

PROJECT MANAGEMENT IN EDUCATION ERP SYSTEM IMPLEMENTATION

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ABSTRACT

This paper explores and explains the importance of project management among the various 'critical success factors' for the effective and successful implementation of an Education ERP system. This paper also discusses the various critical project management sub domains which are necessary for the successful implementation of the project. Also places the emphasis on the project manager who plays the key role in managing the entire project implementation process.

KEYWORDS: *Critical Success Factors, Triple Constraints, Technical Knowledge, Project Management, Core Team, Scope Statement, Domain Expertise, Project Manager, PMP, CPM*

INTRODUCTION

ERP Vs. Education ERP Systems

The traditional or standard ERP systems were used by several industry verticals like aircraft manufacturing, cement, Automobile, and other manufacturing industries for well over two decades with great success in most of the verticals after successful implementation. SAP has been the forerunner in the field of providing traditional ERP systems across the globe. These ERP's typically provide integrated modules for managing the manufacturing, supply chain, finance, human resource, purchase and sales etc. of an organization. There are clear leaders and followers in this domain.

Whereas an Education ERP system caters only to the Educational institutions and the modules typically handle the admission, fee management, academic, placement, examination, and alumni offices etc., of an Institution. This application will also support standard functions like payroll, accounting and purchase functions for an institution.

Since the market in this domain is flooded with a lot of small and medium-sized vendors there are no clear market leaders and there are only a handful of players with strong products and domain knowledge in the Indian Market. 'Palpap Ichinachi SW solutions, First line Infotech, Dolphin Software Systems are some of the key vendors in Tamil Nadu who are providing Education ERP solutions to leading institutions

BENEFITS OF ERP SYSTEMS

Some of the tangible and intangible benefits of ERP implementation are given below:

- Stream-line existing business processes
- Business process re-engineering
- Reduced the silo behavior

- Information accuracy and availability
- Reduction in resource
- Reduced business cycle time
- Increased customer satisfaction
- Seam-less integration of business processes beyond geographical boundaries
- MIS – for business decision making

CRITICAL SUCCESS FACTORS

Though this paper focuses on project management which greatly influences the successful implementation of the ERP, it would be worth mentioning the entire list of Critical success factors (CSF's) which have been studied by various researchers which influence the success or failure of any ERP implementation project. Since Education ERP is not an exception to this, it appropriate to mention the CSF's here.

Strategic Factors

- Top Management Support
- Change management
- Project Management *
- Total cost of ownership
- Implementation strategy
- Training
- Core Team

Tactical Factors

- Business process modeling and Customization
- Implementation team
- Project controlling and Evaluation
- Software development and Troubleshooting

Others

- Vendor Selection
- Technology Selection
- Vendor Management
- Server selection and support

- System and Network support
- Implementation Methodology
- Implementation Support
- Managing user expectations
- End User Support

Most of the above critical success factors have been extensively studied both qualitatively and quantitatively by several research scholars and research over the past two decades and the importance of all these factors as a determining factor of success have been proven.

This paper will explore the importance one of the least studied explored areas in implementation i.e the effect project management practices for implementation

PROJECT MANAGEMENT

The key factors for the success of any IT project implementation project are employing good project management practices and an expert Project Manager who can practice the art of effective 'Project Management'

Since ERP implementation is one of the largest IT implementation endeavor it is all the more important to have a good project management support for the implementation.

This typically entails hiring a good project manager with sound knowledge and experience both in technology and the domain well before the start of ERP implementation. A project manager with 'PMP' (Project Management Professional) certification and prior experience in similar implementation work will be the best fit for this work.

A traditional project management approach would follow the below phases for the successful implementation.

- Project Initiation
- Planning and Design
- Execution
- Monitoring and Control
- Closing

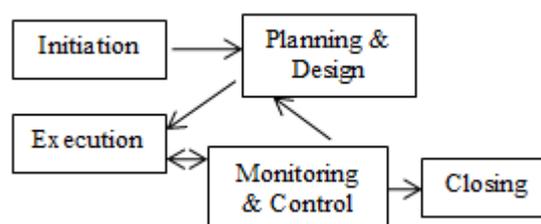


Figure 1: Project Management Processes (Work Flow)

Initiating

This process is performed to define a new ERP implementation project or a new phase of an existing implementation by obtaining authorization to start the project or phase from the project steering committee.

Planning

Planning phase establishes as the scope of the project defines and refines the objectives, and defines the course of action required to attain the objectives that the project was undertaken to achieve.

Executing

Those processes performed to complete the work defined in the project management plan to satisfy the project specifications

Monitoring and Controlling

Are those processes required to track, review, and regulate the progress and performance of the project; identify any areas in which changes to the plan are required; and initiate the corresponding changes.

Closing

Those processes performed to finalize all activities across all Process Groups to formally close the project or phase.

Role of Project Manager (PM)

'Project Manager' is the key to the success of the implementation. The PM is a special resource who can either be recruited from outside the institution or can be a person from inside the organization who has sound IT knowledge and domain expertise in ERP application. The PM integrates all the activities of implementation starting from setting up the 'Steering committee, creating all necessary subsidiary plans, working with CCB for changes, executes the project implementation with the help of the team, reports the project progress to the ' Steering committee/Executives. The PM also manages the project to ensure that the project runs within budget, achieves the desired project goals in an acceptable time frame. To put all the above in short it is the role of the PM to effective and efficiently manage the 'Triple Constraints' of the project 'Time, Cost and Scope'.

The Project Manager must have a deep knowledge of the 'Education' domain for him to understand the unique requirements of an education institution. And also should possess the requirement technical knowledge in the IT domain to effectively manage the technical issues of the project.

A good project management practice would consider the below planning areas in advance for the successful implementation. All the core activities of the project execution are either directly performed by the Project Manager (PM) who is appointed by the project sponsor or the institution management or under the direct supervision, support and guidance of the PM. Below are the key project sub-domains area activities that need to be performed or managed by a PM for the successful implementation of the Education ERP

Setting up a Project Steering Committee

The first step to ensuring good project execution is set up a project steering committee comprising of key personnel from all levels of an organization. The team could have the Chairman of the institution, Chancellors, CFO, Principal, and department heads

This team will be the core team which will approve the project, define and validate the scope, secure the required capital and set the project direction for the project. This team should have representatives from all major departments and top management. This activity forms a part of project Integration management which is the core activity of the PM.

Project Scope Management: Defining the Project Requirements

The scope statement is prepared with the requirements of the institution for all the departments. The requirement needs to be studied thoroughly, analyzed and understood before preparing the scope statement.

The scope statement will also define which will be part of the implementation and what will not to cover in the implementation. And the scope of work needs to prioritize based on the college calendar and the pressing needs of the institution. Many colleges begin work either at the admission office or at the fee collection office.

The scope statement needs to be converted into a detailed 'System Requirement specification' which clearly specifies what functionality is precisely required in each module and UI screens of the application. This needs to be prepared with the help of an external consultant or an Education ERP domain expert.

Human Resource Management: Forming the core implementation team

Identifying the key resources both from the academic and Non-academic staff members is the key to the effective and successful implementation of the ERP. The PM will play the key role in identifying and training these resources who will form the part of the core implementation team and also will be the torchbearers for the smooth implementation. Also, external resources may need to be hired if the core team does not have the required expertise for the implementation work. Orientation and training need to be provided to the staff's who will support the work.

The core team will need to report the progress of the project in a regular interval to the steering committee.

Communication Management

PM needs to ensure that a proper reporting structure is in place for the all project communication and escalation for project issues.

Effective communication is critical to the success of an ERP implementation project[4]. System expectation from every level of the organization needs to be communicated documented and accommodated in the system to ensure that all the stakeholders are satisfied with the application. Education and training of the application also is performed by choosing the right communication tools and methods

The PM also needs to create templates for project communication and status reporting.

Project scheduling: Time Management

A project schedule is a list of all project activities in chronological order with a well estimated and achievable activity start and end dates.

The duration of each activity can be estimated with the help of IT experts or by an experienced Project Manager.

Proper schedule and time management can be performed effectively by identifying the Critical path using the CPM - Project activity network diagram techniques and 'GANTT' charts. Project management software like the 'Microsoft Project' will be of immense help to the project manager in preparing and managing the schedule. The PM starts with a 'Baseline' plan and makes corrections to the plan as may be needed during the course of the project execution. The basic contents of a project schedule is presented in TABLE 1.

The project needs to be divided into multiple phases to make the project execution manageable and ensure smooth project delivery.

Project Risk Management

Project Risks need to be identified early in the project and their probability of occurrence and the impact on the project need to be ascertained and documented. Some of the key risks is attrition of key resources during the execution of the project and unavailability of trained resources for the project. Proper risk mitigation plan needs to be put in place to ensure that project risks are handled with appropriate response actions.

Project Cost Management

Another important factor for good project management is to ensure that all the expenditures of the project are budgeted, tracked and accounted properly. Cost overruns are the natural occurrence for any project and this need to be kept in check. Proper plans need to be created by the PM for obtaining additional funding in case of need. Also, it is worth noting that many projects are shelved mainly due to cost overruns. [5]

Project Management Plan & Project Execution

All the above project management subdomain areas should be meticulously planned and documented in the 'Project Management plan' which would act as the 'Guide' or 'Rule Book' for the execution of the project. This plan needs to be executed with the help of the core team and management support. Also, it has to be checked for practicality and correctness and required changes need to do in the plan to ensure smooth implementation of the project.

Project Change Control

Any changes to the projects scope and work need to be properly documented and its impacts from both the Institution and project cost perspective need to be justified. A panel of experts needs to be set up (Change control Board) which will monitor, control and approve the project deliverable changes. The PM needs to be a part of the CCB or work with the CCB to manage the changes. [4]

ERP Customization & Vendor Management

The off the shelf ERP applications brought from the vendors will not exactly match with the needs of the organization. The PM should help the management in identifying the right vendor for the ERP. The PM also needs to identify the areas on the ERP that needs modification based on the project scope and requirements. It is also essential for

the Institution to build their own interfaces which may not be part of the original ERP application. [6]. The PM will be required to work closely with the ERP vendors team to ensure that all the customization work is done according to needs of the institution.

CONCLUSIONS

To effectively implement, manage and run a big IT - Education ERP application the Project manager acts as the key. The PM needs to be selected carefully for a successful implementation. The PM also needs to possess excellent communication and interpersonal skills apart from the knowledge and experience in the various Project management sub-domains discussed above.

Table Project Schedule

Sl.No	Task Name	Start Date	End Date	%Complete

Project Schedule list the tasks of a the project and also acts as the report to Top Management

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