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Formulating the corporate governance model in the banking system using the Delphi technique: A risk reduction viewpoint

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Abstract

Recent financial crises revealed the high vulnerability of the banking system as a complex system for financial transactions. Investigating the causes of the collapse of some large banks shows that each country's banking structure and system requires a corporate governance model suited to the country's economic, political, and cultural models to gain further success. This study aims to formulate a corporate governance model for the Iranian banking system As an Islamic banking system. A future study was conducted using the Delphi method in three phases, with 28 experts in banking and governance strategic studies. In the first phase, one question is applied to identify the most important factors affecting the corporate governance suited to the Iranian banking system based on a risk reduction viewpoint. In the second and third phases, a self-made questionnaire was used based on the results of the first phase to collect the experts' opinions and provide a consensus. According to the results, 30 effective factors were extracted and classified into six groups, including the effectiveness of the internal controls, the effectiveness of the structure and characteristics of the board of directors, quality of disclosure, responsiveness, optimal risk management, and effectiveness of the ownership structure. The corporate governance model, specific to the Iranian banking system, was also formulated and validated using the findings.

Keywords: Banking, Corporate Governance, Delphi Technique, Risk
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1 Introduction

After years of experience in state banking, during the past years, the country's banking industry has faced the process of bank privatization, the most important of which is the increase in competition between banks on the one hand, and the tightening of disciplinary and control policies by the central bank towards banks on the other hand [17]. Dealing with these risks in Islamic banking, taking into account the existing jurisprudential restrictions, requires a precise and appropriate mechanism; so that the bank manager can implement the correct risk management [12]. In Islamic banking, due to the credit risk, unpaid instalments cannot be borrowed or extended at a higher rate. The first requirement of corporate governance to reduce this risk is lending according to the applicants' records and credit history. Here, the repayment history and future payment capacity of the person should be examined [16]. But without

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a doubt, Islamic banks face limitations in liquidity risk management. For example, Islamic banks cannot provide short-term financing in the interbank market using loan contracts like conventional banks. or that they cannot use the resources of the central bank based on the loan contract [21].

Provide short-term financing in the interbank market. or that they cannot use the resources of the central bank based on the loan contract [21]. Therefore, one of the most important financial issues of banks is always reducing risk in order to improve their performance. Measuring the performance of banks is important because it is the basis of many decisions inside and outside the bank. Decisions related to investments, capital increase, agency relationships and many other decisions are all based on performance measurement [3]. In this regard, it is possible to use the capacity of corporate governance solutions for risk management in Islamic banks.

Corporate governance is mechanisms that can improve the company's performance and some types of these mechanisms are: institutional investors, non-executive directors, internal controls, audit committees, legal supervision, etc. [5].

While corporate governance regulations may vary from company to company, many informal, formal and legal factors similarly affect companies. Therefore, it is possible to imagine a "model" of corporate governance for a country [23]. In every country, a corporate governance structure has characteristics and elements specific to that country, which distinguish it from the structure of other countries. Among these models, we can mention the Anglo-American model and the German strategic model. The following factors are included in both of the above governance models:

The key stakeholders of the companies, the environment, the pattern of share ownership in the country in question, the composition of the board of directors, legal frameworks, transparency requirements for public companies on the stock exchange, corporate actions that require shareholder approval and the way of interaction between key stakeholders [18]. According to the mentioned cases and the position of corporate governance and ownership structure, the main goal of this research is to provide a corporate governance model that fits the banking system in Iran.

2 Literature and research background

The general perception of the banking industry in developing countries is that the cost-efficiency levels of private banks are higher than those of public banks. In the 1990s and 2000s, several governance reforms took place in the banking industry of developing countries, such as the removal of regulatory control and the privatization of state-owned banks, which led to significant consequences for the performance of the banking sector. Governance reforms in developing countries made it possible for private and foreign banks to compete freely with state banks in the market. After the implementation of the reforms, the restructured banks faced productivity loss only in the first few years after the implementation of the reforms, but after that, a significant improvement in their performance was obtained and even their efficiency became more than before the reforms [7].

The changes in the commercial environment have caused a huge wave of corporate restructuring all over the world and fundamental changes in the principles of corporate management [20]. The issue of corporate governance has received the attention of academics and specialists in this sector due to its transformative importance on the performance of the company, especially in monitoring the productivity of resources in all economic sectors [1, 4, 10]. Corporate communication and its study are important in several ways:

1. Corporate governance makes use of scarce resources in the economy.
2. It causes specialization of resources towards effective investments.
3. It causes managers to focus more on improving the company's performance.
4. It helps the CEO or the board of directors to choose the best tool to control scarce resources.
5. Corporate governance forces institutions to accept regulations [24].

Today, obtaining information about corporate information and especially information about the ranking of companies in terms of compliance with the principles of corporate governance has attracted the attention of many people and organizations. Investors and stakeholders can get more profit through optimal corporate governance and create better legal protection and get a higher stock value for their company through paying higher interest [13].

Corporate governance deals with creating a balance between the economic and social goals of a company in the aspects of effective use of resources, accountability in the use of power and behaviour of the company in the social environment. Corporate governance is one of the main issues that preoccupy business managers, accountants and auditors, investment managers and government officials around the world. Corporate governance methods limit various aspects of the management roles of companies and try to create a balance. It is also used to develop a control mechanism in order to increase the value of shares and satisfy other stakeholders [20]. One of the main methods of corporate governance that is followed by most of the bank shareholders, is effective risk management is what keeps the continuity and survival of the bank. The bank's external stakeholders work on reducing the risk levels in banking investment to maintain financial stability. This strategy conflicts with the demands of bank shareholders to participate in risky projects, in such a way that they increase the stock returns, and this conflict shows the usual problems between regulators and shareholders [9].

In Iran, banks, as financial institutions that require compliance with the general policies of Article 44 of the Constitution, also need to formulate these regulations. Proper governance has always been a companion of successful companies. Legal theorists and corporate business practices in the world indicate the existence of two models of corporate governance that countries mainly combine the foundations of their corporate governance with one of these models or both [25]. These two models are:

1. Anglo-Saxon model of governance (Anglo-American)
2. European (German) governance model

These models are at the two extremes of the "shareholder model" (external organizational control by the company's shareholders) and the "beneficiary model" (internal organizational control by various interested parties such as creditors, employees, etc.) [8]. Each of these models provides different descriptions, and sometimes there are subtle differences between the models, and in such a case, an accurate evaluation shows which model's design and discussion is closer to the truth [19]. Of course, each of these models is not a final solution, but their use can be considered as a logical framework for important issues [23]. There is a difference of opinion as to which model alone can represent good corporate governance or not. As an example, the Organization for Economic Cooperation and Development has stated that "there is no good model that represents corporate governance alone, and there is no model that is suitable for all cases" [6].

Inside the country, most of the research conducted in the field of corporate governance in the banking system has investigated the effect of corporate governance on the risk or performance of companies. Authors in [2] concluded in their research that institutional governance does not have a significant effect on financial performance, but the ratio of non-commissioned board members to total board members has a negative effect on the financial performance of companies. Also, the results showed that increasing the concentration of shareholders increases the company's performance. Khodamipour et al. also concluded that there is a relationship between institutional investors and the risk committee, and it was also found that institutional investors influence the company's performance [14]. Chakrabutti et al. in a research entitled Corporate governance and risk of only Canadian and multinational companies concluded that the effect of board characteristics such as size, independence and proportion of female directors in both types of companies mentioned is significant on the risk of companies. The duality of CEO and human ownership has a significant effect on company risk only in Canadian companies.

Sagar and Singh also concluded that the main sources of corporate governance, i.e. board size and gender diversity, have a positive effect on risk disclosure, while the concentration of ownership by the largest shareholder has a negative effect on corporate governance and risk reporting [22]. It has an insignificant effect on risk disclosure, but ownership concentration has a negative effect on risk disclosure. Koerniadi et al. investigated New Zealand companies and found that the risk-taking level of companies with a large board of directors was lower [15]. Eling and Mark while studying insurance companies in England and Germany found that the components of corporate governance, such as the level of executive compensation, non-executive members and the number of board meetings, are inversely related to the company's risk-taking [11].

3 Materials and Methods

This study was carried out in three stages in order to develop a corporate governance model suitable for the banking system in Iran using the Delphi technique.

In the first round, after conducting studies and collecting information related to the topic, preparing documents and forming a team of Delphi experts consisting of researchers, supervisors and consultants; The research question was prepared with open-ended answers. which consisted of:

1- In your opinion, what are the most important factors and components of corporate governance that are effective in reducing risk and improving the performance of banks?

In the following, the desired characteristics were determined to select the participants to participate in the study. The characteristics of the participants included having at least five years of work experience in the managerial levels of the banking sector, and having a master's degree or higher. According to the specified criteria, 28 people were selected as participants in a non-random and purposeful way.

Then, during a phone call with the selected participants, full explanations were given regarding the purpose of the study and the intended method. Then, after obtaining permission from the participants, questions were provided to them through e-mail, face-to-face interview, and phone call. After collecting the written answers and collecting and rewriting the audio files, the primary data was summarized by the researcher.

The collected information was subjected to content analysis and 30 codes were classified in the form of 6 main indicators. After extracting and categorizing the main concepts in the second stage of Fan Delphi, a questionnaire containing the main concepts extracted using a Likert scale from completely agree to completely disagree was provided to the participants. 28 questionnaires were provided to the participants, of which 25 responses were received. The response rate was calculated to be about 89%.

After receiving the answers from the participants, the answer sheets were examined and according to the previous studies, for each item, the percentage of agreement was determined to be 70% to accept the item and 70% of disagreement to remove the code, and values less than 70% were either agreement or not. The agreement to enter the repetition of the survey was determined, and based on this, all the codes were approved by the participants.

After the final summary, the initial model was developed using the obtained codes and indicators, and in the third round, it was given to twenty-five participants for the survey, and the opinions and suggestions of the participants were collected and analyzed. Finally, after applying the comments and suggestions, the final model was formulated as factors affecting corporate governance in accordance with Iran's banking system. Data can be seen as a variable

$$X : U \to X \quad where \quad x \in X.$$

Appears with probability $P[X = x]$. Data are encoded by strings (words) over an alphabet Σ. A code is a function $C : X \to \Sigma$. $C(x)$ is the code word associated with x. Length of the code word is written as $L(C(x))$. Expected length of a code is

$$l(C) = \sum_{x\in\mathcal{X}} l(C(x))\mathbf{P}[X = x].$$

The concatenation of code words

$$C(x_1, \ldots, x_k) = C(x_1)C(x_2)\ldots C(x_k)$$

The code word of the empty string is the empty string itself: $C(\varepsilon) = \varepsilon$.

4 Findings

This study was conducted in three rounds in order to develop a corporate governance model suitable for Iran's banking system. First, the frequency of people is given in the following table:

Table 1: The frequency of the statistical population

Participant sample composition	Number
Master's degree (financial management and accounting) in the managerial levels of the banking field	15
Ph.D. and Ph.D. student in management and accounting	10
Professors in the field of financial management and accounting	3
Total	60

The findings of the first to third rounds of the study are listed in Table 2. The findings of the first round of the study were obtained in 36 codes and 6 main indicators in response to the research question. The number of 38 codes obtained in the second stage of the study was again surveyed by the participants, and the number of 30 codes was the final consensus. The codes that were polled and agreed upon by the participants are listed below in the form of Table 2.

Research question: In your opinion, what are the most important factors and components of corporate governance that are effective in reducing risk and improving the performance of banks?

Table 2: Indexes and codes extracted in the first and second round

Row	Main Index	Codes extracted from the first round	Agreed codes in the second round	Rejected codes In the second round	considerations
1	Effectiveness of internal controls	The size of the audit committee - the independence of the members of the audit committee - the competence of the audit committee - the expertise of the members of the audit committee - the conditions for selecting members - the number of meetings of the board of directors - remuneration to managers	4	3 codes: Conditions for electing members - number of board meetings - remuneration to managers	
2	The effectiveness of the structure and characteristics of the board of directors	Separation of duties - financial expertise of CEO - independence of board members - size of board of directors - composition of members - conditions for selecting members	6	No removal code	
3	Disclosure quality	The size of the bank - the field of activity - the history of the bank - the size of the audit firm - financial leverage - profitability - liquidity - the executive order of information disclosure - percentage of ownership by institutional and government owners	8	1 code: The percentage of ownership by institutional and government owners	The ownership percentage of institutional and government owners was included in the main index of ownership structure
4	Responsibility	Complying with economic responsibility - Complying with legal responsibility - Complying with moral responsibility - Complying with social (philanthropic) responsibility - Complying with Islamic responsibility - Complying with cultural responsibility	5	1 code: Compliance with cultural responsibility	
5	Optimal risk management	Managers' support of the risk committee - the competence of the risk committee Managers' support of the risk committee - the competence of the risk committee members - the expertise of the risk committee members - the size of the risk committee - the diversification of the bank's activities	3	2 codes:The size of the risk committee - diversification of the bank's activities	
6	The effectiveness of the ownership structure	Managers' support of the risk committee - the competence of the members of the risk committee - expertise	4	1 code: Family owned	

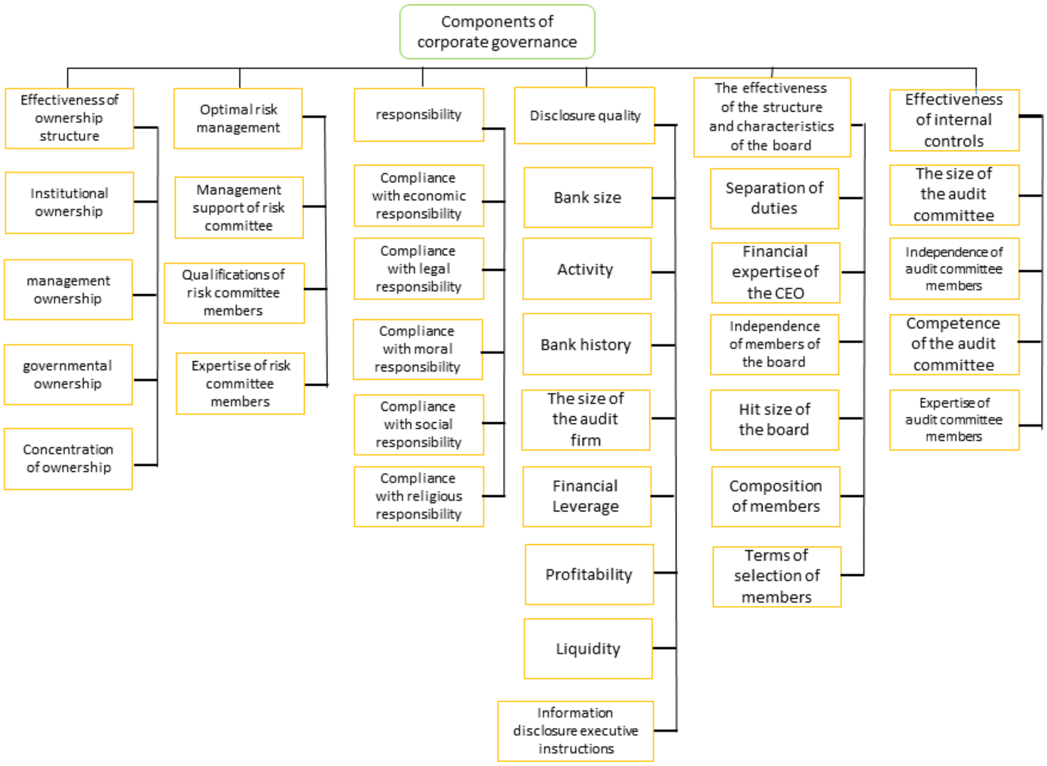

Figure 1: Corporate governance model suitable for Iran's Islamic banking system

After the finalization and consensus of the participants' opinions in the third stage, the corporate governance model appropriate to Iran's banking system was formulated according to the answers to the research questions. This model was given to the experts and it was finalized after applying the reforms.

5 Discussion and Conclusion

A corporate governance system should be based on principles and not rules and regulations due to different financial systems, different cultural contexts and most importantly the changing financial conditions in different countries. In the banking sector, corporate governance plays an important role and is considered a necessary factor to maintain a strong financial system. The banking sector has its own complex governance issues and requires separate investigation and management. In addition, banks are more subject to government regulation than other economic sectors due to their unique financial mix. Banks are less valuable compared to other companies, and a large amount of debt is in the form of deposits that require special government regulations to protect it, so expanding more research that is able to examine corporate governance practices in the banking sector. needed. Although all banking structures operate under similar regulations, the regulatory effect of private bank governance is different from that of public banks. Regulations have very little effect on the governance practices of private banks, and this is in contrast to state banks. Corporate governance in private banks is significantly influenced by board members, including the company's CEO.

The purpose of this research is to develop a corporate governance model suitable for Iran's banking system with the aim of reducing risk using the Delphi technique. The advantage of the present study is the use of the Delphi method, which is a constructive communication method or technique, and by relying on the deliberation of experts, it can lead to the discovery of innovative and reliable ideas or the provision of appropriate information for better decision-making, in addition to increasing the credibility of the research. The results led to the identification of 30 items in the form of 6 main indicators of the effectiveness of internal controls, the effectiveness of the structure and characteristics of the board of directors, the quality of disclosure, accountability, optimal risk management and the effectiveness of the ownership structure as the most important factors of corporate governance in Iran's banking system based on risk reduction. Based on the identified factors, a corporate governance model suitable for Iran's banking system was formulated. According to the model, it can be said that risk reduction in banking is achieved when the six factors of effectiveness of internal controls, effectiveness of the structure and characteristics of the board of directors, quality of disclosure, accountability, optimal risk management and the effectiveness of the ownership structure are realized. Each of the mentioned factors also includes a subset, for example, the effectiveness of internal controls is achieved when the members of the audit committee are competent, specialized and independent. It means that by increasing the expertise and competence of the members of the audit committee, as well as by increasing the number of members and their independence, in addition to making internal controls more effective, the risk management process can be carried out in a more appropriate and optimal way by identifying risks in time.

The results of this study are consistent with the studies of Sagar and Singh [22]. In their research, they showed that the size and independence of the board members is one of the most important factors affecting risk. In the current research, the results showed that the two factors of size and independence of the board of directors with over 70% agreement are the most important factors affecting the effectiveness of the structure and features of corporate governance in order to reduce risk.

Also, authors in [2, 14] concluded in their research that institutional ownership, the ratio of non-commissioned members of the board of directors to the total members of the board of directors, and concentration of ownership are among the factors influencing its reduction. Risk and improving the performance of companies. Therefore, we can say it is consistent with the results of this research. Also, Koerniadi et al. studied New Zealand companies and found that the risk-taking level of companies with a large board of directors was lower. In the present study, the size and number of board members were identified as influencing factors on the effectiveness of the board structure, which is consistent with the results of Koerniadi et al.'s research [15].

Finally, due to the fact that in the current research, only the identification of corporate governance issues that are suitable for Iran's banking system and based on risk reduction, it is suggested that in future researches, the effect of each of the identified main indicators on reducing risk and improving the performance of banks Iran should be investigated.

References

[1] AM. Abu-Tapanjeh, *Corporate governance from the Islamic perspective: A comparative analysis with OECD principles*, Critic. Perspect. Account. **20** (2009), 556–567.

[2] M. Ahmadi and D. Demory, *The effect of corporate governance mechanisms on the relationship between systematic risk and the performance of companies listed on the Tehran Stock Exchange*, Faculty Manag. Account., Yazd University, 2015.

[3] D. Aikman, M. Galesic, G. Girerenzer, K. Kapida, K. Katsikopoulos, A. Kothiyal, E. Murphy, and T. Neuman, *Taking uncertainty seriously: simplicity versus complexity in financial regulation*, Bank of England Financial Stability Paper No. (2014), 28.

[4] P. Andres and E. Vallelado, *Corporate governance in banking: The role of the board of directors*, J. Bank. Finance **32** (2008), 2570–2580.

[5] G. Bai and E. Elyasiani, *Bank stability and managerial compensation*, J. Bank. Finance **37** (2012), 799–813.

[6] B. Bidabad A. Amirostovar, and M. Sherafat, *Financial transparency, corporate governance and information disclosure of the entrepreneur's corporation in Rastin banking*, Int. J. Law Manag. **59** (2017), 636–651.

[7] A. Burki and A. Shabir, *Bank governance changes in Pakistan: Is there a performance effect?*, J. Econ. Bus. **62** (2010), 129–146.

[8] P. Chillar and R.V. Lellapalli, *Divergence or convergence: paradoxes in corporate governance?*, Corp. Govern. **15** (2015), 693–705.

[9] G. Chitan, *Corporate governance and bank performance in the Romanian banking sector*, Procedia Econ. Finance **3** (2012), 554–549.

[10] R. Crespi, M.A. Garcia-Cestona, and V. Salas, *Governance mechanisms in Spanish banks. Does ownership matter?*, J. Bank. Finance **28** (2004), no. 10, 2311–2330.

[11] M. Eling and S. Marek, *Corporate governance and risk Taking: Evidence from the U.K. and German Insurance Markets*, J. Risk Insurance **81** (2014), no. 3, 653–682.

[12] K. Eslamloueyan, H. Yazdanpanah, and Z. Khalilnezhad, *The existence of a risk-taking channel of monetary*

policy transmission in Iran's banking system, Econ. Model. Res. **9** (2017), no. 31, 7–40.

[13] M. Ghasemi Aliabadi and A. Nasiri Aghdam, *Introducing the appropriate model for measuring the corporate governance index in the usury-free banking system (its calculation in a sample bank)*, Res. Econ. Polic. **26** (2017), no. 87, 77–116.

[14] A. Khodamipour, M. Baharmghaddam, and I. Rahmani, *Investigating the relationship between institutional investment, risk, performance and corporate governance in financial companies*, Faculty of Management and Economics, Shahid Bahonar University of Kerman, 2014.

[15] H. Koerniadi, C. Krishnamurti, and A. Tourani Rad, *Corporate governance and risk taking in New Zealand*, Aust. J. Manag. **39** (2014), no. 2, 227–245.

[16] P. Madras, *Investigating risk management in Islamic banking and conventional banking*, Bank Salary **1** (2011), 115.

[17] M. Mohammadi, and M. Motahari Nasab, *Comparative comparison of public accountability of public and private banks in Iran*, Int. Conf. Manag. Econ. 21st Century, 2014.

[18] G. Liang, C. Smallman, and J. Radford, *A critique of corporate governance in China*, Int. J. Law Manag. **55** (2013), 257–272.

[19] I. Ofoeda, *Corporate governance and non-bank financial institutions profitability*, Int. J. Law Manag. **59** (2017), 854–875.

[20] F. Rezaei and M. Sobhani, *Optimizing the performance of companies using corporate governance mechanisms and using innovative algorithms*, Dev. Transform. Manag. **22** (2014), 19–28.

[21] M. Sadeghi Shahabi and M.I. Agha Babaei, *Comparative analysis of credit risk in Islamic banking and conventional banking*, Islamic Financ. Res. **1** (2011), 89.

[22] R. Saggar and B. Singh, *Corporate governance and risk reporting: Indian evidence*, Manag. Audit. J. **32** (2017), 378–405.

[23] A. Shabir and O, Rosmini, *Basic corporate governance models: A systematic review*, Int. J. Law Manag. **58** (2016), 73–107.

[24] M. Taghavi, A. Ahmadian, and M. Kianvand, *An analysis of the impact of corporate governance on the stability of the banking system of developing countries (with an emphasis on the bank ownership index)*, Financ. Knowledge Secur. Anal. **6** (2012), no. 19, 45–66.

[25] N. Yazdinia and B. Azami, *Investigating the relationship between performance and corporate governance of banks and affiliated companies (Case study of five areas of management and finance*, Financ. Account. Knowledge **4** (2016), no. 2, 53–76.