

# IMPLEMENTATION OF ERP IN A SMALL ORGANIZATION FOR SEAMLESS TECHNOLOGY

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## ABSTRACT

*This paper commences with a brief description of Enterprise Resource Planning (ERP), follows by a discussion of the implementation provided by an integrated ERP system. ERP is a software architecture that facilitates the flow of information among the different functions within an enterprise. A well-defined plan is the first step to a successful ERP implementation. The critical success factor for ERP implementation includes top management support, a clear business vision, and issues specific to ERP such as ERP strategy and software configuration. The paper describes several critical issues that managers must consider before making the final decision to integrate all the business functions in the organization.*

**Keywords:** ERP implementation, Critical Success factor, system integration, management support.

## INTRODUCTION

Tougher competition in the generating the need to better optimize Resources, improve profitability and keep customers satisfied. Companies are increasingly implementing Enterprise Resource Planning (ERP) software solutions to improve operations and provide faster customer response.

Choosing an ERP solution that meets your *specific* business requirements will enable you to have a smoother implementation. If the software package is written for your

industry, you won't have to custom design a solution. Customized solutions are time consuming to implement and add unnecessary cost. One of the top reasons ERP implementations fail is because the software doesn't meet basic industry specific business requirements. However; purchasing an ERP application is only half the battle. A well designed implementation plan is the key to success.

## STRATEGIC PLANNING

- Assign a project team.
- Example current business process and

information flow.

- Set objectives.
- Developed a project plan.

**Project Team:** Assign a project team with employees from sales, customer service, accounting, purchasing, operations and senior management. Each team member should be committed to the success of the project and accountable for specific tasks, i.e. developing a timeline, finalizing objectives, formulating a training plan. Make sure you include first line workers as well as management on your team. Base the selection on the knowledge of the team not status of the employee.

**Examine current business processes:** Have the team perform an analysis on which business processes should be improved. Gather copies of key documents such as invoices, batch tickets and bill of lading for the analysis. To start the team discussion, consider questions such as: Are your procedures up to date? Are there processes that could be automated? Are personnel spending overtime processing orders? Do your sales force and customer service personnel have real-time access to customer information? The team members should also conduct interviews with key personnel to uncover additional areas of improvement needed.

**Set objectives:** The objectives should be clearly defined prior to implementing the ERP solution. ERP systems are massive and you won't be able to implement every function. You need to define the scope of implementation. Ideally, the scope should be all inclusive. But practically, it is very difficult to implement. Example of objectives would include: Does the solution reduce backlogs? Can the solution improve

on-time deliveries? Will you be able to increase production yields?

**Develop a project plan:** The team should develop a project plan which includes previously defined goals and objectives, timelines, training procedures, as well as individual team responsibilities. The end result of the project plan should be a "to do" list for each project

## PROCEDURE REVIEW

- Review software capabilities.
- Identify manual process.
- Develop standard operating procedures.

**Review software capabilities:** Dedicate 3-5 days of intensive review of the software capabilities for the project team. Train on every aspect of the ERP software to fully educate the team on capabilities and identify gaps. Determine whether modifications are needed prior to employee training.

**Identify manual processes:** Evaluate which processes that are manual and should be automated With the ERP system.

**Develop standard operating procedures (SOPs):** for every aspect of your business. These procedures should be documented. Make sure that you modify the document as your SOPs change. This is a huge task, but it is critical to the success of your implementation.

**Examples of SOPs:**

- How do you handle global price changes?

- What are the processes for inputting new customer records?
- How do you currently handle the paperwork on drop shipments?
- How do we add a new product or formula?

## **METHODOLOGY OF RESEARCH**

As the SME under study is a high quality industrial company they have invested in training operatives and comprehensive research and development, and for that they have allocated some funding for the implementation of ERP system to minimize the number of hours spent in work duplication.

The research started by undertaking business process analysis of the SME business processes by interviews, formal and informal which was done with management, administration employees and with shop floor workers and also by reviewing documents about the work process within the company.

Interviews were repeated from time to time, and lasted between 10 minutes to an hour with different employees, all information was gathered, studied and a working plan was established.

Informal interviews proved to more efficient, as employees were more comfortable sharing their knowledge, views about the ERP system, and also their work problems and plans.

## **ANALYSIS**

According to previous research done on the same case study (Bani-Hani 2010), the

SME faced a lot of problems that led to the need of an ERP system, problems that occurred because of the current manual processes, these problems are listed briefly below followed by the barriers to implementing and using the ERP system:

### **Problems:**

- Information loss, as paper work is not filed properly, which makes it easy to mislay or lose important documentation.
- Sales enquiries are not tracked, so finding a job manually impacts upon their time.
- Staff retirement, when employees leave or on holiday, it's almost impossible to take over their work.
- Due to lack of information system, pricing jobs and products are calculated manually, which takes time, especially with big order for a new building site.
- Information is entered manually into excel sheets, which increases the risk of incorrect information (no field validation).
- Accounting problems - if an invoice is lost, long-term funding problems may occur, and lead to financial risk.

### **Barriers found while implementing the ERP system:**

1. Low educational skills.
2. Unskilled employees, especially IT illiterate employees, make it difficult to implement an ERP system, and this requires training.
3. Lack of training due to financial costs and lack of time.
4. Lack of motivation for employees to endorse the new system.

5. A map should define every activity at the organization. It should include a step-by-step process for every information flow, but this is missing in most SMEs as it needs time to develop and usually need outside experts which is almost impossible due to financial problems.

In the SME an ERP system was installed two years ago, and until now, this system has not been used properly, as employees are still using excel sheets for the work. Making purchasing orders, customer quotes, and even when it comes to printing any of these orders, they use a customized template in word document where they have to write everything manually.

Due to the barriers listed earlier in this paper, the SME was not able to make the system work, employees with low skills, and lack of training, financial problems and many others have led to this failure.

The work process in the SME starts from a customer call for quoting, and if this quote is won it then goes through sales order, job management, scheduling, AutoCAD drawing, sending it to the purchasing department and Shop floor, and when the door is ready its then sent to delivery and shipped to the customer.

Now through this long process a lot of problems occur that lead to serious trouble and also have led to delays in implementing the ERP system in the SME, in this section these problems will be analyzed and discussed in details. The three main problems that happen in the SME are; at the stages between quoting, AutoCAD and purchases. In the first

problem, we mainly found that parts are named differently.

Employees use different ways for naming the products, each department of those uses a different naming system.

## **DATA COLLECTION & CLEAN-UP**

- Convert data.
- Collect new data.
- Review all data input.
- Clean-up data.

Convert data: You can't assume 100% of the data can be converted as there may be outdated information in the system. Determine which information should be converted through an analysis of current data. Collect new data: Define the new data that needs to be collected. Identify the source documents of the data. Create spreadsheets to collect and segment the data into logical tables (Most ERP systems will have a utility to upload data from a spreadsheet to their database).

Data Clean-up: Review and weed out unneeded information such as customers who haven't purchased in a while or longer in business. Now is the time for improving data accuracy and re-establishing contact with inactive customers.

## **TRAINING AND TESTING**

- Pre-test the database.
- Verify testing.
- Train the trainer.
- Perform final testing.

**Pre-test the database:** The project team should practice in the test database to confirm that all information is accurate and working correctly. Use a full week of real transaction data to push through the system to validate output. Run real life scenarios to test for data accuracy. Occurring simultaneously with testing, make sure all necessary interfaces are designed and integration issues are resolved to ensure the software works in concert with other system

Verify testing; Make sure the actual test mirrors the Standard operating procedures outlined in step 2, and determine whether modifications need to make.

**Train the Trainer:** It is costly and very effective if you train the trainer. Assign project team members to run the in-house training. Set up user workstations for at least 2 days of training documentation. Refresher training should also be provided as needed on an ongoing basis.

**Final Testing:** The project team needs to perform a final test on the data and processes once training is complete and make any needed adjustments. You won't need to run parallel systems, if you have completed a through testing.

## **GO LIVE AND EVALUTION**

- Develop a final Go-Live Checklist.
- Evaluate the solution.

### **Sample Final Go Live Countdown Checklist sample**

- Physical inventory process is complete.
- Beginning balance entry procedures are developed for all modules.

- Any transition issues are addressed.
- Documents & modifications are tested thoroughly.
- Executives and departments heads are fully trained.
- Vendor is available for go-live day.
- Users will have assistance during their first live transactions.

## **EVALUATION**

Develop a structured evaluation plan which ties back to goals and objectives that were set in the planning stage. In addition, a post-implementation audit should be performed after the system has been up and running for the first week for reconciliation purposes and three to six months following to test whether or not the anticipated ROI and business benefits are being realized . Comparing actual numbers with previously established benchmarks will reveal if the software tool does what it is intended to do – add value to the business. It is important to periodically review the system's performance to maximize ROI.

### **In Summary:**

- Set reasonable goals and objectives.
- Make project team members accountable for implementation.
- Test software across departments.
- Constantly evaluate to maximize the return on your investment.

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