

BEST PRACTICES OF ERP IMPLEMENTATION

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Rahul Puri

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Best Practices Of ERP Implementation

By

Rahul Puri

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SUPERVISORY COMMITTEE:

Dr. Kenneth Magel

Chair

Dr. Kendall Nygard

Dr. Limin Zhang

Approved:

11/20/2014

Date

Dr. Brian M. Slator

Department Chair

ABSTRACT

Today Enterprise Resource Planning (ERP) has become a fundamental necessity for the organization. It serves many functional areas and many industries in an integrated fashion, trying to automate operations from inventory control, supply chain management, sales support, manufacturing production as well as scheduling, financial accounting and cost accounting, customer relationship management and human resources.

However, successful implementation and deployment of ERP systems is a challenging task which when not executed successfully will not serve the purpose for which it is being implemented. The objective of the study is to examine and analyze the best practices that have to be adopted while implementing ERP. The scope of this research is to focus the best practices and their subsets for implementing ERP in any organization and to highlight important steps that should be taken before and in the process of ERP implementation.

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LIST OF ABBREVIATIONS

ERP.....	Enterprise Resource Planning
ROI.....	Return On Investment
KPI.....	Key Performance Indicators
IS.....	Information Systems
CEO.....	Chief Executive Officer
CFO.....	Chief Financial Officer
CIO.....	Chief Information Officer
CRP.....	Conference Room Pilot
SaaS.....	Software as a Service

CHAPTER 1. INTRODUCTION

According to Brown and Vessey (2003), ERP provides a basic foundation for maintaining create value, enhance performance, raise transparency, centralize processes and give the flexibility required for keeping pace with changing goals of business. It also helps in developing technology used by the company. Software applications in the enterprise resource planning systems help to manage the most important business operations or transactions like purchasing parts, planning products, maintaining inventories, providing customer service, interacting with suppliers and tracking orders. Some ERP solutions encompass application modules for human and finance resources. ERP solutions are widely implemented by all organizations including small and medium enterprises. ERP is implemented due to easy adaptability, has reliable information access, reduces cost, improves maintenance and scalability, global outreach, etc.

Majes et al (2003) pointed out that Enterprise resource planning (ERP) systems are being extensively used by organizations including small and medium enterprises these days due to their vast applications. It serves many functional areas, industries in an integrated fashion, trying to automate operations from inventory control, supply chain management, sales support, manufacturing production as well as scheduling, financial accounting and cost accounting, customer relationship management and human resources. However, successful implementation and deployment of ERP systems is a challenging task which when not executed successfully will not serve the purpose for which it has being implemented.

Akkermans et al (2002) and Majes et al (2003) inferred that implementation of ERP system must assist the organization to enhance the performance as gauged by KPIs. They are just quantifiable metrics that indicates the organization performance in reaching its objectives and

goals. Organizations have to determine KPIs that reveal strategic drivers for value than gauging non-critical business processes and activities. The right KPIs must align all departments, business units, and individuals with defined benchmarks and targets for creating accountability and tracking progress.

Gupta et al (2004) described that firm have to consider these factors namely cost savings and efficiency when implementing a new software package that is implementing ERP. After taking the decision, company generally has to understand the time frames involved and challenges to be faced; it is time for the firm to identify the ideal package. As a first measure, company have to decide whether the firms like to work alone, based on the dedication and talent of its personnel or it like to contract with consultants help to evaluate in the process of selection. Whatever method firm like to choose, they have to follow the stages series that assists them to implement the ERP for that firm.

Wieder et al (2006) pointed out that one of advantage of ERP solution is to enhance and automate the business processes efficiency. Moreover, line-of-business managers encompass best knowledge of their business processes and functional area, and must understand how to configure and implement the software for meeting their needs. Such project team must encompass managers for all units of business that are influenced by the implementation like logistics, manufacturing, customer service, finance and overall project manager. It is inferred that for establishing the right teams in the ERP implementation, it must encompass best executive committee and core project team.

Gattiker and Goodhue (2005) referred that additional savings are main reason to predict however are not quantified. The implementation of ERP is for producing definitive benefits to purchase processes and establishing such processes to entail strategic sourcing that produce extra

benefits. These must encompass lower item prices because of volume purchasing, a capability for automation with the help of on-line catalogue. Strategic sourcing entails many approach related to strategies that are based on:

- Examining the purchasing sources and wide range of requirements across agencies.
- Determining chances for consolidating to spend and negotiate better pricing.
- Assessing the market the product purchases and numerous suppliers implement.

The use of e-transactions will minimize the hard copy documents production that has to be managed through a system for document management.

CHAPTER 2. LITERATURE REVIEW

This section discusses about the best practices of ERP implementation and subsets of each best practice.

Best practice of ERP implementation are making the appropriate decision for moving forward and subsets of this best practice includes gain executive and organizational commitment, ensure proper resource commitment, project management and identify the value of early planning. Best practice of ERP implementation are defining KPIs and subsets of this best practice are studying business processes and strategy to acquire an ERP, analyzing application, demonstrating, negotiating and planning. Best practice of ERP implementation is measuring ROI after implementation and subset of this best practice includes building a comprehensive business case. Best practice of ERP implementation entail establishing the right teams and subsets of this best practice include understanding the processes involved in key requirements of business and define business processes to improve. Best practices of ERP implementation entail reviewing business goals and subsets of this section are ERP application designing and considering implementation options. Managing change is one of the best practices that could be adopted in implementing ERP and subset of managing change entails investing in training and change management and understanding the importance of implementation.

2.1. Making the Appropriate Decision for Moving Forward

Federici (2009) pointed out the decision to upgrade, consolidate relies on a numerous factors that encompass a firm's strategy of growth and its existing information technology systems strategies. Wei (2008) have discussed about the proper implementation of ERP in the organization. Upgrades and consolidations give an ideal chance for firms for evaluating their existing governance, portfolio, models for cost recovery, and remove unwanted and obsolete

changes in the package, custom-developed extensions, dependencies on third parties, and in certain cases, whole legal system for simplifying their environment and lower ownership costs that benefit from raised functionality.

2.1.1. Gain Executive and Organizational Commitment

Provitizi (2012) discussed about the importance of taking appropriate decision. In order to take appropriate decision in the implementation, we have to gain executive and organizational commitment. Epicor (2013) For the best-in-class implementation of ERP, the full commitment and support of the firm's executives are to be facilitated, as they are most important for the successful implementations of ERP and without their support, initiatives of ERP will not function properly in the corporate resources and funds. Normally the initiative of ERP starts with the IT or CIO director, whereas the support from CFO, CEO and other c-level executives are crucial. These initiatives are responsible for establishing corporate strategy for business and direction; they must be able to take higher-level decision regarding how ERP system will support in executing the business. In the ERP project, lack of executive participation will result in legal problems.

2.1.2. Ensure Proper Resource Commitment and Project Management

Epicor (2013) referred that, for examining the best-in-class implementation of ERP, it must be noted that how properly the implementation can be managed. For the successful implementation of ERP, a sincere and dedicated project manager is needed, who must focus on on-going and planning management. The firm also concentrates more on sufficient resources that are needed for the project- before, during, and after implementation. The firms will concentrate more on resources for implementation that is either external or internal to the firm.

2.1.3. Identify the Value of Early Planning

For moving forward the implementation, we have to identify the value of early planning. According to Chang et al (2000) in any kind of ERP implementation, there is no substitute for careful planning. Planning must start during the earliest phases of project. If the planning is poor then the ERP implementation will take longer to run and execute. The project plan must be well-planned for performing activities associated with: the definition of requirements, measures for key performance, vendor selection and evaluation (Skok, 2002). The best plan must be scheduled based on the time of accounting activities namely: data migration, testing and unforeseen events that happens in every implementation phases. Firms that invest in up-front, comprehensive planning will result in cost-efficiency and time-saving resources.

2.2. Define KPIs

Rajagopal (2002) refer that the business units, individuals, and departments must implement KPIs that help overall objectives of business; each unit will include their own KPIs that show their own performance. For example, department of accounts receivables will track receivables over 90,60 or 30 days, total receivables, average account aging, average overdue receivable and so on.

2.2.1. Study Business Processes and Strategy to Acquire an ERP

Kukreja (2008) focused on the business process and strategy to obtain an ERP. To define KPIs, business processes have to be studied and strategize to acquire an ERP. This stage is again categorized into two unique stages. The project team analyzes the business strategy, the mission of each department and processes of business in the first stage. The project team has to evaluate that how well each enterprise resource planning contributes to the organization; for example, what are all the features a firm is looking for (Material management, customer relationship

management and so on) and does the organization process requires any further advance features, such as: lean manufacturing support, SOA, on demand delivery and more.

2.2.2. Analyze Application and Demonstrate the Solution

Umble et al (2003) pointed out that the ERP providers must demonstrate their products or goods to the company's i.e. mid-level management, top management, project team, selected group of future end users. In this stage, more profound knowledge on each and every solution is obtained, particularly on its adaptability and functionality towards an organization. The team should gather all the reviews and opinions to refine the criteria list application to each ERP candidate. The selection proposal is prepared, which has to be accepted by the information technology and top management initially.

2.2.3. Negotiation and Planning

The project team obtains cost estimation and overall implementation plan from the ERP service provider. These two are very important for contingency planning and hence obtained first hand from the service provider (Umble et al, 2003).

2.3. Measure ROI after Implementation

ERP implementation (2011) refer that the determining ROI post and pre rollout is the key part to reach ERP projects success. It was observed that best-in-class firms gauge ROI after finishing the project. It has to be noted as soon as implementing system expected benefits is not received. It takes time for the user to learn about the new implemented system. Only after few months can business benefits and ROI has to be measured. Organizations have to continually innovate with new business processes for bringing about productivity improvements and effective reduction in cost. This reflects that the ERP implementation have to modify over time.

However, ERP system requires to constantly develop, monitoring of ROI requires to happen on an ongoing basis. Only with continual enhancement in the system, organization can become a best-in-class operation.

2.3.1. Building a Comprehensive Business Case

According to Protiviti (2012), when a comprehensive business case is built, it will assist to justify the ERP system acquisition. A good ERP system must include benefits of tangible business, defined requirements, and encompass key metrics for better performance. Many firms need a business case that demonstrates positive results, which is referred as return objectives (ROI) prior to corporate funds. Various resources are involved in a business case. The complexity and scope of most of the ERP projects will demand a business case that explains the needs and concerns of all the stakeholders involved. A business case that covers potential objections or problems also acts as a powerful tool for selling the project in an organization. When key stakeholders are involved in the business plan development, they act as a strong factor for the new system to build organizational support.

2.4. Establish the Right Teams

According to ERP implementation (2011), start by establishing right teams, which entail experienced and knowledgeable people and authority for keeping implementation to move forward. Such teams must encompass executive committee and core project team. An executive committee has to be established to supervise and sponsor project. It is not possible for moving forward productively without decisions, executive direction and buy-in. It is considered as one of the critical success factor.

2.4.1. Understanding the Processes Involved in Key Requirements of Business

According to Kotiranta (2012), in business the first step in implementing any system is to understand the processes and operations particularly for ERP implementations since they are the major part in the core management system for performing firms' operations. For corporate business processes, a complete understanding is needed in order to choose a right ERP vendor as well as for planning the implementation. After understanding the business processes, the proceeding steps are to be prioritized and the key business needs or requirements are to be defined, this is the basis for selection and evaluation of ERP software and it determines how much customization is required.

2.4.2. Define Business Processes to Improve

For establishing the right teams, business processes must be defined to improve. Wei (2008) and Wielder et al (2006) point out that the key advantage of an ERP system is to automate and streamline processes in the business. Processes incline to develop over time, other than from a focused effort to constantly further and enhance them on the basis of strategic value. If the ERP solution does not enhance the business processes, it is important to examine how organizations functions processes in the business and then identify ways to implement the functionality to enhance and streamline such processes.

2.5. Review Business Goals

Velcu (2007) and ERP Implementation (2011), For the ERP implementations, business goals are defined by organizations. It is defined during the developing process of business case. Common goals that implement solutions of ERP encompass enhanced and empowerment efficiencies for final user since they process the transactions of business through the ability of ERP solution to facilitate automation, end-to-end integration, better access to important

information of business processes. Rapid and higher-quality decisions for decisions as final users enter data effectively, required by executives and management more accessible, the concluded information and more meaningful and more timely.

2.5.1. ERP Application Design

Kukreja (2008) points out that, CRP (Conference room pilot) also known as pilot is a measured approach to a functional operation namely ERP application or software, to perceive how the IS (information system) performs and to evaluate how to configure the software for the planned objectives before go-live cutover. Pilots are started with an ERP software course for training or structured accounting software, which explains the application software's core capabilities. This phase can be used for configuring, manipulating, testing and validating the business processes of the company, inside the new ERP system. The pilot must end with measured results by explaining functional fit or finding the areas and gaps that need a more detailed design effort, before the complete implementation process.

2.5.2. Consider Implementation Options

Velcu (2007), Pilat (2004) and Pavlou et al (2005) point out that the organizations have to consider two basic options for implementation.

2.5.2.1. On-Premise

According to Pavlou et al (2005) and Velcu (2007), in the approach of on-premise, organizations have to buy license of hardware, also needed hardware, then install, and maintain the in-house system. The solutions for on premise are implemented on the servers of the customers and they own the software, clients can able to use and integrate the software with their other software. These solutions provide organizations with greater business processes control and

also control their data of business. The total costs of on-premise solutions are cheaper than approach of on-demand (Wei, 2008 and Pilat, 2004).

2.5.2.2 On-Demand

Wieder et al (2006) and Wei (2008) refer that a rapid implementation selected by an organization to subscribe to a cloud-based SaaS (Software as a Service) ERP solution. Moreover, through cloud-based SaaS ERP, it is not necessary to buy a license up front of software, installing the infrastructure of hardware and application on site or maintaining and upgrading the solution (Matolcsy et al, 2005). Trott and Hoecht (2004) and Pilat (2004) describes that the software solution will be available and hosted through closed on based on the pay per usage. Such type of model removes the requirement to own the software or purchase the hardware.

2.6. Managing Change

Wider et al (2006) refer that when managing important initiatives, organizations have to consider only process, people, and technology. Organizations have to consider controls and risks as an extra dimension to manage a system change. It is also noted that when designing controls in an enterprise or organization, it must determine a balance such dimensions such as process optimization, risk and controls, technology, organization and people (Velcu, 2007).

2.6.1. Invest in Training and Change Management

According to Davenport (2000) and John (1997), implementation of ERP not only affects the business and system process, it also affect those people who will find it tough to change processes, roles and behaviors that they have learned or worked over for many years. We cannot expect employees or other staffs to change their behavior and skills during the implementation of ERP within the short span of time. The change management is constant, ongoing process have to

begin from the first day and continue throughout the entire implementation process, until the final day or end-user training of the project. Change management is critical to the ERP initiative success. Employees must understand the new job roles and process during particular time period, so that they can able to adopt and internalize these new developments. If this is not followed, there will be a drastic outcome in organizational resistance as well as operational risk.

2.6.2. Understand the Importance of Implementation

Davenport (2000) refers that successful implementations of ERP must clearly define the set of reachable goals and purpose. The firms which have performed the work of defining requirements, establishing the performance metrics and developing business plan, must be built which clearly articulates what type of benefits does the firms expects from the process of implementation. Some firms have tendency to analyze what their competitors or others have performed with the ERP, particularly if the executives of the corporate have experienced before by implementing ERP system at another firm.

CHAPTER 3. METHODOLOGY

The research paradigm to be adapted in this study is interpretivism and the research approach to be adapted in this study is qualitative approach. Qualitative approach is an approach that makes use of textual or descriptive information for findings answers to the research questions (Paterson and Pentland, 2008). It does not involve any statistical analysis or numerical data collection (Palladino, 2009). Descriptive research design is to be adapted for this study. Descriptive research design is best suited when qualitative research approach is adapted (Levy and Lemeshow , 2011). This research will not involve any primary data. Secondary data is the data that is gathered from already existing external sources and not accumulated directly by the researcher (Cowton, 1998). This research will make use of secondary sources like books, academic journals and other online sources that speak about the best practices to be adapted for implementation of Enterprise resource planning systems for conducting the study. The secondary data collected is to be subject to simple textual interpretation technique. The researcher in the course of conducting the research will manage to stay ethical by applying the data collected exclusively for academic purposes.

CHAPTER 4. DISCUSSION

When client requirements are met with modern business systems and tools, then the operations performed in the business will enhance in qualitative and quantitative ways. In short duration, levels of service are predicted for recovering to predefined cutback levels with already-decreased staffing level. Removal of standalone systems and manual processing will permit life cycles of process and related staff time for dropping and for increasing accuracy. As the new ERP system is implemented or enters and staffs are benefited from the various efficiencies and tools, services levels will enhance the levels of baseline. Many firms focus more on the ERP software's technical aspects rather than concentrating on what requirements are very essential to the business. Software functionality or features which should not align with the firm's business requirements will result in unnecessary waste of implementation time, resources and money which can be spent on other activities namely software training or customization.

Before implementing ERP in an organization the following procedures have to be checked

- Setup parameters
- Software configuration
- Transaction flow procedures
- Modification capabilities
- Internal controls and standard reports
- For gaining more practical understanding regarding the business software application's strengths and weaknesses
- For evaluating the accounting or ERP software for optimization and to fit the system wherever possible

- To test and confirm the process in the business design alternatives for best fit and effects
- To assist in developing the plan for system integration and conversion of data

For the corporate processes of business, complete understanding is needed in order to choose a right ERP vendor as well as for planning the implementation process.

As discussed earlier, it is essential for the organization's internal resources to actively participate in implementation since they will become the project owner or project manager once the phase of implementation is finished and strong governance and project controls are essential for implementing the ERP system. From this it is clear that organizations implement and design their ERP solution efficiently and effectively and thus get a profit of faster ROI. It is also noted that by developing the better and appropriate KPIs and monitoring KPs based on the on-going basis, organizations can able to get the information they require to analyze whether solution of ERP is assisting them to achieve business objectives and to perform any needed course correction for keeping their track efforts. It has to be inferred that firms do not have to learn or understand from the others experience, it must be noticed that these practices have to be taken into consideration in order to implement the successful implementation. For successfully installing ERP in an organization, the following steps have to be implemented such as the clear articulation and vision of the requirements which will differ for each firm.

CHAPTER 5. CONCLUSION

All the best practices that have been discussed in previous section conclude many important things to remember during ERP implementation. For example; Business requirements have to be done based on the priority order; it is equally significant as defining them. Defining requirements of business is not just a one-time decision or activity that results in a static requirement set for selecting a vendor. It must be an on-going or continual process, on the regular basis that must be refined to reflect the organization's changing needs. Finally, it must ensure that technical capabilities of ERP software must match the defined requirements of business. One of the subset of the best practice namely Ensure proper resource commitment, Project management highlights the importance of a sincere and dedicated project manager for managing budgets. This also concludes that organization must involve the stakeholder for the total cost of ownership. Organization should focuses more on sufficient resources which are essential throughout the ERP implementation process.

Careful planning is important. Planning has to be started during the earliest phases of project design. If the planning is poor or worst, then the ERP implementation will take more time to run and execute. It also concludes that the organization's internal resources should actively participate in the implementation process because they will become the project owner once the phase of implementation is completed. Defining KPI is the one of the important best practice we discussed; to implement this best practice it is important to understand the as-is and to-be business process so that organization can define KPI's in all department.

Change management, is very essential for success of ERP initiatives. Employees have to perceive about the new work roles and process during specific time period; therefore employees accept and implement these new developments in the organization. This must be followed

correctly so that, the operational risk can be avoided. To perform effective implementation, training must concentrate on the workflows in the business and also have to analyze whether the performance and work roles of individual personnel affects the organizational performance.

As we know Enterprise Resource Planning systems are complex software system and their implementation is also a critical process. It takes lots of time, efforts, resources and money. To get the success in ERP implementation, Organization should understand and implement best practices with their subsets throughout the ERP implementation.

CHAPTER 6. RECOMMENDATIONS

The following are some of the strategies that are recommended to enhance the better ERP implementation.

It can be recommended that successful implementations of ERP have to clearly define the set of reachable goals and purpose. Moreover the firms which have performed the work of defining requirements, establishing the performance metrics and business plan have to be built so that it would clearly articulates what type of benefits does the firms expects from the process of implementation. Some firms have tendency to analyze what their competitors or others have performed with the ERP, particularly if the executives of corporate have before experience when implementing ERP system at another firm. It does not imply that firms must learn or understand from the others experience, it must be noticed that the preceding discussions regarding the successful installation of ERP must be based on the clear articulation and vision of the requirements which will different for each firm. It was recommended that when changing to the new ERP system the following considerations have to be bear in mind. It is significant that no changes must be allowed until stability is achieved. If stability state is not achieved in the new implementing system then it is difficult to achieve full functionality. Stabilization must be implemented in the start-up phase itself. Only mission-critical alternations have to be allowed in the first ninety days.

It can be recommended that ERP implementation must be framed based on the basic assumptions. It is significant to perceive that the ERP system must be designed for enabling sharing of information throughout the firm. Design and implementation of ERP system is a tough job. It must be implemented without any distraction. It was also recommended that Organizations must track improvements seen in the qualitative that result from their ERP

implementation namely reduced inventory levels, error-free processes, better decision making, enhanced partner and customer satisfaction. Once KPIs defined in the ERP system, determine champions and leaders for communicating expectations. Organizations must have the ability to accept their assumptions when new KPIs information are included and communicate why a benchmark or metric changed. It was recommended that if the business performance is likely to be more effective, then the training must focus on the business workflows and finally whether these affect the performance of the people and their job roles have to be noticed.

CHAPTER 7. FUTURE WORK

This research could be extended in future by analyzing the best practices that are suitable for specific ERP solutions like SAP, Oracle etc. rather than focusing on ERP as a whole. Further a primary data collection and analysis could be incorporated in the same research area by gathering data from professionals who have hands on experience in implementing ERP systems in order to get a better idea on practical problems associated with the same. By doing so the researcher would be able to get a very clear picture on what challenges organizations encounter on a real time basis in implementing ERP systems and what strategies they adapt in overcoming the same.

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