REVIEW PAPER ON ENTERPRISE SYSTEMS

Saroj[1]
M.Tech student
GZS-PTU Campus, Bathinda.

Swati [2]
Assistant Professor
GZS-PTU Campus, Bathinda

Abstract: *Enterprise systems are large scale application software packages that support business processes, information flows & reporting data in complex organizations. Generally, ES is the packaged software or application that supports the business process & manages business data. Therefore for large scale projects these choosing an expertise system is challenging task. In this paper different enterprise system will be discussed by considering their advantages and limitations.*

I. Introduction

Enterprise systems are built on software and hardware platform. Software Platforms are SAP's Net Weaver, Oracle's fusion &databases. From Hardware perspective, enterprise systems are servers, storage & associated software that large business uses as foundation for IT infrastructure. These are designed to manage large critical data. These systems are designed to provide high level of performance & data security. Enterprise Systems are also known as Enterprise Resource Planning that provides a single information system for organization-wide coordination & integration of key business process. It can be shared by business processes in Manufacturing, Financing, Sales & Marketing, Accounting, Human Resources & other areas. These modules show various functions and applications in the business processes.

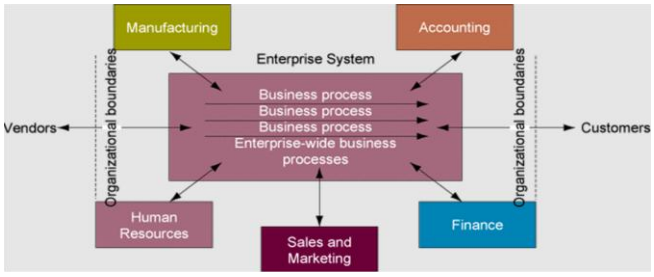

Figure1. Enterprise system [4]

These modules integrated with central database that enable data to be shared by different business processes & functional areas throughout the enterprise.

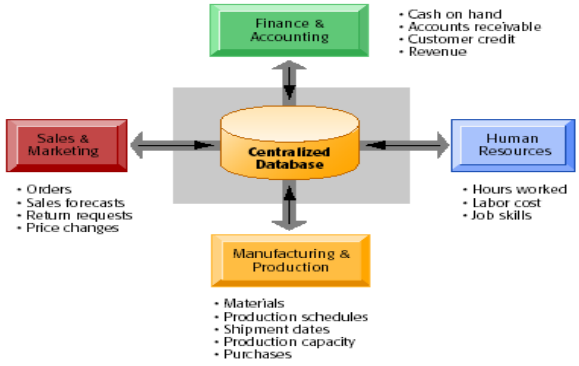

Figure2. Enterprise System Architecture

[6]

II. Enterprise System Architecture

Enterprise system packages with both pre-implemented modules & environments for the programming & administration. This system depends on database management system like Oracle & provides interfaces to range of other applications. This is based on client-server architecture with two-three tiers. The architecture is made up of number of clients that

request services from number of servers. It includes functions like network operating system, routers bridges and gateways. For enterprise system it is common to set up three tier architecture as shown in figure3.Generally, it contains three parts:-

1. User Interface
2. Application Server
3. Database Server

These parts are used in enterprise system architecture. These are explained as follows:

User Interface: - This part provide the graphical user interface & connected to the end user of the computer. In this user needs to access some information then it send request to application server. When application server accepts the request then it returns result back to user interface.

Application Server: - This part runs on all the modules of the enterprise system. In this part request sent to the database server and The results are processed & prepared for being sent to the user interface part. Third party & user developed software include in this part.

Database Server: - In this database server is accessed & updated constantly & distributed among various machines. The logical mapping between application modules & database server is supported by data dictionary.

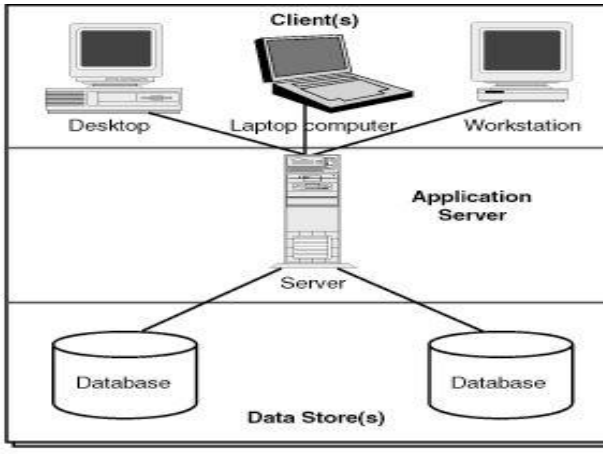

Figure3. Three-tier enterprise system architecture

Smaller enterprise systems can be implemented on two- tier environment. Very large & complex installation may use separate applications for the separate modules. Whereas financial accounting runs on one application server. For example: - another server is used for the human resources &other modules in the enterprise system.

III. Types of Enterprise System

There are mainly three types of enterprise systems: -

1. Enterprise Resource Planning System
2. Supply Chain Management System
3. Customer Relationship Management System

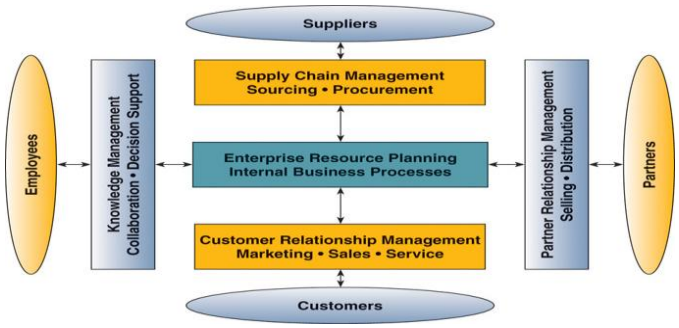

Figure4. Types of Enterprise System

These enterprise systems mainly include various types of systems. These systems are:-

1. Decision support system(DSS)
2. Executive support system(ESS)
3. Management information system
4. knowledge work system(KWS)
5. Transaction processing system(TPS)

These systems show the interrelationship among the systems in the figure5.

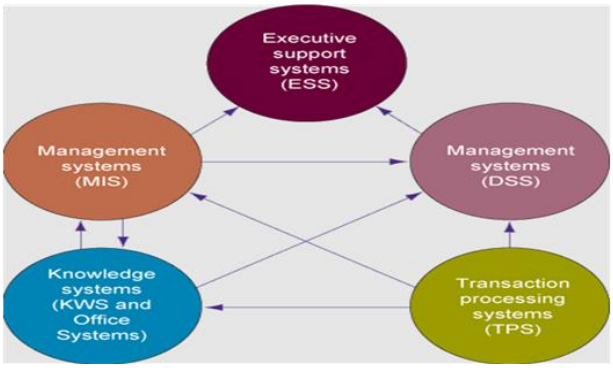

Figure5. Interrelationship between Systems [4]

1. Enterprise Resource Planning: -

ERP integrate many software applications & business functions using common database. They are normally purchased on off-the-shelf packages which are then tailored. It can use to collect, store, manage and interpret from many business activities. It provides major functions for managing business areas such as production, sales, finance, distribution & human resource management. ERP facilitates information flow between all business functions, and manages connections to outside stakeholders.

Benefits :-

a) ERP can improve quality & efficiency of the business. If internal business process running smoothly then ERP can lead to better output that may benefit for the company.
b) ERP supports upper level management by providing information for decision making.
c) ERP can improve data security.

Figure6. Enterprise Resource Planning Systems

2. Supply Chain Management System (SCM) :-

- The Supply Chain consists of series of activities that moves materials from suppliers, through organization to customers.
- In this management of flow of materials through entire supply chain.
- Materials, information, and payments flow through the supply chain in both directions.
- It reduces time, redundant factor & inventory cost.
- It helps in procurement of materials, transformation of raw materials into intermediate & finished products.
- It helps in distribution of finished products to customers.

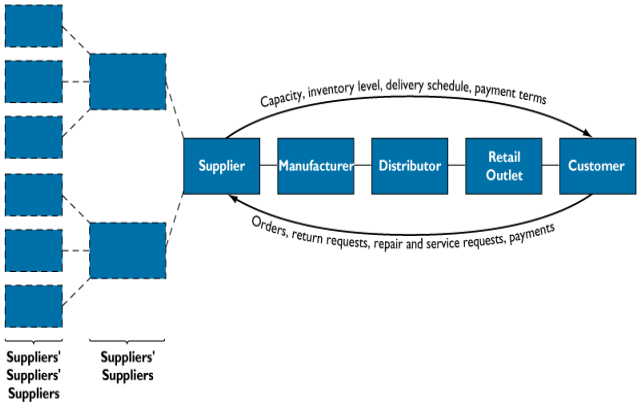

Figure7. Supply Chain Management Systems [4]

3. Customer Relationship management Systems:-

- CRM in an enterprise approach & based on communication.
- It allows proper allocation of resources to each customer class.
- Business and technology discipline for managing customer relationships to optimize revenue, profitability, customer satisfaction, and customer retention.
- It provides end- to- end customer care.
- CRM helps organization identify customers whose cost little to attract and to keep and who provide the greatest revenues for every marketing or customer service dollar spent.
- The good customers represent about 80-90 percent of a company's profits, but the represent only 10 to 20 percent of the company's customer base.
- CRM focuses on ways of retaining profitable customers and maximizing lifetime revenue from them.

Figure8. Customer Relationship Management Systems [5]

➢ Benefits:

- Decrease expense of recruiting customer
- Reduce sales costs
- Greater profitability through targeting and segmentation
- Increase customer retention
- Increase customer loyalty
- Improve customer service
- Customer-focused

Issues in CRM:-

- Failure to use software
- Integration
- Organizational culture
- Expensive
- Adapting business processes
- Retention of employees
- Training
- Allocation of time for deployment
- Commitment from top management

IV. Benefits of Enterprise Systems:-

Firm structure and organization: One organization

Management: Firm-wide knowledge-based management processes

Technology: Unified platform

Business: More efficient operations and customer-driven business processes.

V. Challenges of Enterprise Systems:-

Difficult to build: Require fundamental changes in the way the business operates

Technology: Require complex pieces of software and large investments of time, money, and expertise

Centralized organizational coordination and decision making: Not the best way for the firms to operate.

VI. Future Scope of Enterprise System:-

The earliest enterprise systems, the pure ERP systems, only addressed the backbone operations of the companies. It was common to employ third-party products or internally developed software for parts of high strategic importance. The ERP systems were isolated to the company

alone and could only support processes that were internal to
the company. They also had a very strong focus on operative data and were not always providing analyses that helped managers to make the right decisions. A wide range of business intelligence (BI) products help the managers analyze operative data from ERP systems and make the appropriate decisions. As ERP systems structure business data according to transactional needs, many
Organizations now employ data warehouses that reorganize the data according to
analytical needs. The data warehouses and other strategic components (like the Strategic Enterprise Management component of SAP) supply the managers with up-to-date analyses that reflect the way they want to monitor and control the business.

References: -

[1] J. A. Gulla "Introduction to Enterprise Systems" Version 1.0 (Created on 14.04.2004 13:50) Jon Atle Gulla, Norwegian University of Science and Technology, Trondheim, Norway.

[2] Leonard Jessup and Joseph Valacich "Chapter 7 Enterprise-Wide Information Systems *Information Systems Today* "© 2003 Prentice Hall, Inc.

[3] Chapter 8- "Enterprise Information Systems - Decision Support Systems and Intelligent Systems", 7th Edition, Turban, Aronson, and Liang © 2005 Prentice Hall.

[4] Chapter 2 – "INFORMATION SYSTEMS IN THE ENTERPRISE - Management Information Systems 8/e", © 2004 by Prentice Hall.

[5] Chapter 2 – "INFORMATION SYSTEMS IN THE ENTERPRISE - Management Information Systems" © 2006 by Prentice Hall.

[6] Chapter 11-"Enterprise Applications and Business Process Integration

[7] 15.561 "Information Technology Essentials Session 13 Enterprise Systems" Copyright © 2005 Thomas Malone.

[8] "Enterprise Resource Planning" Adapted from: T. Davenport, *Mission Critical*, Harvard Business School Press, 2000, p. 7-9.

[9] "Enterprise system - Wikipedia, the free encyclopedia"en.wikipedia.org/wiki/Enterprise_system October 2013.