International Journal of Research in
Computer and Communication Technology

ISSN (O) 2278-5841
ISSN (P) 2320-5156

Study on Business Process Reengineering(BPR) and its importance in ERP Implementation

[1]Dr. Ramdas S. Wanare, [2]Amar R. Mudiraj
[1]Associate Professor & Head
Department of Account & Applied Stat.
Vivekanand Arts, Sardar Dalipshingh Commerce & Science College, Aurangabad
[2]Research Student, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad
wanarers@gmail.com, amarmudiraj@gmail.com

ABSTRACT:

In the new era of automation in the industrial growth the ERP plays vital role. Most of the industries struggle to steady their business as much as automatic at the level of functioning environment. The ERP is the one of the automatic solution, who provides lend a hand to the organization to accomplish this need. Although the ERP implementation is the enormous, expensive and time consuming process, the organizations still wish for put the ERP into practice for their betterment. The triumph for the ERP implementation is constantly depends upon the Planning. Most of the ERP Implementations are unsuccessful only for the reason that poor planning. The Business Process Reengineering (BPR) is the early-bird stage procedure for indentifying and investigates the organizational demand for the ERP implementation. This paper will emphasize the BPR process and it implementation. The research also explains the reliance of ERP implementation on the victorious BPR in the organization. Here, the research try to validate the significance of successful BPR process can also construct the successful ERP Implementation in the organization. In the very last part of the paper, list out the key issues which are affecting on the BPR process during its implementation. All the key issues or factors are gets classify in four different characteristics of the organization like Managerial, Operational, Financial and Technical.

Keywords:

BPR, Business Process Reengineering, ERP, ERP Implementation.

1.   Introduction:

Enterprise Resource planning (ERP) is latest high-end solution, information has lent to business application [01]. The ERP process includes three stages during its implementation Pre-Implementation, In-Implementation and Post-Implementation and BPR is the process appears in the portrait during the very first phase of ERP implementation. Table 1.1 shows that the all ERP can proceed though three phases and BPR is first & initial process for ERP implementation. Business Process Reengineering (BPR) is an organizational method demanding radical redesign of business processes in order to achieve greater efficiency, better quality and more competitive production (Hammer and Champy, 1993). This paper stresses the BPR process and its significance in the ERP implementation in the organization. This paper also tells the different phase of the BPR process to describe the micro level view for the BPR process. With the same research paper I would like to list out factors which are affecting on the BPR process and all the listed issues are get separated into different feature of the organization like Managerial , Operational, Technical and Financial aspects.

2.   BPR Process an Overview.

Michael Hammer is the founder of the notion called business process reengineering in the 1990. They define the BPR as "*the fundamental rethinking and radical redesigning of business process to achieve dramatic improvement in critical contemporary measures of performance, such as cost, quality, services, and speed*". Homeas H. Davenpoirt defines the BPR terms as "*encompasses the envisioning of new work strategies, the actual process design activity, and the implementation of the changes in all its complex technological, human, and organizational diminutions*". BPR present the thought about the existing functioning environment and business process, on the foundation of this information the organization can take the judgment and decide to redecorate the business process according the new plans and objectives to attain the new landmark in their business. Design test

Phase	Pre-Implementation Phase	In-Implementation Phase	Post-Implementation Phase.
Process	BPR + BE	Development Approach + SDLC	Monitoring + Maintenance
Activity	• Analysis • Business Engineering • TQM • Business modeling	• Planning • Design • Implementation • Testing • Deployment • Training • Use	• Review • Monitor • Resolve • Control • Maintenance
Outcome	Ready to implement ERP	ERP is ready to use	ERP Results and Reviews

Table1.1: ERP implementation model [1]

2.1   BPR Implementation Model.

The execution of the BPR is relatively similar to the conventional lifecycle of the software development and we can find following step in the BPR process
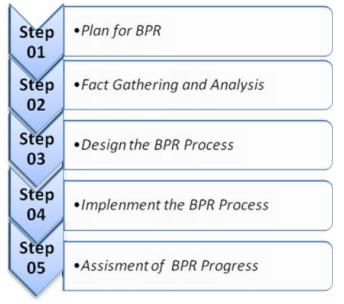

- Step 01 • Plan for BPR
- Step 02 • Fact Gathering and Analysis
- Step 03 • Design the BPR Process
- Step 04 • Implement the BPR Process
- Step 05 • Assisment of BPR Progress

Fig: 1.2 BPR Implementation Model

2.1.1   Planning for BPR

Top level management has to create their mission and vision in such level so they going for such huge and long term costly process like BPR. Every organization has to think differently and take the discussion for implementing ERP in their organization. After finalizing the Top level management the organization has to plan for the BPR process to indentifying the current business process and loopholes in the current working style. During the planning phase the organizational top level management has to think about the BPR as positive view. Organization has to consider their vision and mission in-front of their   aim to plan for the BPR

2.1.2   Data Collection and Analysis

After plan the BPR process the organization start to collect the data from the different resources like external and internal resources which require for clarifying current scenario in the business process. Top level vision and mission, protocol of the organization, current technology used by the organization during the business process, problem and treats faced during the current business process, risk management in the business process, cost and time constraint in traditional business process etc. after collecting all the data from the different resources the BPR team will identifying the GAP of existing process and the factors which are affecting on the current business process and their impact level on the business.

2.1.3   Design the BPR Process

Now the organization is ready with the all the detail information about the factors and methodology of traditional business process. In the design the BPR process the BPR team will create step by step approaches for reaching the aim. Team will distribute the task among the all team member of BPR team. While design the BPR process the team will always have a alternative which help to implement into the different scenario and situation. Most suitable alternative will get select by the team member which gives them more potential and positive answer of their question which the team planned to find the BPR process.

2.1.4   Implementing BPR Process.

The implementation stage is where reengineering efforts meet the most resistance and hence it is by far the most difficult one [2]. Here the planned new business process will meet the traditional business process.

When the organization implement the BPR process the constraints of time and cost is consider at very high priority level. While implementing the BPR process the two basic strategies are generally used first is implement complete BPR at same time or implement partially i.e. implement phased approach(Alexis leon, 2008).

Implementation phase require continuous monitoring for identifying the structural and behavioral changes in the existing process and people who are get affected by the new BPR process directly or in-directly.

2.1.5   Assessment BPR Progress

While finalized the BPR process execution the organization has to take the better control over the process by continuous monitoring the test the progress of the new business process. Every testing has some of the benchmarks and we expect that the new business process is reaching the goal of the organization or not.

The testing of the BPR progress is validates in the bases of time and cost factors. While testing the progress of the BPR we have to monitor the outcome of the process and consistency of the outcome. BPR is process not complete in one sitting so it requires continuous monitoring the progress by analyzing the outcomes.

As the process gives the outcomes as per the plan then it acceptable but if it is not upto the mark then organization has to try some other alternatives which they have during the implementation phase.

Managerial Factors
- Change Mgmt
- Vision & Mission
- Top Mgmt Support
- Resource Mgmt
- Project Mgmt
- Effective Leadership
- Post Implementation maintenance

Operational Factors
- Control Mgmt
- Project Delay
- Gap Analysis
- Risk Analysis
- Vender Support
- Operational Standardization
- BPR

Financial Factors
- BPR Implantation   Cost
- Planning and Execution Cost
- Change in Infrastructure Cost
- Technology Cost
- Taxes
- Miscellaneous Cost

Technical Factors
- Technology Acquisitions
- Technical Team Requirement
- Training
- Technical Infra. (Hardware and Software)
- Package Configuration
- Customization
- Data Migration and Integrity

Fig: 1.3 Factors Affecting on BPR Process

3.   Factors Affecting on BPR Process

Now in this section we are try to analyze the factors which are affecting on the BPR process and the factors also has different aspects of the organization like managerial, operational, financial and technical.

3.1   Managerial Factors:
These factors are associated with the Top level management like the managers, board members etc. as they have the vision and mission, they plays very essential and manifest role in the BPR process.

Chang management means the organization is prepared to admit the change in the present working style; they also keep the bright and clear vision and mission to believe the new changes in the organization. While performing the same, the Top level management support need by the development squad.

Every process require sufficient resource to get into the actuality and if the given resources which are restricted has to get consume in such appropriate method, so that the wastage or idealism of the resources will not occur during the BPR implementation.
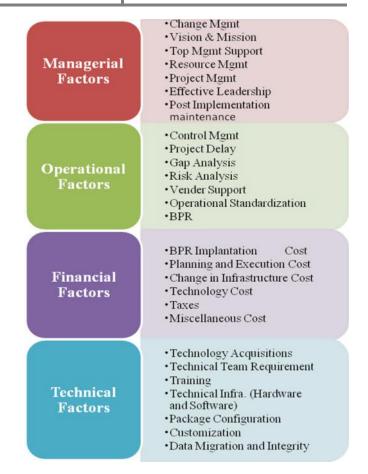
3.2   Operational Factors:

During the implementation of the BPR process the better control over the operational activity is more important. By better control over the operational activity we can identify and analyze the different constraints like time, cost, and resources and also change in behavioral and structural changes in the BPR process implementation. While considering the better monitoring and control over the BPR process if any gap get indentifying in the process so immediate action has to get take to avoid any serious consequences of the gap. Risk analysis play a very vital role in the BPR process by which we can identify the internal and external risk which can affect badly on the BPR process.

3.3   Financial Factors:

Its fact that, to get more money you need more money. Finance is the factor which has more closed link with the business as compare to any other factors. While considering the financial factors we more concentrate on

overall BPR implementation cost. As the BPR process is very time consuming process, it requires more resources and for the resources you require more finance. Other than above planning and execution cost also play the vital role in the financial category, where resources like planning and execution time, people involve in the team require more finance. With the same costing factors the business process reengineering also have to consider infrastructure cost where the organization might be require more and advance infrastructure to establish and implement new BPR process. Finally some financial need on the basis of external bodies like trend union, government financial policy, stock market also affect on the BPR process during its execution and implementation.

3.4   Technical Factors:

One of the most important and critical factor during the BPR process implementation is technical factors in other word IT factors. First and most important factor is organizational acquisition for the new technology and it take long time and if there is time taken activity then the cost of the process get increase. To implement, monitor and control the BPR process we must have well qualified, technically sound and highly experienced team members. After implementation people who are going to work on the new process they must have the knowledge of the new technology and working environment so they have to get trained before going to work on it. In this session lots of efforts has to take by the technical team of the BPR process. Technical infrastructure for BPR process also plays the very crucial and vital role, where the organization has to setup the new hardware and software for the new business process. The installation, backup, controlling and monitoring the   equipment, analyzing integrity and consistency in the IT infrastructural components are has to get maintain and monitor to avoid future problem

4.   Conclusion

While conclude the research paper highlight the BPR process as micro-level activity which plays a very important and un-ignorable activity for the organization those want to go for ERP implementation. As the BPR process is time consuming and costly process most of the organization goes for it. This research also summarized the BPR process step by step. By listing and elaborating the factors affecting on the BPR process the study also gives the idea to consider the different areas to the organization those planned to go for the BPR process before ERP implementation in their organization. Dividing the factors in the four different categories gives the idea to the development team of the BPR process to focus on the crucial areas in organizational category during the implementation of BPR process.

References:

[1] Prof. Amar R. Mudiraj (2013), "Erp: An Effective Resource Utilization Tool For Organization", Ijmbs,Vol. 04 ,Pp 68-73

[2] Furey, Timothy.R., (1993), A Six Step Guide To Process Reengineering., Planning Review 21 (2), Pp 20-23

[3] Yasar F. Jarrar ', Abdullah Al-Mudimigh 'And Mohamed Zairi(2009) '' Erp Implementation Critcal Success Factors - The Role And Impact Of Business Process Management" Icmlt Pp 122-127

[4] Kedar Kulkarni   (2011), " Overview Of Business Process Re-Engineering (Bpr) In Sap Implementations", Sap Community Network

[5] Turan Erman Erkan (2009)," Bpr Effect On Erp Implementation: A Comparative Case Study", World Academy Of Science, Engineering And Technology. Pp 1508-1511

[6] A. Gunasekaran{* And B. Kobu(2002) "Modeling And Analysis Of Business Process Reengineering", International Journal Of Production Research, Pp 2521-2546

[7] Marc J. Schniederjans, Gyu C. Kim, (2003) "Implementing Enterprise Resource Planning Systems With Total Quality Control And Business Process Reengineering", International Journal Of Operations & Production Management Volume 23, Pp. 418-429

[8] Subramanian Muthu, Larry Whitman, And S. Hossein Cheraghi (1999), "Business Process Reengineering: A Consolidated Methodology", The 4th Annual International Conference On Industrial Engineering Theory, Applications And Practice,

[9] Natasha La Rock (2003), "Examining The Relationship Between Business Process Reengineering And Information Technology"

[10] EricY.Cheng,Ying   JenWang,(2006),"Business   Process Reengineering And Erp Systems Benefits", 11th Annual Conference Of Asia Pacific Decision Sciences Institute PP. 201-213

[11] Sunil Thawani(2000)," Bpr Or Erp - What Comes First?".

[12] Abdul Zahid Khan 1 +, Rahat H. Bokhari 2, Syed Iftikhar Hussain 3 And Mahwish Waheed ,(2012)," Realizing The Importance Of User Participation And Business Process Reengineering During Erp Implementation", International Conference On Information And Knowledge Management Iacsit Press, Singapore,Pp 289-296

[13] Rene Pellissier' And Albert Kleynhans ' (2000)," Bpr And Erp: The Chicken Or The Egg"

[14] Prof. Amar R. Mudiraj "BPR: THE FIRST STEP FOR ERP IMPLEMENTATION",(2014), International Research Journal of Commerce, Business and Social Sciences (IRJCBSS), Vol. II, Issue 12 (III), March 2014

[15] J. O. Strandhagen, T. Skarlo (2002) "A Manufacturing Business Process Reengineering Method: Design and Redesign of a Production Control Model".

[16] Naiqi WU (2005), "Flexibility to Manufacturing Process Reengineering for Mass Customization", INTERNATIONAL JOURNAL OF INTELLIGENT CONTROL AND SYSTEMS VOL 10 NO. 2, JUNE PP 152-161

[17] Tor Guimaraes , (1998), "IMPORTANT FACTORS FOR BPR SUCCESS IN MANUFACTURING FIRMS",, GESTÃO & PRODUÇÃO v.5, n.1, p. 1-17.

[18] Yih-Chang Chen (2001)" Business Process Reengineering: Introduction Yih-Chang Chen (2001) "Empirical Modelling for Participative Business Process Reengineering""