

Foreword

ERP AND ITS EVOLUTION

Enterprise Resource Planning (ERP) refers to large commercial software packages that promise a seamless integration of information flow through an organization by combining various sources of information into a single software application and a single database. Although ERP has its roots in more primitive applications, the turn of the century has seen an explosion of research, debate, and information about its evolution and place in the business world. The outcome of ERP itself is still a mystery, but the trends and issues it has created will be the enigma that future generations will have to solve.

Today, businesses are striving for integration. Organizations are also transforming their processes to meet demands by becoming more flexible, adaptable, and efficient. Not only is accurate and up-to-date information needed, success in business today entails a seamless flow in supply chain, excellent customer relationship management, and capabilities to carry out electronic commerce. Traditionally, separate units were created within an organization to carry out various tasks, and these functional areas would create their own information systems thereby giving rise to systems that were not integrated. ERP strives to provide a solution to these problems.

HISTORY OF ERP

In the 1950s, large manufacturing companies produced Material Requirements Planning (MRP), which was created to keep track of all products and materials across one or more plants, and was also used to keep track of needed materials. Two decades later, MRP was extended in the software application called Manufacturing Resource Planning (MRP II), which not only processed the material portion of the equation, but also the planning process. Taking into account the production schedule, amount of resources available, and other planning requirements, MRP II was a step beyond its predecessor.

Both MRP and MRP II were created with the manufacturer in mind, but ERP is more than a material and scheduling application package. ERP software packages are designed to integrate information used by all the functional areas of a business into a single database to streamline business processes for an enterprise.

The promise of integration and the benefits that it could produce, coupled with the approach of the new millennium and the Y2K scare, made ERP the most heavily invested software package in the 1990s. Unfortunately, many who tried to implement these packages had to face a much harsher reality.

PROBLEMS IN ERP IMPLEMENTATION

Many businesses encountered numerous problems when trying to implement the massive systems. The packages not only cost large amounts of money, but the processes to implement those systems often ran over budget because of hidden costs. This, however, was the first of many issues in ERP implementation. Other risk factors include failure to redesign business processes to fit those set out by the software, lack of top management support or a “champion,” insufficient training and inclusion of the end-users during and after implementation, inability to recruit and train qualified ERP systems developers, insufficient data standardization, lack of integration across all functional areas of a business, and failing to obtain and keep expert knowledge of the system. Much research attention has focused on both understanding these issues and identifying ways to solve these implementation problems.

ERP FOR SMALL- AND MEDIUM-SIZED COMPANIES?

Small to medium ranged businesses are also looking for integration solutions. PeopleSoft, Baan, and SAP have structured quick implementation and training packages to relieve the problems that larger companies have fought. The vendors are also allowing these companies to outsource parts of ERP software, because smaller firms may not be able to support the entire package by themselves. Further, vendors have modified their software into components, allowing clients to easily install portions of an ERP suite and to have accelerated implementation time. This has helped vendors to cater to small to mid-ranged companies. With a nearly saturated ERP market for large businesses, ERP vendors are extending their software to provide a total business solution.

FUTURE OF ERP

ERP has opened up a world of other opportunities. Third party vendors are beginning to fill the gaps left by ERP systems. These vendors are another factor of competition that has made ERP developers rethink their products. Siebel Systems, for example, has become a leader in the field of Customer Relationship

Management (CRM), which has close ties to ERP. I2, on the other hand, is providing solutions for Supply Chain Management (SCM). ERP vendors today have been focusing their energies on creating better ways to operate with CRM, SCM, and collaborative packages in their suites. Many who have already invested heavily into ERP, however, are looking to complement their systems to boost their strategic position in the markets. Thus, ERP for these companies is being used as a backbone for the upcoming software packages, and ERP's evolution is being pushed by these technologies to improve on areas such as CRM and SCM.

The extension of these software packages does not stop there. ERP had been solely focused on the back-end integration of a business in the past, but after the Y2K scare the market for ERP software took a turn for the worse. Businesses began to focus on the front-end portion of their organization, the end that dealt with customers and business partners. Many analysts had surmised that the Internet would be the end of ERP, but businesses quickly came to realize that ERP was not going away. In fact, advent of e-commerce could only be complemented by the back-end integration supplied by ERP. Today, many of the traditional vendors are scrambling to engineer their products to support a Web-based platform. With continuing integration with web-based applications, security has also become a major issue.

CONCLUSION

The evolution of ERP has seen its technology spread outward from the internal functions to different areas, and the term ERP II has been coined to encompass the expanding definition of what ERP is. ERP II is being defined as a software package that will use components to integrate business functions. Although this is not a new concept in itself, ERP II focuses on inter-operatibility between ERP systems and the modules themselves. This will enable businesses to connect their separate ERP systems. Also, XML is helping to create meta-data standards for databases and applications alike to communicate with one another, which will help integrate separate units and their external activities.

Even amidst all of these issues, ERP continues to survive and adapt. Software developers and third party vendors will continue to push and evolve the massive software packages. Even though ERP was traditionally focused around manufacturing, its expanding functionality will continue to take an important place in the future of business.