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A Review on Enterprise resource planning System

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Abstract: *Enterprise resource planning (ERP) system solutions are currently in high demand by both manufacturing and service organisations because they provide a tightly integrated solution to an organisation's information system needs. During the last decade, ERP systems have received a significant amount of attention from researchers and practitioners from a variety of functional disciplines. In this paper, a comprehensive review of the research literature (1990-2003) concerning ERP systems is presented. The literature is further classified and the major outcomes of each study are addressed and analysed. Following a comprehensive review of the literature,proposals for future research are formulated to identify topics where fruitful opportunities exist.*

I. Introduction

Enterprise resource planning (ERP) system is a business management system that comprises integrated sets of comprehensive software, which can be used, when successfully implemented, to manage and integrate all the business functions within an organisation. These sets usually include a set of mature business applications and tools for financial and cost accounting, sales and distribution, materials management, human resource, production planning and computer integrated manufacturing, supply chain, and customer information ERP system can be used as a tool to help improve the performance level of a supply chain network by helping to reduce cycle times However, it has traditionally been applied in capital-intensive industries such as manufacturing, construction, aerospace and defence ERP is now considered to be the price of entry for running a business, and at least at present, for being connected to other enterprises in a network economy to create "business to business" electronic commerce .

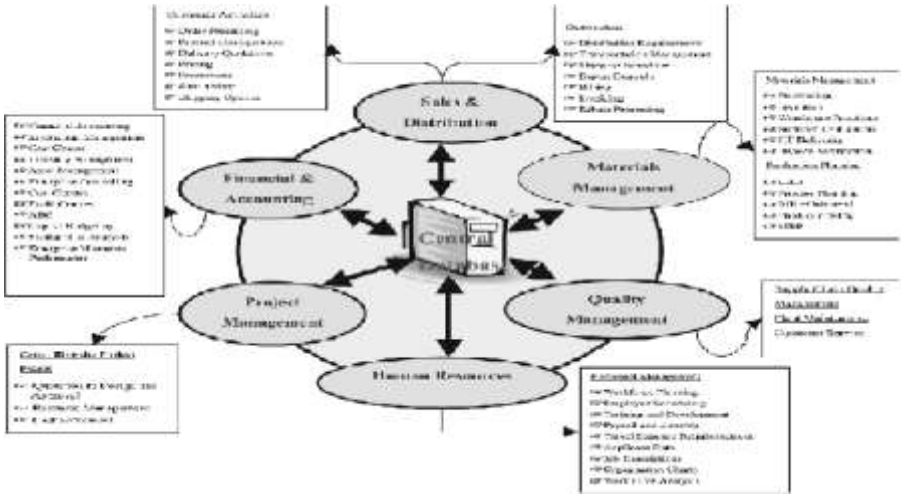
- The ERP vendors are continuously expanding the capabilities of their packages by adding functionality for new business functions such as sales force automation, supply-chain, order management, data warehousing, maintenancerepair-and-overhaul, etc.
- The ERP vendors are transitioning to Web-based applications. This may lead to faster flow of information in the logistics chain, and therefore, many ERP customers will require these Web-based ERP systems.
- The emergence of e-commerce will also increase the demand for Web-based ERP systems.
- The share of ERP systems in certain geographical markets such as the former Eastern Bloc, Asia and South America is not widespread. Three journals, Business ProcessManagement Journal, Journal of Information Technology and Communications of the ACM, accounted for 48 per cent of the citations.

II. ERP: An Overview

ERP allows companies to integrate various departmental information. It has evolved from a human resource management application to a tool that spans IT management. For many users, an ERP is a "do it all" system that performs everything from entry of sales orders to customer service. It attempts to integrate the suppliers and customers with the manufacturing environment of the organisation. For example, a purchase entered in the order module passes the order to a manufacturing application, which in turn sends a materials request to the supply-chain module, which gets the necessary parts from suppliers and uses a logistics module to get them to the factory.

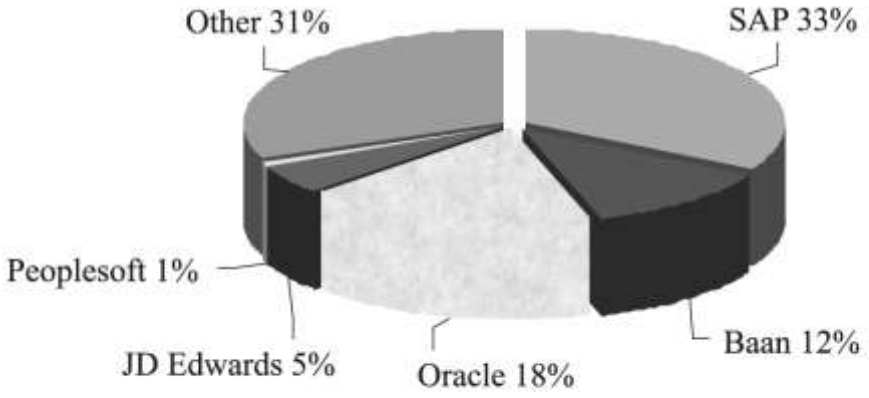
An overview of ERP systems including some of the most popular functions within each module is shown in Figure 1. However, the names and numbers of modules in an ERP system provided by various software vendors may differ. A typical system integrates all these functions by allowing its modules to share and transfer information by freely centralising information in a single database accessible by all modules

Although an ERP system is a pure software package, it embodies established ways of doing business. Studies have illustrated that an ERP system is not just a pure software package to be tailored to an organisation but an organizational infrastructure that affects how people work and that it "imposes its own logic on a company's strategy, organisation, and culture"



III. Main vendors of ERP systems

Business information systems can be either designed as custom applications or purchased as off-the-shelf standard solutions. The development of custom applications is generally expensive and is often plagued by uncertainties, such as the selection of appropriate development tools, the duration of the development cycle, or the difficulties involved in assessing costs. Therefore, companies are radically changing their information technology strategies by purchasing off-the-shelf software packages instead of developing IT systems in-house (Holland and Light, 1999). Out of more than 100 ERP providers worldwide, SAP-AG, Oracle, JD Edwards, PeopleSoft and Baan – collectively called the "Big Five" of ERP software vendors –control approximately 70 per cent of the ERP market share (Mabert et al., 2001) (Figure 2). The middle end products include SSA, BPCS, Inertia Movers, etc., that offer good functionality and could be implemented faster. The low-end products like QAD, MFG, PRD, etc., could be implemented very fast, but offer limited functionality



Source: Mabert *et al*. (2000); Coffey *et al*. (2000); Everdingen *et al*. (2000)

Established in Germany in 1972, SAP AG, with 33 per cent market share, is the major ERP package vendor for the Fortune 500 companies. With more than 20,000 employees and an estimated revenue of $3.1 billion in 1997, up 30 per cent from 1996 SAP has become one of the largest software companies in theworld.
(1) SAP GUI, representing the presentation layer.
(2) SAP application layer.
(3) SAP database layer (Bancroft et al., 1998).

Applications of the SAP R/3 system are coded in the programming language ABAP/4 (Advanced Business Application Programming Language). ABAP/4 is an interpreted language, which makes it very easy to integrate new ABAP/4 application programs into the system.

To summarise, such systems have a few common properties: they are based on a central, relational database, they are built on a client/server architecture, and they consist of various functional modules.

IV. Conclusion

ERP systems are sets of integrated applications that can provide a total solution to an organisation's information system needs by addressing a large proportion of business functions including financial, accounting, human resources, supply chain and customer information. They support a process-oriented view of the business as well as business processes standardised across the enterprise. Recently, these packages are implemented on client/server architectures that are more flexible and scalable than mainframe systems. Many papers have been written on this topic. In this paper, a comprehensive review of the recent research work in ERP systems has been presented. In addition, it has been observed that from the year 2000 till date an increasing number of papers about ERP packages has been published. The Business Process Management Enterprise resource planning 381 Journal, Journal of Information Technology and the Communications of the ACM were the journals where majority of the papers on this subject were published.

References

[1]. Adam, F. and O'Doherty, P. (2000), "Lessons from enterprise resource-planning implementations in Ireland: towards smaller and shorter ERP projects", Journal of Information Technology, Vol. 15, pp. 305-16.

[2]. Aderet, A. (2002), "A new approach to ERP customization", available at: www.erpfans.com/erpfans/eshbel.htm

[3]. Al-Mashari, M. and Zairi, M. (2000a), "Supply-chain re-engineering using enterprise-resource planning (ERP) systems: an analysis of a SAP R/3 implementation case", International Journal of Physical Distribution & Logistics Management, Vol. 30 No. 3/4, pp. 296-313.