ERP IMPLEMENTATION FAILURES: A CASE OF SMALL AND MEDIUM ENTERPRISES

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Abstract: The problems of getting ERP systems to work are well documented and there are many failures even for large firms that have the resources needed to perform a careful planning and implementation. ERP implementation failure is a major concern for companies. In such scenario, where 60% of ERP implementations are deemed to fail, analysis of the reasons of failure becomes much more important. Since many of ERP failures today can be attributed to inadequate planning prior to installation, we choose to analyze critical factors that contribute to failure. This paper will first describe critical aspects for ERP failure. Later we will discuss major reasons of failure of ERP implementation, discuss cases of major implementation failures and derive key learning from them.

Key Words: ERP system, Database, Analysis, Survey, Customer, Investment.

INTRODUCTION AND OVERVIEW:

ERP is an integrated software solution designed to coordinate enterprise-wide resources and processes. American Production and Inventory Control Society defines an ERP systems as "a method for the effective planning and controlling of all the resources needed to take, make, ship and account for customer orders in a manufacturing, distribution or service company."

ERP systems are based on common database and modular design philosophy. They are ubiquitous in large organizations and their effective implementation and use can provide a competitive advantage to the firms. They are off-the-shelf solutions requiring consultants to tailor and customize them to the specific requirements of the organization. In addition to being flexible enough to accommodate proprietary processes of the organizations, most of the packages available today are extendable to take of future developments.

PERFORMANCE OF ERP IMPLEMENTATION:

THE ROBBINS-GIOIA SURVEY

A survey by Robbins-Gioia, LLC, a provider of management consulting services, on the perception of managers of implementation of ERP in their organizations revealed that 51% of the managers viewed their ERP implementation as a failure. Out of the 232 survey respondents, 46% felt that though their organization had an ERP system in place, neither the management nor the front-end users understood how to use it to improve the way they do their business. 56 % of survey respondents noted their organization has a program management office (PMO) in place, and of these respondents, only 36 % felt their ERP implementation was unsuccessful.

CONFERENCE BOARD SURVEY

The Conference Board Survey (2001) had 117 respondent companies that had implemented or attempted to implement ERP systems. Figure 1 summarizes their findings. In addition, the companies which did achieve the benefits took six months longer than expected. Implementation costs were found to be 25% higher than estimated earlier, reducing the expected return on investments (RoI) drastically. Support and training costs were 20% higher than expected reducing the RoI further down.

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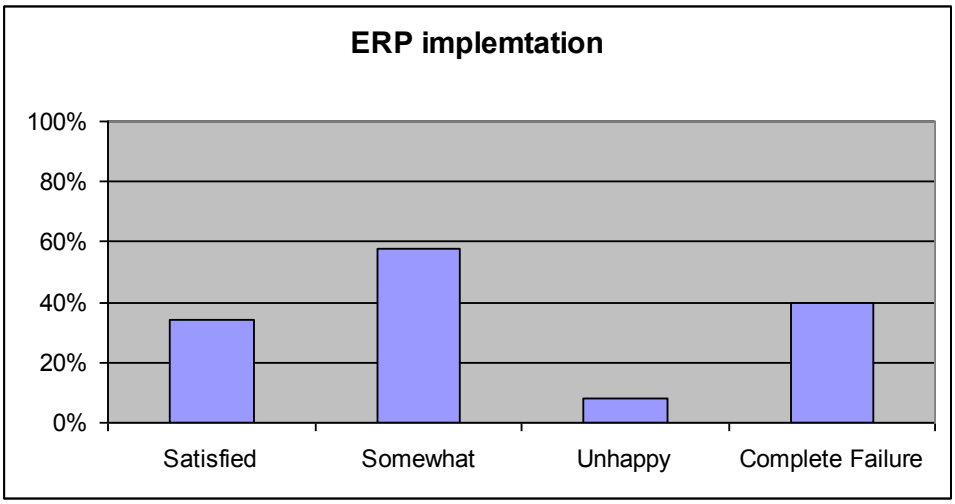

Figure1: Conference board survey (2001)

HOW ERP FAILURE IS DEFINED?

A number of yardsticks have been used by companies and consultants to define what constitute an ERP failure:

- Missing functionality.
- Failure to meet the promised rate of return on investment.
- Extension of implementation date and failure to adhere to schedule.
- Overshooting budgeted expenses through various variances.
- Stretching Organizations resources to an extent that it affects it day to day working.
  - Need for more manpower than earlier envisaged.
  - Midway change of plans, need for more customization.
- Disruption of production, inability to meet delivery commitments.

REASONS FOR FAILURE:

Reasons for ERP failures can be subdivided in three main categories.

ENVIRONMENTAL FACTORS

Some of the major ERP implementation failures can be attributed to the factors which are related to the organizational structure of the organization and prevailing economic scenario.

1. LOW TOP MANAGEMENT INVOLVEMENT

Tendency of the top management to consider ERP implementation as an IT project often results in lack of understanding of the size, scope and technical aspects of the project. This makes the top management

out of the touch of critical developments and subsequently leads to insufficient commitment and management time required for successful implementation.

Lack of top management involvement also makes it more difficult for the implementation team to garner sufficient support from different departments. Without the involvement of the front-end users, it practically becomes impossible to successfully implement the ERP.

2. UNREALISTIC EXPECTATIONS

ERP package providers are notorious for overstating the benefits and Return on Investments (RoI) of solutions. Generally, the costs of planning, consultation, training, data rationalization and documentation are ignored while calculating RoI. Such a high RoI becomes impossible to achieve and the implementation is termed as a failure. Some hidden costs are given in table below.

Hidden Cost	Description
Training	Training expenses are high because workers almost invariably have to learn a new set of processes, not just a new software interface.
Integration and testing	Testing the links between ERP packages and other corporate software links that have to be built on a case-by-case basis is another often-underestimated cost. A typical manufacturing company may have add-on applications from the major—e-commerce and supply chain—to the minor—sales tax computation and bar coding. All require integration links to ERP.
Customization	Customization of the ERP system happens when it cannot support one or more of your business processes and you decide to make it do what you want. You will have to do it all over again in the new version. The big chunk of costs for professional services is customization. The cost of customization can easily out-run the cost of packaged ERP software, but it is the customization of ERP software that makes an ERP a success or a failure.
Data conversion	It costs money to move corporate information, including customer and supplier records, product design data and the like, from old systems to a new ERP system. Most data in most legacy systems is rubbish. But most companies seem to deny their data is dirty until they a actually have to move it to the new client/server setups that popular ERP packages require. As a result, those companies are more likely to underestimate the cost of the move.
Data Analysis	There is a misconception that the ERP vendors perpetuate that you can do all the analysis you will want within their product. But often, the data from the ERP system must be combined with data from external systems for analysis purposes. Users with heavy analysis needs should include the most of a data warehouse in the ERP budget and should do quite a bit of work to make it run smoothly.
Brain drain (employee turnover)	It is accepted wisdom that ERP success depends on staffing the project with the best and brightest from the business. The software is too complex and the business changes too dramatic to trust the project to just anyone. The bad news is that a company must be prepared to replace many of these people when the project is over.
Post-ERP depression	ERP systems often cause disorder in the companies that install them. In a recent Deloitte Consulting survey of 64 Fortune 500 companies, one in four admitted that they suffered a drop in performance when their ERP system went live. The true percentage is undoubtedly much higher. The most common reason for the

	performance problems is that everything looks and works differently from the way it did before.

3. WRONG TIMING

ERP implementation is a resource intensive process which requires a huge amount of management time and commitment from every department of the organization. If the implementation is taken up during times when new opportunities are coming or the environment is getting very competitive, resources are diverted to address these issues making the ERP implementation susceptible to failure.

4. RESISTANCE TO CHANGE

The lack of the change management approach in implementing ERP solution leads to difficulties in making the participants accept the change. Resistance to change is generally due to the failure of the top management to present a strong case for the project, lack of involvement of the end-users of the changed process, inadequate communication and arrogance lead to the failure of Project.

PROJECT PLANNING AND MANAGEMENT:

These reasons arise due to negligence and lack of planning during designing and implementation phases.

1. INADEQUATE REQUIREMENT ANALYSIS AND SCOPING

Surveys have shown that inadequate analysis of the functional requirements of the organization accounts of 60% of implementation failures. Lack of involvement of end-users and over-reliance on consultants may lead to inadequate scoping and deficient requirement analysis.

2. POOR ERP PACKAGE SELECTION

Lack of functional requirements definition spills over to poor ERP package selection. Overzealous implantation schedule, slackness or biases (based on previous experiences with ERP packages) on the part of managers selecting the package may lead to insufficient gap analysis and wrong package selection resulting in an implementation which doesn't meet the organizational needs.

3. SQUEEZED DEADLINE AND INADEQUATE RESOURCES

Many organizations try to save dollars and save hassles by squeezing the implementation times without allocating sufficient resources. The task force becomes over-burdened which leads to increased errors and delays.

INTERNAL FACTORS:

Some of the major ERP failure reasons arise from the internal issues like inadequate resource allocation and poor handling of change management in the organization.

1. INADEQUATE TRAINING AND DOCUMENTATION

Since the package is new to the end-users, training them to make best use of the solution is very critical. In a hurry to 'go live', some organization do not pay much attention to proper documentation of processes. This makes the training of end-users very difficult. The lack of training of the end-users leads to ineffective usage of the system which may reduce the efficiency of the organization.

2. LACK OF PROPER IMPLEMENTATION STRATEGY

Without proper project management and implementation strategy, companies tend to cut corners by by-passing critical events like documentation, integration and testing before 'going live'. Decision of doing 'big bang' implementation versus gradual roll-out is very critical is big organizations.

3. TEAM SELECTION

The selection of the core implementation team, consultant and the vendor representative is critical to the successful implementation of ERP. Since these three have to work very closely during the implementation, coordination issues among them should be minimized to the extent possible.

CASE STUDIES:

In the following sections, we will discuss major ERP implementation failures and the key learning's from them.

HERSHEY FOODS:

Hershey is a leading manufacturer of chocolates, confectionaries and beverages in United States of America. It took up ERP package implementation as a part of hardware and software modernization program in 1996. As per plan they were to switch to new ERP system by April 1999. Project was running as per schedule till January 1999 but due to a delay in last leg of implementation, ERP went live in July 1999.

Initially a gradual roll out of ERP was planned but in order to meet the schedule, Hershey decided to go for 'Big Bang' implementation. This led to several problems related to order fulfillment, processing and shipping. Retailers were not getting the supplies even though inventory increased by 26%. As a result of this, Hershey lost 26% of the market share and revenues for the third quarter of 1999 fell by 12% as compared to third quarter of 1998.

Timing of the implementation and *poor project management* are cited as the main reasons for Hershey's ERP implementation failure. It took up ERP implementation during a time when it was facing severe pressure from competitors and new markets were opening. Since top management paid a lot of attention to the implementation project, they were not able to focus on revenue generating opportunities which resulted in a 27% market loss. Secondly, decision to go for Big Bang implementation instead of gradual rollout as previously planned led to serious errors in implementation.

FOXMEYER CORP:

FoxMeyer Corp was a leading distributor of drugs and beauty aids to drug stores, chains, hospitals and health care facilities through its 23 distribution centers in US. In 1994, it decided to implement ERP and automate its warehouses to reduce costs and undercut its competitors. It had planned to save $40mn annually after investing $83mn in SAP R/3 ERP and warehouse automation.

In anticipation of huge savings within 18 months, it signed huge contracts by underbidding competitors. Eighteen months was too short a time to implement an ERP package successfully. The *lack of coordination* between Pinnacle Automation (hired for warehouse automation) and SAP further delayed the implementation. All this resulted in a dysfunctional, delayed and over-budget ERP implementation which led to loss of 15% of sales in 2 months. Warehouse system consistently failed leading to late orders and incorrect shipments which resulted in losses over $15mn. FoxMeyer had to file for bankruptcy in August 1996, within 6 months of 'going live'.

TRI VALLEY GROWERS, CALIFORNIA:

Tri Valley Growers (TVG), an $800mn agricultural cooperative bought $6 million worth of services and software from Oracle. While Oracle provided the finance and manufacturing modules, order processing, production planning and other packages were from other vendors with Oracle consultants integrating the applications. The implementation was expected to make TVG more efficient, customer friendly and save $5mn annually. But Oracle could not get its integrated software work with hardware available with TVG. TVG supposedly spent $22mn before discarding the project and suing Oracle for the losses.

Overzealous package provider, underestimated costs and lack of initial planning are citied as the main reasons for this failure. TVG failed to recognize integration costs when calculating the RoI of the project. It had calculated $6mn as the cost whereas it had spent $22mn before discarding the project.

SOME OTHER FAILURES:

Company	Project	Gravity of Loss	Cause of failure
Greyhound lines Inc.	Trips reservation and Bus dispatch system	System crash after installation, drop in customers by 12% in a month	-Resistance to change -Inadequate scoping -Inadequate training and documentation
Norfolk Southern corp.	System integration with merger target Consolidated Rail Corp	Loss of more than $113 million in business during 1998-99	-Poor implementation strategy -Inadequate training and documentation
Oxford health plans Inc	New billing and claims-processing system and Oracle Corp database	Disruption in daily operations, operating losses and fined by NY state	-Un realistic goals -Inadequate scoping -Poor implementation
Snap On Inc	Conversion to a new order-entry system from The Baan Co.	$50 million in lost sales for the 1st half of 1998	-Inadequate training and documentation
AMR Corp	"Confirm" reservation system for hotel	Delay in implementation and a $109 million write-off	-Squeezed deadlines -Inadequate scoping
W. W. Grainger Inc.	SAP ERP system	Lost $19 million in sales and $23 million in profits	-Poor ERP package selection
State of Florida	Welfare system	Overpayment to the tune of $260 million	-Poor ERP package selection -Poor implementation strategy

Goodyear	SAP based ERP system	Financial errors led to restatement of fin. results from 98 to 03	-Inadequate resources -Poor implementation strategy

LEARNING FROM FAILURES:

ERP systems implementations dominate the list of all time major IT project failures. However, most of the reasons attributed to these failures can be tackled during the various stages itself so that user expectations are met.

PLANNING STAGE:

- While conceiving the project, extensive care should be paid to the need assessment. This is the stage at which a realistic expectation from the project needs to be drawn. A proper business case needs to be drawn to justify the project; this business case can also be used at a later stage to infuse change management process among employees.
- The next big thing is the selection of vendor and consultants for the project. The biggest mistake made here is devotion of too little time for scrutinizing the package or preference for a known package or vendor, both of which might not be the optimal choice. One should act smartly can choose packages that are based on industry standards and are offered by known vendors with proven credibility.
- The vendor should be hungry enough for success in the implementation and credit worthy for the size of the implementing firm. Most often than not, the implementing firm has little skill set with an ERP package, selection of a good consultant therefore helps in ironing out the implementation process as well as provides assistance in the ongoing tussle between Vanilla and customized packages.
- A realistic time frame for providing user training and the cost associated with it should be worked out.
- On the cost front, it is essential to find out hidden costs that might affect the ROI calculation as promised by vendor.

PROJECT MANAGEMENT:

- It is essential that the firm finds out and dedicates essential resources for the project. It is necessary that the best business people in the firm who have a clear understanding of the business possessing respect and authority to guide and implement the project be brought on board.
- Steering committee with adequate top management representation should keep a close watch on the project and periodical reviews should be conducted to prevent cost escalation and avoid delays.

IMPLEMENTATION STAGE:

- Once the debate such as which processes to change, vanilla v/s customized have been settled, a proper implementation plan needs to be drawn out. At this point the firm has the option to adopt either a big bang or a gradual migration approach for implementation.
- At this stage the firms should go slow and test each module before final release to avoid problems of system crashing or failed deliveries. Data plays a crucial role at this stage and data

conversion becomes important. It will also make sense to migrate data in parallel. A number of failures have also been reported when dummy data was used for testing; hence a full scale testing should be done by linking ERP and other corporate software's on a case by case basis.

- Last but not the least, success of an IT project is hugely dependent on the user using the package, hence ensure that the end user gets proper hands on training and that there is a proper change management program in place.

CONCLUSION:

ERP system is a part of company infrastructure and can provide a competitive advantage to the company. Top management involvement is very critical to the success of the project. A commitment and push from top management leads to high employee involvement and allocation of sufficient resources. Involving front-end users in the implementation helps in managing the change and makes the system more effective. A comprehensive and systematic plan involving own process analysis, defining the scope pf the project, criteria of evaluation of package vendors, gap analysis, communications, testing and training should be in place. If deadline is strict, more resources should be allocated rather than over-working existing resources. Implementation team selection is critical to the success of the project. Best people from each department should be cherry-picked for process restructuring.

Implementing ERP must be viewed and undertaken as a new business endeavor and a team mission, not just a software installation. Companies must involve all employees, and unconditionally and completely sell them on the concept of ERP for it to be a success. A successful implementation means involving, supervising, recognizing, and retaining those who have worked or will work closely with the system. Without a team attitude and total backing by everyone involved, an ERP implementation will end in less than an ideal situation.

REFERENCES:

1. Esteves and Pastor (2001) Enterprise resource planning systems research: an annotated bibliography, *Communication of AIS 7 (8),* 1-52
2. "The 12 Cardinal Sins of ERP Implementation", White paper Rockford Consulting Group, retrieved as on 10th January 2009 from http://rockfordconsulting.com/the-12-cardinal-sins-of-erp-implementation.htm
3. 'Statistics over IT projects failure rate", retrieved as on 10th January 2009 from http://www.it-cortex.com/Stat_Failure_Rate.htm
4. "A recipe and ingredients for ERP failure", retrieved as on 11th January 2009 from http://www.articlesbase.com/software-articles/a-recipe-and-ingredients-for-erp-failure-124383.html
5. Cristopher Koch, "The ABC of ERP", 2004, URL : www..cio.com
6. Yen, H.R., Sheu, C. (2004), "Aligning ERP Implementation with Competitive Priorities of Manufacturing Firms: An Exploratory Study", *INTERNATIONAL JOURNAL PRODUCTION ECONOMICS*, Vol. 92 Pp.207-20.
7. West, J. (2003), "How Open Is Open Enough? Melding Proprietary and Open Source Platform Strategies", *RESEARCH POLICY*, Vol. 32 Pp.1259-86.
8. "ERP Implementation – the Hidden Cost ", Financial Express, Feb 2008. URL: www. financialexpress.com/ news/erp-implementationthe-hidden-cost/277216