

Review of Readiness to the Implementation of Enterprise Resource Planning (ERP) in Mazandaran Wood and Paper Industries

Simin Ebrahimi Kermani^{1,*}, Nastaran Haji heydari² and Saeed Rouhani³

¹ MSc Student of Industrial Management

² Assistant Professor, Faculty of Management - Tehran University

³ Lecturer in "IT management" Department, Faculty of management -Tehran University

ABSTRACT

To maintaining competitive ability, Manufacturing companies are looking for new ways in order to profit taking from the productive capacities. Enterprise resource planning systems provide the features that organizations are capable of integrating of information flows and business processes in their organizations, Because in the near future most of our organizations will require to use this technology, this study examines the main obstacles to implementation and readiness to implement the technology in the Mazandaran wood and paper company .The conceptual model used in this study will be based on a Three Dimensional model of Social Science. After the accurate identification of barriers in the implementation of Enterprise Resource Planning projects from expert opinion, using survey and polling of experts and managers mentioned are identified and prioritized behavioral and structural , contextual barriers in implementation of ERP projects. After performing the relevant tests determined that "behavioral barriers" is the most and "group structural barriers" is the least important barrier for implement an ERP system in this research.

KEYWORD

Enterprise resource planning systems, Three Dimensional model, barriers.

INTRODUCTION

In the world today that organizations are unprecedented for the world competition need to find better business solutions with more flexible structure. Many of the organizational substructures by organizational information

systems that support work processes directly or indirectly to growth and the development and maintenance of the Organization, are able and have shown that the Effective management of these processes , competitive advantage can be achieved via reduced costs, increased production and improved Customer service. The last three decades advances in information technology and Computer software, look at the science of management and enterprise resource planning systems, is one of the last achievement of an organization's plan to improve processes and decisions more accurate and easier fir Managers and ultimately more profit. ERP enterprise resource planning systems, facilities are provided for organizations to be able the integration of information flows and commercial processes in organizations. These systems Supported of sharing information throughout the enterprise value chain and contributing in company achieving to high performance in the operation [1]. Its ability to Integrating advanced technologies in electronic commerce cause to this technology is very attractive for organizations [2]. Poor management in most production sites, the main problem is the lack of cooperation and coordination in Use the resources available to the organization. Since manufacturing companies have to prepare According to the specific needs of each customer with superior quality products in a shorter time, looking for new ways to maintain their competitiveness. They are always looking for ways to can benefit from the productive capacities [3].

Five main reasons for using ERP exist in organizations [4]:

- 1.Integration of Financial Information.
2. Integration of Orders data.
3. Standardization and speed of production processes.
4. Reduce Storage Size.
5. Standardization of information resources.

Due to the use of this technology in Europe and the US and many foreign companies... it has been As a critical tool for organizations businesses and in the near future Our organizations need to be using of this technology, the main aim of this study was to identify and prioritize the main obstacles to the implementation of ERP projects in the wood

*Corresponding Author: Simin Ebrahimi Kermani

E-mail : simin.kermani@msn.com

Telephone Numbe r:

and paper industries and Secondary objectives are to identify and prioritize structural and behavioral and structural barriers in underlying implementation and it is Implementation of ERP projects in the wood and paper industries.

EXPERIMENTAL AND THEORETICAL BACKGROUND

According to the research that has been done so far in implementing ERP systems Research can be categorized in several areas as follows. The first category is the feasibility study on the implementation of ERP systems Are measured, this research studies the implementation of these systems are the Most of them focus on the current state of the organization, internal processes and strategic plan of organization.

In a survey conducted in 2003, with considering the current state of organization, outlines the expected objectives was explained from the implementation of the ERP system and the total cost, deployment time, Function of use, flexibility and reliability was introduced as measures of the effectiveness of a ERP system.

Likewise factors include notability, technical capabilities and services has been studied to provide Recent ERP systems, hierarchical model for the evaluation and selection of appropriate suppliers supply [5]. The second set of studies that examine the effects of the implementation of ERP systems on organizational performance. A study in 2006, about the effect of institution Systems on organizational performance, a study was done on the application of systems CRM, SCM, ERP that the impact of capital Investment has been measured in the documentation of the long term performance of the company and profitable in Return on assets and sales. In this study results are based on the use of 186 ERP applications have been investigated, which ultimately research results has shown little evidence for profitability improvement despite the fact that in the return on investment achieved good results in these projects [6]. Also conducted research is done to identify obstacles, critical factors in the implementation ERP systems in their organizations. All concepts, events and social and organizational phenomena can study and analyze on form of structure, behavior and context in three-dimensional model [7].

The following hypothesis is proposed: structural and contextual barriers preventing the implementation of the ERP systems in Mazandaran Wood and Paper Industries. Review of affecting any barriers, for the implementation of ERP in the wood and paper industries requires that individual factors were collected according to the literature, conducted exploratory interviews and distributed questionnaire was evaluated for more review. For any measurable by Questionnaire, and also we can rate and rank the degree of influence in ERP implementation. Thus, according to the literature and the data collection tools, Check list were obtained of variables dimensions (sub-factors). In this part of the study is used of clock method for Identification and classification of barriers to the implementation of ERP systems.

RESEARCH METHODOLOGY

Since this study was to describe the obstacles to the implementation of enterprise resource planning Mazandaran

Wood and paper industry in viewpoint of experts and professionals, so in this study have been used the descriptive – survey research method. After the accurate identification of effective barriers to implementation of projects ERP from the perspective of experts, with using of the aforementioned survey and surveys of experts and managers were identified and prioritized behavioral, structural and contextual barriers in the implementation of ERP projects.

A questionnaire was used to measure the research variables. 32 questions are in this research to gather data to test the hypothesis. These questions are designed based on Likert continuum and there are 5 choices for each question (very high, high, moderate, low, very low) and the respondent is had to select one choice. In this study, reliability or validity of Questionnaire was calculated with use of assess the of the measurement Cronbach's alpha method. To examine the validity of the questionnaire were used of Supervisors and 10 experts' opinions and changes were performed to the text and content of questions. In this study, to measure the respondents' opinions and attitudes about ERP implementation barriers in Mazandaran wood and paper industry, answers of the question measured in a 5-rank scale (respectively) Likert continuum. With regard to the above and considering the Conceptual models and tests used in this study is included binomial tests for approve or reject about major and sub major hypothesis and the Friedman test to approved prioritize barriers in this study. Statistical population of the research consisted of experts and scholars familiar with ERP and those involved in the implementation of ERP in the wood and paper industries that are directly related to the industry in Mazandaran and even in the country.

RESEARCH FINDINGS

The results of statistical analysis, including the results of binomial tests and results Friedman's analysis of variance test. Results of Binomial test in the contextual and structural and behavioral barriers of research : Because in all observed probabilities is greater than or equal of test probability $0.7 \leq p$ and Therefore, significance level is smaller than error rate $0.05 \geq \alpha$, then H_0 is reject. In other words, the probability of 95% can be claimed that all the barriers identified in this research, are considered as barriers Implementation of ERP projects.

Friedman ANOVA test results to rank barriers: Since the results of the main assumptions of this study show that in all three categories behavioral, structural and contextual Barriers is effective for implementation of enterprise resource planning systems in Wood and paper company, therefore necessary to know the priorities of each of the three categories of barriers To evaluate and measure together, so it is done in this part by Friedman ANOVA To prioritize these barriers.

The results indicate that a "behavioral barriers" most and "structural barriers" least barrier are in the implementation of ERP projects considered in this study. You can see (Table.1).

Tab.1. results of Friedman test in ranking barriers

Rank	Amount of test statistic	Group barriers
1	1.60	behavioral barriers
2	2.09	contextual Barriers
3	2.30	structural barriers

Demographic variables were described in form of three subjects, the last degree, amount of familiarity with the concept ERP and the amount of experience in the implementation of information systems. Then the main three hypotheses of research were tested each with one of the main barriers in the implementation of ERP projects in Mazandaran wood and paper Industry. These three hypotheses were "Behavioral barriers are effective to the implementation of ERP systems in the Mazandaran Wood and Paper Industries ", "structural barriers are effective to the implementation of ERP systems in the Mazandaran Wood and Paper Industries ", "contextual barriers are effective to the implementation of ERP systems in the Mazandaran Wood and Paper Industries ". Between Three hypotheses, all hypotheses were confirmed. In a separate test for preference behavioral, structural and contextual barriers determined behavioral barriers have the greatest Importance in compared to other factors.

CONCLUSION

In this study the barriers to the implementation of enterprise resource planning systems (ERP) was assessed in Wood and paper Industry. Identified Barriers analyze and Evaluate in three different categories of behavior structural and contextual. Collected information was analyzed only statistically. The test results indicated that the behavioral constraints are effective in the implementation ERP systems in Mazandaran Wood and Paper Industries. In this section, as well as the "lack of discipline in the organization to implement the project "was the main obstacle to the implementation and deployment of application Enterprise Resource Planning systems identified and approved between behavioral barriers. Test results indicate that the structural barriers in the implementation of ERP systems are effective on company of Wood and paper. So hypotheses mentioned as obstacles was identified and approved to set up and implement ERP systems in the company's research. In this section also factor "improper composition of the project team" is the most important Obstacle in structural barriers Identified and approved to the implementation of enterprise resource planning systems. Test results indicate that the contextual obstacles in the implementation of ERP systems

are effective in company of Wood and paper. The hypotheses was identified and approved to set up and implement ERP systems in the company's research. In this section, as well as the "poor economic conditions of industry and organizations in the category investment" is the main obstacle to the implementation and deployment of Enterprise Resource Planning systems identified and approved in the contextual obstacles.

1. Main hypothesis of this study will be accepted as follows:

- Behavioral barriers preventing the implementation of ERP systems in the Mazandaran wood and paper industries.
- Structural barriers preventing the implementation of ERP systems in organizations of parts manufacturing industries, Mazandaran wood and paper.
- The contextual barriers preventing the implementation of ERP systems in the Mazandaran wood and paper industries.

2. After the relevant tests showed that the "behavioral barriers" is most "and the" Structural barriers" is least important obstacle to the implementation of ERP systems.

RECOMMENDATIONS

According to the study and the results of the data analysis, the following cases are suggested as recommendations for future research.

1. The research in other industries or services
2. Research on Life Cycle ERP Systems
3. Research on ERP developing systems - called ERP II
4. Similar researches conducted in the field of procurement RFP for these systems.
5. Research in context of SCM and CRM systems and the role of these systems in ERP systems

REFERENCES

- [1] **Chuck C.H Low, and Eric W.T.,** *Nagai-ERP systems adoption: An exploratory study of the organizational factors and impacts of ERP success*, (2007)
- [2] **F.Robert Jacobs, and F.C.Ted Weston Jr.,** *Enterprise resource planning (ERP) _ A brief history*, (2006)
- [3] **Ike C.Ehie, and Mogens Madsen.,** *Identifying Critical Issues in Enterprise Resource Planning (ERP) Implementation*, 2005
- [4] **Yahyaei, Ramazan,** *Check the ritical success factors in the implementation of ERP projects in Iranian companies*, *Tabatabaei University, faculty of Management*, 1382
- [5] **Chun-Chin Wei, and Chen-Fu Chien, and Mao-Jiun J.,** *An AHP –based approach to ERP system selection*, 2003
- [6] **Kevin B.Hendricks, and Vinod R.Singhal, and Jeff K.Stratman,** *The impact of enterprise systems on corporate performance: A study of ERP, SCM, and CRM system implementations*, 2007
- [7] **Mirzaei Ahar nejati, H.,** *Three-dimensional model of philosophical foundations and basic infrastructure*

*management of theories, Journal of Knowledge
Management, Tehran University, No. 56, 1381*