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Kamlesh T. Mehta

*St. Mary's University*

Vivek Shah

*Southwest Texas State University*

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# Enterprise resource planning growth in India: A global competitive advantage (part II)

**Kamlesh T. Mehta**  
St. Mary's University

**Vivek Shah\***  
Southwest Texas State University

## ABSTRACT

*The increasingly sophisticated and competitive Indian economy is faced with life in the global fast lane. The transition to an open economy has thrust India into the information age, an age that is forcing Indian firms to cope with a deluge of new information relationships. In order to keep up with the global advances, numerous Indian industries are implementing or considering ERP to compete in the global business environment. Several examples of successful implementation of Enterprise Resource Planning in India are discussed.*

## INTRODUCTION

Using Information Technology (IT) does not mean setting up computers to manage jobs. It also does not mean getting streamlined, creating transparent departments and improving workflow. IT deployment is all this and much more. If one wants to choose a single word for defining the importance and relevance of IT to organizations, it is 'oneness.' Enterprise Resource Planning (ERP) is a definition for this great commonality that IT tends to transform most business processes into.

ERP is the planning of the four enterprise resources - Man, Money, Materials, and Machines - to their best synergistic value. While earlier on, the manufacturing of the organizations had the most to gain by implementing these tenets, today, the whole gamut has expanded to also include non-manufacturing type of industries. Currently, aerospace, software and hardware organizations, manufacturing and pharmaceuticals, which are trying hard to hook up to customer-oriented domains (Greenbaum, 1999). Businesses are realizing that customer focus means better products and services delivered fast. Sometimes, so fast that the customer and the market get

\* Corresponding Author

what they do not even know they need. So far the businesses that are in the processes of getting all this done, there is a lot of action happening all around. And that is the call of ERP.

In the age of the turbulent global business environment, today's manufacturing organizations are complex 'systems' that require interaction between the various functions such as sales, marketing and distribution, manufacturing, materials, finance, and human resources. ERP is a way of dealing with certain pressing issues that have emerged in the age of global competition and stringent demands on the production and distribution systems. Integrated ERP solutions optimize resource utilization by providing up-to-the-minute information on demand for quick decision making. Industries that successfully implement ERP can lead to an increase in per capita productivity, quick response times, lower inventory levels, better customer orientation and sharing of information seamlessly across the enterprise and just-in-time management, all of which lead to higher customer satisfaction.

These issues can be resolved by 'Enterprise Resource Planning' software solutions providing a common, consistent system to capture data throughout the organization, with minimum redundancy. Enterprise Resource Planning represents a variety of software application packages, which integrates all transactions of the enterprise relating to all its resources, viz., men, material, machine, and money (Jayaraman, 1998).

The purpose of this paper is to present the role of ERP among firms in India and how firms can use ERP to change the way they are doing business globally. The paper addresses benefits to Indian firms of ERP implementation and concerns associated with ERP tools. The authors provide examples of successful implementation of Enterprise Resource Planning in India. The ERP implementation among domestic and international firms in India is growing at a rapid pace and shows tremendous growth potential for ERP market in the near future.

## **GLOBAL AND INDIAN SCENARIOS OF ENTERPRISE RESOURCE PLANNING**

Enterprise Resource Planning has emerged as one of the popular IT-based solutions for managing the businesses of today. Globally, ERP market has come to be recognized as one of the most dynamic segments in terms of growth and potential. In fact, it has delivery of enterprise-wide solutions as branded products. This has in turn led to ERP vendors' ability to command a higher premium for services. The dynamism of the ERP segment is also underscored by the fact that ERP procurement and implementation has a ripple effect on other IT purchases across various product categories by organizations. This is due to the fact that organizations prefer to reengineer their internal processes and upgrade to more open systems while implementing ERP systems.

In the year 1998, the global ERP product markets grossed revenues of US \$17.1 billion, growing at 18.75% over the 1997 gross revenue of US \$14.4 billion. At the same time, the global ERP implementation and consulting services segment grossed US \$18 billion during 1998, over the 1997 revenues of US \$15.4 billion, thus growing at 16.88%. The compounded annual growth rate of the ERP market globally has been 16% and its future is even more promising (anonymous, 1999).

India's gross national product (GNP) is now the fifth largest in the world. 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 must attempt to bolster its competitiveness in the global market place--an imperative that requires industry to have a greater sophistication in dealing with materials, men, machines and money. Global ERP companies as well as domestic product and service companies have recognized the ERP market in India as a major frontier that would drive IT penetration in corporate India. The increasing absorption of the ERP platform and enthusiasm on the part of the organizations with large IT installations to migrate to ERP platforms has served as a major catalyst for stupendous growth of the ERP service market in India.

In 1998-99, the ERP services market in India is expected to gross Rs. 520 crore (approximately 130 million dollars) as compared to the revenues for ERP for the year 1997-98, at Rs. 280 crore (approximately 70 million dollars). However, the potential of this market to spearhead the computerization drive in Indian industry is definitely attractive (anonymous, 1999).

### **ERP IN INDIAN INDUSTRY**

Top Indian companies like ONGC, Haldia Petrochemicals, ESSAR, Morarji Mills, and Mahindra and Mahindra have adopted ERP practices. Other prominent clients of Enterprise Resource Planning include the Ispat group, Blue Star, Boheringer Mannheim, DCM, Crompton Greaves, and Bharat Forge (Sarkar, 1997).

The number of vendors once was scarce. However, the compounded annual growth rate of ERP vendors is projected to be around 35 percent in the next five years. Among the well known Enterprise Resource Planning vendors in India are SAP, Baan, R/3, Marshal, Oracle Financials, and MFG Pro. Most of these vendors support major computing platforms such as UNIX, Windows NT, AS/4000, and Netware (anonymous, 1998; Sarker, 1997; Jayaraman, 1998).

Initially, the majority of ERP solutions have been marketed to companies with greater than Rs. 200 crore (approximately 50 million dollars), and total cost of deploying ERP has ranged between one and two percent of companies' gross sales. According to a recent study by International Data Corporation (1999), 31 percent among big companies are using or implementing ERP. Among the big-size firms, companies with a turnover of about 350 crore and above (approximately 90 million dollars), 17 percent were actually using ERP packages and 13.5 percent were in the midst of implementing it. Only 10.3 percent of big corporations showed the intention to adopt ERP in their organization within the next year. The usage of ERP is even less with small and medium-sized companies as the percentage of companies which use or implement it range between 11 and 20 percent.

Lower cost solutions are available comparatively for smaller-sized companies. Though the market seems to be very encouraging for ERP implementation, the time frame for deployment may become an issue since many companies that have not yet implemented ERP are leaders in their industry. It reasonably can be assumed that they will go for it within the next five years.

Some industry categories such as Automotive, Steel, Consumer Durables, and Engineering and Textiles have shown a very high ERP penetration (Loonker, 1999).

Transportation, medical care, hospitality, telecommunication, banking and financial services, and entertainment are the major components of India's service sector, and on probing into needs of various groups, it becomes apparent that the transportation and entertainment industries do not have specific current needs for ERP. Banking and telecommunication each have very specialized requirements that the manufacturing inclined software solutions in the market would not effectively address. The same holds true for the medical care and hospitality industries. Currently ERP implementation in the service sector is very limited -- only few hospitals and banks have done small-scale experiments. New software and processes need to be developed to meet the specific demands of the service industries. Agriculture in India is carried out by small farmers, so sophisticated ERP solutions in this field are a very remote need. The Indian computer penetration of only 1.3 machines per 1000 persons tends to be centered in urban areas, and very clearly indicates that the agricultural sector still has a long way to go before it would require any computer related or ERP solutions (Loonker, 1999; Dayal, 1999).

### **CONCERNS RELATED TO ERP DEPLOYMENT IN INDIA**

With the advent of globalization, implementing Enterprise Resource Planning systems in an Indian enterprise is no longer a choice. It is an imperative. However, Enterprise Resource Planning solutions are expensive. A cost of 1 to 1.2 crores rupees (approximately U. S. \$250,000 to \$300,000) is considered reasonable for a 100-user version of Enterprise Resource Planning.

Also, an Enterprise Resource Planning implementation requires major efforts that often cost more than the combined cost of hardware and Enterprise Resource Planning software. Many Indian organizations are very concerned about managing the major changes arising out of implementing an Enterprise Resource Planning due to tight monetary resources. (Jayaraman, 1998; Sarkar, 1997; Busse, 1998).

The fundamental mistake committed by an Indian organization is that they view Enterprise Resource planning as an IT solution alone and not as a management tool. Therefore, there is little involvement of the Enterprise Resource Planning end users during the decision-making process. This lack of end-user involvement results in many breaks in the implementation stages causing frustration, time delays, and unanticipated costs.

No ERP can get implemented unless supported by management. Since ERPs impact the very way in which the organization functions, ERP is a managerial decision. However, the management also must view whether the organization is structurally and technologically suited for an ERP implementation or not, and if not, what steps are necessary to make it able for accepting the intended technology.

The other major factor that could affect Indian ERP implementation is changes in government policy. The concern areas also include localization (to make the product comply with spe-

cific Indian laws such as Excise and MODVAT), the long turnaround time required by the Enterprise Resource Planning vendor for fixing bugs, and the lack of sufficient functional and product expertise in India, including consultants.

## **EXAMPLES OF SUCCESSFUL IMPLEMENTATION OF ENTERPRISE RESOURCE PLANNING**

Tata BP Solar Limited has implemented an ERP to meet customer care functionalities such as post sales customer management including equipment installation, warranty handling, post warranty maintenance contracts, complaint handling and management of maintenance activities.

ARVIND Mills Ltd. (AML) has implemented ERP in their manufacturing units. The SAP implementation is expected to considerably reduce AML's time-of-supply chain. It would also help the management keep close track of aspects such as delivery date and status of customer order. The areas covered under the ERP include materials management, production planning, consolidation across various units and project configuration (anonymous, 1998).

Uniworth International Limited, India's popular supplier of a wide range of processed cloth for suitings, realized the need of an ERP package in their company that could improve their business processes and help them in keeping pace with the growing competition nationally and internationally.

Archie's Greetings and Gifts Limited is a company with more than 200 franchisees all over India with a wide range of personal expression products such as cards, posters, and stationery items. As part of a strategy to provide total business solutions, they are installing ERP for human resources and payroll.

Metal Closures Private Limited, a leading bottle closures manufacturer in the southern part of India, is implementing complete ERP to keep pace with the growth rate of business and to facilitate effective decision making.

## **BENEFITS OF ERP**

A pragmatic approach is to implement the ERP system in an evolutionary manner. This means that the entire implementation moves in cycles from the basic to the sophisticated, where the basic features of all the modules are implemented first, and the more sophisticated features are implemented in incremental steps. After the implementation is complete, the Indian organization would derive the following benefits (Shah, Mehta, and Landram, 1998; Dayal, 1999):

- Corporate growth
- Reduced operational expenses
- Improved customer service
- Efficient distribution system
- Workflow automation to reduce lead times

- Consistent information base accessible across the organization
- Event alerts to proactively handle possible crises
- Decision support tools to improve effectiveness
- Performance monitoring tools to track key performance indicators across all functions and highlight variations from objectives
- Providing the infrastructure for facts and data-based approach to management rather than a perception-based approach

## CONCLUSION

In the past, most Indian organizations grew by managing the environment, rather than focusing on their internal efficiencies. With the entry of most efficient foreign players in many of the markets, Indian industry needs to change the way it conducts business to remain competitive. Now, more than ever, Indian manufacturing organizations need to implement ERP systems to improve their efficiency and effectiveness in the market place.

An Indian economy has reached a level of maturity that demands advanced technology. Many Indian firms already have realized the need for ERP solutions, and the industry related market growth should match the expansion of the sector as a whole. India is developing its infrastructure, ERP manpower requirements and the Indian mindset is changing with the times. While the Indian agriculture sector has not yet automated, and there is little potential need for agriculture-based ERP in the foreseeable future, the service sector offers a largely untapped potential. ERP is an important tool to achieve competitive advantage. If an Indian organization is to survive and grow in the global economy, then the ERP is an effective tool that can integrate the organization, provide faster information for decision making, and cut costs to increase efficiency.

## REFERENCES

- Anonymous. (1998, August 5). Arvind Mills implements SAP technology in units. *Business Line: Internet Edition*.
- Anonymous. (1999, June 7). ERP yet to catch up with industry. *Indian Express: Internet Edition*.
- Busse, T. (1998, February 12). Baan to slice and dice its ERP package. *Infoworld Electric*. [http://www.idg.net\\_docids/Tuesday/baan/enterprise/announce/planning/resource/package/product/new\\_docid\\_9-23492.html](http://www.idg.net_docids/Tuesday/baan/enterprise/announce/planning/resource/package/product/new_docid_9-23492.html).
- Dayal, H. Corporate growth compels senior management to adopt ERP. <http://www.idcindia.com/newsrele/29May99.html>.
- Gangopadhyay, A. (1996, Winter). A study of the lagged response effect in the Indian IT industry. *Journal of Global Information Management*, 4(1), 16-22.
- Greenbaum, J. The origin and future of ERP outsourcing. <http://www.erp-outsourcing.com/main.htm>.
- Jayaraman, M.S (1998, August 23). Implementing BRP and ERP. *Business Line: Internet Edition*.
-

- Kurian, V. (1998, May 6). STDC sees promise in enterprise resource planning. *The Hindu*, Column B, 7. <http://www.indiaserver.com/bline/1998/05/06/stories/15060393.htm>.
- Lal, K. (1996, September). Information technology, international orientation and performance: A case study of electrical and electronic goods manufacturing firms in India. *Information Economics & Policy*, 8(3), 269-280.
- Loonker, C. (1999, January). Is India ready for ERP? *SiliconIndia*, 47-49.
- Prasad, V. C. S. (1997). Development and commercialization of a high technology component - A case study of an Indian company. *International Journal of Technology Management*, 14(5), 485-495.
- Prasad, V. M. R. (1998, February 6). NIIT to implement SAP ERP at ICI-Zeneca. *The Hindu*, Column D, 7. <http://www.indiaserver.com/bline/1998/02/06/stories/15060394.htm>.
- Sarkar, A. (1997, December 5). Coppers focus on ERP applications. *Business Line: Internet Edition*, 7.
- Shah, V. & Mehta, K. (1999, Fall). Using enterprise resource planning to gain a global competitive advantage: Case study of India. *Journal of International Information Management*.
- Srinivasaraghavan, S. (1998, March 3). Enterprise resource planning - Sweeping the drawbacks under the carpet. *The Hindu*, Column A, 23. <http://www.indiaserver.com/bline/1998/03/12/stories/12120011.htm>.