



A STUDY OF ISSUES & CHALLENGES AFFECTING ERP IMPLEMENTATION IN SMES

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ABSTRACT

Companies implement ERP systems to integrate the business processes of a company, and help organizations obtain a competitive advantage. Enterprise Resource Planning (ERP) is one of the solutions for the Small and Medium Enterprises (SMEs) in order to face the global challenges. This paper attempts to explore and identify issues affecting Enterprise Resource Planning (ERP) implementation in context to Indian Small and Medium Enterprises (SMEs) and challenges in front of SMEs. This paper attempts to highlight those specific issues where a different factors needs to be addressed while implementing the ERP system in this the four issues are proved to be crucial for SMEs such as proper system implementation, clearly defined scope of implementation procedure, proper project planning and minimal customization of the system selected for implementation.

KEYWORD

Enterprise Resource Planning[ERP] Implementation

Small and Medium Enterprises Business

PREAMBLE

An ERP implementation takes many years to complete and requires a large amount of IT investment and their effectiveness is hard to evaluate. Today organizations of any magnitude have implemented or in the process of implementing Enterprise Resource Planning (ERP) in order to reap the benefits of integration and to remain competitive in the market. It has also been noted the dispersion of ERP systems in large and small-medium scale enterprises (SME) has been, by large, the most pertinent phenomenon since nineties in the sector of the business processes of a company, and help organizations Information technology (IT). All the Companies implement ERP systems to integrate obtain a competitive advantage and high productivity of the employees gives to the company competitive advantage and increases the human capital. To achieve all of this, companies have realized the necessity to implement ERP software to achieve integration of business activities. ERP systems can also be an instrument for transforming functional organizations into process-oriented ones. When properly integrated, ERP supports process-oriented businesses effectively ⁱ(Al-Mashari, 2003). It is argued that 65% of managers believe ERP project failure will damage a firm. The complexity of ERP, high costs and implementation problems force numerous organizations to reconsider their new plans in relation to this enterprise system ⁱⁱ(Kumar and Hillegersberg, 2000). Although ERP applications constitute well – structured, reliable information technology (IT) backbones of fortune 500 companies worldwide ⁱⁱⁱ(Hofmann,P, 2008). A recent study finds SME companies focusing on growth strategies and customer services sometimes balancing between the two, but more often focusing exclusively on one or the other. As companies grow in size and improve performance, they are most likely to have invested in ERP system that will grow with them. As mid size companies grow, they must learn to operate in distributed environment and often experience proliferation of ERP and other enterprise applications. A number of publications have highlighted the failures and the frustrations that enterprises go through in implementing ERP systems. A Gartner group study was carried out in 1300 European and American companies and being found that 32% of ERP projects were delivered late

and thus unable to achieve the true benefits of implementation. Also by doing comparative analysis between the identified issues for companies in NCR Some issues are proved to be crucial for small companies but not for large enterprises such as proper system implementation strategy, clearly defined scope of implementation procedure, proper project planning and minimal customization of the system selected for implementation, because of some limitations faced by the small companies as compared to large enterprises. Such a scenario raises some serious questions: Are IT Companies informational needs as well as other issues are different from that of large IT Companies? Is it possible to identify a relationship between organizational climate and ERP adoption in companies of different size? Can certain factors or issues be identified that can be considered critical in context to Small Companies but not for large organizations so that managers can focus on those key issues to make the implementation process smooth? ERP implementations usually involve broad organizational transformation processes, with significant implications on the organization's management model, structure, management style and culture, and particularly, on people ^{iv}(Caldas & Wood, 1999).

SIGNIFICANCE & SCOPE OF THE STUDY

To Explores and validates the existing literature to find out the critical success factors that lead to the success of ERP in Indian companies. The findings of the results provide valuable insights for the researchers and practitioners who are interested in implementing Enterprise Resource Planning systems, how best they can utilize their limited resources and to pay adequate attention to those factors that are most likely to have an impact upon the implementation of the ERP system. ERP systems provide firms with two new and different types of functionality: a transaction processing function, allowing for the integrated management of data throughout the entire company, and a workflow management function controlling the numerous process flows within the company. ERP facilitates the flow of information between all the processes in an

organization. ERP systems can also be an instrument for transforming functional organizations into process-oriented ones. When properly integrated, ERP supports process-oriented businesses effectively

OBJECTIVE OF THE STUDY

The Implementation of new technologies and manufacturing philosophies in industrial sector with good success rates is crucial in a nation's economic growth and prosperity. ERP is one such system for which a lot of resistance is offered in organizations for implementation due to higher investments and more failures associated with it. The study of ERP implementation issues is necessary to encourage and persuade small and medium scale industries to go for ERP implementation as ERP is vital in their future growth. The objective of this paper is identified and validates the critical success factors for ensuring successful implementation of Enterprise Resource Planning (ERP) packages in companies.

- To analyze the Implementation of ERP and IT industries in India.
- To identify the factors, issues & challenges in ERP Implementation.

LITERATURE REVIEW

ERP implementation issues are necessary to encourage. Therefore, various aspects of ERP implementation have attracted the attention of academicians, researchers and policymakers from time to time in the country. The literature reviews are:-

ERP implementations usually involve broad organizational transformation processes, with significant implications on the organization's management model, structure, management style and culture, and particularly, on people (Caldas & Wood, 1999). AMR research Inc.,

the leading industry and market analysis organization specializing in enterprise enabling technologies, predicts that the enterprise resource planning (ERP) software market will grow at a compound annual growth rate of 37 % over the next five years (Caruso 1998). This market will continue to be one of the largest, fastest growing, and most influential in the applications industry, and is poised for steady growth into the new millennium, says AMR. Before ERP came into existence, different departments had their own software system to meet their requirements. This resulted in a fragmentation of information, as all of the information was stored separately on different systems in business units, factories etc. sometimes spread across the world. This made it impossible to get accurate information on time. In 1990s, globalization led to immense competition and companies, especially in the manufacturing sector, realized the need for more customer focus and shortened product life cycles. Corporations had to move towards agile manufacturing, continuous improvement of business processes and business process reengineering. This required an integration of manufacturing with other functional areas like accounting, marketing, HR, etc. This led to the evolution of ERP systems. ERP combines all the business functions together into one single integrated system with a single central database as shown in figure-1. This system serves the information needs of all the departments across geographies, while allowing them to communicate with each other. As illustrated in fig-1, a typical ERP system consists of modules for manufacturing, Production Planning, Quality Management, Financial Management, Human Resource, Manufacturing and Logistics and Sales and Distribution. Once an enterprise wide implementation is in place, operating managers are relieved of routine decisions and they thus have the time to plan and execute long-term

decisions that are vital for the growth of an organization. It leads to significant cost savings as the health of the organization is continuously being monitored. Though the cost of an ERP system is very high, it becomes insignificant in the face of the benefits a proper ERP implementation provides in the long run (Sadagopan, 1999). Nowadays, the ERP industry is one of the most promising ones, which contrasts with the obvious lack of related academics research. In case of small and medium scale industries (SMI) of India the study revealed that for ensuring successful ERP implementation the six major factors on clarity in goals and objectives behind the implementation, adequacy of user training, competency of the project implementation team, acceptance of changes brought about by the implementation and adequate vendor support and external consultant participation had a key role to play. ^{vii}(Parijat Upadhyay, 2008) Similar studies conducted in china by creating interactive structural model have identified four critical factors on the funds support, department's participation; training and service of the supplier of ERP which influence s the system of ERP implementation most directly. The four factors above are critical factors which decide the ERP system is successful or not ^{viii}(Ranzhe Jing et al, 2007). According to Huin unless the differences between SME and large companies are clearly conceived, the ERP project will not reach to positive outcome ^{ix}(Huin, S.F. 2004.) We believe that organizations and vendors should play an important role in researching on ERPs, because this kind of research is amenable to be field-based rather than laboratory-based. Consultants also play an important role in the research of some issues; over the years, they have accumulated probably the richest ERP experiences through thousands of ERP installations worldwide. The best practices for

ERP implementation in SMEs are investigated by using a problem driven approach by dividing implementation process into several components which will reflect the nature of ERP projects and makes them distinctive from other systems design. Methods critical issues relating to developing entrepreneurship for sustainable development of SMEs for its future extensions and added benefits are also addressed ^x(Rashmi Jha et al, 2004). Effective communication is critical to ERP implementation ^{xi}(Falkowski et al., 1998). Expectations at every level need to be communicated. Management of communication, education and expectations are critical throughout the organization ^{xii}(Wee, 2000). The challenges in global ERP software implementation is studied. The challenges in implementation are identified as non uniform business practices in different countries, conflict of interests between various stake holders, Lack of experienced implementers in all countries, efficient uses of metanational advantages,. From this study it has been found that the benefits of ERP implementation are not same for all functions ^{xiii}(Saumyendu Ghosh, 2002). Upadhyay and Dan made an attempt to identify those factors that the organizations must keep in mind so as to ensure positive outcome of successful implementation of the enterprise planning systems. Based on the responses received from the respondents their study reveals that for ensuring successful implementation following issues are considered immense importance namely, clarity in goals and objectives behind implementation, adequacy of user training, competency in project implementation team, acceptance of changes brought about by implementation and adequate vendor support and participation of external consultants ^{xiv}(Chen, R. 2008) Vijaya Kumar et al. did a study to prioritize the issues affecting ERP system in medium scale fertilizer industry and the following factors were

determined: adequate and correct data, training and testing, never run parallel system, conference room pilot, employee retention, customization, and clarity in management objective, external consultant dependency^{xv}(Vijaya Kumar,2010) Further to this the researchers Upadhyay and Dan identified certain factors that have been found to be critical in context to implementation of IT projects. Seven factors have been identified that are found to be crucial are: Support from Top management, goals and objectives, user knowledge, project champion , project team competency, improve work efficiency, scalability & scope and ERP importance. Out of this the first two are considered as most important^{xvi}(Parijat Upadhyay, 2010). Through regular communication, working with change agents, leveraging corporate culture and identifying job aids for different users

^{xvii}(Rosario, 2000). From the literature review it is evident that the success and failure factors for ERP implementation in companies is studied extensively and other implementation issues like the quality issues are not explored much and there is a vast scope for study in this area.

Specifically quality issues in ERP implementation are not explored in an Indian SME. Taking this into consideration the present study is aimed at analyzing quality issues in ERP implementation in Companies in NCR Region prioritizing the factors affecting ERP Implementation using a analytical model.

One third of ERP implementations worldwide fail owing to various factors^{xviii}(Sirigindi, 2000). One major factor for failure is considering ERP implementation to be a mere automation project instead of a project involving change management. It is a business solution rather than an IT solution, as is perceived by most organizations. Yet another reason for failure is over customization of the ERP system. Therefore, organizations need to very carefully

go about their ERP implementations, if they are to be successful. Most large companies have either implemented ERP or are in the process of doing so. Several large companies in India, both in the public and private sectors, have successfully implemented ERP and are reaping the benefits. Some of them are Godrej, HLL, Mahindra & Mahindra and IOC. With the near saturation in the large enterprise market, ERP vendors are looking to tap the potential in the SME segment^{xix}(Davenport, 1999). The spending on ERP systems worldwide is increasing and is poised for growth in the next decade^{xx}(Yen et al., 2002). Some of the reasons for this are :

Vendors are continuously increasing the capabilities of their ERP system by adding additional functionality like Business Intelligence, Supply Chain, and CRM, etc. They have shifted to web-based ERP. The demand for web-based ERP will increase due to the perceived benefits of e-commerce. There are several markets that are yet unexplored. Pressure from larger counterparts due to globalization, SMEs today operates in a wider arena. Majority of them have MNCs as their clients. These MNCs require SMEs to implement the same ERP system as them to allow for tighter integration in their supply chain, which permits them to design and plan the production and delivery so as to reduce the turnaround time. Peer pressures considering the growth in ERP implementation in the SME segment, several SMEs are adopting ERP systems as their peers have done so and to gain competitive advantage and respond quickly to the dynamic market scenario. Thus SMEs would be able to increase their efficiency and productivity by implementing a suitable ERP system. The companies potential in India for the enterprise class is projected to be Rs. 728 crore (\$160 million) 47% of the overall market^{xxi}(Munjal, 2006). ERP vendors like SAP,

Oracle, Microsoft, QAD etc. are all trying to increase their customer base in the SME segment and have products specifically designed to cater to the needs of SMEs. E-commerce benefit will accrue from the close integration between large enterprises and SMEs. Cheaper and faster Internet reduces the costs further. Cheaper hardware and software with the advances in technology, the costs of both hardware in the form of servers, cables, switches etc. and software like databases have come down (Gable et al, 1999). Human resource planning i.e. team composition. Top management commitment to release the right people for the implementation. These factors help organizations to understand their level of preparedness for an ERP implementation. Reduced Planning cycle time, Reduced manufacturing cycle time, Reduced inventory, Reduced error in ordering, Reduced requirement of manpower, Enables faster response to changing market situations, Better utilization of resources, Increased customer satisfaction, Enables global outreach.

ISSUES AND CHALLENGES

Though the market for ERP seems to be growing, there are several issues and challenges one has to contend with when implementing an ERP system in the SME segment. Some of these are:

1. **Awareness:** There is a low level of awareness amongst SMEs for ERP vendors, applications etc. most of the time they do not even know what ERP systems are and what they can do. They consider ERP systems to be a magic wand, which will help solve all their business problems, be it in terms of quality, or process defects. ERP brings in a more disciplined execution of business process giving more transparency and visibility to the working of the organization.
2. **Perception:** SMEs have the perception that

ERP is meant only for large firms mainly owing to the high costs of acquisition, implementation and maintenance as also the complexity. Some of the SMEs even feel they do not need ERP.

3. **Earlier Implementations:** SMEs have heard of the much-publicized failures in ERP implementation, which have led firms to bankruptcy. Some SMEs who have implemented ERP earlier have failed. This has led SMEs to believe that ERP implementations are a waste of time and effort and can even lead to the demise of company.
4. **Approach to implementation:** ERP vendors advise SMEs to mould the business to ERP's way of working. Considering that ERP systems will bring it best business practices. This is the plain vanilla approach that was mentioned earlier, which would bring down the cost of implementation. But most SMEs have processes that they have evolved over time and hold very dear to their hearts.

As a result, SMEs are having the entire ERP system customized to meet their requirements. This would increase the overall cost of implementation. A good approach would be to keep the customization to a minimum.

5. **Cost:** SMEs have less of capital than their larger counterparts.
6. **Change management:** One of the major reasons why ERP implementations nationwide have been known to fail is due to the implementation being considered as an automation project instead of one that involves change management. This results in the system being put in place but not being used effectively due to people not ready to accept the change.
7. **Limited resources:** Most SMEs do not have an in-house IT team. Due to this they have to rely on external agencies to help them and this adds to the implementation costs.

FACTORS AFFECTING ERP IMPLEMENTATION

The major factors can be classified into four subheadings namely, the top management, training, the data collection & Software design and Testing. The 8 factors affecting the ERP implementation are determined. The consensus among the ERP team and top management is very important to indicate the need for application framework. The factors are can be illustrated as fallows-

1. Data provided: Adequate and correct data should be provided it had to be collected from the distributed Tally 7.0 Servers, had to be reconciled, mapped into the ERP System in its standard format and finally the data had to be uploaded into the system. A strong management direction is needed for the managers at each of the branches so that adequate and appropriate data is duly provided.

2. Parallel systems: When issues began to crop up after implementation of ERP in Finance module, sales and distribution module was completely ignored, they shifted work with these modules back to the old system. This hampered the proper integration of organization data and led to data mismatch in other modules as well. As a result, support system provided by the vendor became obsolete and difficult to implement. Hence, use of parallel systems should be avoided outright.

3. Training and testing: Training and testing of the system should be done properly by the ERP Consultants, that is, the vendor is provided as part of the implementation procedure to only a 30% group of people from the clients' side known as the Core Team. This core team in turn trains a rest of people who are actually responsible for day-to-day transactions called the End Users. It was observed that the 50%

second leg of training which is provided to the end users was not carried out mainly due to lack of computer literacy, not will to accept the responsibility this triggered a strong resistance to change for the new system being installed and caused reduction in employee motivation.

4. Expectations from the ERP System: Clarity in management objectives and expectations from the ERP System are clearly stated to the vendors. This led to a belief of the systems' power to integrate the company actual functions. According to the vendor, management expected a quick return on investment which was not practical since it takes around three to four months to notice any significant returns. Hence, top management should be patient with the new system and any fear of failure should be done with for a successful running system.

5. Employee Retention: It was observed that after the completion of ERP training provided to the staff and within some days of the system going live, many of the trainees from the organization quit the company causing great losses to organization in the form of shortage of key resources i.e. trained staff. This was a big percentage of employee attrition rate and it is not possible for a company to hold back any of its employees even with the most stringent contract.

6. Design & Testing: is a very important part of software testing and should not be neglected the computer work stations are set up in a room to represent each of the major tasks of customer service /order entry, planning, goods-in, stores and finance. A simplified data set is loaded and the company operations run through. The data is gradually increased as first the project team, then managers and finally users get more familiar with the software. This is conducted

just before the ERP becomes fully functional in the organization.

7. Customization should be less than 30%- Customization Services involves any modifications or extensions that change how the out-of-the-box ERP system works. Customizing an ERP package can be very expensive and complicated. Some ERP packages have very generic features, such that customization occurs in most implementations. Customization work is usually undertaken as "changes requested beforehand" software development on a time and materials basis. But ideally, experts in the ERP implementation field have suggested that customization should be less than 30%. The level of customization in the case of Multiplex exceeded beyond this and posed a great deal of problems when key applications were run and found to be not working as they were intended to.

8. Stakeholders shall be identified in the initial phase including customers and vendors: Stakeholders are all those who are directly or indirectly affected by a company implementing any new ERP system be it organizations like those of the supplier as well as the vendors. A failure to identify the stakeholders gives the implementing company a major setback when the concerned people or organizations work against the new system. So identification of all stakeholders has to done in advance.

CONCLUSION

The commitment of top management has been recognized as one of the most important elements in the successful implementation of ERP system. Since the primary responsibility of top management is to provide sufficient financial support and adequate resources for building a successful system, Implementing an

ERP package is a complex and costly undertaking, so it's essential to choose the appropriate vendor, adequate scalability features, suitability of H/W and user friendliness of product depending on the size and structure of an organization Project management related factors like Clear goal and objective, Effective project management, Reasonable expectation, Other dept. participation, Change request, Implementation strategy, Data conversion, Clear & effective communication are very critical for a successful ERP implementation. Team member should understand the inner workings of their respective departments thoroughly. And the team must have can do attitude.

In India, SMEs are the backbone of the economy and are today faced with global competition. Therefore it becomes imperative for them to look for means of responding to the dynamic markets. ERP systems have become the most common IT strategy for most large companies. SMEs too are moving towards ERP systems. They need to adopt a proactive approach towards ERP and consider it as a business solution rather than a mere IT solution.

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