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ERP Implementation in Real Estate Project

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ABSTRACT

Asha Engineering decided to go with SAP EC&O solution. SAP is world leader in ERP solution and having track record of most successful ERP implementation. The SAP for Engineering, Construction & Operations (SAPEC&O) solution portfolio provides a comprehensive set of integrated applications encompassing all key processes of the construction industry.SAPfor EC&O solutions help increase profitability by enabling you to deliver more projects on time and within budget with fewer resources.

Business Challenges

- Improve project execution
- Mitigate grow in operational and financial risks
- Address more complex customer demands
- Increase transparency within and across construction projects
- Improve integration across the IT solution landscape Key Features
- Complete process integration – Support all aspects of the construction business with tightly integrated single-source solutions
- Cost and quotation management – Utilize historical performance data to improve speed and accuracy of bids and quotations
- Procurement – Reduce the costs of materials and services acquired during project execution
- Equipment management – Control equipment and tool assets with unmatched visibility in to relevant data.
- Talent management – Identify pending labor shortages, maintain key in-house talent, and empower employees to master new skill sets rapidly
- Opportunity expansion–Strengthen core competencies and develop upstream and downstream expansion Business Benefits
- Maximize your profitability by enabling efficient project execution
- Manage more projects with fewer resources by integrating and automating key business processes
- Lower your total cost of ownership by implementing a fully integrated set of solutions
- Reduce your operational and financial risk by implementing tight project controls
- Improve your resource management by increasing your utilization of labor, equipment, material, and sub-contractors
- Minimize your risk by helping ensure high scalability and eliminating third-party add-on solutions

Challenges and Opportunities:

Problems facing construction industry is noteworthy but probably thousands of years old probably ever since they started building the pyramids. What are so different towards the tools and techniques that can be utilized to get the best usage of its resources and materials and equipment? Construction is a

complex array of interdependent activities that some would say is at best organized chaos. The very nature of construction introduces challenges typically not encountered in other industries. For example, construction differs widely from other industries more so as

Introduction:

In the construction business, opportunities abound – but capitalizing on them has never been more challenging. Today, success is determined by what you know about your projects and when you know it. Your crews in the field may have all the high-tech tools and state-of-the-art equipment they need – but when information determines success, your management team needs to be similarly equipped. Unfortunately, many construction companies struggle with non-integrated, multiple vendor legacy systems that provide untimely, inaccurate information and make it difficult to adapt to changing business requirements. In the age of information technology companies can take advantages of IT in terms of Hardware and Software. Companies use various standalone systems to maintain the business process and operation by scattered and loosely coupled application. These scattered and legacy applications are not integrated with another and there is no easy way to integrate them in a better way to easily maintain and get a high level output. To maintain this application required high amount of man power and cost,. to integrate branches, department, process and business vertical in a wide area network required an integrated application.ERP Enterprise Resource Planning is enterprise wide information system which consolidate information from various functions/departments of an organization..Multi state company like Asha Engineering Pvt LTD. it is required to implement an application which can integrate their all business process to improve theiroperation,procurement,resourcemanagement,costcontrol,timelyreport,accounting. Previously Asha Engineering Pvt LTD uses various small applications to manage their business and operation like payroll system, accounting system, procurement system, tender system, attendance system, mis system. This application is not integrated and all different branches, worksite offices use their own application and to get output and error free reports in a central location is required very large time. Asha Engineering decided to implement ERP system to overcome a problem and reduce operation time to control their business in better way and get competitive age over their competitor. Asha Engineering studies different ERP vendor and decided to Implement SAP ERP system for their construction business. Asha Engineering compare various ERP vendor however select SAP for their excellent track record foremost successful ERP implementation and their times tested solution for Engineering, Construction & Operations. Asha Engineering decided to implement SAP for Engineering, Construction &Operations (SAP for EC&O) solution portfolio to help ensure their business success in Mumbai site.

Introduction to ERP

The initial ERP originated as an extension of MRP (material requirements planning; later manufacturing resource planning) and CIM (Computer IntegratedManufacturing).ItwasintroducedbyresearchandanalysisfirmGartnerin1990. ERP systems now attempt to cover all core functions of an enterprise, regardless of the organization's business or charter. These systems can now be found in non-manufacturing businesses, non-profit organizations and governments.

To be considered an ERP system, a software package must provide the function of at least two systems. For example, a software package that provides both payroll and accounting functions could technically be considered an ERP software package

Examples of modules in an ERP which formerly would have been stand-alone applications include: Product lifecycle management, Supply chain management (e.g. Purchasing, Manufacturing and Distribution), Warehouse Management, Customer Relationship Management (CRM), Sales Order Processing, Online Sales, Financials, Human Resources, and Decision Support System. Some organizations – typically those with sufficient in-house IT skills to integrate multiple software products - choose to implement only portions of an ERP system and develop a next similar face to other ERP nd - alone systems for their other application needs. For example, one may choose to use human resource management system from one vendor, and perform the integration between the systems themselves.

This is common to retailers, where even a mid-sized retailer will have a discrete Point-of-Sale (POS) product and financial application, then a series of specialized applications to handle business requirements such as warehouse management, staff roistering, merchandising and logistics. Ideally, ERP delivers a single database that contains all data for the software modules, which would include:

- **Manufacturing** Engineering, bills of material, scheduling, capacity, work flow management, quality control, cost management, manufacturing process, manufacturing projects ,manufacturing flow
- **Supply chain management** Order to cash, inventory, orderentry, purchasing, product configurator, supply chain planning, supplier scheduling, inspection of goods, claim processing, commission alculation
- **Financials** General ledger, cash management, accounts payable, accounts receivable, fixed assets
- **Project management** Costing, billing, time and expense, performance units, activity management
- **Human resources** Human resources, payroll, training, time and attendance, rostering, benefits
- **Customer relationship management**- Sales and marketing, commissions, service, customer contact and call center support
- **Data warehouse** – and various self – service interfaces for customers, suppliers, and employees
- **Access control** – user privilege as per authority levels for process execution
- **Customization**-to meet the extension ,addition, change in process flow

Enterprise resource planning is a term originally derived from manufacturing resource planning (MRPII) that followed material requirements planning (MRP). MRP evolved into ERP when "routings" became a major part of the software architecture and a company's capacity planning activity also became a part of the standard software activity .ERP systems typically handle the manufacturing, logistics, distribution, inventory, shipping, invoicing, and accounting for a company.

ERP software can aid in the control of many business activities, including sales, marketing, delivery, billing, production, inventory management, quality management and human resource management.

ERP systems saw a large boost in sales in the 1990s as companies faced theY2K problem in their legacy systems. Many companies took this opportunity to replace their legacy information systems with ERP systems. This rapid growth in sales was followed by a slump in 1999, at which time most companies hadalreadyimplementedtheirY2K solution.

ERPs are often incorrectly called back office systems indicating that customers and the general public are not directly involved. This is contrasted with front office systems like customer relationship management (CRM) systems that deal directly with the customers, or the eBusiness systems such as eCommerce, eGovernment, eTelecom, and eFinance, or supplier relationship management (SRM) systems. ERPs are cross functional and enterprisewide. All functional departments that are involved in operations or production are integrated in one system. In addition to manufacturing, warehousing, logistics, and information technology, this would include accounting, human resources, marketing and strategic management. ERPII, started in the early 2000's, is often used to describe what would be the next generation of ERP software. This new generation of software is web-based, and allowed both internal employees, and external resources such as suppliers and customer's real-time access to the data stored within the system. ERPII is also different in that the software can be made to fit the business, instead of the business being made to fit the ERP software. As of 2009, many ERP solution providers have incorporated these features in to the incurrent offerings.

EAS - Enterprise Application Suite is a new name for formerly developed ERP systems which include (almost) all segments of business, using ordinary Internet browsers as thin clients. Best practices are incorporated into most ERP vendor' ssoftware packages When implementing an ERP system, organizations can choose between customizing the software or modifying their business processes to the "best practice" function delivered in the "out-of-the-box" version of the software. Prior to ERP, software was developed to fit the processes of an individual business.Due to the complexities of most ERP systemsand the negative consequences of a failed ERP implementation, mostv end or have included "Best Practices" into their software. These "Best Practices" are what the Vendor deems as the most efficient way to carry out a particular business process in an Integrated Enterprise - Widesystem.

A study conducted by Lugwigshafen University ofApplied Science surveyed 192 companies and concluded that companies which implemented industry best practised mission - critical project tasks such as configuration, documentation, testing and training. In addition, the use of best practices reduced over risk by 71% when compared to other software implementations.

The use of best practices can make complying with requirements such as IFRS, Sarbanes-Oxley or Basel II easier. They can also help where the process is a commodity such as electronic funds transfer. This is because the procedure of capturing and reporting legislative or commodity content can be readily codified within the ERP software, and then replicated with confidence across multiple businesses who have the same business requirement.

Advantages of ERP:

In the absence of an ERP system, a large manufacturer may find itself with many software applications that cannot communicate or interface effectively with one another. Tasks that need to interface with one-another may involve:

- Integration among different functional areas to ensure proper communication, productivity and efficiency
- Design engineering (how to best make the product)
- Order tracking, from acceptance through fulfillment

- The revenue cycle, from invoice through cash receipt
- Managing inter-dependencies of complex processes bill of materials
- Tracking the three-way match between purchase orders (what was ordered), inventory receipts (what arrived), and costing (what the vendor invoiced)
- The accounting for all of these tasks: tracking the revenue, cost and profit at a granular level.

ERP Systems centralize the data in one place. Benefits of this include:

- Eliminatestheproblemofsynchronizingchangesbetweenmultiplesystems
- Permits control of business processes that cross-functional boundaries
- Provide stop-down view of the enterprise (no islands of information")
- Reduces the risk of loss of sensitive data by consolidating multiple permissions and security models into a single structure.

Some security features are included within an ERP system to protect against both outsider crime, such as industrial espionage, and insider crime, such as embezzlement. A data-tampering scenario, for example might involve a disgruntled employee intentionally modifying prices to below-the-break-even point in order to attempt to interfere with the company's profit or other sabotage.ERP systems typically provide functionality for implementing internal controls top recent actions of this kind. ERP vendors are also moving toward better integration with other kinds of information security tools.

Disadvantages of ERP:

Problems with ERP systems are mainly due to inadequate investment in ongoing training for the involved IT personnel- including those implementing and testing changes - as well as a lack of corporate policy protecting the integrity of the data in the ERP systems and the ways in which it is used.

Disadvantages

- Customization of the ERP software is limited.
- Reengineering of business processes to fit the "industry standard" prescribed by the ERP system may lead to a loss of competitive advantage.
- ERP systems can be very expensive (This has led to a new category of "ERP light" {Expand section} solutions)
- ERPs are often seen as too rigid and too difficult to adapt to the specific work flow and business process of some companies — this is cited as one of the main causes of their failure.
- Many of the integrated links need high accuracy in other applications to work effectively. A company can achieve minimum standards, then overtime "dirty data" will reduce the reliability of some applications.
- Once a system is established, switching costs are very high for any one of the partners (reducing flexibility and strategic control at the corporate level).
- The blurring of company boundaries can cause problems in accountability, lines of responsibility ,and employee morale.
- Resistance in sharing sensitive internal information between departments can reduce the effectiveness of the software.
- Some large organizations may have multiple departments with separate, independent resources, missions, chains-of-command, etc, and consolidation into a single enterprise may yield limited benefits.
- The system may be too complex measured against the actual needs of the customers.
- ERP Systems centralize the data in one place. This can increase the risk of loss of sensitive information in the event of a security breach.

ERP Vendors:

1. **Microsoft**

Microsoft has no formal ownership experience program defined. Microsoft has developed its cost management strategy based on a very low software price point and close to 100% out-of-the-box deployments with little ability to customize the software. As a result, Microsoft offers basic functionality that does not require extensive training, but it also does not necessarily deliver the full value expected by the customer in view of the ownership experience.

2. **Oracle**

Addressing cost of ownership is at the heart of Oracle's philosophy for Enterprise Applications. Based on the Oracle e-Business Suite, an integrated suite of applications, Oracle claims that it can lower implementation costs by avoiding unnecessary costs, such as those associated with costly custom-integration between applications. Although Oracle's approach has some merit –some measurable benefits have been highlighted through ROI cases studies, serious concerns are still being raised regarding what Oracle has delivered to date.

3. PeopleSoft

Structured in a formal program, PeopleSoft dedicated over 1,000 developers and $800 million to improve the Total Ownership Experience for customers. Rather than focusing simply on best practices that improve the ownership experience, PeopleSoft has rethought its entire set of applications to ensure thattheyarebuiltfromthegrounduptominimizedeploymentandmaintenancecosts.

4. SAP

Many users of SAP applications have, over the years, noted the complexity of SAP applications, the resulting high implementation costs, and consequent budget overruns. In response to these issues, SAP today highlights SAP NetWeaver as the centre piece to SAP's product strategy for decreasing the complexity and cost of ownership for SAP applications. Currently, the impact of SAPNet Weaver on the overall SAP cost of owner ship remainstobeproven.SAPhasnotyetprovidedproofpointsvalidatingthatitscustomersbenefitfromimprovedownershipexperiencethroughtheimplementationof SAP'slatesttechnology.

5. Siebel

Siebel's customer experience initiative was first focused on customer satisfaction and high-level ROI measurements. It is only recently (12+months) that Siebel has focused more specifically on cost-of-ownership issues (mainly in response to customers' complaints). Siebel's improvements to its software development process are guided by the experience and insight aimed from close examination of 200 Siebel7.x deployments.

Research Methodology:

For this study, the research was organized along key ownership experience criteria that allowed the research to capture quantitative and qualitative information across the major components of enterprise applications. The list of criteria was thoroughly defined to take into account the experience of not only the technical staff, but also end users who must accomplish specific business tasks with the application. The software versions that were compared included:

- Microsoft Great Plains version 7.5 and previews of Microsoft Great Plain sversion 8.0
- OracleE-BusinessSuite11.5.9
- PeopleSoftEnterprise8.8and8.9andEnterpriseOne8.11
- SAP: mySAP Business SuiteR/34.6andSAPR/3Enterprise4.7
- Siebel7.5andSiebel7.7C

TheresearchalsoincludedfunctionalareassuchasFinancialandHumanCapital Management Systems (FMS&HCM), Supply Chain Management (SCM), Customer Relationship Management (CRM); and application life-cycle phase ssuch as installation, implementation, configuration, usage, maintenance, support, and upgrades. We have broken the entire process down into five steps:

- Reviewed vendors' web sites and their positioning documents, as well as their online and hard copy documentation.
- Utilized analyst reports, press articles, and technical reviews that are available to the general public.
- Validated, using the defined criteria, the information collected in steps 1and 2 through in-depth interviews with the consulting panel of experts. For the interview process, preference was given to respondents with multi-year experience and experience with the latest version of the application to ensure that the entire application lifecycle was properly covered.
- Compared and analyzed findings from this primary and secondary research to generate a rating for each vendor on specific criteria. In this comparison and analysis, the respondent's experience with multiple vendors was leveraged as well.
- Aggregated comparisons and ratings along three major phase software enterprise application ownership lifecycle.
- NBFCs should constantly check whether they operate in accordance with the guidelines.

Conclusion :

An ERP implementation is a huge commitment from the organization, causing millions of rupees and can take up to several years to complete. However, when it is integrated successfully, the benefits can be enormous. A well-designed and properly integrated ERP system allows the most updated information to be shared among various business functions, thereby resulting in tremendous cost savings and increased efficiency. When making the implementation

decision, management must considered fundamental issues such as the organization's readiness for a dramatic change, the degree of integration, key business processes to be implemented, e-business applications to be included, and whether or not new hardware need to be acquired. In order to increase the chance of user acceptance, employees must be consulted and be involved in all stages of the implementation process. Providing proper education and appropriate training are also two important strategies to increase the end user acceptance rate. The organization is also going through a drastic change, with changes in the way businesses re-conducted, the organization being restructured, and job responsibilities being redefined. To facilitate the change process, managers are encouraged to utilize the eight-level organizational change process. Managers can implement their ERP systems in several ways, which include the whole integration, the franchise approach, and the single-module approach.

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