

Identifying National Effective Parameters in ERP Implementation Risk Factors in Iran by Multi Grounded Approach

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Abstract

Considering the increasing growth of ERP implementation in Iranian organizations and considering the specific conditions for installing, commissioning and exploiting organizational information systems in the country, this study seeks to first investigate the literature of research and then, by taking advantage of experts' views will identify and analyze the national parameters affecting the risk factors of ERP implementation in Iran. In fact the most important contribution of this research is the introduction of a novel concept called "ERP Risk Factors Affecting Parameters", which has never been addressed in the ERP research literature. Therefore, in the first step, research literature in the area of ERP implementation risks has been carefully considered and after identifying the initial framework, nine experts from ERP implementation in different industries in Iran were identified and national parameters affecting the risk factors of Implementation were discovered by grounded and multi grounded theories. The results of this study show that "the cultural conditions of the country" with abundance of 64, "the level of development of the country" with the frequency of 38, and "The level of international political relations of the country" with the frequency of 29 are the most important parameters affecting the risk factors of ERP implementation in the country. Also, the results of this study indicate that managers and decision makers of Iranian organizations should be more careful in choosing international ERP systems in order to minimize the negative effects of political sanctions.

Introduction

Approximately two decades have passed since the emerge of a concept called Enterprise Resource Planning (ERP) to the business world, and so far, many articles have been published on how successful implementation or failure factors in the research literature. However, one of the cases has been neglected so far is the study of the grounding factors affecting the risk factors of the implementation of this system. The research seeks to fill this gap with a new concept called “parameters affecting risk factors”. From the researcher's point of view, these parameters are divided into organizational and national divisions. The main goal of the paper is to identify the national parameters affecting risk factors in Iranian organizations, taking into account the concepts contained in the research literature.

Case Study

According to the exploratory nature of the research objectives, the meta-synthesis approach was selected. The sample of literature and studies on the subject of conditions affecting ERP implementation risk factors was chosen since 2000 to 2016.

Materials and Methods

The methodology of this research is exploratory, considering that so far no work has been done on the risk factors affecting parameters of ERP implementation. The research strategy is also qualitative. At the first step, the study achieves a basic framework by using Meta-Synthesis Method, which is further developed and, in the second step, research findings are improved by utilizing the Grounded and Multi Grounded Theories.

Findings

One of the most significant results of the present study is the integration of Iranian ERP implementation experts' tacit knowledge with the results of research literature meta-synthesis approach on the national parameters affecting the risk factors of ERP implementation, which includes The level of development of the country, Economic conditions of the country, The level of international political relations of the country, The range of changes in the laws and regulations of the country And the cultural conditions of the country. In fact, these are five main ERP implementation risk factors national affecting parameters, derived from the research.

Discussion and Results

The main objective of this research is to identify the national parameters affecting the risk factors of ERP implementation. Using the Meta-Synthesis approach, in the first step the primary framework was obtained by examining 15 documents. After analyzing qualitative content and coding with meta-synthesis techniques in Maxqda Software, a semi-structured questionnaire was developed by the researcher. Then by identifying experts in consulting and implementing ERP in different industries of Iran, using the Grounded and Multi Grounded Theories, the model derived from the meta-synthesis phase was improved. As

noted in the research findings, five main themes were identified as the most important national parameters affecting the risk factors of implementation.

In the following three codes, the experts' interviews were identified as the most important research codes that could be considered as a guide for evaluating the risks of ERP implementation in Iran:

- Cultural conditions of Iran
- Issues related to consulting and implementation of ERP in Iran
- Challenges of selecting international ERPs in Iran

Also, the accuracy of the counted codes in the process of Multi Grounded theory can highlight important points for implementers, managers and consultants, especially in Iran. For example, the code “the high rate of turnover for migration on developing countries” on the theme of “The level of development of the country” was not addressed before in the research literature on ERP implementation. However, countries such as Iran, which have high rates of immigration of educated workers, should pay attention to this point on the early stages of project planning; this point is intended for implementers and consultants. Because, many failures of implementations in Iran were due to the migration of one or more key work forces during the implementation and post-implementation phase. Another important result of the present research is the direct and indirect effects of international sanctions on costs, processes and quality of consultancy and implementation. Some managers in Iran think that the most important negative effect of sanctions in the ERP area is the complication of the licensing process from the company and the software selection phase, while in the opinion of the experts in this study, the effects of the sanctions can be extended to implementation and post- implementation phases. Because some modules require the presence of international advisers, for the reason of implementation complexity and the lack of similar domestic experiences, consultants are not willing to travel to Iran owing to fears of further deprivation by the US government and to be prevented traveling to other countries after a trip to Iran. On the other hand, even in the form of telecommunication, due to the identification of Internet IPs of Iran, the possibility of connection is not provided. Additionally granting remote access permissions to external advisers is contrary to the basic principles of information security standards. One of the other restrictions imposed by sanctions is the impossibility of direct costs payments to foreign partners, which will lead to secondary problems, such as delayed payments and increase of costs.

Conclusion

According to the results of the research, it is clear that the implementation of ERP system depends on the country's conditions in which the organization is located. These conditions (national parameters), while affecting the ERP implementation risk factors , are often not under the control of the organization, and therefore decisions on the selection, implementation, and maintenance of

ERP systems will be directly or indirectly affected by them. Given that international consultants and implementers generally are not familiar with the fluctuations of these national parameters (especially the political and cultural conditions of the country), it is the responsibility of Iranian advisers and decision makers to mitigate their effects by identifying and taking into account these parameters. In fact, the results of this study, on the one hand, can make the way flat for decision making and oversight in all stages of implementation (selection, implementation, and post-implementation) of ERP for internal organizational managers, and on the other hand, can help consultants and implementers manage ERP implementation's risks with respect to Iran's environmental conditions.

Key Words: Enterprise Resource Planning (ERP) Implementation, Implementation Risk Factors, Meta-Synthesis, Multi Grounded Theory, Grounded Theory.