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CAREFUL ERP PACKAGE SELECTION: A KEY PARAMETER FOR SUCCESSFUL ERP IMPLEMENTATION

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ABSTRACT *: Enterprise resource planning (ERP) systems can be considered as the most important development in the corporate use of information technology and are beginning to be the backbone of organizations. In this paper the various parameters for ERP package selection has been determined. The paper highlights how selection of suitable ERP package benefits the organizations The various parameters for selection of suitable ERP package are identified with an empirical data regarding the ERP software acquisition in Indian organizations.*

OBJECTIVE: - *To establish the fact that careful selection of ERP package benefits the organization in its successful implementation. The different parameters for the selection of ERP Software have been discussed in the paper in the context of ERP adoption in Indian Organizations. Through the extensive review of case studies of 26 leading organizations available in various IT magazines and newspapers, technical and non technical parameters have been sorted out for the selection of ERP package and an extensive survey.*

The different parameters like, Adequate functional support, Suitable Technical Architecture, Scalability, Modular integration level and design, Level of flexibility to redesign the process, Software Quality Assurance, Bug fixing, Global\Local Presence, Cost of Implementation, Obsolescence of ERP Software are significant parameters for ERP package selection. These parameters will be useful for the firms planning to implement these systems. The Parameters are general in nature and analyzed in the context of Indian Organizations

1.INTRODUCTION:

ERP is defined as: "A packaged business software system that enables a company to manage the efficient and effective use of resources (materials, human resources, finance, etc.). By providing a total, integrated solution for the organization's information-processing needs" **[35].**ERP owes its origin to Material Requirement Planning (MRP-I) and Manufacturing Resource Planning (MRP-II). During the past few years ERP software has attained the maturity of packaged software. Hence ERP is gaining acceptance across the globe as an alternative to the traditional custom developed software as well **[1].**

Enterprise Resource Planning (ERP) systems are software packages composed of several modules, such as human resources, sales, finance and production, providing cross-organization integration of data through embedded business processes **[2].** The first ERP systems were adopted in India in the late 1990's. As of 1999, ERP software systems were functioning in about 100 sites. Among organizations having more than 500 employees, 40 per cent had already implemented an ERP solution while 21 per cent were in various stages of implementation. The ERP segment (software products and consulting services) grew by 17 percent during 1997-1998 and by 23 percent during 1999-2000**[6, 7].** This growth is attributable to two reasons. Firstly, the back-end infrastructure required for carrying out electronic business can be provided very effectively by an ERP package, and many companies with plans for e-business find it convenient to first implement an ERP solution. Secondly, between 1998 and 2000, a few Indian software companies started providing ERP solutions, which were less expensive that those of the bigger and more well known companies. Hence many organizations, especially in the SME segment could buy and deploy enterprise systems at a fraction of what they would have to pay for an implementation of SAP or BAAN. This increased the potential size of the market. SAP, is the largest ERP vendor in India. Other products include BAAN and JD Edwards. Marshall, a product designed by an Indian company called Ramco is also popular among the smaller companies. India's GNP is now the fifth largest in the world. With different vendors coming out with country-specific localization, besides having a large pool of skilled functional and technical talent available, the total cost of ownership of an ERP solution dropped significantly **[3, 7].**The transition to an open economy has thrust India squarely into the information age, an age that is forcing the country to cope with a deluge of new information relationships. At the same time, India attempt to bolster its competitiveness in the global marketplace - an imperative that requires industry to have a greater

sophistication in dealing with materials, men, and machines. With all of these demands, it is no wonder that Enterprise Resource Planning (ERP) had hit India like a tidal wave **[4].**

The Enterprise Application Software (EAS) market, which includes ERP, CRM, SCM and BI, has seen phenomenal growth. 2006-2007 saw the best years reflecting a category growing at almost 22-24% in license revenue terms, and from that almost half of the revenues came from ERP licenses alone. The SMB segment has contributed significantly to the ERP market in FY 2008, accounting for nearly 40% of the overall market. According to ARC advisory group research report on 'ERP Software and service Outlook for India'-the Indian market for ERP was estimated at $83 million in 2004 and was projected to grow to about $250 in next decade **[7].**

Recently more and more organizations that until now had been running in-house developed systems are looking into Enterprise-wide Resource Planning packaged solutions. Configuring these large generic software packages to the needs of specific organizations, industry sectors, and countries is necessary and requires large investments of money, time, and expertise. Almost all ERP software packages can be customized to the specific needs of a particular organization. This, however, is very expensive and may lead to problems such as the incompatibility of product patches and new versions with the customized ERP software **[5, 6]**. The evaluation /selection process is one of the most vital phases of the ERP implementation, because the package that is selected will decide the accomplishment of the project. Once a package is purchased it is very difficult task to switch to another one. So, it is a do right the first proposition. Once the packages to be evaluated are identified, the company needs to develop selection criteria that will permit the evaluation of all the available packages on the same scale. It is impossible to get a system that will perform, exactly as the company does business, but the aim should be to get the system that has the least number of differences **[4, 36].**

In this paper the various parameters for ERP package selection has been determined. Careful selection of ERP package is one of the significant factors of ERP system implementation.

2.RESEARCH METHODOLOGY:

The parameters identified for ERP package selection in this study were obtained from thorough study of literature review and 26 ERP software implementation ease studies available in the various IT magazines like Express computer and Network magazine India, investigating the ERP software selection in manufacturing companies of India where ERP software systems have been implemented. The study is conducted from the various editions of these magazines from 2002 to 2010.The companies have implemented or implementing major ERP software systems like SAP, BAAN, People Soft, J.D. Edwards, Ramco Marshall and some companies have developed the ERP software in-house as per their requirement. . Companies included are large as well as small and medium in size. The companies operating are mainly manufacturing industries. Most of the companies had acquired their current ERP software system in late 2000's. The 13 general parameters identified are as under **[8-35]:**

1. Adequate functional support
2. Suitable Technical Architecture
3. Scalability
4. Modular integration level and design
5. Level of flexibility to redesign the process
6. Software Quality Assurance
7. Bug fixing
8. Global\Local Presence
9. Ease of Implementation
10. Cost of Implementation
11. Obsolescence
12. Adequate ERP software version
13. Total Cost of Owner Ship

To validate the importance of these 13 parameters mentioned above a survey was conducted, a questionnaire has been prepared for the purpose. The insight gained from the discussion with ERP experts together with extensive literature review was used to develop the research questionnaire. A 10-point importance scale with multiple items was used to measure the relevance, importance and essentiality of each parameter. Respondents were asked to indicate the level of relevance, importance and Essentiality from the scale ranging from 1 (irrelevant) to 10 (Essential).A pilot test was conducted on 5 ERP executives of five different organizations to verify the various dimensions of the questionnaire such as language used, questions layout and ease of completing questionnaire. Respondents in the pilot study were asked to fill in the questionnaire and then followed by an interview session. Feedback was obtained with regards to the clarity, wordings, interpretation and appropriateness of the questions.

3. FINDINGS:

Under the factor “Careful selection of ERP Software system” 13 different parameters have been analyzed. Out of 13 elements the Respondents have given maximum priority to “Adequate functional support of ERP Software”. The “Obsolescence of ERP Software” is given the least priority. How ever it is an important element. Table I and Figure I shows the facts.

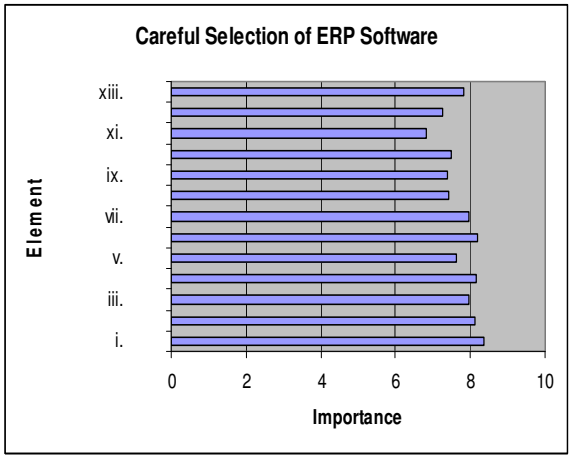

Figure I. Degree of Importance for the parameters of Selection of ERP Software

Table I:
Parameters of "Selection of ERP software" in the descending fashion of degree of importance

Order	Elements	Mean Rank
1.	Adequate functional support	8.36
2.	Software Quality Assurance	8.20
3.	Modular integration level and design	8.16
4.	Suitable Technical Architecture	8.12
5.	Scalability	7.97
6.	Bug fixing	7.97
7.	Total Cost of Owner Ship	7.84
8.	Level of flexibility to redesign the process	7.61
9.	Cost of Implementation	7.48
10.	Global\Local Presence	7.43
11.	Ease of Implementation	7.40
12.	Adequate ERP software version	7.2
13.	Obsolescence	6.81

4. CONCLUSION:

This paper uniquely specifies the important parameters for ERP selection process. Adequate functional support, Suitable Technical Architecture, Scalability, Modular integration level and design, Level of flexibility to redesign the process, Software Quality Assurance, Bug fixing, Global\Local Presence, Cost of Implementation, Obsolescence are significant criteria for ERP package selection. The organizations planning for ERP implementation cannot ignore these while selecting the package.

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