

ERP Demystified (Second Edition)

**By
Alexis Leon**

STUDY GUIDE



02. Introduction to ERP

© 2008, Alexis Leon. All rights reserved.

CHAPTER 02

Enterprise—An Overview

TOPICS COVERED

- ✓ Common ERP Myths
- ✓ History of ERP
- ✓ Reasons for the Growth of ERP Market
- ✓ Advantages of ERP
- ✓ Why ERP Packages Now?
- ✓ Over-Expectations in ERP
- ✓ Roadmap for Successful ERP Implementation
- ✓ Role of CIO
- ✓ Future of ERP Packages

INTRODUCTION

Enterprise resource planning or ERP consists of three word—enterprise, resource and planning. Among the three the last two words are insignificant compared to the first. Yes ERP packages do help in planning and also in managing the resources. There are many other software solutions that does the same thing—planning and resource management.

It is the enterprise part that is important. ERP's true power and potential comes from the movement from traditional business model to the enterprise business model. ERP packages attempt to integrate all departments and functions across a company onto a single computer system that can serve all those different departments' particular needs.

This kind of integration is a very difficult task. Building a single software program that serves the needs of people in finance as well as it does the people in human resources and in the warehouse. Each of those departments typically has its own computer system optimized for the particular ways that the department does its work. **But ERP combines them all together into a single, integrated software program that runs off a single database so that the various departments can more easily share information and communicate with each other. That integrated approach can have a tremendous payback if companies install the software correctly.**

Take a customer order, for example. Typically, when a customer places an order, that order begins a mostly paper-based journey from one in-tray to another in-tray around the company, often being keyed and re-

keyed into different departments' computer systems along the way. All that lounging around in in-trays causes delays and lost orders, and all the keying into different computer systems invites errors. Meanwhile, no one in the company truly knows what the status of the order is at any given point because there is no way for the finance department, for example, to get into the warehouse's computer system to see whether the item has been shipped or will have to call the warehouse and ask them to check the status of the shipment. This can be a quite tedious and frustrating experience.

ERP replaces the old standalone computer systems in finance, HR, manufacturing, and the warehouse, with a single unified software program divided into software modules that roughly approximate the old standalone systems. Finance, manufacturing and the warehouse all still get their own software, except now the software is linked together so that someone in finance can look into the warehouse software to see if an order has been shipped. Most vendors' ERP software is flexible enough that you can install some modules without buying the whole package. Many companies, for example, will just install the finance module or HR module and leave the rest of the functions for another day.

Discussion

1. Discuss how ERP systems improve the efficiency and productivity of organizations.
2. Discuss the order processing in an organization with traditional information systems and one with ERP. Discuss how the ERP system improves productivity, reduces errors and enable inter-departmental information access.

COMMON ERP MYTHS

There are a lot of myths that surround the concept, infrastructure, implementation and practice of enterprise resource planning. Very often people are not willing to adopt ERP because of these wrong notions. If these myths are not dispelled through proper training, education and top management assurance, they can result in employee resistance during the implementation and operation of the ERP system and can result in failed or flawed implementations. Some of the common myths about ERP are:

1. ERP means more work and procedures
2. ERP will make many employees redundant and jobless
3. ERP is the sole responsibility of the management
4. ERP is just for the managers/ decision-makers
5. ERP is just for manufacturing organizations
6. ERP is just for the ERP implementation team
7. ERP slows down the organization
8. ERP is just to impress customers
9. ERP package will take care of everything
10. One ERP package will suit everybody
11. ERP is very expensive
12. Organizations can succeed without ERP

Professor Mahadevan [1] in his article has identified the following misconceptions about ERP:

1. According to him, one misconception about ERP is that the organizations believe that the major advantage of ERP is in achieving seamless integration across the enterprise by effective management of shared databases through networking. He points out that in reality, achieving seamless integration comes at a price that not many organizations can afford right away. They often settle for a 'less than' seamless integration.
2. Another myth is that ERP implementation invariably helps in cutting costs, lead-time, inventory, and in improving customer satisfaction. But the reality is that ERP implementation provides an initial brief honeymoon period. Beyond that it depends on how organizations handle the ERP implementation and other issues related to it.
3. Mahadevan's third ERP myth is that many managers believe that the daunting problems in ERP implementation relate to complex technical issues arising out of software and integration whereas the real problem are the people issues which are far more difficult to solve. Moreover, people issues dictate the long-term benefits realized from ERP systems.
4. The final myth is about best practices. Mahadevan mentions that organizations believe that the implementation of ERP has the added advantage of bringing in the best practices. He points out that there are a host of best business practices that are outside the realm of ERP. Incorporating the best practices is an 'on going' activity and a way of life for progressive organizations.

In the article titled *ERP Applications: Myths and Misconceptions*, **Alexander Gordon** [2] writes as follows:

Any new technology is bound to have its share of myths and misconceptions. ERP is no different, and integration of ERP is an especially fuzzy area. Most small business owners think of ERP in terms of old communication principles, and think of ERP as no more than an upgraded version of old systems. Some of the common myths regarding integration of ERP are discussed below.

1. Information transfer is unidirectional
2. ERP integration is all about copying data
3. ERP can come up with standardized answers all the time
4. You must use only the latest ERP technology
5. ERP to plant integration needs to be total
6. Data security is compromised when you integrate plant to ERP
7. Installing ERP system means that you can keep fewer it staff

InteGREATZ [3] a Chennai based ERP vendor has identified the following ERP myths:

1. ERP is expensive
2. Cheaper ERP will not have enough features
3. Prior knowledge to use ERP
4. Project cost is variable and end cost is high
5. ERP implementation is a show stopper

According to **Aceva Technologies** [4], ERP has a proven history of delivering great value to today's corporations by enabling a centralized information warehouse to be leveraged enterprise-wide. However, ERP has a broad focus, so best-of-breed (BoB) applications have been developed to provide the depth of functionality required by key functional areas, such as accounts receivable. As a result, corporations have long recognized the need for best-of-breed applications to bridge the void of ERP's functional limitations.

With ERP's wide-reaching functionality, it is easy to believe that it can provide a single solution to all of your corporation's challenges. There is no doubt that ERP plays a very crucial role in today's enterprise, but as with any technology, naturally there are functional limitations. It is crucial to understand what these limitations are and where the lines of reality and myth collide. Some of the myths about ERP are:

1. ERP can do everything that best-of-breed products can do
2. I've already purchased the module as a part of a bundle, so there is little or no cost to implement the ERP collections solution
3. ERP is easier and cheaper to support.
4. ERP has all of the reporting that I need.

5. ERP will grow with my business
6. ERP will enable a faster Return-on-Investment (ROI).

According to Aceva, there is no debate that ERP plays a significant role within corporations today. However, for specialized business functions such as accounts receivable and collections, corporations need to closely examine system functionalities and determine if they truly address their business requirements.

Discussion

1. Discuss the common ERP myths and the need to remove the misconceptions about ERP.
2. Discuss the ERP myths identified by Prof. Mahadevan.
3. Discuss the ERP misconceptions identified by Alexander Gordon and read his article.
4. Discuss the ERP myths identified by InteGREATZ.
5. Discuss the ERP myths identified by Aceva Technologies and discuss why ERP is not an ideal solution for specialized business functions. Do you agree with that view about ERP? Read the article *Revenue and Receivables Management: Myths and Truths about ERP* by Aceva Technologies.

HISTORY OF ERP

ERP (Enterprise Resource Planning) is the evolution of Manufacturing Requirements Planning (MRP) II. From a business perspective, ERP has expanded from coordination of manufacturing processes to the integration of enterprise-wide backend processes. From a technological aspect, ERP has evolved from legacy implementation to more flexible tiered client-server architecture.

The history of ERP can be traced back to the 1960's, when the focus of systems was mainly towards inventory control. Most of the systems software was designed to handle inventory based on traditional inventory concepts. The 1970's witnessed a shift of focus towards **MRP** (Material Requirement Planning). This system helped in translating the master production schedule into requirements for individual units like sub assemblies, components and other raw material planning and procurement. This system was involved mainly in planning the raw material requirements.

Then, in the 1980's came the concept of **MRP-II** (Manufacturing Resource Planning) which involved optimizing the entire plant production process. Though MRP-II, in the beginning was an extension of MRP to include shop floor and distribution management activities, during later years, MRP-II was further extended to include areas like Finance, Human Resource, Engineering, Project Management etc. This

gave birth to **ERP** (Enterprise Resource Planning) which covered the cross-functional coordination and integration in support of the production process. The ERP as compared to its ancestors included the entire range of a company's activities.

However, it has been within the last decade that ERP has really taken off and seen record revenues by the software companies. In the past, ERP software was used to number crunching applications and production planning processes. Management was not using ERP to its full potential. Today, ERP is the foundation of businesses domestically and globally. It is used as a management tool and gives organizations a great competitive advantage.

But the consulting firm that created the term a decade ago Gartner, claimed ERP was dead. They also recognized that the need for an information backbone for an enterprise has not gone away. As e-business becomes business as usual, sharing accurate real-time information about orders and inventory is critical to success. And not just across an enterprise. Now, business needs to move that information across a supply chain. For that reason, Gartner has introduced a new term to describe the enterprise systems for the 21st century – **ERP II**.

Discussion

1. Discuss the evolution of ERP from its origins from the manufacturing industry.
2. Discuss the transformation of ERP systems from packages designed for the manufacturing industry to general purpose one supporting all industrial segments.
3. Find out more details about ERP II and its promises.

ERP—ADVANTAGES & DISADVANTAGES

There are a number of powerful advantages to ERP [5]. It has been used to solve a number of problems that have plagued large organizations in the past. At the same time, it is not without a number of disadvantages. Being able to weigh the two will allow a company to decide if this solution will properly meet their needs.

The main advantages are:

1. Information integration
2. Design engineering
3. Order tracking
4. Protection against embezzlement and industrial espionage

The disadvantages are:

1. High cost

2. High training costs
3. Improper utilization of the system and its features
4. Customization

The foremost advantage of an ERP system is bringing down the costs and saving the valuable time which would have otherwise been wasted in procedural maneuvers and unwanted delays. Different software programs maintained in the departments were proving to be a great hurdle. Since ERP is a uniform platform it ensures that there is no discrepancy in the information that is processed [6].

The main advantages of ERP according to ERPwire.com [6] are:

- ▶ Since all information is available at a central location as soon as some transaction happens, no one has to wait for some other department to provide the information.
- ▶ ERP ensures quicker processing of information and reduces the burden of paperwork.
- ▶ ERP helps in serving the customers efficiently by way of prompt response and follow up.
- ▶ ERP helps in disposing queries immediately and facilitating the payments from customers with ease and well ahead of the stipulated deadline.
- ▶ ERP also helps in having a say over your competitor and adapting to the whims and fancies of the market and business fluctuations.
- ▶ ERP eliminates redundancy in data entry, minimizes the errors and helps to do away with unwanted ambiguity.
- ▶ ERP is suitable for global operations as it encompasses all the domestic jargons, currency conversions, diverse accounting standards, and multilingual facilities.
- ▶ ERP helps to control and data and facilitates the necessary contacts to acquire the same.

Disadvantages of ERP are:

- ▶ Huge investments in terms of time and money
- ▶ Slow benefit realization
- ▶ High risk implementation and operation
- ▶ Costly failures

Discussion

1. Discuss the various advantages and disadvantages of the ERP systems.
2. Organizations can survive without ERP systems in this Internet age. Discuss the above statement.
3. Are the disadvantages of ERP systems real disadvantages? If yes, why are organizations still implementing them and their popularity on the rise?

WHY ERP PACKAGES NOW?

The world is undergoing another revolution, the biggest and most complex since the industrial revolution. The information technology is revolutionizing the way we live and conduct business. The exponential rise in the popularity of Internet and WWW combined with the new technological development in mobile computing and artificial intelligence is changing the old rules of business, and business practices.

In order to survive in today's brutally competitive business environment, businesses have to embrace technology. Technology has caused the world to shrink, and global competition to become fierce. Businesses that once operated relatively autonomously at an arm's length from their customers and suppliers are now being forced to work more cooperatively and collaboratively within integrated business communities.

Businesses, which only a few years ago operated locally, have expanded regionally, then nationally, and finally internationally, to the point where even modest businesses can be profoundly affected by changes in the global economy.

ERP systems in combination with other technologies like SCM, CRM, BI, etc. help the organizations to become competitive in this new business environment. These technologies help ERP systems to leverage and take advantage of the global reach offered by the Internet and WWW.

Today businesses have to change their traditional way and adopt the new ways to doing business. They have to evolve from the 'brick and mortar' days to become e-businesses. E-businesses operate at Internet speeds and are much closer to the consumers and business partners than the traditional ones. E-business is about breaking down the barriers of communication and interoperability between businesses, potentially on a global basis.

It is the accelerating pace of business and the corresponding quickening of the pace of change itself that forces us to look at ways to maximize the return on existing investments, with the least amount of disruption to business and ERP integrated with other supply chain and customer relationship technologies, Internet, and WWW is a must for survival. ERP is no longer a luxury; it is a business necessity.

Discussion

1. Why is ERP a business necessity?
2. Explain the various factors that make ERP systems a business necessity.

OVER EXPECTATIONS ABOUT ERP

Some of the truths about ERP systems are:

1. ERP implementation is complex and lengthy and has a high probability of failure if not managed properly. It is a high risk project.
2. A failed ERP implementation can have profound impact on the company—the situations where organizations have closed shop after a failed implementation are not very rare.
3. A successfully implemented ERP will need proper use to reap the benefits. The proper use of the system is in the hands of the end-users and their cooperation, knowledge, aptitude and attitude are crucial for the success of the ERP system.
4. A successfully implemented and efficiently used ERP system will take a many months to show the dramatic performance improvements. Immediately after the implementation, till the system reaches a stable state, there will be a dip in the performance.
5. The acquisition, implementation, operation, and maintenance cost of ERP systems are high.
6. In this Internet age—the age of e-businesses—a stand alone ERP system is not enough to gain competitive advantage. ERP needs to be integrated with other business intelligence and supply chain technologies, Internet, and WWW.
7. ERP maintenance is an on-going project with continuous training, training of new users, training on new features, software and hardware upgrades and so on. So there should be a permanent ERP project office in the organization.
8. ERP is not a silver bullet; for it to produce the dramatic productivity improvements and competitive advantages there should be a concentrated effort of all the people involved.

We saw that the ERP system is not a magical software system that will take the company to the heights of efficiency and productivity automatically. Many people in the organization have very high and unrealistic expectations about ERP systems. When things do not happen as they hoped, there will be frustration and disappointment, which can lead to improper use of the system. To avoid these problems, the implementation team with the support of the management should educate the employees what to expect once the system is implemented, so that there will not be any surprises and people will what to expect and why.

Discussion

1. Explain the hype and over expectations about ERP and discuss how to handle this situation.

ROADMAP TO SUCCESSFUL ERP IMPLEMENTATION

See chapters 21 and 35 to learn more about the different phases of the ERP implementation and the various factors affecting the success of the ERP implementation. Some of the crucial aspects that determine the success or failure of the system are:

- ▶ Pre-implementation planning
- ▶ Package selection
- ▶ Quality, knowledge and experience of the consultants
- ▶ Caliber of the project manager
- ▶ Implementation team composition
- ▶ Top management support
- ▶ Funds and other resources
- ▶ Training and education
- ▶ Knowledge transfer from consultants to employees
- ▶ Use of the system

ROLE OF CIO

The CIO has a very important role to play during the implementation of the ERP system. In most cases the CIO will be designated as the implementation project sponsor as the CEO and other top management team would be concentrating on the core business of the organization.

The CEO is the head of the IS department. It is from the IS department that the maximum number of people will be assigned to the ERP implementation team. The CEO will lead all the pre-implementation tasks and will play a vital role in the selection of the ERP package, external consultants, and implementation team members including the project manager. The CIO will monitor the implementation and will take corrective actions whenever the project is not going ahead as planned. It is the role of the CIO to keep the morale of the employees—both the implementation team members and other employees who will be the end users of the system.

The CIO should ensure that the implementation team and the end-users are given proper training and education on the what, why, and how of the ERP systems, the advantages of using them, and so on. The CIO also should take time to address the fear and uncertainty surrounding the ERP implementation and should convey to the employees, what is going to happen after implementation, how their jobs will be

affected and what the company is planning to do and so on.

The CIO also should ensure that the knowledge transfer should happen before the external consultants and ERP vendor representatives leave the company and there are enough people in the company who are capable of taking care of the system and keep it running smoothly. Thus, the CIO is the person who is responsible for the successful implementation and use of the ERP system.

FUTURE OF ERP

The future of the ERP is very bright. Today the Internet allows us to reach more people in more places in a time frame that was previously inconceivable. Where it once took mature companies thirty, forty, even fifty years to penetrate new, international markets, today a tiny start-up can establish a global presence on the Web virtually overnight.

ERP forms a foundation for successfully meeting your e-business needs. But in today's Internet age, ERP systems alone will not do. ERP systems have to be integrated with the Internet, WWW and technologies like SCM, CRM, business intelligence, etc. This integrated ERP is named ERP II by the Gartner group. The need for speed and flexibility has been just one by-product of the Internet Age.

REFERENCES

- [1] Mahadevan, B., *The ERP Conundrum* (www.iimb.ernet.in/~mahadev/erpcon.pdf).
- [2] Gordon, A., *ERP Applications: Myths and Misconceptions*, EzineArticles (ezinearticles.com), December 14, 2006.
- [3] InteGREATZ, *ERP Myths Demystified*, InteGREATZ (www.integreatz.com), 2007.
- [4] ACEVA Technologies, *Revenue and Receivables Management: Myths and Truths about ERP*, Aceva Technologies, Inc. (www.aceva.com), 2006.
- [5] Exfosys Inc., *The Advantages and Disadvantages of ERP*, <http://www.exfosys.com/tutorials/erp/>
- [6] ERPwire.com, *The Advantages and Disadvantages of ERP*, <http://www.erpwire.com/erp-articles/erp-advantages-disadvantages.htm>

SELECTED BIBLIOGRAPHY

- [1] Masson, C., Smith, A., and Jacobson, S., *ERP Myths Boost MES Realities*, AMR Research (www.amrresearch.com), June, 2005.
- [2] Ferranti, M., *Data Warehouse World: Checking out Success, Failure, and Myth*, Sun World (www.sunworld.com), 1998.

- [3] Louis, C., *ERP Integration Myths Exposed*, *Manufacturer's Monthly*, July, 2005.
- [4] Kämpf, R., *ERP-Systems - Situation and future Developments*, <http://www.ebz-beratungszentrum.de/>
- [5] Microsoft Corporation, *Future of ERP systems and Microsoft Dynamics: Learn about XML and Web services.* http://www.microsoft.com/dynamics/businessneeds/erp_future.aspx
- [6] Jutras, C., *ERP Optimization: Using Your Existing System to Support Profitable E-Business Initiatives*, CRC Press, 2002.