Quality Management Sales & Distribution

ERP Market:

Some of the top-tier ERP vendors are

- SAP-AG
- BAAN
- PeopleSoft
- Oracle Corporation
- J.D. Edwards

These companies are covering the major ERP market revenue.

➢ SAP-AG:

- SAP is the world's leading provider of business software, SAP delivers products and services that help accelerate business innovation for their customers. Today, more than 82,000 customers in more than 120 countries run SAP applications – from distinct solutions addressing the needs of small businesses and midsize companies to suite offerings for global organizations.
- SAP defines business software as comprising enterprise resource planning and related applications such as supply chain management, customer relationship management, and supplier relationship management
- SAP AG was founded in 1972 by five German engineers with IBM in Mannheim, Germany and is one of the top most ERP vendors providing the client server business application solutions.
- SAP serves as a standard in the industries like chemicals, customer products, oil & high technology. The SAP group has offices in more than 50 countries worldwide & employs a workforce of over 19300.
- SAP's ERP package comes in 2 versions i.e. mainframe version (SAP R/2) & client server version (SAP R/3).(R-Real)
- With SAP, customers can install the core system & one or more of the fundamental components, or purchase the software as a complete package.

- SAP has developed extensive library of more than 800 predefined business processes.
- These processes may be selected from SAP library & can be included within installed SAP application solution to suit the user exact requirements.
- SAP software has special features like, linking a company's business processes & applications, & supporting immediate responses to change throughout different organizational levels & real time integration.
- Also, the new technologies are available regularly to cop-up with the changes of the new business trends.

- The international standards have been considered while designing the software like support of multiple currencies simultaneously, automatically handles the country specific import/export requirements
- The modules of R/3 can be used individually as well as user can expand it in stages to meet specific requirements.

➢ BAAN:

- Baan company was founded in Netherlands in 1978 by brothers Jan and Paul Baan..
- The BAAN Company is the leading global provider of enterprise business software.
- The BAAN company products reduce complexity and cost, improve core business processes, are faster to implement and use, are more flexible in adapting to business changes.
- The products offered by the company supports several business tools. The tools are based on multi-tier architecture.
    - The BAAN products are having open component architecture.
    - The special feature of BAAN product is the use of BAAN DEM (Dynamic Enterprise Modeling).
    - Baan DEM provides a business view via a graphical process/model based views.
    - BAAN products has multi-tiered architecture for maximum and flexible configuration.
    - The application supports the new hardware, OS, networks and user interfaces w/o any modification to the application code.
    - The Baan series based products include :
        - BAAN Enterprise Resource Planning.

- BAAN Front Office.
- BAAN Corporate Office Solutions.
- BAAN Supply Chain Solutions.

- The main advantages of Baan series-based family of products are the best in class components version independent integration and evergreen delivery.
- BAAN ERP includes the following components –

Manufacturing Module:

This includes bills of material, cost price calculation, shop floor control, material requirement planning, etc.

Finance Module:

This includes accounts payable, accounts receivable, cash management, fixed assets, etc

Project Module:

This includes project budget, project definition, project estimation,project planning, etc

Distribution Module: This includes sales management, purchase management and warehouse management.

➢ Oracle Corporation:

- Oracle Corporation was founded in the year 1977 and is the world's largest s/w company and the leading supplier for enterprise information management.
- This is the first s/w company to implement internet computing model for using the enterprise s/w across the entire product line.
- It provides databases and relational servers, application development, decision support tools and enterprise business applications.
- Oracle application consists of 45 plus software modules which are divided into following categories

- Oracle Financials
- Oracle Human Resource
- Oracle Projects
- Oracle Manufacturing
- Oracle Supply Chain
- Oracle Front Office

❖ **Oracle Financial:**

– This application transforms a finance organization into a strategic force and also helps to access the financial management functions.

– By working with these applications the companies can work globally, lower the administrative cost & improve the cash management.

– It also provides strategic information to make timely & accurate decisions.

❖ **Oracle Projects:**

– These applications improve operational efficiency by providing an integrated project management environment that supports the full lifecycle of a project and increases the revenue growth and profitability.

❖ **Oracle Supply Chain:**

– This application manages the supply chain process by providing a single integrated environment.

– It helps in effective partner collaboration & supply chain optimization capabilities.

– It helps in increasing market share while improving customer service & minimizing the cost.

❖ **Oracle Front Office:**

– These applications provide a better understanding for customer relationships, their values & profitability

- These applications increase top line revenues & maintain customer satisfaction & retention
- It also helps to attract and retain profitable customers through deployment channels including mobile & call centre.

❖ **Oracle Human Resources:**

- This application helps in managing the human resources which directly improve profitability and contribute to competitive advantage
- It also helps in the ability to hire motivate & retain the most capable working force and also helps in providing comprehensive and up-to-date information.

❖ **Oracle Manufacturing:**

- Oracle manufacturing application enables the companies to achieve market leadership by becoming more customer responsive & efficient.
- This module also supports the companies to increase revenue, profitability & customer loyalty by capturing the demand & planning the manufacturing process in an efficient way.

➢ People Soft:

- PeopleSoft Inc. was established in 1987 to provide innovative software solutions that meet the changing business demands of enterprises worldwide.
- It employs more than 7000 people worldwide.& the annual revenue for the year 1998 was $ 1.3 million.
- PeopleSoft's mission is to provide innovative software solutions that meet the changing business demands of organizations worldwide.
- PeopleSoft develops markets and supports enterprise-wide software solutions to handle core business functions including human resources management, accounting and control, project management, treasury management performance measurement and supply chain management.

- PeopleSoft provides industry-specific enterprise solutions to customers in select markets, including communications, finance services, healthcare, manufacturing.
- PeopleSoft products support clients running, Microsoft Windows and popular Web browsers, as well as a range of mainframe, midrange and LAN relational database server platforms.
- PeopleSoft solutions run on a variety of leading hardware and database platforms, including Compaq, Hewlet-Packard, IBM, Sun Microsystems, Informix, Microsoft SQL Server, Sybase, DB2 and others.
- PeopleSoft delivers Web-enabled applications, workflow, online analytical processing (OLAP) etc.

- The PeopleSoft application serves the whole business management solutions, commercial solutions & industry solutions.

- The PeopleSoft's business management solutions are in the areas given below:-

  - Human Resources Management
  - Accounting and Control
  - Treasury Management
  - Performance Measurement
  - Project Management
  - Sales and Logistics
  - Materials Management
  - Supply Chain Planning
  - Service Revenue Management
  - Procurement

➢ JD Edwards:

- On March 17, 1977 J.D. Edwards was formed, by Jack Thompson, Dan Gregery & Ed-Mc Vaney.
- In early years J.D. Edwards designed software for small & medium sized computers.
- In 1980's it focused on IBM system/38.

- As the company began to out grow, its headquarter in Denver, opened branch offices in Dallas & Newport Beach, California, Houston, San Francisco & Bakenfield. And then internationally expanded its Europe headquarters in Brussels & Belgium.
- As it grew it became obvious that servicing a large number of customers was creating a challenge
- By the mid of 1980's, J.D Edwards was being recognizes as an Industry-leading supplier of application software for the highly successful IBM AS/400 computer.
- Today J.D Edwards is a publicly traded company that has more than 4700 customers with sites in over 100 countries & more than 4200 employees.
  J.D Edwards emphasizes on the following three matters:
  - **Solution**: JD Edwards offers a balance of technology & service options tailored by the unique industry & its processes. This allows JD Edward to ensure timely implementation & outgoing quality of the solution.
  - **Relationships**: With JD Edwards, you have a partner committed to ushering you through changes in the business & technology.
  - **Value**: JD Edwards provides with an appreciating software asset – one with the potential to increase in value over the lift of your business.
- JD Edwards is a leading provider of integrated software for distribution, human resource, finance, manufacturing & SCM.
- These software's are operated in multiple computing environments & also JAVA & HTML enabled.

Enterprise application integration(EAI):

- Enterprise application integration (EAI) is the use of software and computer systems' architectural principles to integrate a set of enterprise computer applications.
- Enterprise application integration is the process of linking such applications within a single organization together in order to simplify and automate business processes to the greatest extent possible, while at the same time avoiding having to make sweeping changes to the existing applications or data structures. Applications can be linked either at the back-end (database) or the front-end (GUI).

- ❖ The various systems that need to be linked together may reside on different operating systems, use different database solutions or computer languages, or different date and time formats, or may be legacy systems that are no longer supported by the vendor who originally created them. In some cases, such systems are dubbed "stovepipe systems" because they consist of components that have been jammed together in a way that makes it very hard to modify them in any way.

EAI can be used for different purposes:

- Data integration: Ensures that information in multiple systems is kept consistent. This is also known as enterprise information integration (EII).
- Vendor independence: Extracts business policies or rules from applications and implements them in the EAI system, so that even if one of the business applications is replaced with a different vendor's application, the business rules do not have to be re-implemented.
- Common facade: An EAI system can front-end a cluster of applications, providing a single consistent access interface to these applications and shielding users from having to learn to use different software packages.

Multiple technologies are used in implementing each of the components of the EAI system:

Bus/hub:

This is usually implemented by enhancing standard middleware products (application server, message bus) or implemented as a stand-alone program (i. e., does not use any middleware), acting as its own middleware.

Application connectivity:

The bus/hub connects to applications through a set of **adapters** (also referred to as **connectors**). These are programs that know how to interact with an underlying business application. The adapter performs two-way communication, performing requests from the hub against the application, and notifying the hub when an event of interest occurs in the application (a new record inserted, a transaction completed, etc.). Adapters can be specific to an application (e. g., built against the application vendor's client libraries) or specific to a class of applications (e. g.,

can interact with any application through a standard communication protocol, such as SOAP, SMTP or Action Message Format (AMF)). The adapter could reside in the same process space as the bus/hub or execute in a remote location and interact with the hub/bus through industry standard protocols such as message queues, web services, or even use a proprietary protocol. In the Java world, standards such as JCA allow adapters to be created in a vendor-neutral manner.

Data format and transformation:

To avoid every adapter having to convert data to/from every other applications' formats, EAI systems usually stipulate an application-independent (or common) data format. The EAI system usually provides a data transformation service as well to help convert between application-specific and common formats. This is done in two steps: the adapter converts information from the application's format to the bus's common format. Then, semantic transformations are applied on this (converting zip codes to city names, splitting/merging objects from one application into objects in the other applications, and so on).

Integration modules:

An EAI system could be participating in multiple concurrent integration operations at any given time, each type of integration being processed by a different integration module. Integration modules subscribe to events of specific types and process notifications that they receive when these events occur. These modules could be implemented in different ways: on Java-based EAI systems, these could be web applications or EJBs or even POJOs that conform to the EAI system's specifications.

Support for transactions:

When used for process integration, the EAI system also provides transactional consistency across applications by executing all integration operations across all applications in a single overarching distributed transaction (using two-phase commit protocols or compensating transactions).

Disadvantages of EAI:

1. Constant change: The very nature of EAI is dynamic and requires dynamic project managers to manage their implementation.
2. Shortage of EAI experts: EAI requires knowledge of many issues and technical aspects.

3. Competing standards: Within the EAI field, the paradox is that EAI standards themselves are not universal.
4. EAI is a tool paradigm: EAI is not a tool, but rather a system and should be implemented as such.
5. Building interfaces is an art: Engineering the solution is not sufficient. Solutions need to be negotiated with user departments to reach a common consensus on the final outcome. A lack of consensus on interface designs leads to excessive effort to map between various systems data requirements.
6. Loss of detail: Information that seemed unimportant at an earlier stage may become crucial later.
7. Accountability: Since so many departments have many conflicting requirements, there should be clear accountability for the system's final structure.

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