

Business Modules In ERP:

The important modules in ERP are

➤ **Finance:**

- ❖ The entire concept of information technology is based on the premise that providing the right information, to the right people, at the right time can make a critical difference to the organization.
 - ❖ Much of this key information could be taken from the financial data. But merely having the financial data is not enough.
 - ❖ You need a set of processes and views of your data that provided up-to-the minute financial information in exactly the form you need it to make that critical difference and help with that critical decision.
 - ❖ Accounting software needs access to information in each area of organisation, from R&D and market research through manufacturing, distribution and sales.
 - ❖ Financial solution must provide the management with information that can be leveraged for strategic decisions, in order to achieve comprehensive advantage.
 - ❖ In today's business enterprise, you need to know that your financial decisions are based on today's data, not numbers from records closed a month ago, or even a week ago. And you need to know that this same 'today's' data represents every segment of your organization's activities, whether your enterprise stretches across a room or around the globe.
 - ❖ This is essential, because the most efficient way to get our enterprise to where you want it tomorrow is to know exactly where it is today.
 - ❖ What ever be the financial goals of the organization, the financial application components of the ERP solutions work hand-in-hand to improve the bottom line.
 - ❖ The Finance modules of the most ERP systems provide financial functionality and analysis
 - ❖ support to thousands of businesses in many countries across the globe.
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- ❖ These ERP systems include not only financial application components, but also Human resources, Logistics, Business workflow and links to the internet.

- ❖ Financial Accounting has several sub systems. They are:
 - General Ledger
 - Accounts receivable and payable
 - Asset accounting
 - Legal Consolidation
 - Controlling

➤ **Investment Management:**

- ❖ Investment Management provides extensive support for investment processes right from planning through settlement.
- ❖ Investment management facilitates investment planning and budgeting at a level higher than that needed for specific orders or projects.
- ❖ You can define an investment program hierarchy using any criteria-for example department-wise.
- ❖ Investment program allows you to distribute budgets, which are used during the capital spending process.
- ❖ Investment Management provides tools, enabling you to plan and manage your capital spending projects right from the earliest stage
- ❖ Investment Management module recognizes the importance of the asset accounting aspects of investment measures.
- ❖ The system automatically separates costs requiring capitalization from costs that are not capitalized, debiting the correct costs to the asset under construction.
- ❖ Asset accounting provides precise proof of origin for all transactions affecting acquisition and production costs.

➤ **Plant Maintenance:**

- ❖ The achievement of world class performance demands delivery of quality products expeditiously and economically. Organizations simply cannot achieve excellence with unreliable equipment.
- ❖ The attitude towards maintenance management has changed as a result of quick response manufacturing, Just-in-time reduction of work in process inventory and the elimination of wasteful manufacturing practices.

- ❖ Machine breakdown and idle time for repair was once an accepted practice.
- ❖ Today when a machine breaks down, it can shut down the production line and the customer's entire plant.
- ❖ The preventive Maintenance module provides an integrated solution for supporting the operational needs of an enterprise-wide system.
- ❖ The plant Maintenance module include an entire family of products covering all aspects of plant/equipment maintenance and becomes integral to the achievement of process improvement.
- ❖ The major subsystems of a plant Maintenance module are:
 - Preventive Maintenance Control
 - Equipment Tracking
 - Component Tracking
 - Plant Maintenance Calibration Tracking
 - Plant Maintenance Warranty Claims
 - Tracking

➤ **Quality Management:**

- ❖ The ISO9000 series of standards defines the functions of quality management and the elements of a quality management system.
- ❖ The functions in the Quality Management module support the essential elements of such a system. The other integrated modules in the system complement this functionality.
- ❖ The ISO standards require that quality management systems penetrate all processes within an organization.
- ❖ The task priorities, according to the quality loop, shift from production (implementation phase) to production planning and product development (planning phase) to procurement and sales and distribution, as well as into the entire usage phase.
- ❖ Computer-integrated Quality Management (CIQ) is more appropriate term in comparison to Computer-Aided Quality Management (CAQ), because an isolated CAQ system cannot carry out the comprehensive tasks of a quality management system.

- ❖ The ERP system takes this into consideration by integrating the quality management functions into the affected applications themselves (for example, procurement, warehouse, warehouse management, production and sales/distribution), instead of delegating them to isolated CAQ systems.
- ❖ As a result of this approach, the processes described in the quality manual can be implemented and automated in the electronic data processing (EDP) system.
- ❖ As a part of the Logistics applications, the Quality Management module handles the traditional tasks of:
 - Quality planning
 - Quality inspection
 - Quality Control.
- ❖ For example, it support quality management in procurement, product verification, quality documentation and in the processing of problems.
- ❖ The quality Management module's internal functions do not directly interact with the data or processes of other modules.

The quality Management module fulfills the following functions:

- Quality planning (Management of basic data for quality planning and inspection planning, material specifications, Inspection planning).
- Quality Inspection (Trigger inspections, Inspection processing with inspection plan selection and sample calculation, print shop papers for sampling and inspection, Record results and defects, Make the usage decision and trigger follow-up actions).
- Quality Control: (Dynamic sample determination on the basis of the quality level history, Application of statistical process control techniques using quality control charts.
- ❖ The Quality Management module uses the system's integration to link the tasks of quality management with those of the other applications, such as materials management, production, sales/distribution and cost accounting.

➤ **Materials Management:**

- ❖ The Material Management module optimizes all purchasing processes with workflow-driven processing functions, enables automated supplier evaluations, lower procurement and warehousing costs with accurate inventory and warehouse management and integrates invoice verification.
- ❖ The main modules of the Material Management module are:
 - Pre-purchasing Activities
 - Purchasing
 - Vendor Evaluation
 - Inventory Management
 - Invoice Verification and Material Inspection.
- ❖ The pre-purchasing activities include maintaining a service master database, in which the descriptions of all services that are to be procured can be stored.
- ❖ Purchasing is a very important component of the Material Management module. It supports all phases of material management: materials planning and control, purchasing, goods receiving, inventory management and invoice verification.
- ❖ The vendor evaluation component has been completely integrated into the Material management module. Information such as delivery dates, prices and quantities can be taken from purchase orders. the continual monitoring of exiting supply relationships.
- ❖ Inventory Management system allows you to manage your stocks on a quantity and value basis, plan, enter and check any goods movements and carry out physical inventory.
- ❖ Invoice Verification component is part of the material management system. It provides the link between the material management components and the financial accounting, controlling and asset accounting components.

Is an ERP as important as it is hyped?

Discussion

As mentioned in Table 1 below, one of the strategic benefits of supplier is to improve supplier performance. By implementing an ERP system, the suppliers track the demand of the company by accessing the data from sales and marketing department and supply the items to complete the inventory of the company. This ERP benefit gives an advantage to the suppliers, with the intention that they are able to track the trend of customer demands and supply the company's raw materials faster. Furthermore, the tactical benefits can be earned by an organization for short

term plan. For instance, the implementation of ERP systems in dry food packaging companies directly force its suppliers to implement ERP systems. This benefit gives an advantage for dry food packaging industries in improving their performance. Lastly, operational benefit enabled the integration of data and information between suppliers and dry food packaging company. This capability improves the suppliers' performance to fulfil the company's demands.

Figure 2 illustrates the summarization of ERP benefits, which are divided into four internal corporate relationships: operations and logistics, financials, human resources, and sales and marketing; and two external corporate relationships: suppliers and customers. By implementing ERP systems, an organization can earn the ERP benefits in every part of corporate relationships. For example, every internal corporate relationship can improve their information accuracy, speed, quality, and availability. Moreover, the suppliers and customers can increase the interaction with the organization. In addition, these benefits are also categorized into three levels: strategic, tactical and operational benefits, in each internal and external corporate relationship. The strategic benefit defines as the benefits that an organization can earn from the ERP implementation for long term benefits.

The research is significant and important both from the theoretical and practical standpoints. From the theoretical perspective, the research finding of this research can give the big picture of ERP system benefits, however it is not explored in previous ERP research. Moreover, from the practical perspective, the executives of the company can understand more about the benefits, which can be earned in implementing ERP system, in every business functions.

Table 1. The example of ERP benefits and their interrelationship to the business processes in dry food packaging industry

Business function	Decisional area	ERP benefit	The interrelationship between ERP benefits and business processes in dry food packaging industry
SUPPLIER	Strategic	Improve supplier performance	The supplier can track the demand of the company through the data in the marketing department and supply the materials to complete the inventory of the company.
	Tactical	Tying the suppliers to the ERP system	Due to the implementation of the ERP systems in dry food packaging companies, the suppliers also have to implement this integrated information systems; therefore the suppliers can track the data and information of the dry food packaging
	Operational	Real time data access across multiple sites	By implementing the ERP systems, the suppliers can access the data of dry food packaging company.
OPERATIONS & LOGISTICS	Strategic	Generate product differentiation	Based on the customers' demands and the markets, the dry food packaging company can differentiate their products.
	Tactical	Improve the interaction between business units	The ERP systems facilitate the data and information transformation between the entire business units. This ability improves the interaction between them.
	Operational	Improve order management/order cycle	One of the activities in operations and logistics business unit is to order the raw materials from suppliers. By implementing ERP systems, the operations and logistics can improve their order management.
FINANCE	strategic	Finance information accuracy and faster decision making capability	By having data and information integration in the entire business processes, the finance business unit has finance information accuracy that can support faster decision making capability.
	Tactical	Improve cash management	ERP Financials, you can report, analyse, and allocate cash in real time, and establish in-house banks or payment centers.
	Operational	Decrease financial close cycle	ERP Financials, the dry food packaging companies can streamline accounting, consolidation, process scheduling, workflow, and collaboration.

HUMAN RESOURCE	Strategic	Improve employee performance management	By implementing ERP systems, the companies can align team and individual goals with corporate goals and strategies, standardize employee reviews and appraisals, tie compensation to performance, support a performance-oriented compensation process.
	Tactical	Improve the performance of the industry	By implementing ERP systems, the human and resource business unit in dry food packaging company can improve their activities.
	Operational	General information integration	ERP systems can integrate all of the data and information from the human and resources department with the entire departments in the dry food packaging company.
SALES & MARKETING	Strategic	Improve the interaction with customers	ERP systems help to provide a better understanding of the customer needs for the customized services and products.
	Tactical	Improve the customer services	Customer service is more than how the companies treat the customers in direct interactions at the point of sale. Customer service is also delivering a quality product, at a fair price and delivering it when it is promised. ERP systems are designed to help improve customer service in those key areas.
	Operational	Real time data access across multiple sites	By implementing the ERP systems, the employees of sales and marketing department can access the latest information of the customers.
CUSTOMER	Strategic	Better customer satisfaction	The dry food packaging companies can increase the customer satisfaction, because by implementing ERP systems, they can deliver their products faster to the customers, and the most important thing is the company can produce the best quality of the products.
	Tactical	Better customer responsiveness	Integration with outsourced customer support has improved responsiveness to customer inquiries.
	Operational	Improve on-time delivery	The dry food packaging companies can deliver their products on-time to the customers, because of the benefits that they can get from ERP system implementation, such as streamline their business processes and faster decision making.

This concluding part of the lecture about ERPs consists of four phases, which are shown in Fig 1 below. The first phase is reviewing the literatures, include published journals and proceedings, vendor’s websites, and case study. Phase two discusses the ERP benefits categorisation, which is divided based on business functions and decisional paradigm. For the next phase, we explain the benefits of ERP system implementation in dry food packaging. In the last phase, the benefits of ERP system implementation are summarised from current literatures.

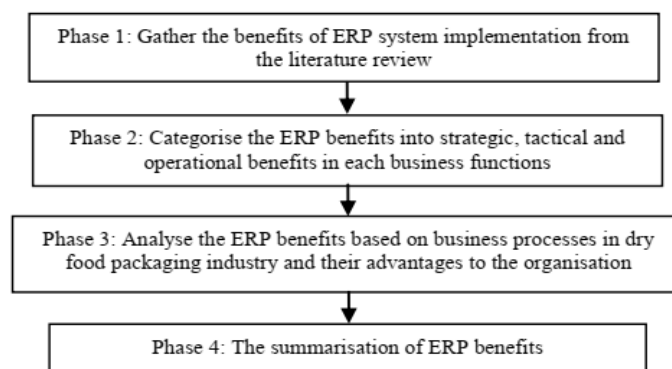


Fig. 1. The activities of analyzing the ERP benefits.

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