



Impact of Implementing ERP in Indian Manufacturing Organizations

RINOJ P K

**FACULTY MEMBER, CENTRE FOR MANAGEMENT STUDIES
KANNUR UNIVERSITY MAIN CAMPUS, MANGATTUPARAMBA
KANNUR-KERALA 670567**

ABSTRACT

This article reviews about Enterprise Resource Planning (ERP) systems and the implementation of this system in Manufacturing Organizations .ERP systems integrates all departments and functions across a company on to a single computer system that can serve the entire organization. this real time data integration and sharing throughout the company's functional areas increases the efficiency of operations and helps managers to make better decisions.

KEYWORDS

ERP, Technology, WTO, Supply Chain, E-commerce, SAP, JP EDWARDS etc

Introduction

The manufacturing segment accounts for nearly 25% of the total IT spending in the country, which makes it the largest segment using IT. According to an IDC study the manufacturing IT spend in the Asia/Pacific (Excluding Japan) or APEJ region, will reach US\$22 billion in 2010. The APEJ region will continue to be a fast growing regional economic block, powered by the emerging economic engines of China and India. The number of organizations that have reported a close alignment of business goals with IT is increasing. 44 % of the organizations in manufacturing and engineering/auto segment have aligned their business goals very closely with IT.

The process of manufacturing sector traditionally spends more on IT because of the larger number of companies engaged in this activity as well as their scale of operations. In general the business and IT priorities of both process and discrete manufacturing are the same- controlling inventory, production costs, marketing costs, and improving supplier and delivery channel relationships on the business front; and improving IT infrastructure, automating internal and external processes, and better decision making using IT. At the same time there are differences in the emphases that are given to the various aspects of IT usage. In this analysis, we take the segments together when discussing areas where they exhibit similarity, and separately when we discuss areas that distinguish from each other.

Overall many of the smaller manufacturing organizations, which have been traditionally poor in the IT usage turned towards IT. Traditional large buyers like Bajaj Auto, Ashok Leyland and TISCO, to name a few did not have any major IT project underway. Public sector steel companies slowed down their IT investments, whereas their counterparts in the private sector spent on ERP and plant automation. In the pharmaceuticals industry, the WTO agreement on patents has forced companies to get patents on their on their formulations. Clinical trials, a very data intensive area, are fast emerging as an application in the pharmaceutical industry.

The major investment heads for manufacturing companies are:

- Infrastructure(systems, network components, messaging systems and so on)
- Software design and application development.
- Software packages(word processors, spreadsheets, databases, and so on)
- Enterprise resource planning (ERP) packages.
- Packaged application implementation services.
- Consulting services.

- External connectivity, i.e. connecting to dealers and suppliers (supply chain)
- Data warehousing
- E-commerce.

Many manufacturing organizations, especially in the private sector have messaging and groupware in place for intra organizational communication. Network- centric applications continue to be developed. Maruti Udyog is moving from its e mail based messaging with dealers to an internet-based one. A Calcutta based manufacturing organisation is setting up a sophisticated intranet with countrywide fax routing capabilities. Companies like IBM and Digital, which have a portfolio of solutions for the manufacturing industry through years of global experience, are bringing out newer application areas like e-commerce, for Indian manufacturing organizations

ERP

ERP is the ultimate solution in the manufacturing industry and more companies are turning to ERP solutions. With almost all the global players establishing and consolidating their presence in the country, the Indian manufacturing sector is seeing the proliferation of ERP and ERP integrated applications.ERP is a high impact area because it leads to a bottom up change in the organization. While many companies do not even understand the full implications of using an ERP.there are more than 130 ERP implementations underway in the country presently. SAP the largest ERP vendor has around 75 customers in the country of which 52 are in the manufacturing industry. Dominated by the discrete manufacturing company. Most of these are first generation ERP, which addresses the area of integration of financials with logistics using a packaged application. The next phase taken up is either sales and distribution or production depending up on the priority of the company .Demand driven industries like the automotive sector, consumer goods, processed foods and the like would take up sales and distribution there are presently around 40 companies are looking actively at production as the next application to be integrated. But it has been observed in the last one year that companies are willing to take up both together rights in the beginning

The process industry focus is on integrating business applications with the plant floor. The major areas under considerations are finance, material, and sales and distribution. Since production in the case of process industry is plant oriented, it falls within the realm of distributed digital control systems. Further there are no multi stage assemblies as in discrete manufacturing. The most important area after this is the maintenance function.

Examples

The following companies highlight the impact of implementation of ERP systems and the benefits gained from them

TATA STEEL COMPANY(TISCO)

Problem:

Tata steel has adopted ERP technology to take a lead in the competitive steel industry and through constant learning, innovation and refinement of its business operations, has transitioned from a production driven company to a customer driven one. The existing technology was a simple replication of the manual system. The company has decided to implement SAP ERP systems and the following are the benefits

The introduction of SAP solutions within TISCO has led to efficient business processes, enhanced customer service, reduced costs, improved productivity accelerated transaction time workflow management and reduction in the number of credit management errors. Other benefits include

- The company has spent around Rs 40 crore on SAP implementation and has already saved Rs 33 crore in 2 years
- The manpower cost has reduced from over \$200 per ton to about \$140 per ton in 2 years.
- The overdue outstanding has been brought down from Rs 5,170 million to Rs 4033 million in one year
- The inventory carrying cost has drastically deflated from Rs 190 per ton to Rs 155 per ton in one year

Hindustan petroleum corporation Limited (HPCL)

Problem:

HPCL is a fortune 500 company, is one of the largest integrated petroleum refining and marketing company in India. The company owns and operates two oil refineries at Mumbai and Visakhapatnam, two cross country pipelines and an extensive network of terminals, depots, bottling plants, and aviation servicing facilities

To strengthen business management and improve customer service, HPCL implemented An ERP system from Oracle named 'JP EDWARDS'. the following are the benefits

- Enhanced efficiency by moving to a single integrated business management platform and standardizing workflows.
- Facilitated information decision making by providing managers with access to accurate up-to date information in real time
- Enabled quick access to critical documents by an archival system to store invoices, purchase orders, checks and other materials
- Improved customer service by establishing a portal to provide clients with dispatch details, account statements and transaction information
- Speeded up payments to suppliers by implementing an electronic payment system
- Improved communication with the dealers and distributors by transmitting shipment information via emails and text messages

Conclusion

All most all organizations are turning to some sort of Enterprise Resource Planning(ERP) package as a solution to their information management problems. ERP packages if chosen correctly implemented judiciously and used efficiently have the ability to raise productivity and profits of companies dramatically. But many companies fail in this because of incorrect selection of package, incompetent and haphazard implementation an inefficient usage. The most crucial factors that decides the success of an ERP implementation is how the employees use the system. Even the best ERP system can fail if the employees are not interested in using it wrongly or inefficiently. To receive total and complete employee support and participation ,the organization must make it a point to educate its employees about the potential benefit and provide them adequate training

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