

ERP and its Successful Implementation

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Abstract – The world has become more digitized. Businesses are depending on technology to help them enhance their business processes. Companies are looking for an information system that can handle massive workloads. This is where Enterprise Resource Planning (ERP) systems come into play. An ERP integrates different subsystems into one huge system that shares one database. It enhances productivity and brings more profit to companies. The purpose of this paper is to address the effects of ERP systems on organizations. The paper will discuss these issues and present a scheme to overcome them. Research was carried out with articles, as well as books, to gather the suitable resources that will help us in discussing the factors that contribute to ERP systems. Many of the articles are from IEEE journals. A large volume of data was collected that represents millions of users. Analyzing the collected data will give researchers insight into the effects brought about by ERP systems. In addition, the paper will explore these issues and their impacts on organizations. Our aim is to produce an Effective ERP Solution for continuous delivery of positive output for the company. Its stream lines accelerate the business process providing a competitive edge to company.

Key Words: SAP, CRM, Success Scheme (SS), Microsoft Dynamics NAV, PeopleSoft, Oracle Financials

1. INTRODUCTION

Enterprise Resource Planning, or ERP, is a large-scale software program designed for modern businesses, both large and small. A simple definition is that ERP systems aid the flow of internal business processes and allow for communication between a business's departments and its internal functions and data. ERP, or Enterprise Resource Planning, refers to creating a more efficient, leaner, better-automated and integrated business through sophisticated technology solutions. Enterprise resource planning (ERP) is business process management software that allows an organization to use a system of integrated applications to manage the business and automate many back office functions related to technology, services and human resources. A simple definition is that ERP systems aid the flow of internal business processes and allow for communication between a business's departments and its internal functions and data. Examples of ERP system modules include: product lifecycle management, supply chain management (for example purchasing, manufacturing and distribution), warehouse management, customer relationship management (CRM), sales order processing,

online sales, financials, human resources, and decision support system. There are following types of ERP Systems:

- SAP R/3
- SAP B1
- Microsoft Dynamics AX
- Microsoft Dynamics NAV
- JD Edwards
- Oracle Financials
- PeopleSoft

1.1 Difference between ERP and CRM

Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) are similar in many ways, as they are both used to increase the overall profitability of a business. These systems overlap in some areas, and can be completely integrated in others.

1.2 ERP Integrates Processes across Business Functions

ERP is an acronym for Enterprise Resource Planning, but even its full name doesn't shed much light on what ERP is or what it does. For that, you need to take a step back and think about all of the various processes that are essential to running a business, including inventory and order management, accounting, human resources, customer relationship management (CRM), and beyond. At its most basic level, ERP software integrates these various functions into one complete system to streamline processes and information across the entire organization. The central feature of all ERP systems is a shared database that supports multiple functions used by different business units. ERP Synchronizes Reporting and Automation.

1.3 The Business Value of ERP

At its core, ERP helps employees do their jobs more efficiently by breaking down barriers between business units. More specifically, an ERP solution:

- Gives a global, real-time view of data that can enable companies to address concerns proactively and drive improvements.
- Improves financial compliance with regulatory standards and reduces risk.

- Automates core business operations such as lead-to-cash, order-to-fulfilment, and procure-to-pay processes.
- Enhances customer service by providing one source for billing and relationship tracking.

2. RELATED WORK

In order to make an ERP implementation a success, we need a good scheme. The key success factors are:

- Project Startup
- Management Commitment
- Project Scope
- Project Team
- Change Management, Communication and Training
- Customization / Modifications
- Budget
- Project Closure

There are many factors involved in making the ERP project a success.

3. CASE STUDY

According to Issues in implementing ERP, Educational Organization decided to change their old system because of many failures. After a long search for a solution, the ERP solution was introduced in late 1997. They decided to go with the SAP vendor. They followed the ERP implementation life cycle; they started in 1997 and finished in 1999. During that time, many training sessions were set up for more than 1000 employee. These training sessions are really good for change control. Everything was going just fine, so they decided to use a sequential deployment whereby each part of the system is brought to life in a sequence. After the first system was deployed, the problems started to appear. Moreover, they still had to launch the other subsystems because it was a sequential deployment. The system was shutting down a lot. This small problem of transferring data from the old system to the ERP system has caused many problems for the Water Corporation.

First, they had to pay a lot more money to fix these problems. The data was not available, many solutions were proposed, and by the end, the problem was eventually solved, but only after a long time of suffering.

The company paid a lot of money to contractors to fix this problem. The employees were suffering because they could not do their jobs. Management was affected badly because the company was in financial crisis. The whole company was facing a disaster, and some employees were laid off. In conclusion, there are many people who have proposed strategies for a successful ERP implementation, but only a few who have written about handling these effects after the ERP disaster occurs.

4. ERP ISSUES

The ERP system could improve organizations immensely, but only when it is implemented correctly. When the system is not implemented correctly, it could affect organizations very badly. It could destroy companies. The effects are operational and managerial. Each of these effects could damage organizations severely. These effects bring many issues to organizations. They will be discussed individually under these three categories.

5. OPERATIONAL EFFECTS

In order for a system to operate effectively, it has to be implemented very well. The most important factor in the success of the project is the implementation phase. As we have seen in the case study, a technical problem in transferring the data from the old system to the new system, also the data was simply not available in generated reports. A scheme will be proposed to overcome these issues. The scheme is called Solve Scheme:

- As we have seen, the effects of managerial problems are:
 - Wastes of Time
 - Wastes of Money

The causes can be grouped into three main categories:

- Poor management skills
- Hasty management acts
- Poor decision-making skills
- As we have seen, the effects of operational problems are:
 - Business process shutdown
 - Technical problems

The causes are under three main categories:

- Poor consultant vendor
- Poor transfer of data
- Do not apply government standards

6. SUCCESS SCHEME

The figure below is the proposed scheme for overcoming the managerial and operational effects. In order to overcome this disaster, we need to have a good start. The following Figure:

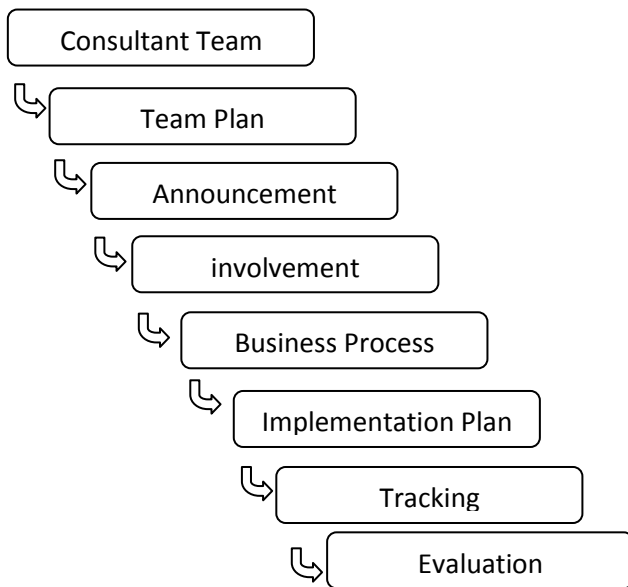


Chart-1: SUCCESS SCHEME

- **First Phase: Consultant Team**
In this phase, the top management will form a consultant team from the organization. This team should include experts in three areas: ERP system, business process, and information system. The team should also include consultants from outside of the organization who are experts in ERP products.
- **Second Phase: Team Plan**
In this phase, the team should design a main plan. This plan should specify the phases that they should go through in the project. They are of the following: Specify issues in the current information system; Set up goals; Review proposals; Choose ERP product; Choose integration partner; Implementation; Training; and System Testing.
- **Third Phase: Announcement**
In this phase, the scheme should be announced to all of the employees in the organization. This phase is critical because the involvement of the employees is very important.
- **Fourth Phase: Involvement**
In this phase, the employees will be told how they will be involved in this project. The involvement of the employees will reduce the user resistance. They will also have higher self-esteem toward this project.
- **Fifth Phase: Business Process Mapping**
In this phase, the integration partner will first meet with the consultant team to discuss the main processes of the system. Then they have to go to each department and understand how each business process is carried out.
- **Sixth Phase: Implementation Plan**
In this phase, the integration partner will build the implementation plan. Moreover, they need to discuss

this plan with the consultant team and get their approval.

- **Seventh Phase: Tracking**
In this phase, the consultant team will need to track the progress of the implementation with the implementation team. They should track the progress every week and evaluate the progress.
- **Eighth Phase: Evaluation**
In this phase, the consultant team should evaluate the project after it has been done. They should see if it has met the goals that they set.

7. RESULT AND EXPERIMENT

Specifically built for higher education, our ERP systems enable us to:

- Automate admissions- Eliminate manual processes and save significant faculty time by enabling prospective students to apply online through a self-service portal.
- Provide one-stop student access. - Allow students to enroll, register, and pay for courses through the portal. Only students can access it to check their attendance status, examination details, test evaluated marks etc.
- Simplify records management-With a single system for all your data needs—and a single digital record for each student—any department on campus can find the student information they need
- Engage faculty- Give faculty the means to enter and update grades, and have personalized access to timely, accurate, and institution-wide information for updation of organization.
- Manage resources more powerful- Manage personnel, funds and processes more transparently.
- Strengthen decision-making optimization techniques Track the metrics you need to guide day-to-day operations, meet reporting requirements, and engage your organization.

8. CONCLUSIONS

In conclusion, the paper has discussed several effects of the ERP system. The effects are managerial and operational. The paper has proposed the Success Scheme (SS). This consists of eight phases. The scheme was presented and discussed in a graduate-level class, and a questionnaire was conducted. After the analysis of the survey, some modifications on the scheme were made. The work can be further enhanced. Implementing the scheme in an actual project to test its effectiveness can enhance the scheme, as well as improving the Success Scheme to involve more certain aspects of the ERP project, such as customization.

Recommendation Strategies for further enhancement of ERP Implementation:

- Prepare the business strategy
- Prepare the IT strategy
- Prepare the ERP strategy
- Prepare the project scope
- Prepare the organization for process changes and the new system by applying the proper change management strategies and techniques
- Direct implementation of ERP without understanding the customer requirement will lead to downfall of application of ERP.
- As timely solutions are not found that creates a hurdle for smooth and complete application of ERP.
- we must keep an eye to smooth functioning of ERP so that unexpected problems should not arise from customer side.
- Payment related issues from resource side should be minimized.
- Modules and programming code should be flexible to adopt new changes in ERP.

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