



# BPR & ERP

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## ERP

### Source

- ◆ Suresh Subramoniam, Mohamed Tounsi, K.V. Krishnankutty, (2009) "The role of BPR in the implementation of ERP systems", Business Process Management Journal, Vol. 15 Iss: 5, pp.653 – 668
- ◆ Ziaul Huq ,Thomas N. Martin (2006) "The recovery of BPR implementation through an ERP approach- A hospital case study", Business Process Management Journal, Vol. 12 Iss: 5, pp. 576-587

## BPR & IT

- ◆ There exists a recursive relationship between BPR and IT which can be utilized for thorough process change
  - BPR using IT emanated from gradual progression in the use of computers from routine clerical job processing to IT-based decision making
  - Many corporations reaped benefits by re-engineering their processes at various stages of IT development

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Sl. no.	Rule	Disruptive information technology
1	Information can appear only in one place at a time	Shared database
2	Only experts can perform complex work	Expert systems
3	Businesses must choose between centralization and decentralization	Advanced telecommunication network
4	Managers must make all decisions	Decision support tools
5	Field office is needed to receive, store, retrieve, and transmit information	Wireless data communication and portable computers
6	The best contact with a potential buyer is personal contact	Interactive communication through the network
7	Manual tracing of raw material, in-process and finished inventory	Automatic identification and tracking technology
8	Plans get revised periodically	High-performance computing

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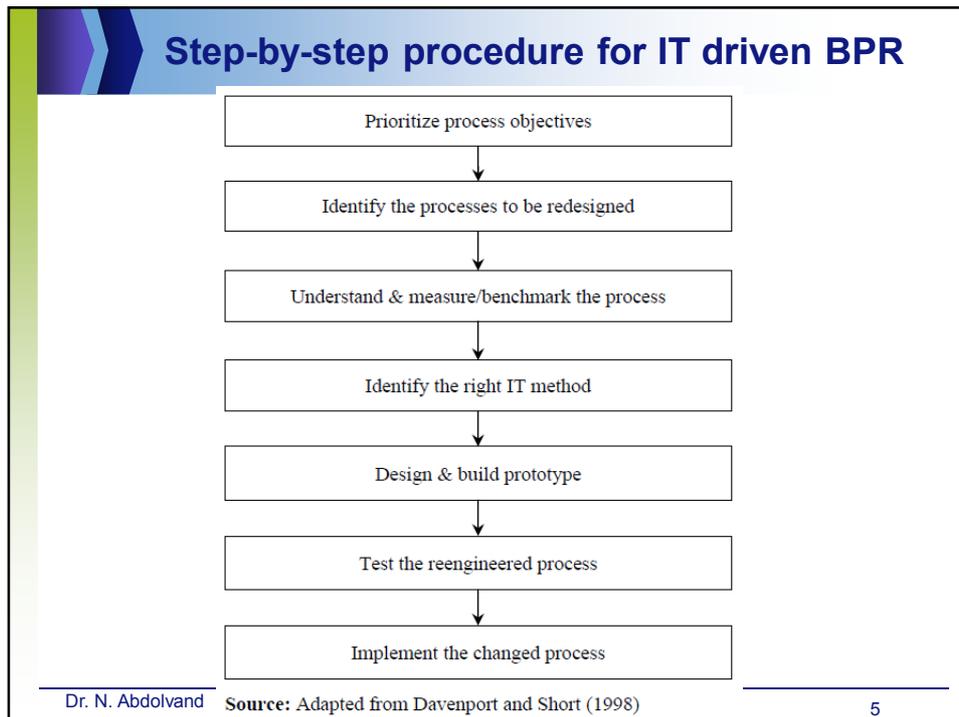
Table I.  
Disruptive IT technologies that aid BPR in business information systems

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Source: Burke and Peppard (1995)

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### BPR through use of ERP

- ◆ Some of the commonly used IT tools for re-engineering are ERP systems, outsourcing, consulting firms, enterprise software, internet, intranet, electronic data interchange (EDI), and legacy systems
- ◆ The three major approaches to BPR implementation include
  - top management driving down BPR,
  - participative BPR or
  - enterprise resource planning (ERP) systems driving BPR
    - ERP systems allow sharing of real-time information between manufacturers, customers, and business partners
    - requires that the existing processes be aligned with the software, a step-by-step implementation plan through cross-functional coordination, and addressing issues relating to employee training and culture

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## Benefits of ERP for BPR

- ◆ the biggest benefit of ERP systems stems from the use of a common database for all functional and cross-functional activities, thus, resulting in data integrity, reduced transactions, lower cost of management, and most importantly, better customer service
- ◆ The biggest advantage of ERP-driven BPR lies in the meticulous search process companies have to go through for the optimal system
  - users need to accumulate experience with the new system,
  - companies are obligated to be cautious in adopting ERP
- ◆ ERP adoption at these companies caused major process changes and various levels of system integration

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## Risks of ERP

- ◆ ERP product can be installed only with significant business process change
- ◆ There is considerable risk in changing multiple processes at a time.

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## ERP Selection & Adoption

- ◆ Process automation capabilities of the ERP system can easily make it transparent that its adoption is not just a technology installation, but rather a business process change effort
- ◆ In the pre-implementation phases most companies need to produce a white paper on how to go about the process of selecting the ERP vendor, piloting the installation, and rolling out the system to all departments
- ◆ The selection of the ERP vendor is extremely critical and to avoid misfits, companies must look for gaps between the functionality offered by the package and that required by the company

## BPR-ERP nexus

- ◆ A wide spectrum of approaches, BPR implementation, exists ranging
- ◆ from technology enabled re-engineering
  - If ERP system is chosen first, then the re-engineering is driven by the chosen ERP system or re-engineering is technology enabled
  - Costs involved with such re-engineering are very low
- ◆ to clean slate re-engineering
  - design starts from scratch and ERP system software is highly customized to fit the processes of the enterprise in discussion.
  - Costs associated with the development of such systems are many times higher than technology enabled re-engineering.

## Clean slate approach

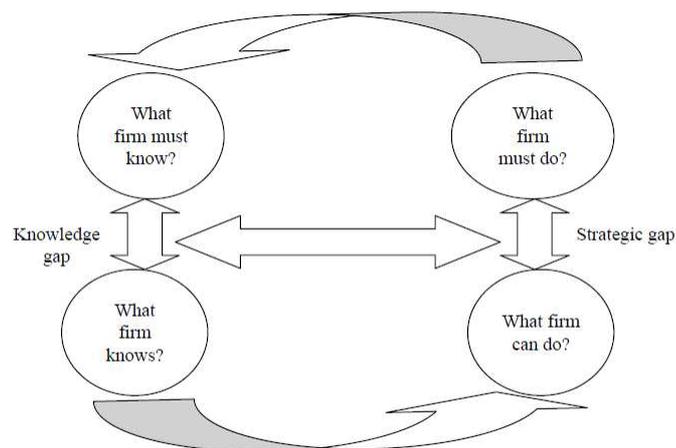
- ◆ Clean slate approach is more suited to large firms with the following criteria:
  - afford cost and time for development of such systems;
  - requires unique solution; and
  - uses processes as key for strategic advantage.

## BPR from a strategic perspective in ERP implementation

- ◆ Many earlier studies have identified BPR as one of the critical success factors in ERP implementation projects
- ◆ Existence of comprehensive measurement systems that provide a feed back mechanism to track implementation efforts, identify gaps and deficiencies in performance and recommend actions to fine-tune the situation helps achieve desired business value

## technology enabled re-engineering

- ◆ If BPR is seen as consequence of ERP implementation, strategic importance BPR is lost
- ◆ in ERP implementation, redesigning of the business process takes place at the tactical level for aligning the ERP system and business processes
- ◆ In addition to that a shift from function-oriented thinking to process-oriented thinking is achieved using BPR which transforms the long-term behavior and strategy than short-term change in organizational behavior
- ◆ Strategic view of BPR explains its importance as a tool that will bridge the strategic gap by reducing knowledge gap using suitable ERP systems



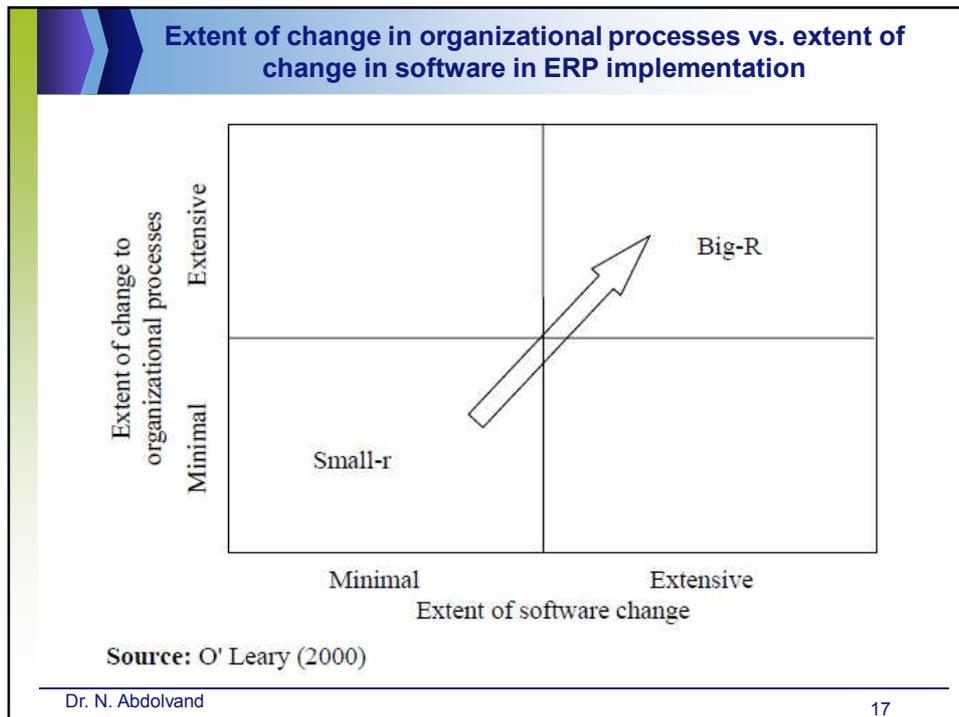
Source: Adapted from Tiwana (2000)

## Which First

- ◆ A survey on 220 European companies implementing SAP shows that simultaneous implementation of BPR and SAP is the most effective method for business improvement

## Gap analysis and re-engineering

- ◆ Even a custom tailored ERP system meets only 80 percent of the company's functional requirements.
- ◆ This gap which exists between company's requirements and the proposed ERP system needs to be analyzed and is termed as gap analysis.
  - choose the application that fits the business and customize little (37 percent);
  - customize applications to fit the business (5 percent);
  - reengineer business to fit the application (41 percent); and
  - no existing policy (17 percent).



### small-r re-engineering

- ◆ Advantages
  - it is faster and cheaper as it does not require major changes in software or organizational processes; and
  - generic processes in this approach are maintained as such and is an ideal option for financial and many back office processes for which the value addition in such processes may not be visible from outside.
- ◆ Disadvantages
  - as processes are not changing, number of employees are also not changing; and
  - small-r might miss a window of chance for opportunity by not choosing ERP software which demands process changes

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## Extensive process change and minimal software change

### ◆ Advantages

- as software is not changed, it is easier to update using the newer version;
- difficult task of changing ERP software is avoided;
- changing the software means adding a new layer of expertise and labor into the system which is avoided here; and
- chance of process standardization is more as the ERP system constraints the organizational processes to ones available with the ERP system implemented which are standardized and proven.

### ◆ Disadvantages

- value-creating process is changed to generic process; and
- organization process changes may not be successful. If the system is decentralized, switching over to common processes may be problematic in all the divisions of the organization.

## Minimal process change and extensive software change

### ◆ Advantage

- This is done to accommodate best practices not available with the ERP system implemented.

### ◆ Disadvantages

- Customization makes it difficult to use the software in other divisions of the same company.
- Every software upgrade ends up in extensive software change which drains the resources of the firm

## Big-R re-engineering

### ◆ Advantages

- the firm is the first one to enjoy the benefits of the new ERP system generated through big-R; and
- ERP partner shares some of the costs and some part of the risk

### ◆ Disadvantages

- changing software is an expensive proposition; and
- upgrade is affected which is difficult to implement because of software change

# Questions?