

## Impact of ERP System in Business Management

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### ABSTRACT

*In modern life information technology is the key term for doing any business. Technology based business is easy to expand anytime anywhere. In business management, an organization can able to handle large workload effectively through Enterprise Resource Planning (ERP). ERP system is a wide integrated information system of an organization that manages all units like marketing, operations, administration, finance, human resources, R&D etc. It enhances productivity with cooperation among internal units and brings more benefits. Implementation of an ERP system in an organization takes several years to full fill its total business needs in a systematic way. Initial implementation of ERP system is very critical stage for organizations. For getting competitive advantages among rivalry, most of all organizations are using ERP system. It requires a big also investment for an ERP system to implement in a business completely. Nevertheless, small organizations are investing for ERP with medium and large enterprises over the world for better business management. This study focuses on impact of ERP system in business management of organizations.*

**Keywords:** ERP System, Organization, Business, Management, Implementation.

### INTRODUCTION:

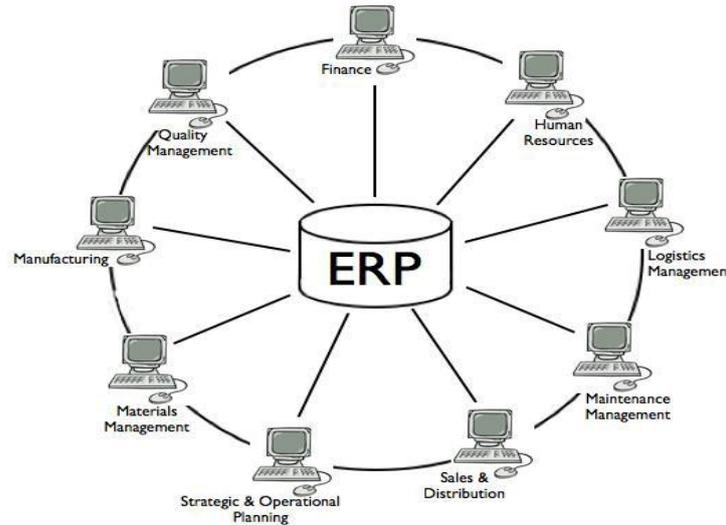
ERP stands for Enterprise Resource Planning. ERP is a wide information system of business organizations that facilitates the flow of information and coordinates all units and activities within the enterprise. Most of all organizations include some major functions like manufacturing, inventory, shipping, logistics, distribution, accounting etc. A large organization depends on ERP system for controlling marketing, selling, billing, distribution, after sales services, operations, promotions, human resources management, finance and accounting and so on. ERP system assists to manage inside of the business center as well as outside stakeholders and enhances the performance of management. A central database is used here for ERP system and it fetches data from the specific server for performing ordered tasks. It provides unified access permission for users with uniform work environment. A brief scenario of ERP system has been shown below by figure 1.

Cash flow calculation and record keeping in business were started when business was introduced in the world. Gradually these systems were improved with time and civilization. The historical origin of ERP was designed during 1960s for inventory management and control software packages. Later on, ERP system was introduced with full features in 1990. According to Kalakota and Robinson (2001) the evaluation of ERP systems can be divided into 4 phases;

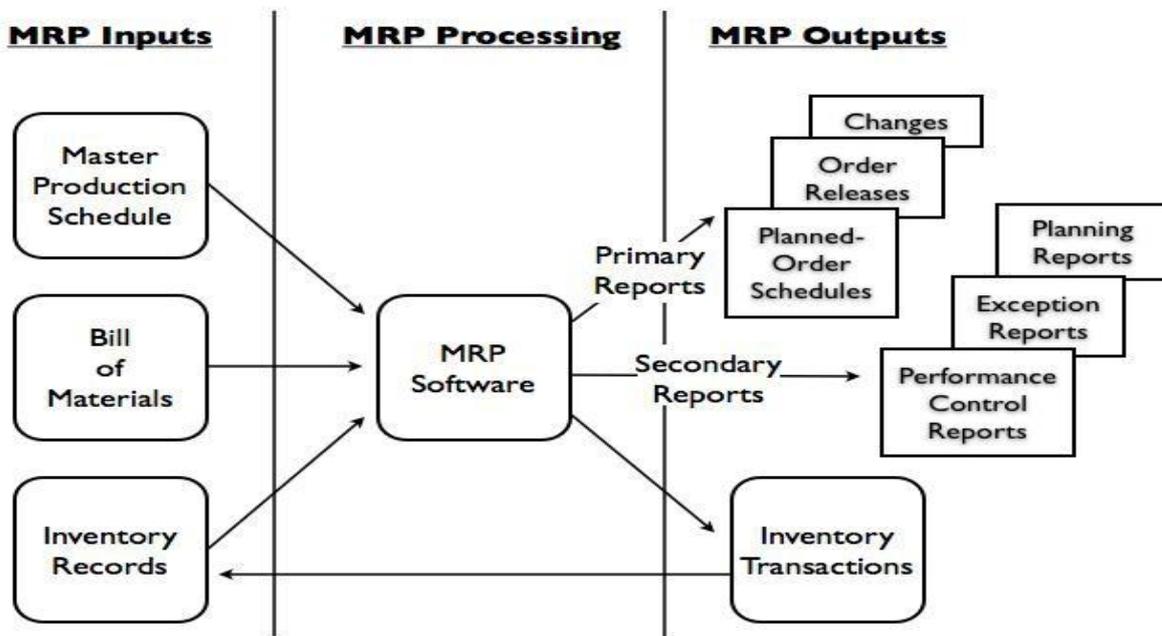
#### **Phase1: Manufacturing Integration (MRP):**

In the 1970s, production oriented information systems were known as material requirements planning (MRP) and distribution resources planning (DRP), which focused on automating all aspects of production master scheduling and centralized inventory planning, respectively. During the 1980s, misnamed MRP II systems emerged to extend MRP's traditional focus on production processes into other business functions, including order processing, manufacturing and distribution. MRP II is a misnomer, as it provided automated solutions to a

wide range of business processes, not just those found within a company’s manufacturing and distribution functions. As a result, MRP II was renamed ERP. Figure 2 shows the functions of MRP below.



**Figure 1: ERP System (Train-Srv 2012)**



**Figure 2: The Function of MRP (B.N.ITAFE 2005)**

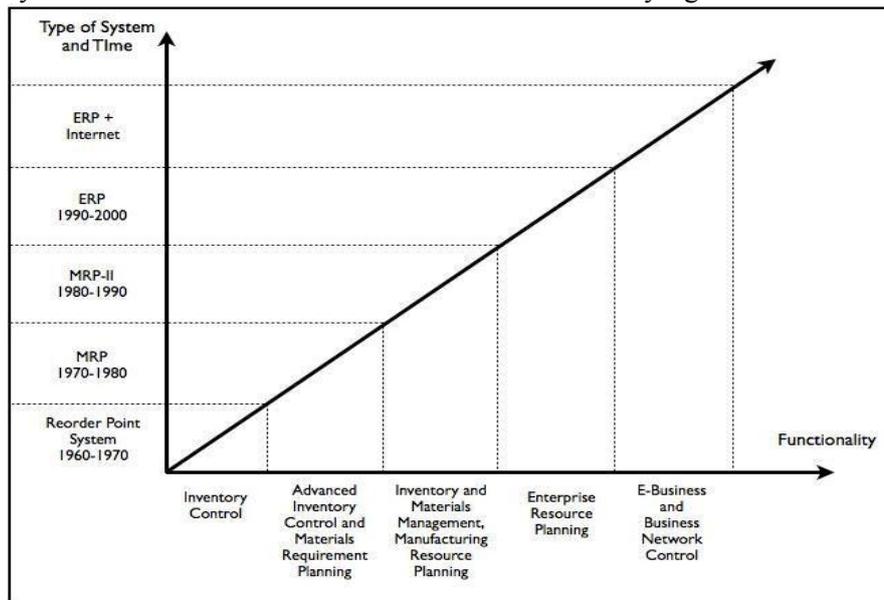
**Phase 2: Enterprise Integration (ERP):**

In 1990s, the key business drivers forcing structural migration from MRP to ERP include replacing legacy systems, gaining greater control, managing globalization, handling regulatory change and improving integration of functions across the enterprise. These drivers vary in intensity by industry, but their combined impact is forcing managers to reevaluate the IT application’s capabilities. A significant factor in the second phase of ERP development was Y2K preparation, which was often cited as a major reason for ERP adoption. Hundreds of companies worldwide “went live” during 1999 as they switched off their legacy computer systems and turned on their newly installed ERP software.

**Phase 3: Customer-Centric Integration (CRP):**

Many of the companies that sell ERP software (SAP, PeopleSoft and troubled Baan, acquired by London based Invensys) struggled once their markets became saturated and the demand for Web-Based platforms surged. These companies are reinventing themselves as CRP (customercentric resource planning) providers. E-

commerce is compelling companies to replace homegrown, industry-specific point applications with ERP applications. History and evaluation of ERP function have been shown by figure 3.



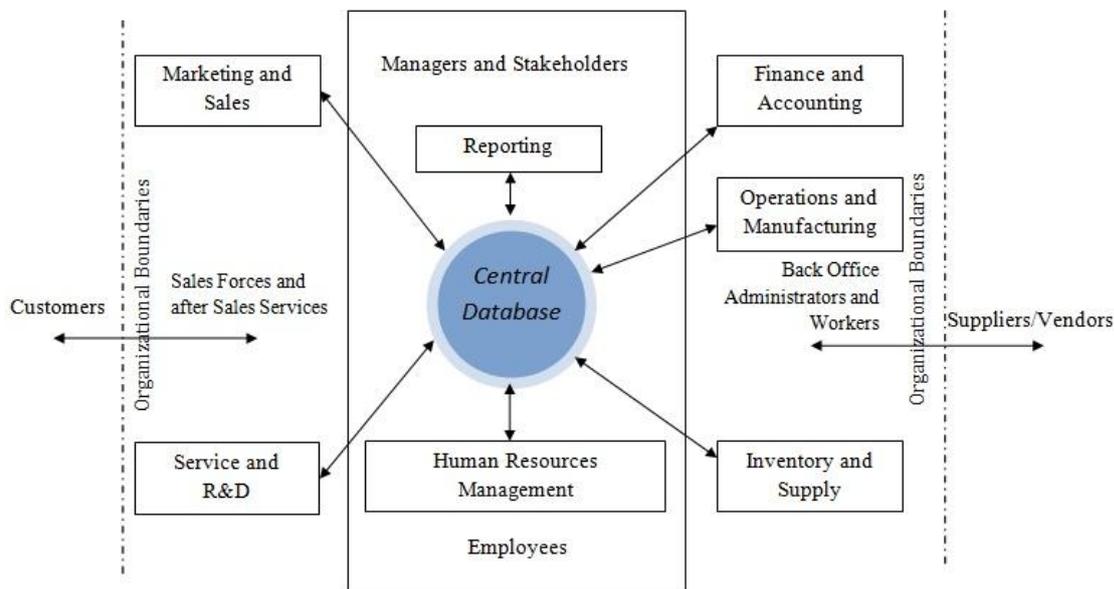
**Figure 3: History & Evaluation of ERP Functionality (Kettunen& Simons 2001: p47)**

**Phase 4: Interenterprise Integration (XRP):**

The fourth phase of ERP development, known as extended resource planning (XRP), extends the organizational foundation of an ERP backbone beyond the four walls of the enterprise to its customers, suppliers and trading partners. A main goal of an XRP implementation is to provide better synchronization with trading partners in order to reduce inventories, foster strategic pricing, improve cycle times and increase customer satisfaction throughout the supply chain. An XRP system is designed to overlay existing systems, pulling data from every step in the supply chain and providing a clear, global picture of where the enterprise is heading. XRP generated plans allow companies to quickly assess the impact of their actions across the entire supply chain, including the company’s impact on customer demand.

**How Does ERP Work:**

Normally ERP systems use the same database throughout an entire company to store various types of data for different computerized functions. The features of all ERP systems are shared central database that supports multiple functions used by different business units which may be both inside and outside of the organizations with maintaining secured access system. Work flows of ERP system shown through figure 4.



**Figure 4: Work Flows of ERP System**

## **RELEVANT LITERATURE:**

Relevant literature on same area narrated below in this part of the study.

Muscatello, Small and Chen (2003) stated that ERP systems promise to computerize an entire business with a suite of software modules covering activities in all areas of the business. Furthermore, ERP is now being promoted as a desirable and critical link for enhancing integration between all functional areas within the manufacturing enterprise and between the enterprise and upstream and downstream trading partners.

O’Leary (2004) found 43 tangible and 70 intangible benefits of ERP system in his study. He also identified three contributions of ERP. First, gathering data and a way of analyzing that qualitative data to provide insight in to ERP benefits. Second, empirical into the most important benefits deriving from ERP systems, in general and on an industry basis. Third, ERP provides a basis from which to argue that the benefits are often industry-based.

Bosilj-Vuksic and Spremic (2004) stated the right management decisions and actions, through the simultaneous and coordinates projects of business process reengineering and the development of the integral information system, the poor effects of the listed problems can be minimalized or eliminated, which is clear from the tangible and intangible benefits outlined.

Elragal and Al-Serafi (2011) describe in their case study that the general business performance improvements according to the financial were met successfully by the ERP system. The financial manager said that the information in the ERP very important and in general has a great effect on business performance. It also helps to integrate within business units and teams. The operational benefits both the logistics and operations managers have agreed that the ERP has shortened the time needed to deliver products to the customers and also has increased customer satisfaction.

Tambovcevs and Tambovceva (2013) mentioned that ERP systems are becoming more necessary for almost every firm to improve the competitiveness. According to the success of the implementation of ERP system; companies can obtain a competitive advantage in the global market rapidly. A growing number of companies are investing in ERP systems for better performance. Many ERP projects have resulted in substantial tangible and intangible improvements in a variety of areas of the business organizations.

By the introduction of ERP system most adaptation is done in the following departments: Purchasing, Finance and Accounting, Sales and Production and least in Maintenance and Project management. 89% of respondents agreed that the use of ERP system shortened the operation time effectively is demonstrated (Simunovic, Simunovic, Havrlisan, Pezer and Svalina, 2013)

Lecic and Kupusinac (2013) stated that ERP systems have become a means to support and speed up the whole process to satisfy orders, including product distribution. By registering changes in computer storage, ERP systems monitor resources – material, facilities and workers, which are typically used in financial management, production and distribution.

Almgren and Bach (2014) narrated in their conference paper that the ERP system could improve organizations immensely, but only when implemented correctly. When the system is not implemented correctly, it could affect organizations very badly. ERP system effects operational and managerial part of the businesses strongly, they added.

Maniraju and Neginal (2016) illustrated that 70% of the “best in class” companies have a standardized ERP implementation. In contrast, average or dull companies are more likely to use standalone applications to manage operation, such as accounting and finances, customer relationships, payroll, inventory, manufacturing and distribution and employ spreadsheets for operational and financial planning. ERP has not only brought the obstacles for system developers but also for organizations as well.

Ociepa-Kubicka (2017) described that large manufacturing companies are not able to function properly today without the support of an efficient IT system. The computerization of all the areas of the company’s operations results in the increase of its efficiency and effectiveness and thus, its competitiveness in the market.

A few relevant studies have been included here regarding ERP systems and its impact in business management. Most of all researchers focus on strong impact of ERP systems in organizations. But there is no exclusive studies found on this issue in Bangladesh since ERP systems are not implemented widely over the organizations.

## **OBJECTIVES OF THE STUDY:**

- To show the impact of ERP system in business management
- To find out the needs or use of ERP system in SME management
- To point out the benefits of ERP system in business management

## **METHODOLOGY:**

This study based on secondary data and real time scenario of surrounding only. Required all data have been collected from internet, articles, magazines, books and some practical experiences. In this study data are analyzed in descriptive method.

### **Deployment:**

To deploy the study, researcher has tried to illustrate the impact, needs or use in SME and benefits of ERP to manage the business for long run. Many developer companies are providing ERP software over the world and top of them are Oracle, SAP, Sage, SYSPRO, Microsoft, InforSystel, IQMS, EPICOR, IFS etc. ERP system emphasizes to connect all the units of the organization with a central data base for keeping and retrieving data timely. Details of the study have been given below respectively.

### **Impact on Business:**

Every implementation of ERP system is to manage the businesses have some significant impact over the organizations round the year. ERP systems are not using only in manufacturing and business centers but also using in financial institutions, schools, colleges, universities, hospitals etc. So impact of ERP system is so vast for both profit and non-profit organizations over the world.

Since ERP system is integrated software which covers all the units of the organizations to control whole operations effectively for maximum output of performance. ERP system makes sure to have real time needed information for business management to make the decisions and accurate prognostics regarding the organization. It is very powerful tool for processing all kinds of data and improves development of the commercial activities in both short and long run. Cost minimization is the great impact of ERP system for managing business of the organizations. The complete ERP system can help the organization to make strategic planning and implementation of those planning effectively which affect on cost of the businesses.

ERP system impact on manufacturing companies more. From collecting of raw materials to products delivery up to customer, there are many steps have to take for better performance of the organizations. A proper ERP system can help the firm to produce standard quality products by controlling manufacturing module and consecutively it can escalate sales, customer loyalty and organization profits. The essential benefit of Manufacturing ERP is that manufacturer gain visibility over the whole procedures and can shield themselves due to concentrated ERP frameworks. The authorized user can keep up his or her pace with the stock daily and can propose his or her production as the circumstances demand. ERP system can enable manufacturer to track all supply chain movement and remedial measures can be taken to guarantee smooth stream of manufacturing activities by identifying processes that can create disruption in production.

Without complete implementation of ERP system in the organization, the impact will not be visualized and it could be seemingly like investment only. But the impact indeed is really more than the cost when ERP system will be implemented fully and used properly.

### **ERP in SME:**

SME stands for Small Medium Enterprise. The role of SME is indispensable for overall economic development of a country especially for developing countries like Bangladesh. This sector is capable to increase national income and employment generation. According to instruction of Bangladesh Bank small enterprise refers to the firm/business which is not a public limited company and employed not above 25-50 depends upon kinds of the organization. Medium enterprise refers to the establishment/firm which is not also a public limited company and number of employed manpower or workers may vary from 50-150 people.

It is difficult to invest on ERP system by small enterprise initially. But if the management start to implement ERP system in introducing level of business then the operations of the organization becomes more smooth and labor cost is reduced after complete implementation. Figure 5 has been shown here for clarification of ERP implementation in small enterprise.

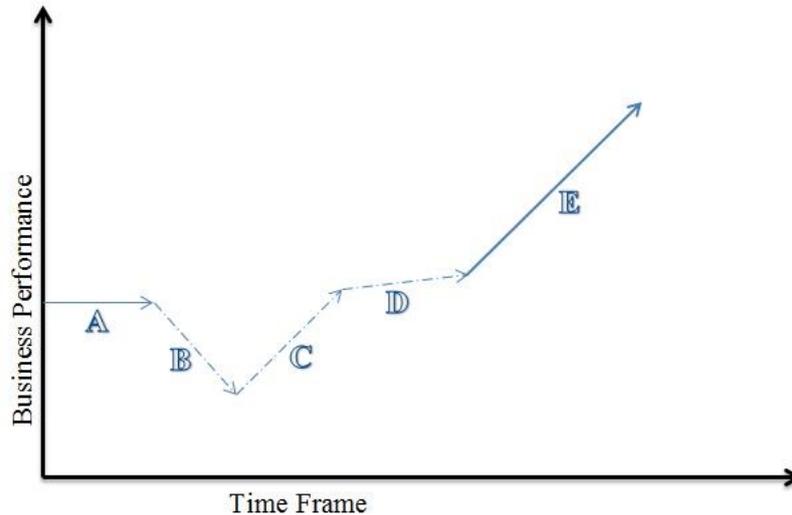
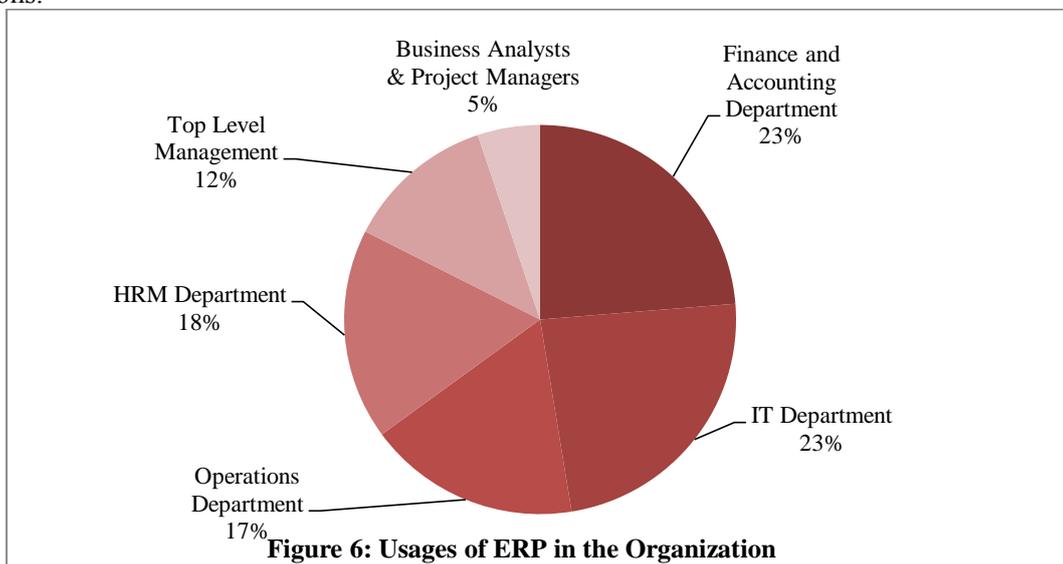


Figure 5: Business performance before, during and after ERP implementation

Here, ‘A’ indicating before implementation of ERP system in business and during implementation period the figure is showing the stage B and C. Through D, it has been shown after partial implementation and training stage of ERP system. Level E is the final stage of ERP implementation in the organization where ERP system goes live completely with proper training. So, it is difficult for small enterprise to invest in ERP system for managing business but it brings a better performance in the organization for long run and also keeps great participation for maximizing the profit.

Medium enterprise invests more than small enterprise and consists of most of all units like operations, human resources management, finance and accounting etc. Medium enterprise is also controlled like large organization and so ERP system is badly needed for whole operations of business management. Operational issue like cost reduction, cycle time reduction, productivity improvement and customer services improvement can be done easily through ERP system. Managerial planning and decision making as well as strategic organizational planning for business growth, supporting business alliance, building business innovations, generating product differentiation and building strong external partners cooperation a complete ERP system control those all through its central database. ERP system also helps to supporting organizational changes, facilitating business learning and to achieve common goal with increasing IT infrastructure capabilities.

Medium and large organizations have some common departments or units which work independently for better business operations and ERP system ties them through synchronization with central data base. Figure 6 shows usages of ERP system by different departments or units of the organizations where finance and accounting department as well as IT department are using 46%. Remaining 54% are using through human resources management, operations, top level management and business analysts and project managers of the organizations.



**Benefits of ERP System:**

A complete ERP system is integrated software for an organization which includes all the areas of the business. There are so many benefits of ERP system for business management and a few are given below;

- Minimizing the all costs of the organization with quality performance.
- Real time information for better services to all units and faster data processing.
- Easy to make strategic planning and implementation of those planning effectively in time.
- Common processes across the globe and centralized operations.
- Web based ERP system makes easier to access of user from any corner of the world.
- Multi language working platform and currency capabilities.
- Proper utilization of raw materials and reduced system loss percentage of raw materials.
- ERP system ensures the quality production.
- In production, ERP system ensures proper information of production batch, manufacturing date and expired date of the products etc. automatically.
- ERP system has improved the leveling systems of the products.
- Tracking of the product is easier for manufacturer and customer.
- Sales order could be placed directly through web based ERP platform.
- Enhanced the performance of supply chain management for both suppliers and customers.
- Financial management and customer services have been improved more.
- After sales services are also connected now for ensuring better services to consumers and being monitor for holding consumers.
- Consistent business process confirming to Best Practices.
- ERP system makes easier organizational communication through mail server.
- Improved availability of information for planning and controlling of all units of the organizations.
- Human resources management can keep and maintain all the employees' record from joining to retirement through ERP.
- No need to synchronize changes between systems over the all management units.

ERP system is only efficient tool if its users allow it to be. In other words, the success of an ERP system completely depends on proper utilization of workers or users. Even the best ERP system will not be beneficial without timely input of accurate data by their users.

**CONCLUSION:**

ERP system implementation is highly risk for the organizations and also may not change the business situation. But it makes the business easier and smooth through the central database of the organization internally and externally. To establish a complete ERP system, the organization needs to invest more and it's really difficult for small and medium enterprises. Nevertheless, the small and medium enterprises are investing on ERP system now a day with large organizations. All multinational companies, all financial institutions and most of all large organizations of Bangladesh are using ERP and it's increasing with time. Bangladesh government also has emphasized on it and has implemented ERP system to many public sectors to maintain national database system. In India, from juice shop to large organizations are trying to use ERP system and comparatively ERP solution is cheaper there. To make a hassle free business in this competitive market ERP system is one of the most important solutions.

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