

ERP system alone isn't enough to compete in this e-business age

What are the emerging areas of interest in ERP (enterprise resource planning)? Integration of various technologies to overcome the limitations of ERP? Moving towards service-oriented architectures (SOAs) and software as a service (SaaS)? Mergers and acquisitions (M&As) of ERP vendors for market consolidation?

"All these, plus more," says **Alexis Leon**, author of '*ERP Demystified*' (www.tatamcgrawhill.com). He includes such diverse themes as open source, and web-enabled and wireless technologies in the list. "Reduction in implementation time, easier customisation and development of customisation tools, more variants to suit the different industrial segments and business of different sizes, and focus on the SME (small and medium enterprise) segment are among the unfolding ERP areas to watch," he adds, during the course of a recent e-mail interview with *Business Line*.

Leon (www.alexisleon.com), an M.Tech. in industrial engineering, has nearly two decades of consulting experience in software engineering, workflow automation, groupware, product design, process improvement, project management, configuration management, quality assurance, and productivity improvement.

An author of more than 40 books on computing, IT (information technology) and management topics, he has worked with Pond's India Ltd and Tata Consultancy Services. Currently, as the managing director of Kochi-based L&L Consultancy Services Pvt Ltd (www.leonandleon.biz), he provides consultancy in software development, workflow automation, enterprise applications, and industrial engineering.

Excerpts of a recent e-mail interview.

What have been the major shifts in the ERP industry?

ERP's origins are in the manufacturing sector. Initially, therefore, ERP packages were created to cater to the manufacturing industry and that too only for certain departments like finance, production, and production planning.

Over time, ERP packages have evolved, and now we have ERP solutions catering to every industry segment: manufacturing (aerospace, automobile, chemical, industrial machinery, high technology, military, and construction), banking, defence and security, healthcare, higher education and research, insurance, public services, media, professional services (consulting and audit and tax, IT and BPO services, commercial real estate, business services, legal services, staffing, facilities management), retail, telecommunications, travel and logistics services, and non-profit organisations.

From a functional perspective, ERP offerings have widened – from just finance, accounting and production to include almost all the departments and business

functions of the organisation including human resources (HR), plant maintenance, materials management, spare parts management, quality management, marketing, sales, product distribution and logistics management, purchasing, order tracking and so on.

Interestingly, ERP vendors and users have realised that ERP systems are not without limitations and that an ERP system alone is not enough to compete in this e-business age. So a host of enabling technologies (like business intelligence, data warehousing, on-line analytical processing, supply chain management, customer relationship management, etc.) that help the ERP system to overcome its limitations are being integrated with ERP solutions.

How would you define ERP contemporaneously, considering the waves of developments that the concept has gone through over the years?

ERP refers to the techniques and concepts for integrated management of businesses as a whole from the viewpoint of the effective use of management resources to improve the efficiency of the enterprises.

ERP packages are integrated (covering all business functions) software packages that support the above ERP concepts. ERP systems integrate the information within an organisation, automate business functions and processes and help the organisation in deploying and utilising its resources effectively.

Are there ways to measure the returns from ERP and more particularly the increase in revenues or decrease in costs effected by ERP?

The benefits of ERP are both tangible (quantifiable) and intangible. Tangible benefits include inventory reduction, inventory carrying-cost reduction, reduction of lead-time, manpower reduction, cycle-time reduction, productivity improvements, other management improvements, financial close cycle reduction, IT cost reduction, procurement cost reduction, cash management improvements, revenue/profit improvements, reduced quality costs, improved resource utilisation, transportation/logistics cost reduction, maintenance reduction, and on-time delivery improvements.

Intangible benefits include information visibility, new and improved business processes, customer responsiveness, improved supplier performance, better customer satisfaction, cost reduction, integration of business functions, information integration, better analysis and planning capabilities, improved information accuracy, improved decision-making capability, standardisation of business processes, flexibility and business agility, globalisation of the organisation, better business performance, supply chain integration, and the use of the latest technology.

There are many ways to measure the increase in revenues or reduction in costs. First the company can use the historical data and the data collected after the implementation of the ERP system to calculate the increase in revenues and reductions in costs.

Another way is to find out the cost of producing an item, and compare it to the previous cost of production. But these measures, though important, do not give the true impact of the ERP systems which comes from the intangible or non-quantifiable benefits like customer satisfaction and goodwill, information integration, increased business agility and responsiveness, and so on.

Over time, are ERP projects taking less time to complete and also proving to be more robust and successful? Do horror stories still happen, though not reported?

ERP implementation times have come down because of many reasons. First and foremost, the ERP vendors have developed implementation methodologies and best practices and have imparted these knowledge and skills to their implementation partners. The ERP consulting firms also have developed their own implementation strategies so that the implementation can be completed quickly.

The second factor that reduces the implementation time is the reduction in the customisation time. During the early days when there was just a single flavour for all types of organisations, customisation used to take a very long time and required highly skilled experts. But today, there are ERP different ERP packages for the different industrial segments. Also the ERP vendors have made a lot of efforts to provide customisation tools and utilities, to make the task of customisation easier. For example, UCL or UNISOFT Customisation Language allows for the configuration and extension of Atlantis ERP package.

Thus, due to the efforts of ERP vendors to make the ERP packages easier to deploy and customise, the availability of experienced consultants for implementation, and the increasing awareness among companies about the need and importance of ERP systems, we find that ERP implementation projects are getting completed faster.

The availability of different variants for the different industries—packages that incorporate the specific needs and special business processes and practices of that segment—makes the implementation easier and packages more suitable for the organisation. This trend – the introduction of industry specific packages – makes ERP systems more robust as they are designed for that specific industry, and also eliminates the need of extensive customisation.

In spite of all these efforts ERP systems fail during implementation as well as during operation due a variety of reasons including wrong package selection, incompetent implementation team, lack of top management support, inefficient project management and monitoring, improper or inadequate training, employee resistance and so on. But except the high profile ones most failures do not get reported.

On estimates of how much time a typical ERP project takes for a company?

ERP implementation time depends on a variety of factors like the implementation scope (full installation or only some modules), package selected, implementation team, implementation methodology (big-bang, phased, or process-line), organisational culture, attitude of the employees, management commitment, and support. These factors, which vary for each organisation, determine the implementation time and success rate.

Is the IT industry able to deliver satisfactory results in ERP implementation that usually takes a long time to finish, even while battling with attrition?

ERP implementation if planned properly can be completed successfully. Pre-implementation planning is the most important factor that decides the success of the project. If the planning is done properly and if it covers all aspects of the implementation from package selection, implementation team formation, project leader selection, implementation schedules, policies and guidelines for implementation, and so on, then the implementation can go on smoothly.

While some attrition cannot be avoided, the success of the project depends on the ability of the organisation to ensure that the knowledge transfer occurs before someone leaves the organisation. Mechanisms like helpdesks and expert systems could be used to capture the knowledge of the employees and retain the same for the use of others.

Also, the organisation should try to keep the members of the implementation team happy and satisfied so that the number of employees leaving the organisation in the middle of the implementation is kept to a minimum.

What are the skills that are short in supply, in the ERP space? Is education in colleges relevant to the industry? Where are the gaps?

As more and more companies are joining the ERP bandwagon and as the ERP vendors are bringing out new, improved and complex products that integrate ERP with other technologies, almost all ERP related skills are in short supply.

We are running short of CIOs, ERP project managers, implementation experts, customisation experts, business analysts, functional experts, programmers, interface designers, testers, quality assurance professionals, and so on.

A key reason for the shortage of ERP professionals is that no one becomes employable from day one. So, anyone with a few years of ERP experience, may it be in implementation or operation and maintenance of the system, is in great demand. And a good ERP professional can get the job that he or she wants and write his or her own paycheque!

College education can only act as a foundation for the job. In college, students usually get an overview of the ERP systems, their uses and the different modules and their functions.

But to work in an organisation, the students should get hands-on practical experience, working on the packages. Most colleges do not fill this need.

Also, to become a functional expert, one has to have solid working experience in the chosen field. The same is true for business analysts, project managers and so on. So to enter into the ERP industry, students should get theoretical knowledge as well as practical training. Some colleges provide students with this kind of training by entering into strategic partnerships with the ERP vendors.

Many ERP vendors are setting up their own training centres or establishing authorised/certified training centres to train professionals in implementing and using their packages. Sapien College (Bangalore and Mumbai) by SAP is one such initiative. SAP has also a number of authorised training institutes to provide training for aspiring SAP professionals. At the end of the training from these centres the trainee will get a SAP Certification, which will go a long way in getting a job.

But the gaps still exist as the genuine training centres are expensive and there are only a limited number of people who can afford such training. There are many fraudulent institutes without the necessary infrastructure or trained faculty; they charge huge amounts and, at the end of the training, leave the trainees jobless. In order to prevent such incidents, the ERP aspirants must ensure the credibility of the training institutes before joining.

One way to fill up the gap between the demand and supply is that the professional institutions like IITs, IIMs and other top management and engineering colleges collaborate with the ERP vendors and offer ERP training as part of the curriculum.

Any examples of ERP in the service sector.

ERP solutions are available for almost all the segments in the service sector, as for instance, in healthcare, banking, and public transportation. We have ERP systems for managing hospitals, fast-food chains, retail outlets, banks, transportation companies and so on. There are also specialised ERP packages for non-profit organisations.

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