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20 principles of lack of feasibility of implementing enterprise resource planning ERP for the petrochemical industry in Iran

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ABSTRACT
Competitive business environment, the necessity of inter-organizational and intra – organizational integration in the supply chain and also the spread development in the field of information system, are the most important factors for creating organization's resource planning system. These systems by creating operational and management integration inside and outside of the organizations and facilitating and accelerating business process increase the efficiency and operational affectivity of organizations and prepare them for the competitive marketing (Olson, 2003). The aim of the present study is applicable and the method is descriptive. The sample consists of 90 employees of Bistoon's petro chemical company that were selected randomly. The required data and information provided by questionnaire. The results determined that Bistoon's petro chemical company doesn't have the ability of integrated establishment of organizational source from four aspects of (organizational structure, human resource, finance, economics and organizational culture).

Introduction

Enterprise resource planning system as an enabler for organizations transition from a traditional business environment to the new business one has been proposed. This system also is considered as a major factor of success for the companies' survival in the today's marketing and based on internet is assumed (Olson, 2000). As ERP is more than a software package, the method and pattern of organizational process implementation is a culture. This issue and along with, time and high expenses that used for implementing ERP in organization, makes ERP a little complicated and caused that organizations considers it meticulously and before gaining confidence for required preparation in order to enter the dangerous, expensive and time consuming implementation of ERP, never takes a step in this way. In this study we examined the possibility of setting a system for planning of enterprise resources in Kermanshah petrochemical company and we try to determine that whether to buy and maintain the system, with huge costs for the companies, we are ready to do it or not.

ERP definition

The word ERP is a short form of (Enterprise Resource Planning) or enterprise resource planning that is consider a wide range of different activities that lead to the improvement of organization's performance. ERP is supported by an applicable program that is divided into several applicable plans, in a way that integrates all activities in a wide organization's operational units. These activities include a wide range of production management, part's purchasing, and transfer of material to productive units in order to contain the orders. ERP can also include the applicable programs in the field of financial management and also enterprise resource management. Totally it can be concluded that ERP's systems are not the only collection of processes and organization's different duties in a soft ware package but at least it should have some important characteristics in order to provide an acceptable solution (Kazerooni, 2002).

Flexibility: ERP's systems should be able to answer all of the organizations and companies' various needs.

- Open circuit module: this system should be such that each component of the software package can be changed at any time without affecting the other policies, add or remove.
- Inclusiveness: ERP's systems should support different organization's responsibilities and in accordance with a wide range of organizations can be applied.
- Over company: this system should be alive and connect to other organizations and also other business partners, including suppliers and customers.
- The best available methods: A collection of the best procedures and experiences around the world should be compacted in this software.

ERP's Implementing Strategies

In ERP's project due to the involvement of the organization's entire unit and also the particular complexity of the project, the management of this project is very important. The managers of projects based on the type of the organizations, the extension of the activities and the size of the applied models, used for planning and managing of this updates. Generally, the ways of implementing of these projects can be classified into three categories:

- Big-bang approach.
- Pilot approach
- Phased approach (Kazerooni, 2002)
- The general frame work of the ERP's successful implementation (Adam & Dohert, 2003, P. 8).

Review of Literature

Ehoi (2008), in a study entitled the implementation of an enterprise resource planning in the oil industry in China; results

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determined that the organization's planning reduces the total cost of production, shortening of time to the marketing of new productions, satisfaction of customers, enhancing the advantages of competition and increase of the enterprise resource planning in Chinese companies.

In another study Razmi et al (2001) investigated the key success factors in enterprise resource planning systems. Results determined that this study is classified in 5 general categories, "project, view and aims, systems and processes, culture and structure and human resources" and by applying ANP method ranked different factors. The mentioned method, has been evaluated the power of organizations in three dimensions of organizational preparation, preparation of project management and preparation of changing management.

Eik Medsen (2009), in a research entitled recognition of important factors in implementing enterprise resource planning in computer industry which expressed six influential factors in implementing of this resource planning. These factors consist of the principles of project management, feasibility and evaluating of ERP project in company, support of high level management, repetition of business process engineering, consulting service and costs. But there isn't any relationship between human resource development and IT's infrastructure with ERP's successful implementation.

Methodology of the study

The present study is descriptive, and for investigating the researches question Pearson Correlation tests and for collecting data, questionnaires have been used. Samples of this study are Kermansha's Petro chemical employees- which consist of 90 people. By using Kokran's ERP formula 70 people were selected randomly. In this study for evaluation, Dourabji's questionnaire, with Cronbach's alpha (0.943) was used which has 4 components with 22 items. Results determined the acceptable reliability and validity.

Data analysis

To analyze data SPSS software was used. Four hypotheses were considered in the study which consists of: Bistoon's petrochemical company from organizational structure, human resources, financial resources and organizational culture perspective has appropriate preparation for implementing ERP's system. Kolomogrov- Smerinof one dimensional test was used to determine the distribution of main variables of the study, and according to the normal distribution of main variables parametric t-test is used.

Table 4.1. Comparison of the existing organizational structure and its optimal situation from the expert's perspectives

Level of sig	df	t	Standard deviation	mean	number	situation
0/000	67/983	-6/824	0/511	2/54	40	Existing situation
			0/388	3/28	30	Optimal situation

Table 4.2. Statistical test, comparison of existing means of human resources and optimal situation from expert's perspectives

sig	df	t	Standard deviation	mean	number	situation
0/002	68	-3/264	0/535	2/85	40	Existing situation
			0/497	3/26	30	Optimal situation

Table 4.3. Comparison of the existing mean of financial resources and optimal situation from expert's perspectives

sig	df	t	Standard deviation	mean	number	situation
0/000	68	-8/298	0/595	2/27	40	Existing situation
			0/544	3/42	30	Optimal situation

Table 4.4. Comparison of the current organizational culture and optimal situation from expert's perspectives

sig	df	t	Standard deviation	mean	number	situation
0/000	68	-6/590	0/389	2/85	40	Existing situation
			0/483	3/53	30	Optimal situation

Discussion and conclusion

The increase of the company's competition and their needs to newer and better tools for planning and managing of the programs, caused that software companies think about providing newer software tools; to support more parts of the current systems and pay attention to their integration. The results suggested the ERP systems with supporting software.

This system by creating management and operational integration, inside and between organizations and increase the speed of business process, develop the operational efficiency of organizations and prepare them for competition of the marketing. As a result it is concluded that the required situation of ERP and some factors which considered as appropriate criteria of systems for implementing enterprise resource planning didn't obtained in Bistoon's petrochemical company in Kermanshah, so some important reasons to ignore the hypothesis as follow:

- Lack of appropriate situation from engineering experience perspectives and also company's size
- Lack of experts personnel in the field of BPR
- Lack of BPR' s executive experience in Bistoon's petrochemical company
- Lack of managers and employee's interests and commitment for implementing organizations change
- Lack of master manager's commitment, cooperation and group work
- The low capacity of employee's learning in company, lack of systems and information technology's engineer in company
- The lack of ERP's understanding by master managers of company
- Low power of master mangers in different levels of company
- Lack of master manager's support in different level of companies
- Lack of group work interest and low level of inter organizational relationship and also expert's prevention in implementing the information projects in companies
- Low level of knowledge in all company's employees and high experience of the work that leads to the lose of motivation for learning new material and also low efficiency of educational courses in company
- Lack of system's engineer and also lack of information technology's preparation and required situations for ERP's implementation
- The Low level of technical knowledge and work's experience in the field of various information projects in company and even low level of providing services and supporting of the computer's software and hard ware

- Low financial power for costs, purchases, cost of licensing and implementation, maintenance and supports, and because the Kermanshah's petrochemical company is a public company and its budget has been set as total budgets of country, the possibility of movement and use of other budget's lines are also very difficult.
- The low culture of computer usage and also the lack of IT's maturity and growth between company's personnel
- High level of employee's resistance against the new systems and organizational changes
- Inappropriate culture and use of computer systems for different activities in all organizational levels
- No company's managers believe on the ERP's project implementation and also the low level of risk taking by managers in company
- Low importance of IT's educational issue for company's personnel and low level of users from computer programs
- Kermanshah's petrochemical company's size from the volume of selling and also number of personnel don's have required situations for implementing this system because the company's size must be evaluated by universal measures.
- Suggestions
- It is suggested that those companies that aimed to purchase and install the organization's resource planning, before implementing the IT's software and hardware, at first update their company and coordinated them with ERP's system.
- Companies that have the purpose of implementing this system shouldn't ignore the hidden costs because the ignorance of this important issue leads to the failure and problem of implementing of the system.
- The master managers of the company before purchasing of this software should consider the real situation of their own company by using of the computer, It's growth and maturation, sense of cooperation and expert's group working' interest; and then based on all of them make decision.
- Due to the heavy and high cost of purchasing, installing and supporting of this system, it is recommended that companies without high financial ability and those which budgets are in the specific lines and rows and the possibility of transferring from other budgets rows isn't possible easily, it's better to stop purchasing of this software. In addition the establishment of the system for companies is economical when the organization's structure and size are classified in a wide range.
- All the companies that have the purpose of implementing of this system, before purchasing and installing the engineering software in company should execute these processes in their own company to achieve the standard and optimal structure.
- Because of the Iran's sanction by some companies that produce the ERP's software, it is recommended that before planning and changing of the company's organizational structure and primary costs, some investigations should be done to consider the possibility of purchasing software.
- In order to achieve success in organization's management and efficient implementation of processes, it is suggested that the integrated center of human resource planning must be created in companies. It helps mangers to obtain the information and knowledge to optimize the national and international capacities for employees and human resources.
- For efficient application of human resource management and information distribution among employees, it is suggested that all educational programs, seminars and educational workshops should be designed and implemented.
- It is recommended that a comprehensive portal of human resource management system is designed and implemented and by implementing the virtual speaking hall and creating the room for virtual thought for exchanging experiences among employees with special personnel code to maintain the moral and material features and persuading the employees to implement and continue the electronic suggestions to manage the human resources.
- In effective frame work of human resources management, it is proposed that the comprehensive charter of human resource management system developed and a scientific and practical vision and road map of human resource must be designed.
- For improvement and development of human resource management system it is necessary that the design of the occupations should be done based on management and changing of the jobs, it leads to the issue that the implicit knowledge of employees change to the explicit form.
- For optimize use of humanity, knowledge and thought capitals and also prevention of waste of knowledge , it is necessary to make appropriate decisions and policies specially by creating the inner motivation, experts and employees should be persuaded to documented experiences, skills, failures and success. These issues should be provided to the employees and decision makers via centers and knowledge stations.
- In line with the efficient implementation of human resource management system it is proposed that an appropriate motivational system based on the ERP's management should be designed, and for each employees based on his/her activity for implementing organizational management processes in different organizational level, a reward should be paid.
- Enterprise human resource management system requires the standardization of criteria and measures in appropriate way. So it is suggested that the appropriate criteria with organizational human resource management in different organizational level is designed and performance management system based on organizational resource management is implemented.
- In line with the recognition of capacities and determination of problems and enterprise human resource management processes, it is recommended that a special research group is created to provide practical research programs to have an efficient plans for company's knowledge power.
- In order to have a constant participation in decision making and achieving the organizational and individual acceptable performance, it is necessary to apply management based on the purpose in organizational resource management system.
- To motivate the employees for cooperation and efficient participation in organizational resource management processes it is proposed that the supportive executive decisions are used in this case.

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