A Study of Implications of Enterprise Resource Planning (ERP) system in Higher Education

Prof. Nidhi Khare
Academic Associate-Information Technology,
Symbiosis Centre for Distance Learning, Pune
Contact No.-9730012823
Email-id: nidhikhare89@gmail.com

Abstract:

Few years ago, the usage of information technology in Education field was relatively simple and limited. However, as we progress into a more integrated world wherein the technology has become an integral part of the business processes, the process of managing of information has become more and more complicated. Today, one of the biggest challenges that educational institutions face is the explosive growth of educational data and to use this data to improve its management.

ERP systems are considered to be the largest software applications adopted by most of the educational organizations along with some investments in their implementation. However, less research activities have been done regarding the ERP systems in a university environment. An increasing number of higher education institutions have introduced ERP systems in order to improve their operations and make them manageable and more transparent. ERP vendors are also aware of this fact, which is the reason they have already expanded their solutions in order to satisfy the needs of higher education institutions.

ERP systems for higher education are developed in the direction of support for key administrative and academic services. The core of such a system usually supports minimal student administration, human resource management (monitoring of employees) and finance (accounting, payments, and investments, budget) by incorporating the features of the system.

This paper aims in descriptive study of implications of ERP systems in educational organizations. Its main objective is to analyze what role the ERP system plays in educational organizations and how it is helpful for them.

Keywords—Enterprise Resource Planning System, Higher Education, Implementation, User level, ERP

I. INTRODUCTION

In recent years, higher education is highly influenced by the technology and is asked by the governments to improve their performance and efficiency. Competitive education environments, increased pressures and expectations from the students and governments along with decreased governmental support have pressured universities worldwide to adopt new strategies in order to improve their performance. As a result of the same, the higher education sector has moved to Enterprise resource planning (ERP) systems in the hope of helping them to cope with this changing environment. Consequently, the existing administration and management computer systems have been replaced with ERP in the educational organizations in order to improve the performance of the end users by providing better managerial tools.

The main aim of ERP implementation in universities is to provide schools and colleges with an increased ability for research and teaching at the reasonable and low cost.

An ERP is an Enterprise Resource Planning system -- a software system that processes institution-wide transactions on a single software system and a single data base. These multi-functional systems are designed to streamline almost every aspect of how institutions operate. Simply put, an ERP integrates institutional data and processes through one system.

II. BENEFITS OF USING ERP IN AN EDUCATIONAL ORGANIZATION

1. Support analysis of trends and thus improve the performance of the institution.
2. Integrate information across all functions (examples include registration, financial aid, human resources).
3. Facilitate the flow of information among the institution's functions.
4. Track a wide range of institutional events in an integrated manner and facilitate planning future activities based on these events.
5. Allow users to:
   a. Input data into one system to enable it to be processed with other data
   b. Access data as information reports in a real-time environment
   c. Share common data and practices across the entire institution
   d. Re-engineer business practices

III. SOFTWARE COMPONENTS OF AN ERP

In higher education, the major software components, or modules, of an ERP consist of one or more of the following: Human Resources, Payroll, Finance, Purchasing, Asset

Management, Grants, Travel & Expenses, Student Information, Student Account Receivables, Financial Aid, and Advancement.

IV.   ERP PROVIDERS IN HIGHER EDUCATION

Many software companies sell ERP software within the higher education market. The most prominent providers include the following:

1. SunGard Higher Education
2. Oracle
3. SAP
4. Datatel

Steps Involved in Implementing an ERP System

Implementing an ERP system is considered to be a major task for the educational organizations. Some of the steps which are required to be followed while implementing ERP system in an educational organization are mentioned below:

1. Providing the business case for the ERP- The leadership of the institution will need to provide the rationale and make the business case for an ERP. For many educational organizations, implementing an ERP is used as a way to implement important components of the institution's strategic plan.
2. Assessment of the Readiness of the Institution- By carrying out a readiness assessment, an institution will be able to determine its "preparedness," to identify potential roadblocks, and to begin helping the organization understand the ERP project and overall benefits.
3. Preparation for Vendor Selection- To prepare for selecting the best vendor for your institution, the functional offices will document current business practices and determine the features required of a new software system. This list is commonly called the ERP system software requirements.
4. Selection of Vendor- Running the selection process as a project itself provides a structured process for choosing your technology partners, both the ERP software that best fits your institution's needs, as well as the technology firm you will use to configure and implement the software.
5. Planning of the Implementation. Using proven project management methodologies, tools, and techniques, your institution will prepare for a successful implementation by developing a comprehensive project plan and schedule. At this step, an experienced project manager can guide you through the hundreds of tasks that must be scheduled, tracked, and controlled throughout the project.
6. Implementation of the ERP Solution. The actual implementation will be the longest and most expensive step in the ERP journey. In this step, both monetary and personal efforts will be spent in carrying out the necessary work to implement your new software over a multi-year period.

7. Carry out a Post Implementation Assessment. A final exercise for your organization will be to determine if the business objectives of the project were met and to determine how much of the software's functionality is actually being used.

V.   OBJECTIVES

Primary objective in undertaking the present study was:

1. To analyze the impact of using ERP systems in educational organizations.

VI.   REVIEW

A review of literature is discussed below. ERP is a term which is used for both computer and software systems which integrates and automates major enterprise processes. Earlier, the ERP systems were designed to integrate and automate the manufacturing systems. The ERP system, nowadays, has encompassed strategic planning, human resources, customer relationship management and supply chain management. The main advantages of ERP for higher educational organizations are mentioned below:

1) Improved information access for planning and managing the institution
2) Increased income and decreased expenses due to improved efficiency
3) Improved services for the faculty, students and employees
4) Lower Business risks

The main integration of all business functions in educational environment represents the integration of systems for student administration, human resource management systems and financial systems that used to be supported by separate and often incompatible information can be found in existing "good enough" information solutions, which are used by the institution and the unwillingness of institutions for changes and investments.

The expenses and risks involved in implementing educational organizations are very high, whereas the return on investments is medium to long-term. But it is believed that integral information solutions give higher education institutions competitive advantages. An integrated database shared by different business functions and, consequently, different business modules of a single integral information solution is of key importance. Data can be transferred between individual processes and accessible by various users in real time.

Risks related to the implementation of ERP systems in higher education institutions are relatively high, with the institutions not always being aware of them, and not anticipating all or at least the majority of eventual problems.

In order to improve the share of successfully implemented ERP projects in higher education environment,

the initiators wanted to create the conditions for a successful communication and cooperation between two completely different groups of people: the management of a higher education institution, who is not familiar with information systems and their implementation and development on one side, and IT experts, who usually do not have or lack experience related to the implementation of information solutions adopted to special needs of academia on the other hand.
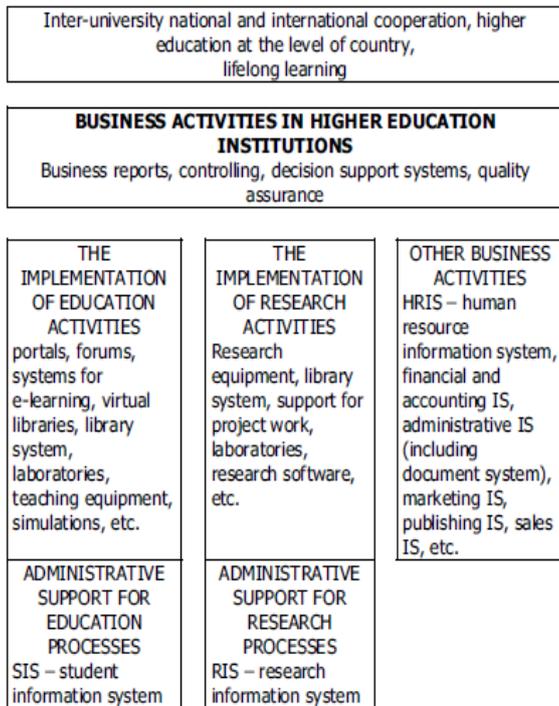
Inter-university national and international cooperation, higher education at the level of country, lifelong learning

BUSINESS ACTIVITIES IN HIGHER EDUCATION INSTITUTIONS Business reports, controlling, decision support systems, quality assurance

THE IMPLEMENTATION OF EDUCATION ACTIVITIES portals, forums, systems for e-learning, virtual libraries, library system, laboratories, teaching equipment, simulations, etc.	THE IMPLEMENTATION OF RESEARCH ACTIVITIES Research equipment, library system, support for project work, laboratories, research software, etc.	OTHER BUSINESS ACTIVITIES HRIS – human resource information system, financial and accounting IS, administrative IS (including document system), marketing IS, publishing IS, sales IS, etc.
ADMINISTRATIVE SUPPORT FOR EDUCATION PROCESSES SIS – student information system	ADMINISTRATIVE SUPPORT FOR RESEARCH PROCESSES RIS – research information system	

Figure 1.1 Business Activities of Educational Organizations and ERP systems

There have been numerous studies on ERP implementation and several related issues such as implementation procedures, business process and outcomes. Although these studies discuss many important issues in detail, even vendor selection and implementation team, research about ERP system in higher education is still at the infancy stage.

Indeed, existing ERP research has neglected the higher education sector worldwide, even though most universities have implemented or are in the process of implementing an ERP system. Thus research in issues related to ERP and users in higher education represents a forward step in analyzing the actual benefits potentially brought by these systems to organizations.

Although ERP systems in higher education institutions currently represent their largest software investment, it is not likely to be the final one.

Universities are planning to renew and install other enterprise–wide systems in the future, which necessitate the call for more research efforts in this area.

The series of studies conducted to assess ERPs in higher education and their associated benefits with a focus on process performance and the effect of factors such as culture and leadership on process performance in an ERP system environment. These studies concluded that ERP systems were implemented to improve services for students, faculty and staff. However, 50% of these implementations went over budgets and over timeline schedules. Although these studies did not give attention to user perspectives, they raised awareness and made some important contributions about ERPs in a significant environment (Higher education institutions) which represents one of the most important sectors that invested in ERP to achieve valuable outcomes from that investment.

It was also investigated that which factors are important when implementing ERP in higher education and which factors lead to success or failure. As for instance, the staff training is very important process when implementing ERP in higher education in order to reap more benefits from these systems. The impacts of ERP system on business process and performance in higher education were also analyzed. The study concluded that ERP potentially improves business performance in higher education by enhancing services offered to students, faculty and staff.
The study found that, factors such as change management, behavior management emotions, communication, and the implementation process approach and system functionality had profound effects on implementation success.

ERP systems for higher education develop in the direction of support for key administrative and academic services. The core of such a system usually supports minimal student administration (enrolment procedures and student enrolment, financial support for students, student data), human resource management (monitoring of employees) and finance (accounting, payments, investments, budget).

VII.   CONCLUSION

The benefits and impacts provided by ERP systems need a rigorous evaluation. Most existing evaluation studies of ERPs focus on technical issues or implementation processes, these do not provide an explanation about ERPs effects, or if ERPs work well or poorly with a specific user in a particular setting. Thus, evaluating the most critical factors that potentially determine the impacts from these systems is highly desirable in order to explain the actual benefits that could be achieved through these systems by users and organizations since they could affect educational outcomes and delivery.

Demonstrating the benefit and impacts of ERPs is becoming unavoidable from both academic and practical perspectives, due to the effect on individual performance, the high costs of these applications and the effects on educational services and outcomes.

To this end, this investigation will help higher education organizations, as practitioners and ERP professionals, to shift their attention from success and failure factors to other important elements such as users, task and system, and also shift their deliberation to how these elements can increase the benefits of ERPs.

This paper is an overview and survey of ERP in institutes of higher education. It has a definition of ERP, examples of ERP solutions, and examples ERP successes and failures. It also surveys critical success factors for ERP implementation, common benefits and measures of ERP.

These objectives were to replace expensive custom systems with off the shelf solutions, exploit the accessibility advantage of the Internet, and integrate and automate a single standardized solution. The cases focused on the technical details of adapting and integrating ERP solutions into the university environment which will help the educational organizations to improve their effectiveness.

References

1. *Implementing ERP Systems in Higher Education Institutions, Leo Zornada MSc., Tamara Bertok Velkavrh MSc.*
2. *Enterprise resource planning (ERP) systems, Majed Al-Mashari, ERP 101: A Primer for Busy Executives, Arthur J. Herbert, III, PMP, Edwin T. Cornelius, III, Ph.D.*
3. *ERP in Higher Education, David F. Rico*
4. *Enterprise Resource Planning (ERP) System in Higher Education: A literature Review and Implications Ahed Abugabah, Louis Sanzogni*