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Business Process Reengineering and Best Practices – An integrative Approach of Enterprise Resource Planning Towards Support Functionalities in Educational Sector

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ABSTRACT

The combination of calculating and communications and the improvement of information technology architecture are driving an evolution toward a new information/service economy. The method of business process reengineering is grounded upon innovative theory about service and quality and involves redesigning work flow to take lead of developing technological competence. Today the educational institutions are with more number of courses offered, diversified culture of student community, employees and with many administrative and support functions carried out. The educational institution's basic responsibility to address the need and enhancing the quality of work flow. To accomplish this, modification of processes has to be given priority in educational sector for the quality of work flow in the support processes.

This research paper explores the importance of Business Process Reengineering before implementing ERP package in the educational sector and it gives a vision of the need of integrating business process reengineering and information technology Main aim of the paper is to make an attempt to understand the refinement in the bottom line of the support processes and the significance of the systematic procedure of support processes to be reengineered even before the real work flow begins. By implementing Business Process Reengineering in the educational sector can address the concern of sustainability, cost-effectiveness and better work flow. The research paper can be a constructive contribution to educational sectors in formulating, evaluating, and reengineered in order to transform the system into an effective and efficient set of business processes.

Keywords: Business Process Reengineering, Educational sector, Support process, Cost effectiveness, Sustainability.

1. INTRODUCTION

Introduction to BPR and Its Basic Framework

Enterprise Resource Planning and Business Process Reengineering are evolved during 1990's. Both the term relates to the fundamental restructure of an association at a minimum time period. Mutually the ideas are relatively having intended to enhance the flow of work and to develop efficiency. Nevertheless, the chicken and egg question persisted, if the educational organization reengineer work procedure before executing Enterprise Resource Planning or directly execute the Enterprise Resource Planning and reengineer by embracing typical business process, built-in the Enterprise Resource Planning package. This research paper will introduce the concept of improving the quality of support processes in educational institutes by implementing business process reengineering.

Business Process Reengineering comprises the fundamental redesign of essential business processes to achieve developments in production, process cycle, and excellence. The Business Process Reengineering thought starts with a blank paper and rethinks prevailing progressions to bring additional significance to the customer. Organizations get freed of unfertile happenings into two significant characteristics: Firstly, they redesign efficient organizations into cross-functional sides. Secondly, they use the Information Technology support to recover information and data proliferation and making the decisions.

In the early 1990's Michael Hammer and James Champy published a book, 'Reengineering the corporation", that stated that radical redesign and reorganization within a company were the only way to reduce costs and improve service quality. According to Michael Hammer, to reengineer administrative processes requires us to start from scratch in making fundamental assumptions, to reject much of the conventional wisdom abundant in all organizations, and to think out of the box" by looking for ways to initiate changes of magnitude through innovation.

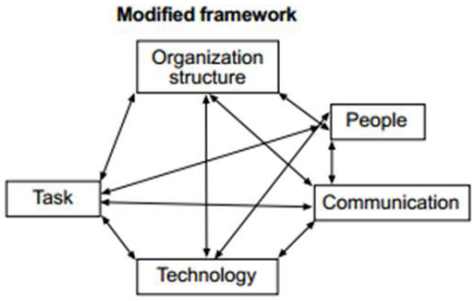
Hammer and Champy (1993) define business process reengineering (BPR) as: "the fundamental rethinking and radical redesign of the business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed".

Hammer & Champy (1993), in a survey, observed that approximately 70 percent of all private business in US and Europe were using BPR to have performance improvement. The authors observed that the failure rate of reengineering attempts were high – to the extent of 70 percent. Reengineering required high budget. By the mid 1990's BPR became popular as a justification for downsizing. According to Hammer, lack of sustained management, commitment and leadership; unrealistic scope and expectations; and resistance to change prompted managers to abandon the concept of BPR and embrace the next new methodology, enterprise resource planning. Hammer and Champy provide the following definitions:

- Reengineering: Is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance such as cost, quality, service and speed.
- Process: Is a structured, measure set of activities designed to produce a specified output for a particular customer or market. It implies a strong emphasis on how work is done within an organization." (Davenport 1993).

BPR

BPR Framework



BPR framework (Grant and Mergen)
Source: Park Win Ying (2012)

In their seminal work on Business Process Reengineering, Hammer and Champy (1993) are attributed in the literature as defining reengineering as "the fundamental rethinking and radical redesign of business processes to achieve vivid improvements in critical temporary measures of performance such as cost, service, quality, and speed" (p. 46).

The BPR perspective, we designed a framework inspired by two main sources: (1) a retrospective analysis of our own experience in reengineering several internal processes, such as faculty development program management (Abdous, 2005), a syllabus creation process (Abdous & He, 2006), and learning assessment lab registration; and (2) the BPR literature (Davenport & Short, 1990; Macintosh, 2003, O'Neill & Sohal, 1999; Ahmad, Francis & Zairi, 2007). By combining two sources in which theory has been nurtured by practice, framework provides a well-grounded tool to use when reengineering processes in educational sector.

2. STATEMENT OF THE PROBLEM

Educational institutes should have a better support process to meet the demands of the students, departments and stakeholders. This need and demand to be accomplished with the existing framework of available infrastructure. Without BPR it's difficult to satisfy the current demands. BPR as a tool to redesign the entire process and implement the better ERP package to satisfies the requirements of the educational institute. This article discusses the need of BPR implementation which needed in support process of educational institutes.

3. WHAT COMES FIRST: BPR OR ERP

Which should be done primarily: BPR or ERP or Business process reengineering and ERP implementation go simultaneously.

Performing BPR first ensures that business processes are optimized and examine the actual process before ERP package is selected and configured. This process of optimization helps the educational institute to refine the unnecessary practice and includes the best and actual process needed. By doing BPR exercise

provides a common understanding of support processes and can identify the better software package that fits the process yield a better result.

4. LITERATURE REVIEW

Dr. Ramdass S. Wanare, Amar R Mudiraj (2014) Study on Business Process Reengineering (BPR) and its importance in ERP implementation. The author's states that BPR is the process come into view in the description during the very first phase of ERP implementation. The testing of BPR progress is validates in the bases of time and cost factors. During the implementation of the BPR process the control over the operational activity is more significant. The authors briefly explained the BPR implementation model and even assessment of BPR progress is also made. The major factors affecting the BPR process like managerial, operational, financial, technical factors are also analyzed.

Muhammad Nauman Habib and Dr. Attaullah Shah (2013) Business Process Reengineering: Literature Review of Approaches and Applications. The authors have reviewed many research articles related to BPR concept and it has been divided into sub headings like background of BPR, BPR methodologies, approaches, causes of success and failure and BPR in practice. In this paper BPR was analyzed right from its origin to the practical implementation and results. It was concluded that BPR is customized approach to fulfill the customer's requirements and needs.

James I. Penrod and Michael G. Dolence(1992) Reengineering: A Process for Transforming Higher Education. The authors in the research paper depicts that BPR has to start from scratch in making assumptions because very important environmental and technological changes have occurred since most processes now in use were envisage.

M. Sepehri, Alinaghi Mashayekhi, Abbas Mozaffar, UNESCO Colloquium on Research and Higher Education, Paris, December 2004. The author proposes a model for process redesign, it may involve automation of activities or improved information dissemination, but it does not necessarily require replacing current processes or organizational structure.

5. OBJECTIVE OF THE STUDY

- To investigate the need of implementing Business Process Reengineering and its best practices to be adopted in the support functionalities of Educational Sector.

6. BPR PLAYS A CRITICAL ROLE IN ERP IMPLEMENTATION

To boost the efficiency, cost cutting and make IT an integral part of an educational institutes. The fine-tuning educational institutes support process facilitates the students need, department needs are important. The Business Process Reengineering, before instigating Enterprise Resource Planning, the educational institutes essentially should examine the existing procedures, investigating the non-value adding events and redesign the support procedure to create a value for internal and external customers and properly select the ERP package to suit the requirements of educational institutes.

This is a customized activity to reengineered process to radically improve the near future and most concentration has to be paid and decide the ERP package to be the best class and adopt best practices.

Following steps to implement BPR in Educational Institutes:

- **Educational institutes vision and objectives:** Some Business Process Reengineering exercise wishes to originate with clearly well-defined and quantifiable aims.

  Objectives are accomplished by refining the excellence of process, growing competence and minimizing the prices.

- Identification and floppy Processes.

  Once the goal is set, the support processes is scrutinized and find out the slacking or that needs an improvement. The identification of slack makes the BPR implementation.

- **Information technology competences:** A well-organized Information Technology system is a Business Process Reengineering enabler. Deprived of such system it is hard to retain a check on all issues affecting the change.

- **Design and test the new prototype:** Before any product is hurled, a model is verified. A failure in the testing stage cannot be executed in the advanced phase. Most of the BPR projects fail because of the incapability to recognize and admit any shortfalls. Further issues, both the organization's approach towards the new-fangled method of effort and the employee's viewpoint headed for the modification which will be evaluated with care.

- **Familiarizing in the Educational institutes:** Business Process Reengineering is a fundamental transformation action which could not be constant if it drives in correct at the primary stage. It is highly a risky activity that includes financial speculation and danger.

7. SUPPORT PROCESSES IN EDUCATIONAL INSTITUTIONS

The supporting processes are designed to support or help the operations. These processes bring out the accountability in the operations, help the operations in recruiting, deploying the human skills and also bring good amount of administrative control to smoothen the operations. Student welfare department, Examination department, Research and Development, Administration, Finance, accounting and taxation, HR, IT, legal are the important supporting processes of an educational institutions.

More number of students in the institute/colleges/universities is enrolled for the course. Hence the student's database is huge and managing of information is crucial task. Any student information will be properly retrieved from the administration office for many academic purposes. Due to the lack of coordination and not submitting the data by students will end up by the lack of information and causing delay on the activities performed by the support processes like Administration, Examination and Result declaration, Finance and Accounting. Industries uses the idea like CRM (Customer Relationship Management), ERP (Enterprise Resource Planning) before applying this, a business process reengineering has to be done for the effective end result.

Similarly, Pall has defined the process as "the logical organization of people, materials, energy, equipment, and procedures into work activities designed to produce a specified end result (work product)."

Processes Characteristics:

- **Customers:** Customers might be internal or external to the institutes. In an educational institute, customers are students, parents, vendors and other entities that may interact with the institute.

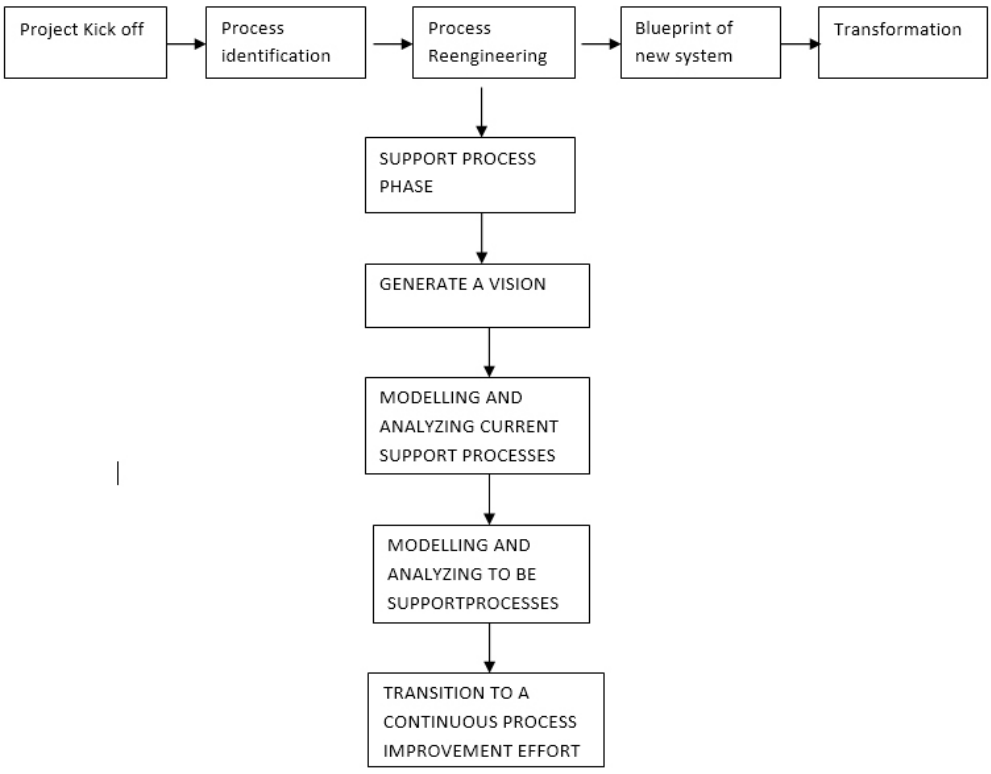
- **Departments:** Inter Departments, teaching faculties, Support/Administration and others. Processes are independent of formal structure. The most prominent reasons to adopt BPR initiatives in the educational sector are to meet the day-to-day challenges, meeting the expectation and demands of the customers.

Customer Relationship Management (CRM) has to be adapted and personalized according to the need in the educational sector and Enterprise Resource Planning software has to collect and achieve the data and other information's regarding the courses, student's information, employee's data, infrastructure details, bonded and unbounded items, and other resources.

Process improvement Vs. Process Innovation (Davenport 1993)

	Process Improvement	*Process Innovation*
Level of Change	Incremental	Radical
Starting Point	Existing processes	Clean state
Frequency of Change	One-time/continuous	One-time
Time required	Short	Long
Participation	Bottom-up	Top-down
Typical scope	Narrow, within function	Broad, cross-functional
Risk	Moderate	High
Primary Enabler	Statistical control	Information technology
Type of Change	Cultural	Cultural/structural

8. IMPLEMENTATION STRATEGY AND FRAMEWORK



This part depicts how the Business Process Reengineering can support plan execution. Business Process Reengineering is used to advance competence and efficiency for interior errands (Davenport 1993). Many researchers have in their research studies have thrown light on the conclusive aspects of achievement to attain the anticipated aims and objectives throughout the project execution.

For an efficacious Business Process Reengineering execution, the IT plays as a significant enabler. Therefore, a query is elevated if its rational to directly execute the Enterprise Resource Planning and re-engineer business processes by accepting extraordinary practices, that is been confined in the Enterprise Resource Planning packages. This method will evade the boarding on Business Process Reengineering that is costly, time consuming and frequently dangerous. And also the reengineered process ascending out of the Business Process Reengineering exercise might not be the best one. On the other hand, there is a risk in this method if an appropriate Enterprise Resource Planning package is not being picked. Process alignment and possession would be missing from the employees which might lead to the foremost execution problems.

Outputs of BPR Implementation

- Data Base Management – Maintaining and Managing entire information of University/college/institutions
- Information Sharing – Any time information is retrieved and shared across functionalities
- Maintain data of all academic data used for any audit purposes
- Zero defect in data's
- Minimize the waiting time for data retrieval
- Effective and Efficient performance of support process

9. CONCLUSION AND FUTURE WORK

Like any other industry, Educational institutions too need to transform their support process in order to successfully face the challenges in the competitive environment. An examination of BPR implementation in support process of educational institutes can be a powerful tool to bring in necessary organizational changes to provide a competitive edge.

This article emphasizes the need of organized variety of processes to be re-engineered smooth before the actual procedure commences. This study shows the BPR initiatives that drives the educational institute's success. It also highlights the importance of performing the BPR activity before deciding on ERP package. The use of implementation of BPR could produce better results and they are completed by secondary implements that includes creating awareness and employees exercise. Information Technology is found to be one of the most prominent in the achievement of the assignment, preceding the plane like reengineering process, integration of IT enables to lead the successful BPR implementation.

Although Business Process Reengineering has been used ceremoniously for over an era and assimilated method is required to articulate and reengineer the educational institutes keep up procedures. Problematic description and preparations are significant and stimulating, Scrutinize and the study procedures in micro as well as macro levels must be include either in inter or in intra administrative procedures and communications.

The prime emphasis on this research article is to have a radical redesign of a support process in Educational institutes. Another important factor that can be viewed as, even though certain processes

were automated, it did not result in downsizing of employees. It can be accommodated the resources in areas where they needed with the providing the proper training. If human resources are well managed in the educational institutes are the success factors and it will reach to the higher levels.

The combination of Business Process Reengineering and Selection of ERP package will give benefits not only the bottom line, but give it a new measure of sustainability and improves the effectiveness of the support systems workflow in the Educational sector. For further research work can be carried out by involving professors, students and personnel in the validation of BPR implementation in the support procedure of Educational institutes.

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