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ERP: Integrating Application And Business Processes Across The Enterprise

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Abstract: ***Enterprise resource planning (ERP) is the business management software that enables a business entity to integrate all the functional areas consisting finance, human resources, manufacturing, marketing, research & development and all other sub-functions. Enterprise Resource Planning System (ERP) is defined as system or software that used to manage all the resources of the whole enterprise. The ERP used holistically to manage and track right from employee payments to single screw coming into the enterprise. ERP is a cross functional software that supports all the business processes within the organization. In any organization, ERP helps to manage business processes of various departments and functions at globally through centralized application. The major decisions can be taken by screening the information provided by ERP. ERP software is considered to be a type of enterprise application, that is software designed to be used by larger businesses and often requires dedicated teams to customize and analyze the data and to handle upgrades and deployment. In contrast, Small business ERP applications are lightweight business management software solutions, often customized for a specific business industry or vertical.***

Keywords: software, integration, enterprise, modules, vendors.

I. INTRODUCTION

Enterprise resource planning is the glue that binds together the different computer systems for a large organization. Typically, each department would have its own system optimized for that division's specific functional requirements. With ERP, each department still has its own system, but it can communicate and share information more easily with the rest of the company for better effective functioning. The ERP software functions like a central nervous system for a business. It collects information about the activity and state of different divisions, making this information available to other parts, where it can be used fruitfully. Information on the ERP is added in real time by users. It helps a corporation become more self-aware by linking information about production, finance, distribution and human resources together. ERP connects different technologies used by each individual part of a business, eliminating duplicate and incompatible technology that is costly to the corporation. This involves integrating accounts payable & receivable, stock-control systems, order-monitoring systems and customer databases into one system. ERP is an Enterprise Application.

II. MEANING OF ERP

Enterprise resource planning (ERP) is business process management software that allows an organization to use a system of integrated applications to manage the business and automate many back office functions related to technology, services and human resources. ERP software typically integrates all facets of an operation including production planning, development, manufacturing, and sales and marketing in a single database, application and user interface.

NON INTEGRATED AND INTEGRATED SYSTEM

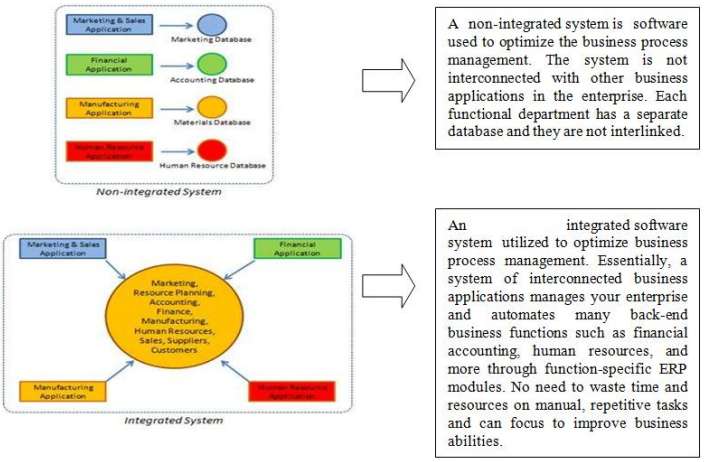

Figure 1

III. FUNCTIONAL MODULES OF AN ERP PACKAGE

Spread of market in current scenario, there are many vendors available and providing traditional ERP solutions or Cloud based ERP solutions. Though implementation platforms or technologies are different, there are common and basic modules which can be found in any ERP System. Depending on organizations need required components are integrated and customized ERP system is formed. All the below mentioned modules can be found in any ERP system:

- ✓ Human Resources
- ✓ Inventory Management
- ✓ Sales & Marketing
- ✓ Purchase
- ✓ Finance & Accounting
- ✓ Customer Relationship Management(CRM)
- ✓ Engineering/ Production
- ✓ Supply Chain Management (SCM)

HUMAN RESOURCES MODULE (HR)

Human Resource module helps to HR team for efficient management of human resources across Organization. HR module helps to manage employee information, track employee records like performance reviews, designations, job descriptions, skill matrix, time & attendance tracking, compensation etc. One of the important sub module in HR module is Payroll System which helps to manage salaries, payment repots etc. It can also include Travel Expenses & Reimbursement tracking.

INVENTORY MODULE

Inventory module can be used to track the stock of items. Items can be identified by unique serial numbers. Using that unique numbers inventory system can keep track of item and trace its current location in organization. i.e. A buyer purchased 100 hard disk, so using inventory system, can track how many hard disks are installed, where they are installed, how many hard disks are remaining etc. Inventory module includes functionalities like inventory control, master units, stock utilization reporting etc. There may be integration of inventory module with purchase module of ERP.

SALES MODULE

Sales process includes processes like Sales queries, enquiry analysis and handling, quotation drafting, accepting sale orders, preparing sale invoices with proper tax computation, dispatch of material or service, tracking pending sale order etc. All the sales transactions are managed by sales module of ERP. CRM module can take help of Sales module for future opportunity creation and lead generation.

PURCHASE MODULE

Purchase modules take care of all the processes that are part of procurement of items or raw materials that are required for organization. Purchase module consist of functionalities like supplier/vendor listing, supplier & item linking, sending quotation request to vendors, receiving & recording quotations, analysis of quotations, preparing purchase orders, tracking the purchase items, preparing GRNs (Good Receipt Notes), updating stocks and various reports. Purchase module is integrated with Inventory module and Engineering/production module for updating of stocks.

FINANCE & ACCOUNTING MODULE

Whole inflow & outflow of money and capital are managed by finance module. This module keeps track of all account related transactions like expenditures, Balance sheet, account ledgers, budgeting, bank statements, payment receipts, tax management etc. Financial reporting is easy task for this module of ERP. Any Financial data that is required for running business is readily available at the Finance module.

CUSTOMER RELATIONSHIP MANAGEMENT (CRM) MODULE

CRM department helps to boost the sales performance through better customer service and establishing healthy relationship with customers. All the stored details of customer are available in CRM module. CRM module helps to manage and track detailed information of the customer like communication history, calls, meetings, details of purchases made by customer, contract duration etc. CRM module can be integrated with Sales module in order to enhance sales opportunities at the Market.

ENGINEERING / PRODUCTION MODULE

Production module is great help for manufacturing industry for delivering product on time in terms of quantity as well as quality. This module consist of functionalities like production planning, machine scheduling, raw material usage, BOM collection, track daily production progress, production forecasting & actual production reporting, idle time and efficiency of the employees.

SUPPLY CHAIN MANAGEMENT (SCM)

SCM module manages the flow of product items from manufacturer to consumer & consumer to manufacturer. Common roles involved are manufacturer, Super Stockiest, Stockiest, distributors, retailers etc. SCM involves demand and supply management, sales returns and replacing process, shipping and transportation tracking etc.

ERP – CURRENT SCENARIO

The emerging technologies in ERP systems, last couple of years led to shifting the entire area in any business processes. The following are trends of evolution which has impact on the growth of enterprise ERP software:

MOBILE ERP

Executives and employees want real-time access to information, regardless of where they are. It is expected that businesses will embrace mobile ERP for the reports, dashboards and to conduct key business processes.

CLOUD ERP

The cloud has been advancing steadily into the enterprise for some time, but many ERP users have been reluctant to place data in the cloud. Those reservations have gradually been obsolete, however, as the advantages of the cloud become apparent.

SOCIAL ERP

There has been much hype around social media and how important or not it is to add to ERP systems. Certainly, vendors have been quick to seize the initiative, adding social media packages to their ERP systems with much flourish. But some wonder if there is really much gain to be had by integrating social media with ERP.

TWO-TIER ERP

Enterprises once attempted to build an all-encompassing ERP system to take care of every aspect of organizational systems. But some expensive failures have gradually brought about a change in strategy – adopting two tiers of ERP

BENEFITS OF ERP SYSTEM

REDUCED COSTS

Rather than paying for several different applications, all with costly subscriptions, ERP software allows businesses to use a single platform and eliminate excess software. Beyond that, companies can cut costs through the insights they gain from their business data or the subject of our next point, by streamlining their business processes.

STREAMLINED BUSINESS PROCESSES

Prime objective of centralizing information for the entire business into one system is that different departments in the enterprise are now inter-connected to each other. As a consequence, communication between departments becomes more efficient, and normal sales processes, such as order to cash, etc. are streamlined. i.e. if a business integrates their ecommerce platform with their ERP system, data will automatically be transmitted from the front end to the back end of the business so the order can rapidly be fulfilled. This eliminates the need to manually push data from one operational department to another or one software to another.

TOP-DOWN VIEW OF ENTIRE BUSINESS

One of the largest benefits of ERP systems is that it gives decision makers a top-down view of the entire business. They have complete visibility about what's going on and can easily see statistics and graphs, all sourced from accurate, real-time data executives, managers, etc. can create dashboards that highlight information that is important to them in an easy to obtain and read manner.

POWERFUL BUSINESS INSIGHTS

With this visibility, management can make informed business decisions. On top of that, they can gain advanced insights from analytics tools. ERP software outperforms other business software in this scenario because ERP integrates data for the whole organization. In contrast, with separate software, data cannot be pooled together easily, and insights are accordingly less powerful.

REDUCED ERRORS

Human error is always present in organizations, but it's important to reduce it as much as possible. ERP software assists in this because it eliminates contradictions in data between different departments. Instead, data is transmitted seamlessly from one division to another.

ENHANCED LABOR PRODUCTIVITY

Employees need not switch between software as often during their typical work sessions. This sort of behavior involves not only the direct loss of time needed to switch between programs, but a loss of productivity due to workers switching contexts. Human beings are most productive when they are able to attack the same task in repetition. When they switch from one task to another, they slow down and take time to pick up speed again.

EASIER REGULATORY COMPLIANCE

ERP systems give the full who, what, when, where, why regarding all business data. Because it keeps track of all this information then, it can ease regulatory compliance.

RISKS OF ERP SYSTEM

NUMBER OF INTEGRATION POINTS

Projects that attempt to integrate everything at once, sometimes called "the large bang approach," are prone to adverse results due to the extreme complexity and large number of interdependencies. Scale down the scope of first few projects and focus on quick, easy wins while team increases its capabilities.

CHANGING REQUIREMENTS

When the use case has been poorly thought through, requirements can change frequently and create chaos in an ERP integration project. Make sure to spend enough time in the requirements gathering and process planning phases to gather the best possible set of requirements for the project. There is nothing wrong with using agile methodology, but it still helps to have a clear vision before begin.

INADEQUATE INTEGRATION INFRASTRUCTURE

Undertaking an ERP integration project with the wrong infrastructure to support the team can lead to serious issues and excessive costs. Avoid solutions that rely on manual programming or overly complex, heavy middleware software sets. Focus on single stack, single studio solutions with an integration platform for enterprise class integration projects.

STAFF TURNOVER

Changes in project management, business analysts, developers, and stakeholders can complicate completion of a project. Try to avoid turnover by gaining commitments from participants that they are available for the expected duration of the project.

INADEQUATE CHANGE MANAGEMENT PROCEDURES

Some organizations lack the formal methodology to handle change orders. In addition, changes to the ERP and other systems being integrated may not be locked down during the integration project. The result can be chaotic from a requirements, implementation and testing perspective.

NEW BUSINESS PROCESSES

Introducing change to an organization always carries with it the risk of institutional or market resistance. Make sure the processes have been vetted by stakeholders and customers and that they are introduced properly so as to gain maximum adoption and adherence.

NEW INTEGRATION INFRASTRUCTURE

New or unproven integration infrastructure represents a risk factor. Make certain vendor experts are available to back up the team not only with technical bugs but with implementation experience and best practice advice and or services.

IV. CONCLUSION

Enterprise Resource Planning is software that centralizes data from multiple departments / locations, thus connecting the entire organization under single umbrella. ERP is the great help for such organizations. ERP can efficiently streamline the business operations of organization. Above introduction of modules can help the business people to choose & customize the ERP modules depending on their organizations requirements. ERP Systems Integration is not without risk. Projects can go over time and budget, fail to create optimal business processes or even fail when risk factors are not mitigated and adjustments are not made. Several factors should be considered when developing an approach to risk mitigation in the ERP Systems Integration Project. The value and benefits of ERP integration are clear, don't be the one who allows them to become muddled by a poorly planned project.

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