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Factors of business growth and leap in the Iranian commercial banking system with emphasis on the role of moderators

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Abstract

The present study was conducted with the aim of investigating the factors of the business boom and jump in the commercial banking system of Iran, emphasizing the role of moderating factors. The research method is mixed (quantitative-qualitative) and all the data and information needed for the research have been prepared in both quantitative and qualitative parts. The statistical population of the current research includes all participants from among banking experts and academic experts in the fields of accounting, finance, management, banking, and economics in the field of commercial banks in Iran. To test the hypotheses of the research from theoretical bases and field survey (distribution of 384 questionnaires), Used. In order to analyze the data, descriptive and inferential statistical techniques such as Cronbach's alpha tests, Kolmogorov-Smirnov tests, and structural equation modeling have been used. In the qualitative part, by selecting the key criteria of the research with the fuzzy Delphi method, factors of business boom and jump and moderating factors were identified. Then, by conducting factorial and structural analysis, the research results showed that the boom and jump of the banking system's business in various states (positive, negative and two-way) are effective on the performance of commercial and non-commercial banks. Therefore, the moderating factors moderate the relationship between the factors of boom and business boom in the banking system. By identifying the moderating factors and business boom and jump factors, a new model can be presented in the Iranian commercial banking system.

Keywords: financial strategies, financial technologies, moderating factors
2020 MSC: 91G15, 91G45

1 Introduction

The development of financial innovation has become one of the main trends in the development of the digital economy. Organizations that have not been able to create the necessary convergence between information technology and business strategies have faced considerable financial costs and lost opportunities. Information technology has been mentioned as the most important enabler of transformation, which has provided a new way of working [9]. To better understand this issue, the topic of China's innovation policy is mentioned in comparison with many developed countries. They believe that to properly influence the policies and intervention mechanisms of the government, appropriate institutional arrangements should be established for the allocation of created resources and coordination

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between economic and social activities. Where science and technology, industrial, financial, tax, and monetary policies have formed coherent and integrated packages of China's innovation policies [10].

The industrial policy encourages technological progress in industry, regulates industrial structure, guides the direction of industrial development, and promotes industrial competitiveness by providing subsidies and support to specific industries [11]. The fiscal policy provides support, cost reduction, and direction of technological innovation activities through financial input; It reduces research and development and investment risk of innovation and increases the expected income of research and development by providing various tax exemptions to companies or imposing special taxes; The goal of financing policy is to perfect the environment and financing channels through which innovation actors reduce innovation risks, avoid risks and adjust risks through financial markets, intermediaries, and financing tools [3]. Science and technology policies and industrial policies have a direct effect on encouraging innovation and play an obvious role. While financial, tax, and financing policies are policy tools that governments use to encourage the creation of an environment that guides innovation or facilitates innovation activities [8]. Based on the measures taken in Iran's banking system and according to the existing trends and challenges, in the first step, by issuing a license to transfer card money transfer services to banks, the field of activity of some financial technologists has been provided [1]. In the next stage, the activity framework of another group of financial technologists, which includes almost all types of payment intermediary businesses, has been started and the activity framework of this type of business has been organized. In addition, the framework of payments based on mobile smart devices and the use of electronic wallets is also in its final stages [2]. From a traditional point of view, organizational performance is usually considered a financial performance, where budget considerations, assets, operations, products, services, markets, and human resources have an impact on the overall bottom line of organizational success [4].

There are various criteria such as market share, sales growth, sales margin, investment return, stock return, asset return, and inventory turnover to measure the company's financial performance [5]. Business performance, which represents the perspective of strategic management and subsets of the general concept of organizational effectiveness, can be defined to achieve the organization's goals in profitability and increase sales and market share, as well as realizing the company's overall strategic goals [7].

The performance of the company depends on its ability to create value for its customers, while the financial performance of the company has also been defined by the unstable balance caused by the evolution of productivity and effectiveness [6]. Financial performance is a management initiative in increasing the accuracy and timeliness of financial information and measures the general economic goals of the organization [4]. The non-financial performance also includes, for example, raising the quality of products and services, customer satisfaction, customer loyalty, improving the performance of human resources, etc., and paying attention to them along with financial performance criteria will align financial technologies and financial strategies with the expected performance of the business cycle. Iran's banking system will In fact, in order to realize its goals and visions, Iran's banking system needs to create an alignment of financial technologies and financial strategies with the expected performance of its business cycle in Iran's financial markets. Therefore, by studying and investigating this problem, the present research tries to find a suitable model and tool to solve the problem of lack of alignment between the field of financial technologies and financial strategies with the factors of business boom and jump, which can meet the minimum needs. These sectors are in the banking system of Iran. Therefore, the main goal of this research is to align the gap between strategy and financial technology with the factors of the business boom and jump in the commercial banking system of Iran with an emphasis on moderating factors.

2 Method

In this research, the issue of aligning the gap between strategy and financial technology with the factors of the business boom and jump in the commercial banking system of Iran has been addressed with an emphasis on moderating factors. Therefore, the present research is retrospective research in terms of its purpose. In terms of the implementation process, it is a mixed (quantitative-qualitative) type of research, and in terms of the implementation result, it is also applied research. Also, it is temporary in terms of the time dimension. In addition, from the point of view of the implementation logic, it is mixed or combined research (analogical-inductive) based on the collection of required library and field data. In the first stage, the researcher prepared an initial questionnaire in order to extract the dimensions and key components of the conceptual framework (model) and provided it to 20 experts from among academicians and senior banking system experts to answer. Therefore, after conducting the interview, the researcher extracted some of the most important dimensions and key components of the conceptual framework (model) through the above questionnaire, which he used to compile the second (main) questionnaire. Therefore, after preparing the second questionnaire, the researcher has given it to the respondents. At this stage, the data and information from

the questionnaire, which included 384 statistical samples, have been entered into an Excel file. At this stage, which is related to data analysis and research hypotheses, first, the factor analysis of the research is done and then the main model of the research is examined.

The content validity was evaluated, including both content validity index (CVI).

$$CVI = \frac{\text{Number of experts who answered the questions of options 3 and 4}}{\text{Total number of specialists}}$$

The content validity ration (CVR) after confirming the face validity of the draft questionnaire. The formula of content validity ratio is.

$$CVR = (N_e - N/2)/(N/2)$$

In which the Ne is the number of panelists indicating "essential" and N is the total number of panelists. Reliability measurement is by calculating Cronbach's alpha coefficient which was calculated using SPSS software and was calculated according to:

$$r_\alpha = \frac{k}{k-1}\left(1 - \frac{\sum_{t=1}^{k} S_t^2}{S_t^2}\right)$$

in which K: Number of questions, S^2K: The variance of all subjects answers to the km question, S_t: The variance of the sum of the scores of each respondent.

Finally, the research hypotheses are tested. Structural equation method using PLS software has been used to examine and analyze research hypotheses.

3 Findings

According to the results of Table No. 1, the value of the threshold limit is obtained from the mean of the significant value column (91.7). Therefore, among the existing 5 dimensions, the dimensions of financing strategy and capital structure, and working capital strategy, compared to other dimensions, their significance value is less than the threshold (91.7) and will be removed. Therefore, the dimensions: investment strategy, profit sharing strategy, and risk management strategy will be selected considering that their significance is higher than the threshold.

Table 1: Performance indicators based on fuzzy Delphi method

Dimensions of financial strategies	**Rank**	**A significant amount**	**Geometric mean**		**Optimistic value**		**Pessimistic value**	
					Maximum	Minimum	Maximum	Minimum
Investment strategy	1	43.11	54.6	80.4	9	7	8	2
Financing strategy and capital structure	4	94.5	22.6	51.4	10	2	10	1
Working capital strategy	5	82.2	58.4	82.2	9	2	6	1
Profit sharing strategy	3	38.9	31.6	77.4	10	6	9	1
Risk management strategy	2	96.9	76.6	71.5	10	6	9	1

According to table number 2, the value of threshold value is obtained from the mean of the significant value column (39.8). Therefore, among the existing 5 dimensions, the dimensions: of development and application process of information technology, and capability of information technology compared to other dimensions, their significance value is less than the threshold (39.8) will be removed. Therefore, the dimensions: recognition of superior technology features, key factors of information technology, and investment risk in information technology will be selected considering that their significance value is higher than the threshold.

According to table number 3, the value of threshold value was obtained from the mean of the significant value column (87.8). Therefore, among the existing 5 dimensions, the dimension: level of strategic alignment requirement (second level) compared to other dimensions, their significance value is less than the threshold (87.8) will be removed. Therefore, the dimensions: optimal level of strategic alignment, improved/managed level of strategic alignment, full focus level of strategic alignment, and required level of strategic alignment (first level) will be selected considering that their significance value is higher than the threshold.

According to table number 4, the threshold limit value is obtained from the mean of the significant value column (0.10). Therefore, among the 4 existing dimensions, the dimension: the prosperity of non-financial performance

Table 2: Performance indicators based on fuzzy Delphi method

Dimensions of financial technology	**Rank**	**A significant amount**	**Geometric mean**		**Optimistic value**		**Pessimistic value**	
					Maximum	Minimum	Maximum	Minimum
Knowing the features of superior technology	2	85.9	76.8	23.5	10	8	8	3
The process of development and application of information technology	4	40.6	93.7	86.3	9	5	7	1
Key factors of information technology	3	80.9	39.8	63.4	10	7	9	2
Information technology capabilities	5	16.5	35.7	95.2	9	4	7	1
The risk of investing in information technology	1	75.10	41.8	95.6	10	7	9	4
Threshold = 39.8								

Table 3: Performance indicators based on fuzzy Delphi method

Bridging the dimension gap between financial technology and financial strategies	**Rank**	**A significant amount**	**Geometric mean**		**Optimistic value**		**Pessimistic value**	
					Maximum	Minimum	Maximum	Minimum
Optimal level of strategic alignment	1	20.11	61.8	41.6	10	7	9	3
Improved/managed level of strategic alignment	4	90.8	59.7	76.3	9	6	9	2
Full focus level of strategic alignment	3	89.9	98.7	57.6	10	6	10	4
Strategic alignment requirement level (first level)	2	30.11	67.8	50.5	10	7	9	1
The required level of strategic alignment (second level)	5	31.3	42.5	29.2	9	3	6	1
Threshold = 87.8								

compared to other dimensions, their significance value is less than the threshold (10.00) will be removed. Therefore, the dimensions: the development of virtual banking, the improvement of the non-financial business performance of the banking system, the improvement of the financial performance, and the improvement of the bank's internal organizational performance will be selected considering that their significance is higher than the threshold.

Table 4: Performance indicators based on fuzzy Delphi method

The boom and leap of dimensions and work of the banking system	**Rank**	**A significant amount**	**Geometric mean**		**Optimistic value**		**Pessimistic value**	
					Maximum	Minimum	Maximum	Minimum
The development of virtual banking, the promotion of non-financial business performance	3	65.10	49.8	33.4	10	7	10	2
Financial performance boom	2	55.11	24.8	82.5	9	6	9	2
Improving the internal performance of the bank	1	71.13	47.8	93.6	9	7	9	4
Non-financial performance boom	4	09.4	78.4	23.3	8	1	8	1
Threshold = 0.10								

According to table number 5, the threshold value was obtained from the mean of the significant value column (42.8). Therefore, among the existing 4 dimensions, the dimensions: of administrative circulars of executive and supervisory organizations, and international legal requirements of the banking field, compared to other dimensions, their significance value is less than the threshold (42.8) will be removed. Therefore, the dimensions: laws and regulations, instructions and guidelines of executive and supervisory organizations will be selected considering that their

significance value is more than the threshold.

Table 5: Performance indicators based on fuzzy Delphi method

Dimensions of moderating factors	**Rank**	**A significant amount**	**Geometric mean**		**Optimistic value**		**Pessimistic value**	
					Maximum	Minimum	Maximum	Minimum
Terms and Conditions	1	60.11	73.8	34.5	10	8	9	3
Administrative directives of executive and supervisory organizations	3	40.7	78.7	91.5	9	3	9	2
Instructions and guidelines of executive and regulatory organizations	2	55.10	18.8	77.6	10	7	9	4
International legal requirements of the banking sector	4	12.4	41.6	34.3	9	2	7	1
Threshold = 8.42								

According to table number 6, for the variable dimensions of financial technology (B), the minimum number of comments is 1.50 and the maximum number of comments is 4.50, and the mean and standard deviation of the comments are 3.0940 and 0.60264, respectively. For the variable dimensions of financial strategies (C), the minimum value of comments is 1.36 and the maximum value of comments is 5.00, and the mean and standard deviation of comments are 2.9953 and 0.69189, respectively. For the variable of aligning the gap between technology and financial resources (D), the minimum number of comments is 1.21 and the maximum number of comments is 4.79, and the mean and standard deviation of the comments are 2.8822 and 0.065315, respectively. For the variable of banking system business growth factors (E), the minimum value of opinions is 1.67 and the maximum value of opinions is 4.92, and the mean and standard deviation of opinions are 3.4073 and 0.58718, respectively. For the variable of moderating factors (G), the minimum value of comments is 1.00 and the maximum value of comments is 5.00, and the mean and standard deviation of comments are 3.0485 and 0.78378, respectively.

Table 6: Descriptive statistics of research variables

Variable	**Abbreviation sign**	**Minimum**	**Maximum**	**Average**		**Standard deviation**	**Variance**
		Statistics	Statistics	Statistics	The standard error	Statistics	Statistics
Dimensions of financial technology	B	1.50	4.50	3.0940	0.04305	0.60264	0.363
Dimensions of financial strategies	C	1.36	5.00	2.9953	0.04942	0.69189	0.479
Bridging the gap between technology and financial strategies	D	1.21	4.79	2.8822	0.04665	0.65315	0.427
Factors of boom and jump in the business of the banking system	E	1.67	4.92	3.4073	0.04194	0.58718	0.345
Modulating factors	G	1.00	5.00	3.0485	0.05598	0.78378	0.614

In Table No. 7, all the coefficients of the factor loadings of the questions are greater than 0.4, which indicates the appropriateness of this criterion.

Table 7: Coefficients of factor loads

Factor	**factor load**	**Symbol**
Dimensions of financial technology	0.654	B1
	0.836	B2
	0.894	B3

According to the data analysis algorithm in PLS, after measuring the factor loadings of the questions, it is time to calculate and report Cronbach's alpha coefficients and composite reliability, the results of which are shown in Table No. 8. Considering that the suitable value for Cronbach's alpha and composite reliability is 0.7, and according to the findings of the above table, these criteria have adopted a suitable value for the variables, it can be confirmed that the reliability of the research is appropriate.

Dimensions of financial strategies	0.766	C1
	0.882	C2
	0.707	C3
Bridging the gap between technology and financial strategies	0.706	D1
	0.788	D2
	0.702	D3
	0.692	D4
Factors of boom and jump in the business of the banking system	0.849	E1
	0.836	E2
	0.772	E3
Modulating factors	0.920	G1
	0.470	G2

Table 8: The results of Cronbach's alpha criterion and composite reliability of hidden research variables

Local variables	**Composite reliability coefficient** ($CR > 0.7$)	**Cronbach's alpha coefficients** ($Alpha > 0.7$)	**Symbol**
Dimensions of financial technology	0.791	0.783	B
Dimensions of financial strategies	0.879	0.852	C
Bridging the gap between technology and financial strategies	0.792	0.751	D
Factors of boom and jump in the business of the banking system	0.796	0.778	E
Modulating factors	0.894	0.858	G

The second criterion for checking the fit of the structural model in research is the R^2 coefficients related to the hidden endogenous (dependent) variables of the model. R^2 is a measure that shows the influence of an exogenous variable on an endogenous variable and three values of 0.19, 0.33, and 0.67 as values the criterion is considered for weak, medium, and strong R^2 values. According to the results of the software, the value of R^2 has been calculated for the endogenous structures of the research, which can confirm the appropriateness of the fit of the structural model according to the three criterion values.

Table 9: Results of the R^2 criterion for the endogenous construct

Local variables	R^2	**Symbol**
Dimensions of financial technology	0.189	B
Dimensions of financial strategies	0.235	C
Bridging the gap between technology and financial strategies	0.651	D
Factors of boom and jump in the business of the banking system	0.364	E

To check the fit of the overall model, the GOF criterion is used, and three values of 0.01, 0.25, and 0.36 are introduced as weak, medium, and strong values for GOF. This criterion is calculated through the following formula:

$$GOF = \sqrt{\sqrt{communalities} \times \overline{R^2}}$$

It is obtained from the average shared values of the hidden variables of the research. According to the value obtained for GOF of 0.459, a very good fit of the overall model is confirmed.

Table 10: Communality and R^2 of research variables

Local variables	**GOF**	R^2	**Communality**	**Symbol**
Dimensions of financial technology		0.189	0.642	B
Dimensions of financial strategies		0.235	0.622	C
Bridging the gap between technology and financial strategies	0.459	0.651	0.523	D
Factors of boom and jump in the business of the banking system		0.364	0.672	E
Modulating factors		0.000	0.533	G

4 Conclusion

Global societies have undergone constructive changes due to the development of technology. In the field of finance, as well as the development of financial technologies through encrypted operating systems without money, financial platforms for fundraising, financial consulting, technical and robotic assistance through virtual space, and the latest virtual coins, the value and power of participating in global investment in a competitive platform can be greatly appreciated. Attention has been made. Based on this, in this research, the issue of aligning business boom and jump factors in Iran's commercial banking system has been addressed with an emphasis on moderating factors. The statistical population of the research includes all the participants from among banking and academic experts, experts, and experts in the fields of accounting, finance, management, banking, and economics in the field of commercial banks in Iran. The research method is of mixed type (quantitative-qualitative) and all the data and information needed for the research have been prepared in two parts, quantitative and qualitative. Then, it has been prepared to test the research hypotheses through theoretical foundations and field investigation (distribution of 384 questionnaires). Descriptive and inferential statistical techniques such as Cronbach's alpha tests, Kolmogorov-Smirnov, and structural equation modeling have been used to analyze the data. In the qualitative part, the key criteria of the research were identified with the fuzzy Delphi method, and the impact results related to each of the components of financial strategies, financial technology, business boom, and jump, and moderating factors in order to identify and explain the degree of alignment and alignment of the gap between strategy and technologies Finance with factors of business boom and jump in commercial banks of Iran were presented with emphasis on moderating factors [8]. In this research, according to the studies carried out regarding the variables of technology and financial strategies, the leap and prosperity of business, and the moderating factors, it can be stated that each of their sub-criteria has been confirmed in the final model of the current research. Therefore, according to the results of the current research, it is suggested that in order to align the gap between strategy and financial technology with the factors of production and business boom in Iranian commercial banks, the role of each of the main criteria of the model, which includes strategic alignment, operational alignment, communication and value measurement and competency based on the variables of financial technology dimensions, dimensions of financial strategies, aligning the gap between, technology and financial strategies to pay attention continuously in daily activities. Because this will improve the results and facilitate the achievement of the desired results for commercial banks in Iran.

References

[1] I. Ahmad and S.B. Ahmad, *The mediation effect of strategic planning on the relationship between business skills and firm's performance: Evidence from medium enterprises in Punjab, Pakistan*, Opción: Rev. Ciencias Humanas Soc. **24** (2019), 746–778.

[2] T. Baum, *Sustainable human resource management as a driver in tourism policy and planning: a serious sin of omission?*, J. Sustain. Tourism **26** (2018), no. 6, 873–889.

[3] H. Boudlaie, H. Amoozad Mahdiraji, S. Shamsi, V. Jafari Sadeghi, and A. Garcia-Pereze, *Designing a human resource scorecard: An empirical stakeholder-based study with a company culture perspective*, J. Entrepr. Manag. Innov. **16** (2020), no. 4, 113–147.

[4] P. Centobelli, R. Cerchione, D. Chiaroni, P. Del Vecchio, and A. Urbinati, *Designing business models in circular economy: A systematic literature review and research agenda*, Bus. Strat. Envir. **29** (2020), no. 4, 1734–1749.

[5] A. Ciobanu and A. Androniceanu, *Integrated human resources activities-the solution for performance improvement in Romanian public sector institutions*, Manag. Res. Practice **10** (2018), no. 3, 60–79.

[6] A. Di Vaio, R. Palladino, R. Hassan, and O. Escobar, *Artificial intelligence and business models in the sustainable development goals perspective: A systematic literature review*, J. Bus. Res. **121** (2020), 283–314.

[7] E.J. Erbelding, D.J. Post, E.J. Stemmy, P.C. Roberts, A.D. Augustine, S. Ferguson, C.I. Paules, B.S. Graham, and A.S. Fauci, *A universal influenza vaccine: the strategic plan for the national institute of allergy and infectious diseases*, J. Infectious Disease, **218** (2018), no. 3, 347–354.

[8] B. George, R.M. Walker, and J. Monster, *Does strategic planning improve organizational performance? A meta-analysis*, Public Admin. Rev. **79** (2019), no. 6, 810–819.

[9] C. Lau and H. Ngo, *Designing a human resources strategic planning model based on maintenance and adjustment of knowledge employees in the organization*, Int. Bus. Rev. **13** (2018), no. 6, 685–703.

[10] P. Sullivan, *Communication differences between male and female team sport athletes*, Commun. Rep. **17** (2004), no. 2, 121–128.

[11] H. Xian, C. Atkinson, and Y. Meng-Lewis, *Guanxi and high performance work systems in China: evidence from a state-owned enterprise*, Int. J. Human Resource Manag. **30** (2019), no. 19, 2685–2704.