Chapter I

The Evolution of ERP Systems: A Historical Perspective

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ERP systems are now ubiquitous in large businesses and the current move by vendors is to repackaging them for small to medium enterprises (SMEs). This migration has many consequences that have to be addressed through understanding the history and evolution of ERP systems and their current architectures. The advantages and disadvantages of the ERP systems will impact their penetration in this new market. The market position and general strategy of the major systems providers in preparation for this push are described. The chapter concludes that the growth and success of ERP adoption and development in the new millennium will depend on the legacy ERP system’s capability of extending to Customer Relationship Management (CRM), Supply Chain Management (SCM) and other extended modules, and integration with the Internet-enabled applications.

INTRODUCTION

The unprecedented growth of information and communication technologies (ICT) driven by microelectronics, computer hardware and software systems has influenced all facets of computing applications across organiza-
Simultaneously the business environment is becoming increasingly complex with functional units requiring more and more inter-functional data flow for decision making, timely and efficient procurement of product parts, management of inventory, accounting, human resources and distribution of goods and services. In this context, management of organizations needs efficient information systems to improve competitiveness by cost reduction and better logistics. It is universally recognized by large and small-to-medium-size enterprises (SME) that the capability of providing the right information at the right time brings tremendous rewards to organizations in a global competitive world of complex business practices.

Starting in the late 1980s and the beginning of the 1990s new software systems known in the industry as enterprise resource planning (ERP) systems have surfaced in the market targeting mainly large complex business organizations. These complex, expensive, powerful, proprietary systems are off-the-shelf solutions requiring consultants to tailor and implement them based on the company’s requirements. In many cases they force companies to reengineer their business processes to accommodate the logic of the software modules for streamlining data flow throughout the organization. These software solutions, unlike the old, traditional in-house-designed company-specific systems, are integrated multi-module commercial packages suitable for tailoring and adding “add-ons” as and when required.

The phenomenal growth of computing power and the Internet is bringing ever more challenges for the ERP vendors and the customers to redesign ERP products, breaking the barrier of proprietorship and customization, and embracing the collaborative business over the intranet, extranet and the Internet in a seamless manner. The vendors already promise many “add-on” modules, some of which are already in the market as a sign of acceptance of these challenges by the ERP vendors. It is a never-ending process of reengineering and development bringing new products and solutions to the ERP market. ERP vendors and customers have recognized the need for packages that follow open architecture, provide interchangeable modules and allow easy customization and user interfacing.

**ERP SYSTEMS DEFINED**

Enterprise resource planning systems or enterprise systems are software systems for business management encompassing modules supporting functional areas such as planning, manufacturing, sales, marketing, distribution, accounting, financial, human resource management, project management, inventory management, service and maintenance, transportation and e-busi-
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