

# APPLICATION OF INFORMATION TECHNOLOGY AS ERP IN SILK INDUSTRY

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## ABSTRACT

*Application of Information Technology as ERP, E-commerce, Data warehousing and Data mining are getting popularity in certain areas of industrial operations like production, maintenance, quality control, inventory management, accounting, marketing and HRD.*

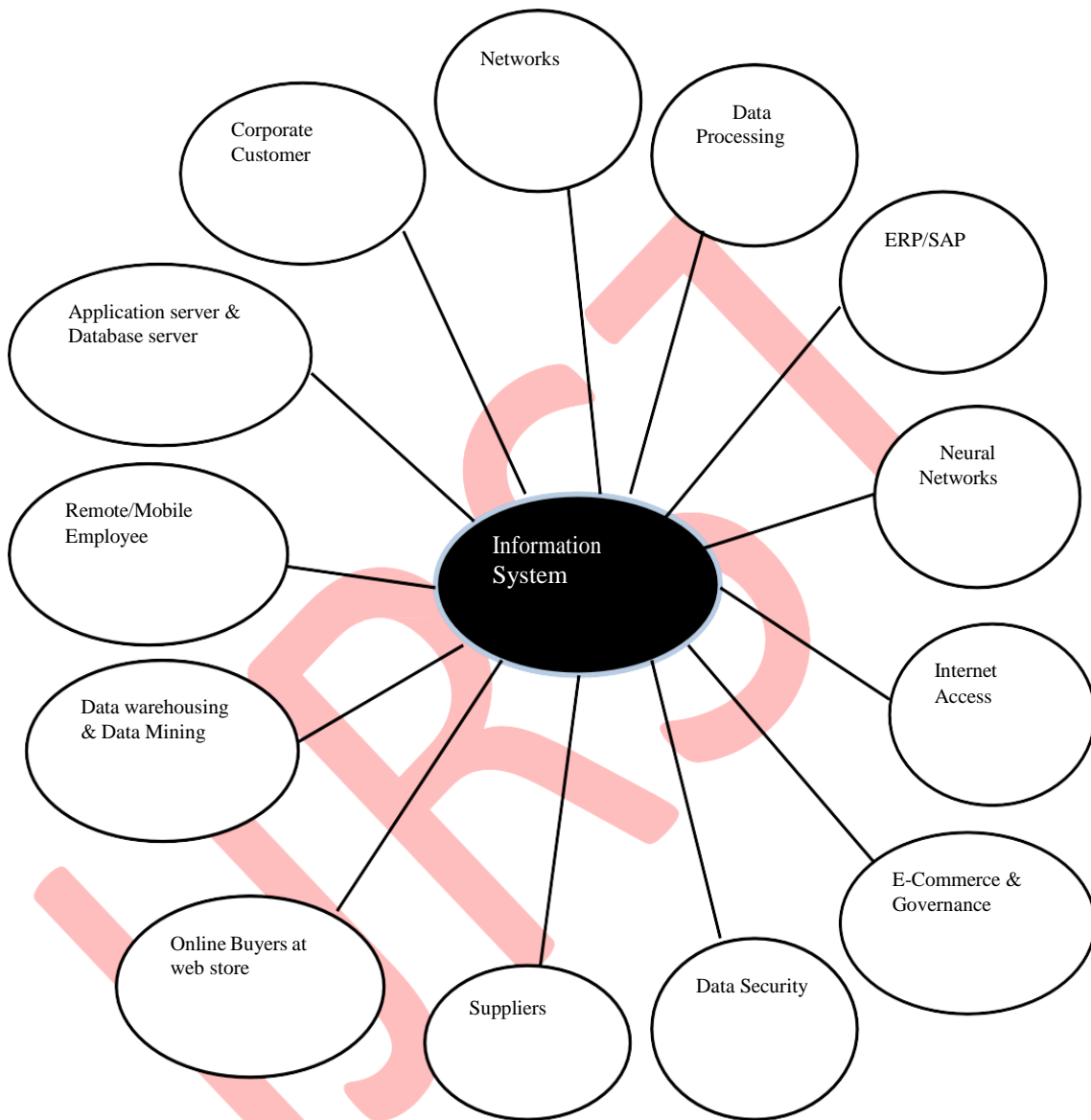
*If we discuss to sustain competitive advantage in the dynamic market, an analysis at the micro level is essential e.g. Market and difference within markets, well-articulated understanding of market needs & implications of these for all functions i.e.. on time Delivery (OTD) of raw material market projections, order scheduling, production planning & control and after sales analysis. ERP is the only solution to face all the changes emerged due to changed business environment and also for the problems due to preventing traditional system of working.*

*In Silk Industry accurate planning and scheduling of orders, better date predictions, quick response to query and online detailed information of orders is must for doing business. As a result in the past few years silk mills have invested in integrated systems, along with powerful hardware. The change from customized modular software to ERP is the current trend in silk Industry. Many silk mills are now going in for ERP/MRP (Material Resource Planning) and also web based software to enable them to remain competitive in this highly technology and competition driven economy. Effective application of Information technology in Silk Industry has now become an integral part of their operations and a dire necessity for facing global challenges. Major benefits of ERP based systems are prompt and paperless communication, Better understanding of processes and business practices during implementation, an automatic discipline is imbibed in the users as lack of or delay in data entry by one department holds up the work in the next department. ERP helps in work center capacity analysis, work planning, advance planning of materials, stock management, warehouse management and reduced process cycle times resulting from using online purchase requisitions.*

**Keywords:** *Information Technology, Management Information System, E-commerce, Enterprise Resource Planning, SAP, Data Warehousing and Data Mining, Inventory Management and Production Planning.*

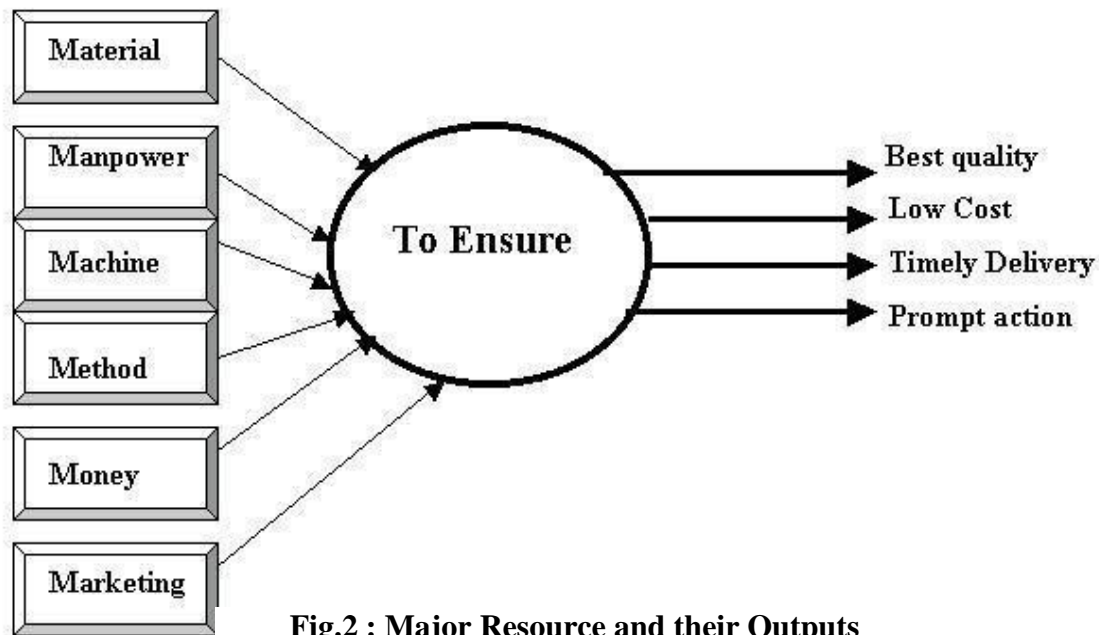
## INTRODUCTION

Information Technology (IT) will be like oxygen in the air in the coming years. The rapid development in Information Technology has ushered in a revolution in manufacturing and interactive marketing across the globe. IT applications are today's indispensable tools to boost productivity and drive maximum benefits. In other word we can say that the success of an organization depends on faster processing of raw data, this requires a proper software system along with hardware to execute in proper way. Application of IT in Silk Industry started more than a decade ago and today most of the applications of IT in Silk Industry are shown in Fig.1.



**Fig.1: Network of General IT Application used in Silk Industry**

Every progressive organization has the only major objective to increase its profitability. However, in today's competitive marketplaces, profitability is not only depends on increasing sales but also just as importantly on reducing cost and improving the quality. These two factors depends on the efficient resource management are consisting of the various recourses as shown in this Fig. 2.



**Fig.2 : Major Resource and their Outputs**

The need of the hour is to think afresh and act radically for an organization to survive. Under the present scenario the incremental improvements of 10% to 15% are no more sufficient enough. Drastic changes and radical improvements in terms of efficiency, cost and qualitatively changes are now inevitable. If we discuss to sustain competitive advantage in the dynamic market, an analysis at the micro level is essential e.g. market and difference within markets, well articulated understanding of market needs & implications of these for all functions i.e. on time Delivery (O.T.D.) of raw material market projections, Order Scheduling, Production Planning and Control and After Sales.

ERP is the only solution to face all the changes emerged due to changed business environment and also for the problems due to preventing traditional system of working.

### **ENTERPRISE RESOURCE PLANNING (ERP)**

Accurate planning and scheduling of orders, better date predictions, quick response to query and online detailed information of orders is must for doing business. As a result in the past few years many companies have invested in integrated systems, along with powerful hardware. The change from customized modular software to ERP is the current trend in Silk Industry. The major characteristics of ERP (Enterprise Resource Planning) are an enterprise-wide system that covers all the business functions and information resources, integrated database, built-in best industry practice, packaged software and open architecture. ERP enables reduction of system development time, flexibility, standardization of workflow and effective business planning capability. ERP is mainly for the manufacturing industry. However, the principles of ERP can also be applied to Silk industry systems. This paper presents an ERP system approach for a Silk industry system. The integrated database is designed to eliminate redundancy and keep integration.. The ERP approach can not only resolve the problems of Silk industry but also promote adoption of information systems for various types of industry.

Many silk mills are now going in for ERP/MRP (Material Resource Planning) and also web based software to enable them to remain competitive in this highly technology and competition driven economy. Effective application of Information Technology in silk Industry has now become an integral part of their operations and a dire necessity for facing global challenges.

Doing business today is actually an exercise in optimization. The business manager has a set of objectives to achieve in a given certain external operating environment and certain internal resources. This not a question, whether he will achieve his objectives or not but to what extent he can achieve them given the conditions and that is what optimization is all about. Unfortunately business software used today lives a lot to be desired when it comes to optimization.

Let's take the example of ERP in typical silk industry, General process-wise Data Communication in a silk Industry are shown in Fig. 3. The circles represent the core operations i.e. production, sales and marketing, Inventory and logistics and finance. Generally the enterprise has a local system catering to the requirement of the relevant process e.g. CRM for the Sales and Marketing Dept. ERP is like the data backbone of the company and generates data for a lot of activities of the company.

ERP broadly covers Sales and Distribution, Business Planning, Production Planning, Shop Floor Control, and Logistics.

- (1) **Sales and Distribution** - Takes care of order entry and delivery scheduling, checks on product availability to ensure timely delivery, and checks the customer's credit line.
- (2) **Business & Production Planning** - Consists of demand forecasting, planning of product production and capacity, and the detailed routing information that describes where (in which work cells) and in what sequence the product is actually made. Once the Master Production Schedule is complete, that data is fed into the MRP (Materials Requirements Planning) module.
- (3) **Shop floor control** - This naturally leads to Shop Floor Control. The planned orders from the MRP are converted to production orders. This leads to production scheduling, dispatching, and job costing.
- (4) **Logistics** - Finally, the Logistics system takes care of the rest, assuring timely delivery to the customer. Logistics in this case consists of inventory and warehouse management, and delivery. The purchasing function is also usually grouped under logistics.

The Process Wise Data Communications in Silk Industry are shown in Fig. 3.

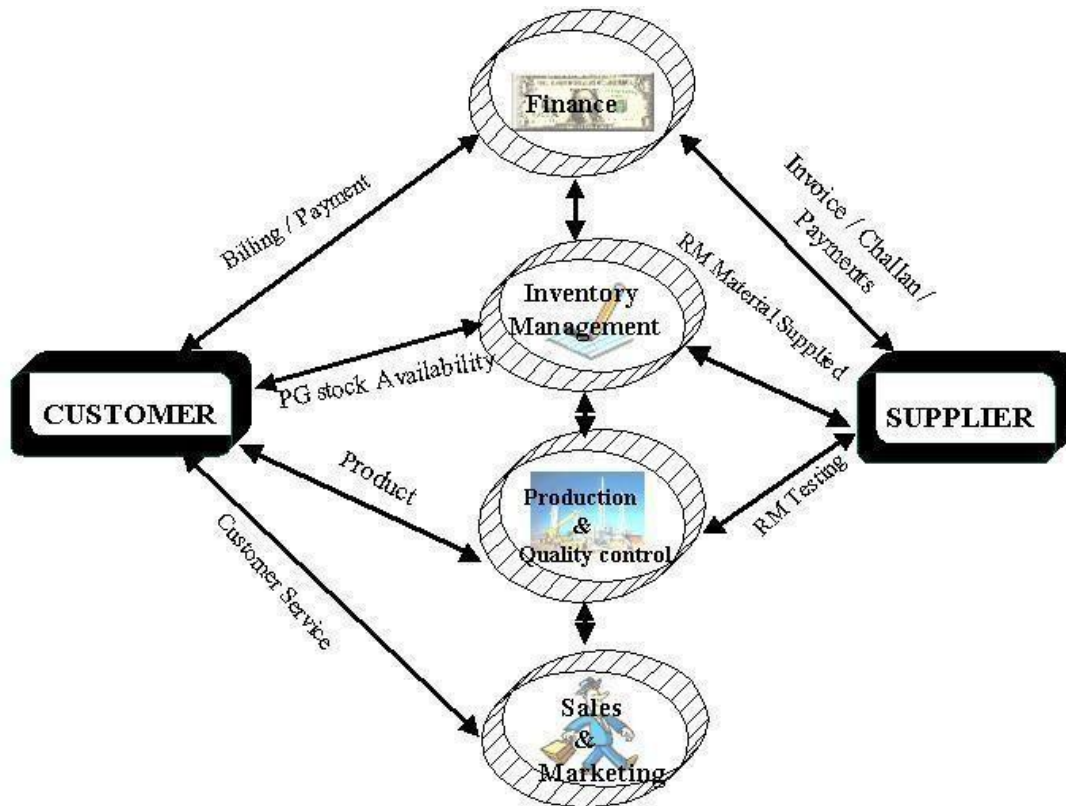


Fig.3: Process Wise Data Communications in Silk Industry

## BENEFITS OF ERP SOLUTIONS

Organizations look for the benefits provided by ERP software such as the instant access of transactional information across the corporation. Such an information rich scenario permits organization to reduce inventory across multiple units/departments/plants; reduce cycle times from weeks to hours; and improve customer satisfaction by order of magnitude. All these translate to increased profitability or increase in marketing share and in turn such larger market capitalization.

ERP provides an opportunity for a corporation to operate as an agile entity to improve production/operation, customer service and customer satisfaction. The major benefits of ERP based systems are:

- Prompt and paperless communication. ERP being an integrated system, user can check the status.
- Better understanding of processes and business practices during implementation.
- An automatic discipline is imbibed in the users as lack of or delay in data entry by one-department holds up the work in the next department.
- Non-repetitive entry/posting of data.
- In Production Planning and Control department, ERP helps in work center capacity analysis, work planning, advance planning of materials etc.
- Stock management. (Raw material and finished material)
- Data Warehouse & data mining management

- Better utilization of manpower.
- Improves ability to commit delivery periods.
- Effective working capital management through information visibility and effective receivables and payables management.
- Reduced process cycle times resulting from using online purchase requisitions.

## CONCLUSION

IT has changed the people's way of thinking, working and learning. It exists at every nook and corner of the society. It has really metamorphosed into world's latest global market representing an open market without having geographical or tariff barriers to reach to the customers all over the world. Today application of IT like E-commerce, Neural Network, Internet, SAP and ERP are extensively used in silk Industry. ERP provides an opportunity for a corporation to operate as an agile entity to improve production/operation, customer service and customer satisfaction. An automatic discipline is imbibed in the users as lack of or delay in data entry by one-department holds up the work in the next department through ERP System. ERP helps in work center capacity analysis, work planning, and advance planning of materials and manpower, Stock management and Warehouse management.

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