

## Development of an Enterprise Risk Management Implementation Framework in the Banking Industry (Multiple Case Study)<sup>1</sup>

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### INTRODUCTION

The occurrence of major changes in the business environment, such as globalization, complexity and high speed of changes in technology, has led to increased competition and management difficulty in organizations. In complex environments, organizations need knowledgeable and expert managers to consider these inherent complexities in their important decisions. Effective risk management, which is based on valid conceptual principles, forms an important part of this decision-making process (Kerraous, 2020).

Today, the global financial crisis has witnessed the collapse of countless international businesses due to inadequate and inappropriate risk management (Mensah, 2016). Many organizational failures and financial crises can be attributed to poor risk management and inadequate and inappropriate governance practices (Yu, 2009). As a result, organizations have focused on correcting weaknesses in risk management systems to improve stakeholder protection (Pape and Spekle, 2017).

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In recent years, the approach to risk management has changed from a compartmentalized (silo-based) perspective to a holistic (portfolio-based) perspective. This holistic approach to risk management of organizations is referred to as enterprise risk management (Gordon et al., 2009). According to the definition of COSO, enterprise risk management is the processes that, under the influence of the board of directors, management and employees, influence the determination of the organization's strategy, the identification of possible events affecting the strategies and the management of risks related to them in order to provide reasonable assurance in achieving the organization's goals. COSO, 2004). It is worth mentioning that with the expansion of organizations, one of the key elements of growth and success is continuous risk management. As mentioned, for organizations to survive in this chaotic environment, as well as to gain competitive advantage and also gain benefits, a comprehensive approach to deal with risk should be adopted (Stroh, 2005).

In addition to these numerous evidences, including reports published by companies and statements of professional and academic people and students, as well as personal experience in the field of research problems in the field of risk management, indicate that currently one of the problems of Iranian organizations is the lack of a comprehensive framework for enterprise risk management and it has been observed that in many organizations, there is not even a risk management committee. The existence of multiple sources of risk in Iran, especially more common sources such as technical and market risk, shows that the implementation of an enterprise risk management system is of particular importance for this country.

As we know, in countries like Iran, the bank is considered as the most important financial institution in the money market, which faces various risks, including credit risk, financial risk, and market risk. The lack of a proper system for the integrated management of bank risks, in addition to the micro level, can also leave negative effects at the macroeconomic level, because in a country like Iran, the central bank, and in fact the government,

is considered the guarantor and supporter of all banks. Considering the conditions governing the banking industry and the crises caused by financial institutions, the weakening of banks and the inability to fulfill their obligations to depositors, the drastic changes in technology and finally the change in the nature and business model, the need to use an integrated system to manage bank risks is more noticeable than before. It is obvious that the existence of a powerful framework for implementing enterprise risk management and identifying the necessary platforms and its challenges in the banking industry will open the way for many experts and managers.

So far in Iran, an important scientific work based on a scientific methodology has not been done in order to provide a comprehensive approach for enterprise risk management, and most of the researches have been conducted on the reductionism of the macro and central issue of " enterprise risk management" to micro and minor topics such as focusing on the relationship of risk management with different accounting and economic variables. In other words, a comprehensive framework for the implementation of enterprise risk management has not yet been provided, which can provide managers and experts with the existing broad concepts in the form of an integrated and practical model. This study aims to develop an enterprise risk management implementation framework by examining cases of banks in the country. In other words, the mission of the current research is to formulate a framework for the implementation of enterprise risk management with a holistic and integrated view and to take an effective step towards realizing the benefits of this approach in the banking industry of Iran by identifying the necessary platforms and its challenges. In addition, considering the lack of rich literature in the field of comprehensive risk management, this research can add to the range of literature in this field. Also, by presenting a systematic model for the implementation of enterprise risk management, it is possible to understand the strategies, policies, policies, infrastructure, organizational culture, skills, consequences, challenges and factors affecting it.

## **MATERIALS AND METHODS**

This research is a two-stage research. In this way, at first, the researcher extracts and develops the enterprise risk management implementation framework using a systematic literature review. Then, in the second stage, using a multiple case study, it will be investigated in the studied organizations. The current research method is described as follows based on Saunders et al.'s (2009) research onion model:

From the perspective of research philosophy, the current research has a philosophy of critical realism. In terms of the research approach, it has a deductive-inductive approach. In terms of research strategy, the present study is a practical study and the approach of explanatory multiple case study (homogeneity analysis) will be used in it. The purpose of the current research in its first phase is exploratory and the researcher provides a coherent framework for the implementation of enterprise risk management through a systematic literature review.

In the second phase of the research, the purpose of the case study is not to explore the phenomenon and deeply identify its hidden angles, but rather to test the theoretical framework presented in the first phase of the research, during which the degree of adaptation of the developed framework to the realities of the research context, gaps and challenges are described and explained. From the perspective of the fourth layer, that is, choosing the research design, this research is a qualitative study. The premise of qualitative methodology is that the social world is always a human creation, not a human discovery. This methodology tries to record reality through interaction. In this method, a small number of respondents are studied and instead of using random sampling techniques, purposeful sampling is used. In the qualitative method, in-depth interviews are usually used to collect information. In this approach, quantitative and variable measurement has no place. In this method, the researcher refers to reality without preconceived notions, or pre-made models and patterns. Studying reality from the inside rather than the outside is one of the basic criteria in qualitative research. This approach, instead of statistical analysis of quantitative data that is the result of measuring research variables,

interprets human actions through the interpretations that people provide of themselves and others (Iman, 2016).

In terms of the time period of the research, this study is a longitudinal study. In terms of the data collection method, in this study, in the first phase, the archival method, i.e., the study of available information sources, and in the second phase, the methods of interviewing, observing and reviewing documents, as well as the formation of focus groups were used.

**RESULTS AND DISCUSSION**

**DATA ANALYSIS OF THE FIRST PHASE (SYSTEMATIC LITERATURE REVIEW)**

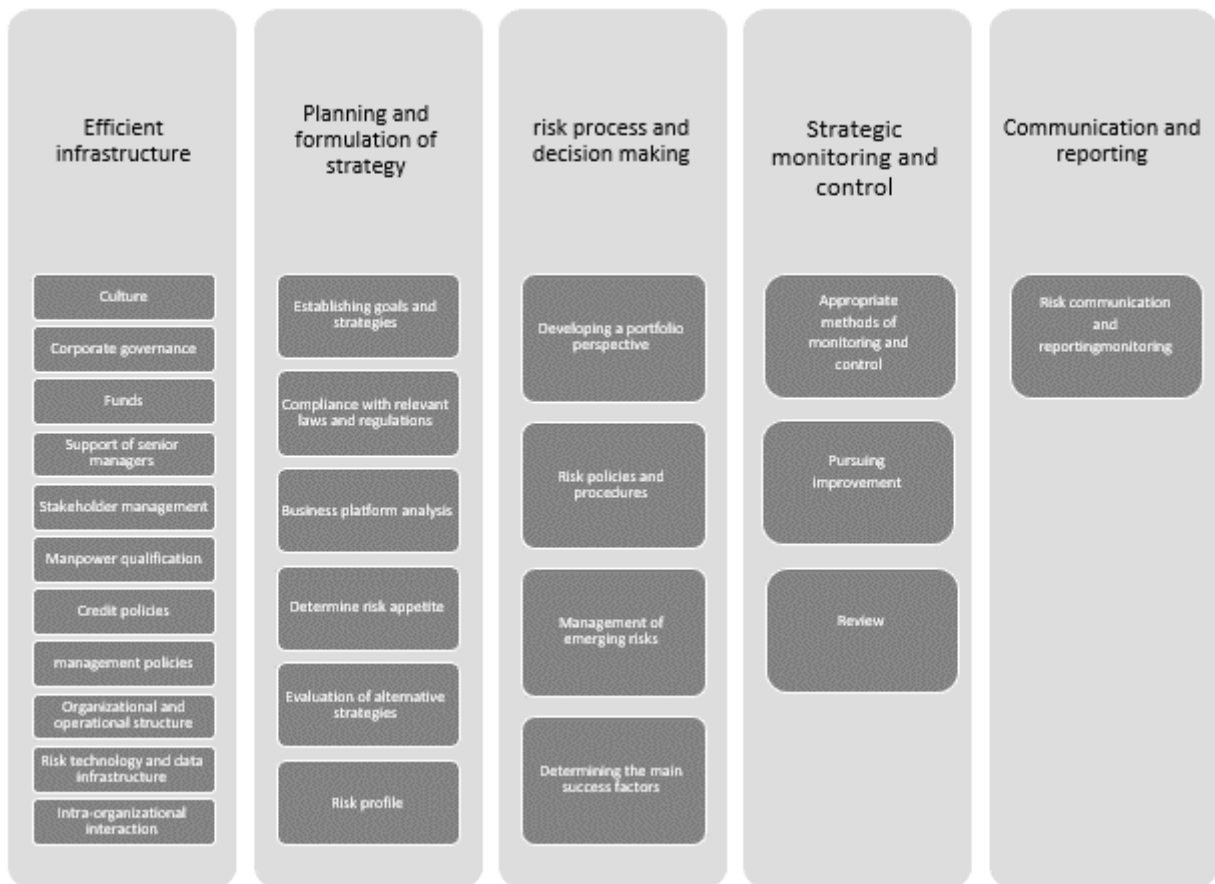
As stated, systematic literature review method has been used to identify the desired dimensions and components of the research. At this stage, first the initial findings were screened by non-inclusion criteria and only 114 documents were selected for review.

*Table 1. Study Sources*

row	Database	Number of search results	Exclusion criteria	Number of related articles
1	Emerald	625	Lack of content communication .Replication of findings .Inaccessibility	14
2	researchgate	541		40
3	Jstor	17		6
4	Google Book	7		1
5	Proquest	374		6
6	sciencedirect	721		26
7	Springer	203		2
8	Wiley	126		6
9	Google	83		16
10	internal resources	106		13
Total		2,803		114

In the detailed review and analysis of the selected texts, 281 codes were identified. After reaching the repetition and saturation of the analysis from the production of new codes, the relationship between them is defined so that concepts and finally more general categories are made. 25 concepts were categorized into 5 categories. These categories are the main pillars of the comprehensive risk management framework. The figure below shows the model extracted from the literature for the implementation of enterprise risk management:

**Figure 1. Theoretical framework of enterprise risk management implementation**



In this research, in order to maintain and control the quality, the three-factor procedures of documenting the research steps; we use the validation

of sources and the approval of experts as the criteria for action. Expert approval is one of the important factors in evaluating the quality of qualitative studies. In this research, the approval of academic and banking industry experts has been used.

#### **ANALYSIS OF THE FINDINGS OF THE SECOND PHASE (CASE STUDIES)**

The purpose of this stage is to explain and compare the model developed in the first phase of the research with the real experiences of the banking environment in Iran. At this stage, the degree of overlap of the model with the existing cases will be explained for confirmation as well as the possible gaps along with the reasons. Yin (2002) suggests that researchers should develop the implementation protocol before starting case studies. This protocol is more than creating a questionnaire. In fact, it is a set of instructions through which the researcher obtains the information he needs for a deep understanding of the desired phenomena (Yin, 2002). In this protocol, 2 different methods are used for data collection:

1. Semi-structured interview: Since the approach of this case study is explanatory and its purpose is to test the model, the situation and how the main elements of the model are, in the practical experience of the studied case, are examined and questioned by the interviewees. In this research, theoretical saturation was achieved after conducting 24 interviews. The interviewees were selected by theoretical sampling.
2. Refer to the relevant documents: With the approval of the trustees, access to the relevant documents and documents is established and by reading the said documents, in addition to searching the virtual space, the required data is obtained. The researcher will try to find specific codes in the mentioned documents to prove the comprehensiveness of his model.

Examining the findings obtained from the case studies shows that in the Karafarin Bank and the Middle East Bank, as examples of the Iranian banking industry, enterprise risk management is not fully implemented according to international standards, and the level of maturity and quality of its implementation is on average between the levels 3 and 4.

According to the presented analytical tables, one of the main reasons for not implementing this system in Iran is the country's political, economic and legal context, weakness in information technology and the lack of governance structure.

**Table 2. Comparative analysis**

Module	sub-module	case study 1- Karafarin Bank			Case study 2- Middle East Bank		
		The degree of homogeneity	The cause of inhomogeneity		The degree of homogeneity	The cause of inhomogeneity	
			Lack of comprehensiveness of the model	Failure to comply with the study model		Lack of comprehensiveness of the model	Failure to comply with the study model
Efficient infrastructure	Culture	to some extent		✓	totally		✓
	Corporate governance	to some extent		✓	to some extent		✓
	Funds	totally		✓	to some extent		✓
	Support of senior managers	totally		✓	totally		✓
	Stakeholder management	totally		✓	to some extent		✓
	Manpower qualification	to some extent		✓	to some extent		✓
	management policies	totally		✓	totally		✓
	Organizational and operational structure	totally		✓	totally		✓
	Risk technology and data infrastructure	nothing at all		✓	nothing at all		✓
	Intra-organizational interaction	to some extent		✓	to some extent		✓
Planning and formulation of strategy	Business platform analysis	totally		✓	totally		✓
	Compliance with relevant laws and regulations	totally		✓	totally		✓
	Establishing goals and strategies	totally		✓	totally		✓
	Determine risk appetite	totally		✓	to some extent		✓
	Risk profile	totally		✓	totally		✓
	Evaluation of alternative strategies	totally		✓	to some extent		✓
Risk process and decision making	Developing a portfolio perspective	to some extent		✓	to some extent		✓
	Risk policies and procedures	totally		✓	totally		✓



Module	sub-module	case study 1- Karafarin Bank			Case study 2- Middle East Bank		
		The degree of homogeneity	The cause of inhomogeneity		The degree of homogeneity	The cause of inhomogeneity	
			Lack of comprehensiveness of the model	Failure to comply with the study model		Lack of comprehensiveness of the model	Failure to comply with the study model
	Management of emerging risks	totally		✓	totally		✓
	Explain the main factors of success	totally		✓	totally		✓
Strategic monitoring and control	Appropriate methods of monitoring and control	to some extent		✓	totally		✓
	Pursuing continuous improvement	totally		✓	to some extent		✓
	Review	to some extent		✓	to some extent		✓
Communication and reporting	Risk communication and reporting	totally		✓	to some extent		✓

## CONCLUSION

The challenges of implementing enterprise risk management in Karafarin Bank are as follows:

- Failure to request and oblige banks to implement this process
- Lack of competitive environment in this field
- Unit interaction problem
- Technical and technological infrastructure and lack of necessary IT platform
- The unpleasant nature of risk
- Lack of necessary knowledge and maturity in this field
- Defects in cultural formation
- Limitation in the capacity and function of corporate governance committees
- Existence of out-of-control issues in the business platform such as instability and unpredictable conditions
- Existence of grammatical rules
- The problem of data existence

- The qualitative nature of a series of risks such as operational risk
- The generality of the comprehensive risk management framework and the absence of specific measures and criteria

The challenges of implementing enterprise risk management in Middle East Bank are as follows:

- Inability to maintain competent human resources
- IT problems
- Lack of human resources who have financial knowledge and information technology knowledge at the same time.
- Government interventions
- Regulatory rules of the supervisory body
- Organizational interaction

The limitations of this research in the theoretical dimension can be seen as the limited comprehensive risk management literature in Iran's research environment, so that in comparison with the large volume of research and foreign literature, almost no serious work has been done in the field of enterprise risk management in Iran. Another limitation is the fragmentation of materials related to the implementation of enterprise risk management, so that in order to collect appropriate theoretical data, a large amount of scientific texts must be collected and analyzed to extract the desired materials.

Among the practical limitations of the research, it can be mentioned that all the required information and documents have not been provided to the researcher and due to existing considerations, many key informants do not show much interest in sharing materials and documents.

In the future research, it is suggested to study all the country's banks (both government and non-government) in order to improve the enterprise risk management framework.

**Keywords:** Risk, Risk Identification, Risk Assessment, Risk Management, Banking Industry.

**JEL Classification:** G32.

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