

Enterprise Resource Planning

Course No: MCA 608-EA

UNIT 111

Post ERP Implementation:

When you built the business case for your new ERP system, it included a list of expected benefits. Now that the system is live, have those benefits been realised and have you achieved the expected return on investment?

Many organisations fail to deliver the benefits which were envisaged in the original business case for their Enterprise Resource Planning (ERP) system investment. In a 2008 survey of 1,322 global organisations who had implemented ERP in the previous three years, only 21% of respondents said that they had realised 50% or more of the expected benefit. When this happens, a very expensive asset is being significantly under-utilised. Why is this and what can be done to drive ERP benefits realisation post implementation?

Why were the benefits not delivered?

Based on analysis of Lumenia ERP implementation projects over the last few years, the following common reasons emerged:

- Implementation project success was judged by on-time and within budget metrics only with little or no focus on benefits realisation during the implementation.
- Original benefits analysis was carried out for capital expenditure justification only without input or buy-in from the full management team.
- Inadequate account was taken of process and organisational change implications.
- Insufficient education and training of the users.
- Postponement of the implementation of some parts of the system due to implementation fatigue or budgetary constraints.

What can be done to drive benefits realisation from an existing ERP system?

Having a structured ERP assessment carried out by an independent and objective assessor can identify opportunities for improvement and drive further returns from the initial investment. The following guidelines are designed to help organisations identify opportunities for improvement, gain buy-in to implementing the initiatives and ensuring that the project(s) are effectively managed.

- Carry out a quick audit to assess the current operations and how the ERP system is being used to support and improve the business processes.
- Analyse the results and identify opportunities for improvement.
- Group the opportunities into common benefit areas or common root cause.

- Quantify the potential benefits, prioritise them and assign ownership.
- Develop a benefits case for implementing the improvements.
- Develop the benefits delivery measurement process and the measures.
- Create the governance structure and plan the project(s).
- Manage the projects effectively to ensure benefits delivery.

Benefits of an ERP assessment

- Most of the cost of the ERP system implementation has already been incurred – the ERP Assessment is about identifying how to drive further benefits from the initial investment.
- If the assessment and feedback processes are engaging and interactive, it helps to build ownership and commitment to the improvement initiatives.
- Many of the initiatives identified are likely to be low investment in relation to the return, and therefore will be self-funding.

Maximizing the benefits of ERP system

It's no secret that most ERP systems fail to deliver the business benefits that were envisioned at the inception of the project. In their *2012 ERP Report*, Panorama Consulting shows that 50-percent of organizations fail to reach even 50-percent of the expected business benefits from their investments in enterprise software.

Making things worse, additional research by Panorama shows that most organizations experience a misalignment between their business processes and their ERP systems, which typically worsens over time as the companies experience changes such as acquisitions, organizational structure changes, international expansion, or supply chain optimization.

There are many reasons why ERP systems fail to achieve to achieve the business benefits. But there are actions that have been proven effective to prevent these problems. They include, among others:

- Prepare an Effective Business Case
- Develop and manage your ERP requirements
- Think about your End-to-End Business Processes
- Organizational Change Management is Vital for Success
- Benefits Realization Management is a Process

Each of these activities is described below. Attention to these details will greatly increase the likelihood of a successful result.

Business Case

Many organizations develop a business case and use it to support their request for funding, but never look at it again. Developing a realistic business case is an essential step to achieving benefits from the project. The business case should not just be used to obtain funding, but should be a

living document that is reviewed and adjusted based on changing circumstances to assess progress and performance, and as a tool to realign resources as needed to achieve success.

ERP Requirements

Gathering requirements for an ERP software project is not a simple task. In fact, it can be the most difficult part of the entire endeavor. Because of its daunting nature, many companies rush through the process and, as a result, add a significant amount of time to the overall project timeline. Inadequate writing and validation of requirements can result in failed ERP implementations in terms of time spent, cumulative cost, and selection of the wrong vendor. It is really important to have a good set of requirements before evaluating a particular software package or vendor. Below are some recommendations to follow for developing a set of ERP requirements.

- Assemble a project team, subject matter experts, and stakeholders that among them have a thorough knowledge about how business processes and transactions work in your organization. These people are not always managers. Seek those that handle everyday workloads. A subject matter expert (SME) is just that, someone who understands the good, the bad and the ugly things about their job.
- Attempt to solicit the help of SME's that have an excellent knowledge of the inputs and outputs of their work and their departments. Find those that have a broad knowledge of how business processes work.
- Requirements are collaborative and data intensive. They often require visualizations such as UML or BPMN models. Don't even think about using just a simple word processor such as Microsoft Word for gathering and validating requirements?
- Collaboration is key for requirements gathering. Consider using a tool such as Enfocus Requirement Suite that provides collaboration and tracking capabilities that really help for requirements elicitation and development activities.
- Document your current process flows, no matter how simple they may seem your implementation partners, moving forward, need to understand how you do business today. Those documents will also serve as the base for reviewing process improvements later in the ERP project. A good start to this process is to have users prepare activity scenarios.
- Carefully prioritize requirements. Drop the requirements that are more "whining" than substance. Drop requirements that are entirely mundane. Just because a process is manual does not mean it is the most important to fix or automate it. Validate payback.
- Finally, the list should clarify where process improvement is needed and where improved integration will yield measurable enhancements to your business.

Once a vendor is selected, the set of requirements should be used to manage the configuration of the software. The time spent on preparing a good set of requirements often makes the difference between a successful or failed ERP project.

End-to-End Business Processes

Despite all the talk about best practices, order-to-cash and procure-to-pay business process workflows, and all the other buzz terms in this area, the ERP industry is still sorely lacking in its

ability to develop, institute and manage business processes effectively as part of an ERP implementation.

As opposed to designing an efficient business process that truly supports the organizational workflow, most ERP vendors and system integrators use the flawed practice of designing and configuring the software to handle a hodgepodge of transactions and associated workflows which do not integrate in a cohesive end-to-end business process. This creates operational inefficiencies and results in inefficient manual workarounds.

The common industry best practice favored by most system integrators and software vendors is to force the implementing organization to adopt the software by ignoring the “as is” processes and focusing on how to design the various transactions in the system based on “industry best practices.” However, this methodology is flawed (as is proven by years of ERP failures), and doesn’t take into account the holistic, end-to-end business processes required to run your business.

The approach should be to develop a solid business process blueprint or model that addresses end-to-end workflows, roles and responsibilities, business rules, and performance metrics that are required to managed business process performance. Using the approach will focus the implementation team’s attention on eliminating waste and re-engineering broken business processes, thereby allowing the organization to receive the anticipated benefits. The traditional and outdated approach of simply adopting industry best practices using a “vanilla” implementation of out-of-the-box software fails to address these critical issues.

Organizational Change

Many ERP implementations fail to adequately consider organizational change. Yes, many software vendors give lip service to organizational change but few are successful. One thing for sure is that pushing “best practice transaction workflows” without first consulting users on how they do their work or what their problems are is a sure recipe for failure.

Organizational change requires understanding that the users are and what is important to them. This is best accomplished by creating a persona for each user class. Personas describe a fictional character and their responsibilities as well as how they interact with the system. Next, ask users to describe what they do and what their problems are in problem scenarios. These scenarios are very important in defining requirements, and are also extremely helpful in designing end-to-end processes as described above.

Organizational Change Management (OCM) is the key variable that will ultimately determine whether or not business processes “work” and whether or not people actually adopt those business processes. While most ERP system integrators and consultants think of OCM as a synonym for “training,” that is only one component of a successful organizational change plan. In addition to end-user training, an effective organizational change management program will include organizational impact analysis, an employee communications plan, project branding, organizational readiness assessments and preparation, and several other key components that we have proven to be the differentiators between ERP success and ERP failure.

Benefits Realization Management

Benefits realization needs to be an active process with team members focused on achieving those results. Without a Benefits Realization Plan, expected business benefits will not be realized. It is no coincidence that the vast majority (maybe 100%) of projects that fail to create a business case and benefits realization plan fail to realize the potential business benefits inherent in their new ERP systems. In order to succeed and fully optimize business benefits, your team will also need a comprehensive plan outlining exactly how the organization will achieve the planned business benefits. For example, the plan should include details of the specific measures that drive business benefits, how the benefits will be measured, and who is accountable for managing performance. After the system has been implemented, it is important to assess performance, identify problems, and determine what needs to be done to harvest the expected benefits.

Once your ERP software is installed and “live,” it is important to identify and resolve operational misalignments. The focus should not be simply on how to reconfigure the software or apply a new upgrade, but more importantly, on the steps an organization should take to ensure that the software keeps up with evolving business needs and requirements. In addition, it is important to identify training needs, potential areas of organizational resistance, and broken business processes that can be continuously improved via better use of the ERP software. Most organizations and their system integrators define the finish line of their ERP implementations at the time of “go live,” but they should also be ensuring a framework and plan to create an organization that continuously improves its business processes and use of ERP software.

ERP and related technologies:

Business Process Reengineering

Davenport & Short (1990) define business process as "a set of logically related tasks performed to achieve a defined business outcome." A process is "a structured, measured set of activities designed to produce a specified output for a particular customer or market. It implies a strong emphasis on how work is done within an organization" (Davenport 1993). In their view processes have two important characteristics: (i) They have customers (internal or external), (ii) They cross organizational boundaries, i.e., they occur across or between organizational subunits. One technique for identifying business processes in an organization is the value chain method proposed by Porter and Millar (1985).

Processes are generally identified in terms of beginning and end points, interfaces, and organization units involved, particularly the customer unit. High Impact processes should have process owners. Examples of processes include: developing a new product; ordering goods from a supplier; creating a marketing plan; processing and paying an insurance claim; etc.

Business process reengineering (often referred to by the acronym BPR) is the main way in which organizations become more efficient and modernize. Business process reengineering transforms an organization in ways that directly affect performance

Business process reengineering (BPR) is the analysis and redesign of workflow within and between enterprises. BPR reached its heyday in the early 1990's when Michael Hammer and James Champy published their best-selling book, "Reengineering the Corporation". The authors promoted the idea that sometimes radical redesign and reorganization of an enterprise

(wiping the slate clean) was necessary to lower costs and increase quality of service and that information technology was the key enabler for that radical change. *Hammer and Champy* felt that the design of workflow in most large corporations was based on assumptions about technology, people, and organizational goals that were no longer valid. They suggested seven principles of reengineering to streamline the work process and thereby achieve significant levels of improvement in quality, time management, and cost:

1. Organize around outcomes, not tasks.
2. Identify all the processes in an organization and prioritize them in order of redesign urgency.
3. Integrate information processing work into the real work that produces the information.
4. Treat geographically dispersed resources as though they were centralized.
5. Link parallel activities in the workflow instead of just integrating their results.
6. Put the decision point where the work is performed, and build control into the process.
7. Capture information once and at the source.

Role of information technology

Information technology (IT) has historically played an important role in the reengineering concept. It is considered by some as a major enabler for new forms of working and collaborating within an organization and across organizational borders.

The early BPR literature, e.g. *Hammer & Champy (1993)*, identified several so called disruptive technologies that were supposed to challenge traditional wisdom about how work should be performed.

1. Shared databases, making information available at many places
2. Expert systems, allowing generalists to perform specialist tasks
3. Telecommunication networks, allowing organizations to be centralized and decentralized at the same time
4. Decision-support tools, allowing decision-making to be a part of everybody's job
5. Wireless data communication and portable computers, allowing field personnel to work office independent
6. Interactive videodisk, to get in immediate contact with potential buyers
7. Automatic identification and tracking, allowing things to tell where they are, instead of requiring to be found
8. High performance computing, allowing on-the-fly planning and revisioning

In the mid 1990s, especially workflow management systems were considered as a significant contributor to improved process efficiency. Also *ERP (Enterprise Resource Planning)* vendors, such as SAP, positioned their solutions as vehicles for business process redesign and improvement.

Impact of BPR on organizational performance

The two cornerstones of any organization are the people and the processes. If individuals are motivated and working hard, yet the business processes are cumbersome and non-essential

activities remain, organizational performance will be poor. Business Process Reengineering is the key to transforming how people work. What appear to be minor changes in processes can have dramatic effects on cash flow, service delivery and customer satisfaction. Even the act of documenting business processes alone will typically improve organizational efficiency by 10%.

Tips for Implementation of BPR project

The best way to map and improve the organization's procedures is to take a top down approach, and not undertake a project in isolation. That means:

- Starting with mission statements that define the purpose of the organization and describe what sets it apart from others in its sector or industry.
- Producing vision statements which define where the organization is going, to provide a clear picture of the desired future position.
- Build these into a clear business strategy thereby deriving the project objectives.
- Defining behaviours that will enable the organization to achieve its' aims.
- Producing key performance measures to track progress.
- Relating efficiency improvements to the culture of the organization
- Identifying initiatives that will improve performance.

Once these building blocks in place, the BPR exercise can begin.

ERP and E-business

During 1990s', the popular method of exchanging information between trading partners were Electronic Data Interchange (EDI) and all major ERP vendors added EDI facilities to their products. However, EDI did not achieve its desired outcome as each organization needs its customized EDI (to account for its unique data format), high set up cost (requiring privately run Value Added Network) and little cohesion or standardization. A majority of organizations did not use EDI functionality while implementing their ERP systems.

The advent of the internet and intranet technologies since mid 1990s' saw the exponential growth of electronic commerce (e-commerce). E-commerce involved buying of goods through the internet (comprising of advertising need, issue invitation to tender, reverse auction, etc.), selling of goods through the internet (comprising electronic auction, publishing electronic catalogues) and handle related processes electronically such as receive invoice, making payment, monitoring performance.

Response of ERP vendors: ERP vendors were not agile to quickly respond to the changing need where customers and suppliers, wanted information, contained in the backend ERP system, for effective collaboration, better information flow and minimizing cost across the supply chain. Customers demanded supply status, billing information, warranty compliance over the web whereas suppliers wanted online information on inventory, supply schedule, and payment status. ERP products have rigid architecture, and any modification/ development requires complex coding and developing a link between backend ERP with front end web based e-commerce, was a challenging task.

ERP vendors responded to this challenge by their effort to enable their product. They have developed some functionality in-house but also used/ acquired third party products such as storefront. They have developed new workflows encompassing vendors, customers, shippers, distributors, and bankers. They have made these workflows web enabled by adopting open standards such as Java and XML.

Another challenge faced by the ERP vendors for web enabling their product was security issues relating to e-commerce transactions, which are carried out by Virtual Private Network (VPN) over internet backbone. They have to adopt authentication tools such as electronic signatures and digital certificates, Secured Electronic Transactions (SET) and confidentiality through symmetric key encryption/ public key cryptography.

E-commerce transactions can be broadly classified under e-procurement and e-selling particularly under the context of business to business transactions. Some details under these classifications are given below:

E-Procurement - A typical e-procurement requirement of an organization is depicted below:

- Electronic tendering comprising of tender publication, submission, short listing, evaluation, and award. Facility for evaluation of IT/ Service contracts containing Complex evaluation matrix.
- Compliance of agreed quantity Vis-a-Vis called quantity, consolidation of called quantity for obtaining agreed quantity discounts.
- Facility for publication and updating of electronic catalogues by vendors.
- Analytics for spend analysis that is used for strategic decisions, supplier relation management and minimization of maverick buying.
- Facilities for reverse auctions through business to business marketplace.

For meeting the above requirement, ERP vendors carried out integration of web based front end with generation of demand (planning module), preparation of Purchase Order (procurement module), receiving of goods (warehouse module), payment (account payable module), dealt by back-end ERP system.

E-Sales - The biggest change that has been brought by e-commerce in respect of selling and marketing of goods is creating a new sales channel based on the web. This has impacted retail sectors in a big way through increased sales, expanded market reach including overseas market, improved customer loyalty, and reduction of transaction cost.

E-sales enhance value in respect of following business process:

- Reaching the customer quickly and a transparent way through the process of electronic auction.
- Processing customer orders promptly through storefront web applications.
- Checking credentials of the customer.
- Arrange drop shipment where the nearest distributor ships goods.
- Providing facility to the customer to check the status of order through the web.

For meeting the above requirements, integration of web system with back-end ERP system was done. Before order acceptance, ATP (Available to Promise) status of the item is verified from planning module. For quoting price, dispatching of good and receiving of payment, sales, warehousing, and accounts receivable modules of ERP system are interrelated.

Future directions and trends in ERP

The only thing constant is change & more so in the high speed world of technical innovations the question to be asked is whether these changes can affect the ERP market ? The new cutting edge technologies like Internet commerce & EDI (electronic data interchange) & the new business practices involving supply chain & customer self-service provide a fresh threat to the ERP technology

New Markets

As large enterprises become saturated with new generation client/server ERP systems, vendors are being forced to find new markets for their products. What they would be doing is Supplementing their direct sales force with reseller channels Lowering the entry price point of their software to make it financially viable Porting their products on platforms such as Microsoft Windows NT

New channels

Vendors such as SAP AG inc , Oracle Corporation , & Baan co have been building reseller channels – both in us & worldwide –

This is because the future targets for this companies will be the smaller businesses that are looking for the complete –one – stop shopping for their ERP solutions

Faster Implementation methodologies

All ERP vendors have suffered from the perception that their software is difficult & costly to implement. SAP has introduced a program called accelerated SAP or ASAP that takes into account knowledge from thousands of R/3 implementations to date & consolidates this expertise in a product called business engineer. This product helps the implementation teams configure the sap modules to conform to the processing style of some 100 business operating scenarios this helps reduce the sap implementation to less than 6 months in many cases

Business models & BAPIs

Using products like Intellicorps live model, implementation teams can review & simulate changes to the SAP R/3 application reference model that provides views of r/3 processes, data models & functions The reference model & any changes made to it are stored in the live model repository