A Model for ERP Implementation in Higher Education Institutions

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Abstract: This paper explores the importance of Selection and management of vendor for implementation, requirement understanding, documentation, co-operation between the ERP vendor and Educational Institution for managing all the customization and implementation work, managing the conflicts of interest between the management and end users, the importance of awareness building, training and support post the implementation. This paper also discusses briefly the role of a project coordinator in ERP implementation success.

Keywords: -Managing Conflicts of Interest, Implementation Planning, Project Coordination, Customization and Enhancements, Awareness and Training.

I. EDUCATION ERP SYSTEMS

An Education ERP system fulfills the administrative, academic and management needs of an Educational institution. It also acts as a platform for staff, parents and student community to share information. Teaching faculty can use the ERP for academic management, attendance entry, internal mark entry, viewing student details, lesson planning, student evaluation etc. Students can use the on-line portals linked to the ERP for viewing fees-dues, make fee payments, chose subject elective, print hall ticket, view internal marks and several other activities relevant to them. The management can use the ERP for academic management, fee management, monitor student performance, perform staff evaluation, view the results, manage the hostel and mess expenses and so on. All the above tasks are accomplished by an ERP with several functional modules pertinent for an educational institution such as online admission management, academic management, controller of examination, hostel, mess and Inventory management, Research Dept Management, placement and alumni office management which are all integrated and linked with each other. The ERP also has modules for Human resource and payroll, Finance and accounting, Purchase management which are standard features with any ERP.

II. INTRODUCTION

A compilation of research on ERP of 524 articles have found that 34 of them emphasized on ‘CSF - Critical Success factors’ [1] which are key factors deciding the success for the ERP implementation. Education and training, project management (coordination), open and honest communication, specifying the goals and scope of the project, choosing the right vendor are among the top 10 CSF studied by several researchers from 1998 to 2007 [2].

This paper focuses on the these key areas with emphasis on Education ERP implementation and also tries to explore ‘Conflict management’ which is not studied by many researchers so far. This paper also tries to identify and separate the core and non-core (support) activities of ERP implementation.

Below is a model proposed for a successful ERP implementation in Higher Education Institutions based on several studies conducted on ERP Implementation. In this model the the ERP implementation of activities are separated in core and support activities. Irrespective of the vendor and ERP product chosen the core and non-core (support) activities are independent of each other. The support activities are continuous and non-repetitive in nature.

Support Activities:
S1. Vendor Selection and management
S2. Project Coordination
S3. Conflict Management
S4. Awareness Building

Core Activities:
C1. Requirement Elicitation
C2. Customization and Enhancements
C3. Scheduling and Implementation
C4. Training and Feedback
Support Activities:

S1. Vendor Selection and Management

The first most important phase of the ERP Implementation is the selection of the right vendor for the Institution. The college management should either hire a consultant or use the best resources available in house in identifying the right vendor.

Below are some of the important factors that need to be considered for selection of the vendor. During ERP selection it is need to well understood that Education ERP are in many aspects different from the regular ERP used in other industries like manufacturing and processing Industries.

- Years of existence in the IT business of Education ERP development and implementation
- Availability of well experienced resources who have expertise in developing and implementing an Education ERP.
- Past history of successful ERP implementation in similar sized Institutions
- Ability of the vendor in integrating with existing Software applications like ‘Tally’ and ‘Business Analytics’ applications
- Reporting and analysis capabilities of the ERP
- Online capability of the ERP
- Ease of Use of the ERP.
- Level of Customization required
- Initial cost of purchasing the ERP application and maintenance and upgrade cost
- Ability of the vendor to provide a continuous and long time support during implementation and post implementation

Vendor management is the primary and most important role of the ERP coordinator and is discussed in the following section.

S2. Project Coordination: Selection and role of a ERP coordinator

Many ERP implementation fail due to poor implementation project management [3].

The ERP coordinator/Administrator plays the pivotal role in ERP implementation project management. He/she need to be carefully chose either from inside the institution or be recruited from outside the institution. ERP coordinator need to have sound IT knowledge and domain expertise in most of the departments in the Institution. A staff with good communication, soft skills, negotiation skills should be appointed for this role. He would create the project implementation plan, manage all the project activities, such as requirement gathering, data migration, reporting implementation status to stakeholders, initiating the payments to the vendor etc. He/she acts as the liaison between the vendor, management and all the staff members. He would also support all the activities of implementation such as organizing meetings between the management representatives/users and vendors, planning the implementation activities with vendors, identifying the need and areas of training, gather data from the institution and pass it on the vendor etc.

S3. Conflict Management:

The most Challenging task of the ERP implementation is to manage the conflicting interests of the management and staff of the institution. Many teaching and administrative staff consider ERP to be an impediment to their freedom of work, since all the academic performance details need to be updated on a day to day basis in the ERP system. What the management considers as a insight in the academic activity, the staff considers them as a lack of freedom in...
their work. Typical examples would be alteration of staff during the absence of a staff, entering internal marks, updating daily attendance in to online systems, updating lesson plans and topics completed etc. The staff need to educated on the myriad benefits of the ERP such as reduction in the repetition of work, manual report preparation and record keeping. ERP can also ease the work of preparing reports for management, sending student progress reports to parents and the humongous paperwork involved during the accreditation process of the Institution. To ensure that this conflict is manged with care and proper education and awareness about the ERP need to be given to all the teaching and non-teaching staff members.

S4. Awareness Building

An very important task of the management which would ensure the smooth implementation and prevent the conflicts and ensure that the ERP achieves all the intended benefits for the user is awareness building. This can be done by making sure that end users are made aware of all the features and benefits of the application and plans and schedules of implementation of various modules. Also the key resources and users from each department should be made to participate in every phase of the ERP implementation from the requirement gathering till the roll-out of the ERP. The right people should be found and nurtured from every department [4], so that, the implementation gets all the needed inputs and also the awareness about the product also spreads across the institution.

Core Activities:

C1. Requirement Elicitation

One of the key and most important factor of ERP implementation is to understand the exact requirements for the various stakeholders such as the management, teaching and administrative staff, students, parents and other Govt. and accreditation bodies such as a ‘NAAC’, NBA etc. The requirements should be collected and documented by experienced System/business analyst with the support of end users and management.

These requirements need to be clearly communicated to the vendor by the ERP coordinator.

C2. Customization and Enhancements:

The standard products available with the vendors will not exactly match with the needs of the organization.

There will be gaps between the perceived needs of the Institution and what the ERP application can provide.[6]

The vendor and the organization should work closely to bridge these gaps. The role of the project coordinator is very critical to address these gaps.

ERP coordinator should identify the User Interfaces and reports which need to modified according to the user needs. The Institution may also need to build new interfaces and additional features suiting their needs.

Many users do not use the ERP since the ERP may not have the actual features that are needed to run their day to day operations. The support of the vendor is very important during this phase since they are the people who will do all the changes needed for the ERP based on the inputs given by the ERP coordinator.

C3. Scheduling and Implementation

Utmost care has to be taken to enlist various activities involved in the implementation. All the activities need to scheduled in line with the academic schedules of the Institution and the availability of the key resources from the management and end users. It should also be noted that, without the support of the management and end users it is impossible to implement the ERP in the Institution. The scheduling of the project activities would need to be done by the Project coordinator with consultation with the Heads of various departments and users of the application.

The implementation of various modules should be done in phases to ensure the availability of the right features at the right time. For example the implementation of the admission module should be done three months before the actual admission starts so that all the features can be tested and kept ready before it is put to the ‘Live’ usage for admission.

The project coordinator also need to develop a plan to transfer key ERP product knowledge from the IT consultants to the key stakeholders and user of the application.[5]

C4. Training and Feedback:

End users will not be able to run the ERP application satisfactorily if they do not get adequate education and training in using the software [7].

Many users do not use the ERP since they may not know how to accomplish simple tasks like updating a student information or printing reports relevant for them. Hence training plays a very major role to ensure that the ERP is used by all the staff members and realizes all the benefits and fulfills its purpose. Many user may need to given training on using the computers and browsers and printer before embarking on providing the training on the features of the ERP. As already stated the project coordinator need to identify the areas of training that need to be provided and create training schedules.

The end users are the people who determine the success or failure of an ERP implementation. Without their feedback and support the purpose of the ERP implementation can not be achieved. Hence it is of paramount importance to get the inputs and feedback in every stage of the ERP implementation. Their suggestion and changes should be carefully noted and incorporated in to the ERP.
III. CONCLUSION

Most of ERP research have focused on the critical success factors (CSF’s). This paper focuses only on the most important CSF’s and introduces a new factor named ‘Conflict Management’ and also separates the core and non-core activities of Implementation. This paper also provides key practical inputs on successfully implementing an Education ERP.

REFERENCES

[1][2] Zhenyu Huang, Central Michigan University, “A compilation research of ERP Implementation Critical Success Factors ”.