers because the expansion of mergers can be influenced by considering costs.	01/3	124/1	0.373	9
It seems that the adaptation of banking methods in the integration will be the most important challenge in the future of the country's banking management system.	99/2	161/1	0.388	10
Executives of the merged banks should focus on the merger project rather than on day-to-day operations.	98/2	169/1	0.392	11
It seems that in the absence of a suitable legal and logical structure in the implementation model of merger and acquisition in the financial markets of Iran, it will cause management challenges in the future.	96/2	147/1	0.387	12
The merger of banks in the future can reduce the number of banks and help to empower them.	91/2	119/1	0.384	13
It is possible that many mergers will undergo changes in the future due to improper change management.	84/2	029/1	0.362	14
In the merger process, an expert and experienced team in the field of human resources should be formed from all the banks to be merged in order to identify elites and valuable forces.	82/2	123/1	0.398	15

5.1 The results of the Pearson test for research hypotheses

The results of the Pearson correlation test based on Table(3) show that the research hypothesis is significant at the level ($P=0.000$) and almost all hypotheses with high correlation have a significant relationship.

Table 3: The results of Pearson test and the degree of correlation between the effects of bank mergers in the future of the banking management system of West and East Azarbaijan Province.

Row	Component	Mean	standard deviation	Correlation	Meaningful Level	Test Result
1	Merger of banks in the future	3.099	0759	0.963**	0.000	There is not any relation

6 Conclusion

The prioritization of the opinions of the sample about the merger of banks in the future, in the banking management system of West and East Azarbaijan province, showed that the topic "Culture management, stress management, human resources reconstruction, resistance to change, job insecurity, talent drain, low motivation to The title is the challenges raised in the merger of banks in the future. (cv=0.288), the item "The successful transfer of management depends on changing the management structure in accordance with the functional requirements after the merger and creating the necessary infrastructure based on solving the previous problems." (cv=0.300), the item "In the integration process, some employees with less skill, less talent or less commitment may not be employed in the new group; "Trying to employ them in subsidiary companies or other work environments and reducing the stress of job loss among them is another important step in managing change in bank mergers." (cv = 0.334), the item "in case of cultural incompatibility of integrated organizations, it will definitely lead to organizational conflict, approximating beliefs, attitudes, values and norms through professional training according to the scientific tastes of employees and providing the necessary facilities for Cultural promotion of human resources can minimize the biggest cultural challenge of integration. (cv=0.333), the item "Economic scale and economic scope is the most important motive before merger for acquiring other banks." (cv=0.336), the item "Mergers can create economic savings by increasing the assets of banks, increasing their size and increasing their lending power." (cv = 0.375), the item "it is necessary to consider things like 1-strategic suitability, 2-organizational suitability, 3-characteristics of the merger process and 4-the composition and quality of the resources of the banks involved in the merger before starting the operation." (cv=0.384), the item "Mergers can reduce risk and increase diversification through the formation of a financial complex, and on the other hand, through the removal of additional branches, increase the adjustment of the workforce and reduce the level of competition, reduce social welfare "(cv=0.367), the item "simulation technique is a vision for the future of what financial institutions believe about the potential effect of mergers on costs." Such analyzes are effective and useful in predicting the pattern of mergers because the expansion of mergers can be influenced by considering costs. (cv=0.373), the item "It seems that the adaptation of banking methods in the integration will be the most important challenge in the future of the country's banking management system." (cv=0.388), the item "Executive managers of merged banks should focus on the merger project instead of focusing on daily activities." (cv = 0.392), the item "It seems that in the absence of a suitable legal and logical structure in the implementation model of merger and acquisition in the financial markets of Iran, it will cause management challenges in the future." (cv = 0.387), the item "the merger of banks in the future can reduce the number of banks and help empower them." (cv=0.384), the item "There is a possibility that many mergers will undergo changes in the future due to improper change management." (cv=0.362), were identified as the most important case in the future merger of banks in the banking management system of West and East Azerbaijan province. Also, "In the merger process, an expert and experienced team in the field of human resources should be formed from all the banks to be merged to identify elites and valuable forces." (cv=0.398) was the least important item.

References

- [1] A. Haji Ahmadi and F. Rajabi Kersi Kala, *Investigating the relationship between size, life and financial leverage with the profitability of banks admitted to the Tehran Stock Exchange*, Int. J. Account. Manag. **5** (2014), no. 34, 125–141.
- [2] R.D. Banker, A. Charnes, and W.W. Cooper, *Some models for estimating technical and scale inefficiencies in data envelopment analysis*, Manag. Sci. **30** (1984), no. 9, 1078–1092.
- [3] A. Can Berta, A. Demirgüç-Kunt, and H. Huizinga, *Do we need big banks? Evidence on performance strategy and market discipline*, J. Financ. Intermed. **22** (2013), no. 4, 532–558.
- [4] K.S. Chuang, *Financial advisors financial crisis and shareholder wealth in bank mergers*, Glob. Finance J. **25** (2014), no. 3, 229–245.

- [5] J. Cullen, E. Avgouleas, and A. Tseng, *Market discipline and EU corporate governance reform in the banking sector: Merits, fallacies, and cognitive boundaries*, J. Law Soc. **41** (2014), no. 1, 28–50.
- [6] R. DeYoung, *Determinants of cost efficiencies in bank mergers office the comptroller of the currency economic and policy analysis working paper*, J. Bank. Finance **28** (1993), no. 5, 1–93.
- [7] M. Gjirja, *Assessing the efficiency effects of bank mergers in Sweden a panel-based stochastic frontier analysis*, J. Bank. Finance **78** (2003), 1–24.
- [8] K. Hou and J. Moskowitz, *Market frictions, price delay, and the cross-section of expected returns*, Rev. Financ. Stud. **18** (2005), no. 3, 981–1020.
- [9] S. Isazadeh and M. Mazhari Ava, *Investigating the existence of economies of scale after banking merger in Iran*, J. Econ. Res. Policy Quart. **23** (2014), no. 76, 175–190.
- [10] J. Jagtiani, I. Kotliar, and R. Quinn Maingi, *Community bank mergers and their impact on small business lending*, J. Financ. Stab. **27** (2016), 106–121.
- [11] E. Razini and A.R. Suri, *Comparison of the effect of merger, concentration and credit risk on the efficiency of the banking industry in Iran*, Quart. J. Novin Econ. Trade **10** (2007), 184–154.
- [12] A. Jafari Samet, *An effective solution to prevent bank bankruptcy*, J. Monetary Bank. Res. Quart. **11** (2017), no. 37, 51–73.
- [13] H. Shahrashvani and S. Qobadi, *The effect of merger on the efficiency of banks in Iran*, J. Financ. Econ. **2** (2010), no. 5, 265–283.
- [14] Y. Shirasu, *Strategic effects of mergers and acquisitions in Asia-Pacific banks*, Finance Res. Lett. **24** (2018), no. 6, 73–80.
- [15] A. Suri, A. Teshkini, and M.R. Saadat, *Investigating the impact of the expansion of the competitive environment, the merger of competing banks and the expansion of electronic banking on the efficiency of the money market in Iran*, J. Econ. Model. Res. **12** (2010), no. 2, 214–231.