

***Research paper***

## **BPR APPLICATION SCALE**

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Business Process Reengineering (BPR) is the cutting-edge trend in contemporary business. It is a tool, a method or practice to attain radical improvement in various dynamic environments. The main aim of development of this scale "BPR Application Scale (BPRAS)" was to study about the application of business process reengineering as a quality tool in manufacturing sector organizations. The scale is divided into two parts: Part – I Demographic Information & Part – II BPR Practices as Quality Tool. Part – I includes 12 questions based on nominal and ordinal scale. But part – II includes 21 questions based on likert scale, open and closed ended scale to measure the each variable of quality. This scale is very useful for managers, manufacturers, service providers, academic researchers etc. This scale may be used to check the efficiency of the organization & measure the current status of BPR.

**Keywords:** Business Process Reengineering; BPR; Application; Scale; BPR Practice; Quality Tool

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### **INTRODUCTION**

"Choose the best tools for the job: Managers need a rational system for selecting, implementing and integrating the tools appropriate for their companies. A tool will improve results only to the extent that it helps discover unmet customer needs, helps build distinctive capabilities and helps exploit the vulnerabilities of competitors or a combination of all three" (Rigby & Bilodeau 2005).

Organizations today are facing increasing competition. The evolution of the global marketplace has forced organizations to compete on a global scale. Success in this environment is based on an organization's ability to understand and satisfy customer requirements in an efficient and cost-effective manner. Therefore, organizations must be responsive to change and able to adapt quickly and efficiently to remain competitive. Because of this environment, organizations are being forced to reevaluate their business processes and look for better ways to do things at a lower cost. One of the

methods/tools that organizations are using to reevaluate their processes is known as business process reengineering (BPR). This concept is formally defined by Hammer and Champy as "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" (Hammer and Champy, 1994).

### **Key Elements of BPR**

To improve quality and productivity of a business process has to under go fundamental changes (Gunasekaran and Kobu, 2002; Jamali et al., 2011; Goksoy et al., 2012). BPR focuses on the whole process (Jamali et al., 2011). Process refers to a collection of activities that gets a set of input and creates a set of outputs for the customer value (Temponi, 2006).

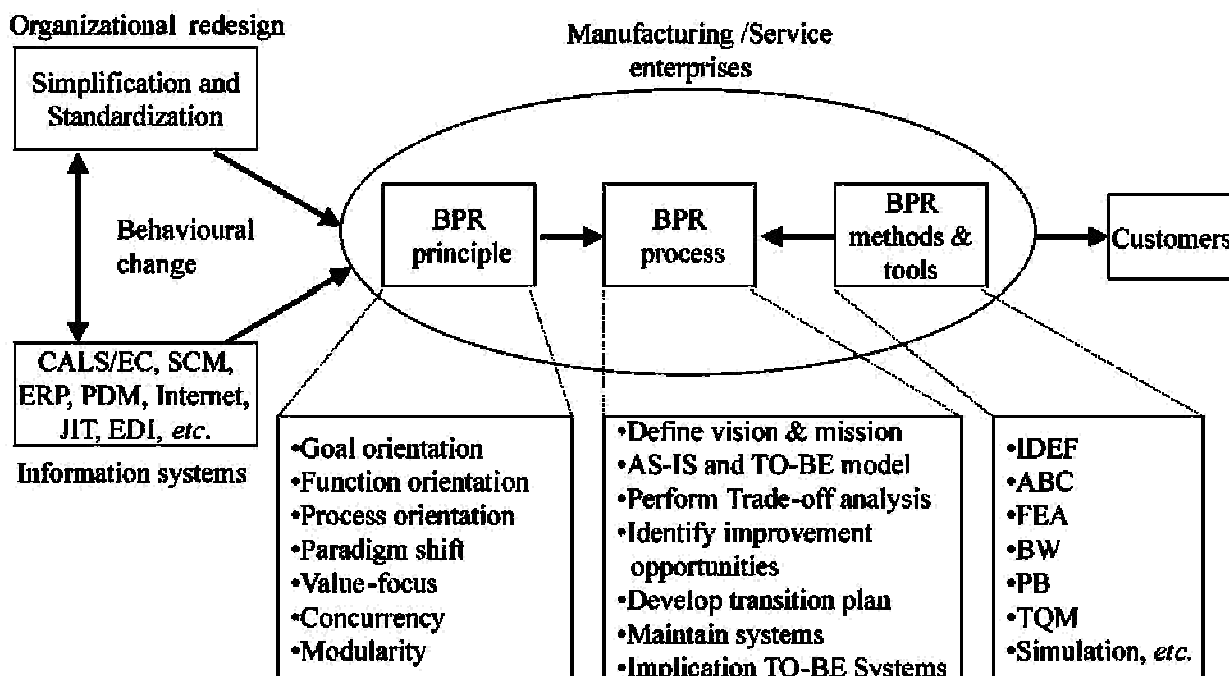
With the help of advanced IT (Information technology), BPR provides great opportunities to reengineer the old

fashioned business process (Jamali et al., 2011). It helps companies to change their traditional, non-valued structures into cost efficient, effective and innovative processes (Milan et al., 2014). As we know that BPR is not effective alone. The key element/component factors play crucial role in BPR effectiveness. Gunasekaran and Nath (1997) recognized some key element/component of BPR which shown in figure 2.1, with possible organizational changes in the information system. The key component factors of BPR have shown as an organized structure for a manufacturing system.

Organizational redesign and behavioral change with its supplementary structure principle, process, tools and methods are most essential part for a manufacturing enterprise which links with each other (Ki-Jin Jang (2003).

BPR requires organizational restructuring with the help of simplification and standardization, and with other information systems such as ERP (Enterprise Resource Planning), CALS (Commerce At Light Speed)/EC (Electronic Commerce), PDM (Product Data Management), SCM (Supply Chain Management), JIT (Just In Time), Internet application, EDI (Electronic Data Interchange) (Davenport and Short 1990).

In order to perform an enterprise performance measurement, an IDEF0 model is needed. The IDEF0 model is often used to design a technique and then evaluate it for BPR implementation. IDEF0 has been used extensively in the modeling of manufacturing enterprise systems (Ki-Jin Jang (2003). Thus, managers should not avoid any elements at any cost. They must focus on each of them.



**Figure 1: Key Elements of BPR**  
 [Source: Gunasekaran and Nath (1997)]

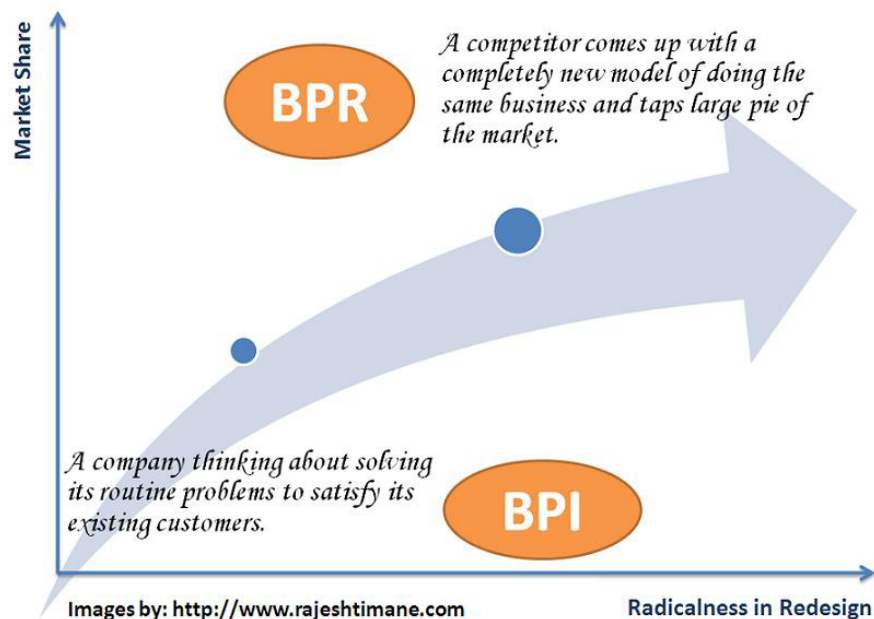
This research is about the application of business process reengineering as a tool of quality management: a critical study of the Indian manufacturing sector. It develops and validates a model and measurement instrument for assessing and identifying the current business processes, application of BPR as a quality tool,

success and failure factors, problems with applications and effect of BPR on organizations and its culture in manufacturing sector. This research also tries to understand the impact of BPR on improvement of efficiency and quality of life.

## SIGNIFICANCE OF STUDY

The business dynamics today is governed by factors like new technologies, new competitors and again, new rules of competition. The Manufacturing sector today is significantly challenged by slow growth and a tough global economy. In order to remain competitive in the global marketplace, manufacturers are adopting radical corporate strategies—like flattening the organization, globalizing production, forming strategic alliances with customers, suppliers and competitors, merging with other companies to form new structures, decentralizing business units, and creating global business units.

In such an ever-changing business environment, BPR is needed for the following reasons. One, the rapid change in everything itself warrants product development in lesser time, faster product life cycles and hands-on environmental scanning. Secondly, poor condition & high failure rate of the manufacturing organizations and BPR as a solution for drastic improvement by their nature. Third, the customer is well informed today and further; the organizations need to delight the customer rather than just satisfying. Lastly, today's intense competition demands the business processes at par with the 'best practices' prevalent in the industry. Also, the business models have to be focused on individual market segment the organization is targeting.



**Figure 2:** Radical Changes in Business through BPR  
[Source: Timane, R. (2010)]

India's quality movement is dominated by adoption of ISO 9000 and TQM by large number of business houses. The open competition with other global companies has brought in a lot of innovation in the business model of Indian companies. Lately, we have seen the acquisition of British companies like *Land Rover* and *Jaguar* along with Anglo-Dutch *Corus* by TATA from India. Other Indian stories include *Tata Tea* taking over *Tetley*, *Infosys* acquiring *Axon*, *Mittal Steel* merging with *Arcelor* etc. What all this suggests is there has been always a change dynamics; unpredictable to follow. The businesses today are more competitive, face stiffer global competition, then again face a very thoroughly informed customer; justifying the need of BPR. The need for BPR thus can be assigned to three C's viz.; Change, Customer and

Competition.

Business process reengineering (BPR) has necessitated for manufacturers of all sizes, today. BPR is being used as a vehicle for re-aligning strategy, operations and systems to deliver significantly increased financial results and customer satisfaction. It helps to find ways to do more with less and provide a better product or service in the minimum amount of time, speed, quality, and cost being the key drivers.

### Research Aim and Objectives

When applying the BPR management technique to a business organization the implementation team effort is focused on the following objectives:

**Customer focus**—Customer service oriented processes aiming to eliminate customer complaints.

**Quality**—Obsession with the superior service and value to the customers, the level of quality is always the same controlled and monitored by the processes, and does not depend mainly on the person, who servicing the customer.

**Speed**—Dramatic compression of the time it takes to complete a task for key business processes. For instance, if process before BPR had an average cycle time 5 hours, after BPR the average cycle time should be cut down to half an hour.

**Compression**—Cutting major tasks of cost and capital, throughout the value chain. Organizing the processes a company develops transparency throughout the operational level reducing cost. For instance the decision to buy a large amount of raw material at 50% discount is connected to eleven cross checkings in the organizational structure from cash flow, inventory, to production planning and marketing. These checkings become easily implemented within the cross-functional teams, optimizing the decision making and cutting operational cost.

**Flexibility**—Adaptive processes and structures to changing conditions and competition being closer to the customer the company can develop the awareness mechanisms to rapidly spot the weak points and adapt to new requirements of the market.

**Innovation**—Leadership through imaginative change providing to organization competitive advantage.

**Productivity** improves drastically effectiveness and efficiency.

The aim of the current research is to address the gap identified above by developing and validating a theoretical model which not only allows for the assessment of the application and effect of BPR in manufacturing sector, but which also provides empirical evidence for this phenomenon.

## BRIEF DESCRIPTION OF THE SCALE

This scale has been developed to study the following main objectives:

- 1- Identifying the current business processes in the Indian manufacturing sector.
- 2- To study the role of BPR in understanding Customer Requirements & Goals for the processes in organizations.
- 3- To study the effectiveness of implementation of

BPR in organizations.

- 4- To understand the impact of BPR on improvement of efficiency and quality of work life.

The scale was divided into two parts: Part – I Demographic Information & Part – II BPR Practices as Quality Tool. Part – I includes 12 questions based on nominal and ordinal scale. But part – II includes 21 questions based on likert scale, open and closed ended scale to measure the each variable.

## Item analysis

The questionnaire has many items. The data were collected from Indian manufacturing sector organization's senior managers, chief information officers (CIO), internal audit directors (IA's) or BPR & TQM experts involved in BPR practices with the responsibilities for coordinating and managing overall quality. All the data were collected through simple random sampling technique.

A total of 500 questionnaires, 450 were mailed to respondents and 50 questionnaires were filled out by respondents through interviews. In the total of 450 mailed questionnaires 250 were returned and 50 questionnaires were collected personally after interviews. The total 300 (250+50) questionnaires were received by the data collector/investigator. The response rate was 60 %. All the collected data were analyzed through a rigorous procedure using SPSS and MS Excel respectively.

## Reliability and Validity Measurement Issue

**Reliability:** The two important and fundamental characteristics of research measurements are reliability and validity. It is better to define them with regard to qualitative researches perspectives for this work. Reliability and validity are the key indicators of the quality of work. To increase the reliability of measurements, the researcher collected primary research data through questionnaires and calculated Cronbach's alpha to assess reliability of each variables. The findings of the reliability test shows that calculated Cronbach's reliability alpha was between 0.972 to .840 which implied that each item of the questionnaire was valid and highly reliable. The high Values of Cronbach's Alpha (.972 to .840) indicate a good & high internal consistency.

**Validity:** Validity refers to the extent to which the instrument measures what the researcher(s) actually wish to measure (Dhawan 2010). Validity is assessed by examining how well the observations agree with alternative measures of the same construct. How come the research could determine validity? The research collects data with the assistance of questionnaires to employees. In addition to this, telephonic interview was conducted with HR officials to validate the content. Moreover, the research put what is going to be measured

while designing the theoretical framework and this will guarantee the research validity. The questionnaires and interview gave a coherent evidence for the research consistency in data collection. To increase the validity, each item of the questionnaire was reviewed by seven general managers from different manufacturing companies.

## HOW TO INTERPRET THE RESULTS

### *Result of Demographic Analysis*

It provides the gender & educational analysis of the respondents, as well as type & different field of the Organization.

### *Results of BPR application*

This provides the descriptive results of BPR application (BPR depth, effect, benefits, problems & success factor, etc.) in Indian manufacturing sector. The researcher has checked the awareness, use of BPR, success rate of BPR implementation, BPR and human factors, BPR effectiveness, BPR integration, Analysis of budgetary allocation, human knowledge and skill, use of Technology, level of problems, type of problems faced, complementary changes, performance achieved and BPR capabilities using different statistical tools.

## PRACTICAL IMPLICATIONS

The scale can help managers of manufacturing organizations to understand the problems that may happen during successful application of business process reengineering.

## ORIGINALITY/VALUE

This scale is first experimental scale was developed to test the problems with application of BPR etc. at department of business administration, DDU Gorakhpur University, India. Organizations, BPR practitioners and researchers need to consider the problems in their efforts to provide high quality products, better customer service and speed.

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## **SURVEY QUESTIONNAIRE/SCALE**

### **Invitation to participate in a research project**

#### **Project Title:**

**Application of Business Process Reengineering (BPR) as a Tool of Quality Management: A Critical Study of the Indian Manufacturing Sector.**

#### **Investigator:**

H. L. Bhaskar  
Ph.D. Research Scholar  
Department of Business Administration,  
D.D.U. Gorakhpur University Gorakhpur,  
U.P. – 273009 (India)

#### **Dear Participant**

You are cordially invited to participate in a research project of “Application of business process reengineering (BPR) as a tool of quality management: A critical study of the Indian manufacturing sector”. The main aims of this research project are to study the effectiveness of implementation of BPR in Indian manufacturing organizations & to understand the impact of BPR on improvement of efficiency & overall quality.

#### **Why have you been approached?**

Your organization has been selected for the study because it is reputed Indian manufacturing organization/company which engages in continuous quality improvement and producing quality products.

You have been approached for the purpose of this research because you are identified either as the Top level Manager/ or Head of the organization/ or Chief Information Officer (CIO)/ or Internal Audit Director, Manager/ or BPR & TQM expert of the organization with responsibility for coordinating and managing the overall quality.

#### **What are the benefits associated with participation?**

This is an opportunity for you to reflect back and share your experiences. The researcher is happy to make available to you any results, papers, and other outcomes from this research.

Your participation involves answering questions regarding your experience with BPR. I request you to please fill in this questionnaire & return to investigator's email id. The questionnaire will take approximately 20-30 minutes. I assure that all of your answers will be completely confidential.

Thanking you in advance for your cooperation.

Yours Sincerely  
H. L. Bhaskar

**Part – I**

**Demographic Information**

Please give your response to all the questions by either putting a tick mark at the choice that best describes the question asked or by writing on the space provided.

Code of questionnaire .....  
 (To be filled by data collector)

- 1. Name of the organization .....
- 2. Type of organization (1) Public ( ) (2) Private ( )
- 3. Field of organization (1) Heavy Equipment/ Rail Engine (2) Automobile  
 (3) Iron & Steel/Aluminium (4) IT  
 (5) Cement (6) Electrical Equipment  
 (7) Electronics (8) Oil & Gas/Power & Energy  
 (9) Chemical (10) Plastic & material handling  
 (11) Textile, Paper, Mints (12) Aerospace  
 (13) Chemical & Fertilizer (14) Agri-equipment  
 (15) Food & Beverage (16) Leather & Rubber  
 (17) Pharma
- 4. State, Town, Area .....
- 5. Designation & level of respondent (1) Designation.....  
 (1a) Top Level ( )  
 (1b) Middle Level ( )
- 6. Service experience (in yrs.) .....
- 7. Educational Qualification (1) UG.....(2) PG .....
- 8. Age of respondent .....
- 9. Gender (1) Male.....(2) Female .....
- 10. Total No. of Employees .....
- 11. When did you first implement BPR in your organization? Year.....
- 12. Achieved quality awards (Yes/ No) .....

**Part – II**

**BPR Practices as Quality Tool/ Program**

(BPR depth, Application/implementation, effect, & success factor, etc.)

- 1. Is your manufacturing organization aware about any quality improvement tools/program?  
**Yes**  **No**
- 2. Does your company/ organization practices BPR (Business Process Reengineering) as a quality tool/ program?  
**Yes**  **No**

If 'YES' then select following reasons

**Reasons** (Please Tick (√))

- (1) Improve productivity (2) Improve process quality
- (3) Cost reduction (4) Improve product/ service quality
- (5) Improve organization's competitiveness (6) Improve financial performance
- (7) Enhance customer's satisfaction (8) Create Company's reputation
- (9) Increase quality awareness (10) Increase work participation

If 'NO' then –

Which other quality improvement program has been practiced so far and what are the reasons for undertaking these improvement programs?

- TQM  Six Sigma / Process Excellence  ISO9001: 2000
- Lean production  Benchmarking  Excellent Self-assessment
- Quality Circle  Kaizen  Just-in Time

3. What are the current business processes of your organization? Please provide, if possible.

.....  
 .....  
 .....

4. Has BPR been successful in your manufacturing organization after implementation?

- (a) Extremely successful (b) Successful (c) Unsuccessful (d) Extremely unsuccessful

5. Is BPR mostly applicable on manufacturing organizations to enhance overall quality?

- (a) Yes (b) No (c) Don't know

6. Is BPR associated with human factors & impact on organizational strategy, culture and quality of life in the organization? (a) Yes (b) No

7. Is BPR effective alone in redesigning the manufacturing organization?

- (a) Yes (b) No

8. Which new processes were changed when BPR was implemented? Name those processes.

- (a) Core Processes  (b) Generic Processes  (c) Both

9. Was the core or generic processes changed by Information Technology?

- (a) Yes  (b) No

10. BPR requires a proper integration with various other organizational subsystem & techniques. Please select which is most require for integration?

- (a) TQM (b) IT (c) Benchmarking (d) Six Sigma (e) Kaizen (f) Lean manufacturing

11. Which of the following program is mostly used with BPR for the "endless quality improvement" in manufacturing organization?

- (a) TQM (b) Information Technology (c) Both

12. The set of items under this section is intended to measure BPR's effect on business process performance in your organization on the scale of [Tick (√)].

	Below 20%	21-40%	41-60%	61-80%	Above 80%
1. Percentage reduction in work/ approval steps	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Overall manufacturing cost decreased	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Customers increased	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Percentage reduction in processing time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Percentage reduction in processing cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Percentage reduction in the no of employees required to deliver the service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Percentage reduction in the no of complaints from clients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Percentage reduction in corruption (like bribe)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. The set of items under this section are intended to assess the stock of budgetary (financial resources), human and technological resources your organization might have deployed before it embarked on /or during the implementation of BPR.

{Please rate the extent of budgetary allocation that your organization had made for the following BPR related activities on the scale of [Tick (√)]}

	Very Low	Low	Moderate	Adequate	Very adequate
1. BPR Training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. BPR benchmarking tours	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. BPR consultants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Overall budget to Implement BPR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



14. The set of items under this section are intended to assess knowledge and skill of the human resources your organization has deployed during the implementation of BPR. Please rate the level of knowledge and skill that the BPR team members and/or the top management of your organization possesses in the following areas on the scale of [Tick (√)].

	Very Low	Low	Moderate	Adequate	Very adequate
1. BPR methodologies, Tools and techniques	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Role of IT in BPR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Change Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Stakeholder engagement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. BPR design and implementation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. The set of items under this section are designed to assess the technological resources of your organization has deployed for the BPR. Please rate the extent use of the following technological resources by your organization pre-BPR and post-BPR on the scale of [Tick (√)]. 1= very low 2= low 3=moderate 4= high 5=very high]

	Pre-BPR					Post-BPR				
	1	2	3	4	5	1	2	3	4	5
1. Use of electronic media	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Computerized process management, monitoring, & reporting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Shared IT infrastructure such as database helpdesk etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Computerized HRM system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Computerized budget & expenditure system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Computerized performance measurement & reporting system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Computerized workflow & document flow system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Online delivery of services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Overall use of information technology by your organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. Please rate the level to which your organization has experienced each of the following problems in the way of implementing BPR on the scale of [Tick (√)].

	No problem	Less	Some	Large	Very Large
1. Difficulty in changing existing law and regulations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Employee's resistance to change culture in organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Management resistance to change (loosing their authority after change)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Top management's tendency to play more political role than managing the BPR implementation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- |   |                          |                          |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 5. Failure in implementation as per design        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Lack of a BPR methodology                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. BPR team member's discontinuity                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Lack of BPR member's authority                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Lack of top-management (leadership) commitment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

17. What are the problems faced by managers, BPR team/quality experts or other employees with application of BPR?

Problems faced by BPR team, Top level management (You can select multiple option)	Response in 'Yes'
(1) Disagreement by employees	
(2) High cost of BPR Implementation	
(3) Non availability of BPR consultant	
(4) Training to employees	
(5) Job security	

18. The group of questions under this section are intended to assess the depth of change that the BPR brought to the organization

18a. Rate to what extent has your organization's BPR project made complementary changes to the following areas on the scale of [Tick (√)]

- |  | Very Low                 | Low                      | Moderate                 | High                     | Very High                |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Performance measurement system                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Organizational structure                              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Values, beliefs, and norms                            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Employee Skills                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Human resources, compensation, and performance system | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Information Technology                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Overall organizational change                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

19. Please rate the overall performance of your organization on the scale of [Tick (√)]

- |  | Very Low                 | Low                      | Moderate                 | High                     | Very High                |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Achievement of organizational goal & objectives | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Financial performance                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Customers/Stakeholders satisfaction             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Service delivery and overall quality            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Team work & cooperative working culture         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Employee's satisfaction                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Overall level of organizational performance     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Administrative corruption & formalities         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**20.** This section intends to assess BPR complementary capabilities that might have been created /developed and enhanced the overall organizational effect of your BPR undertaking.

Please indicate your agreement to the following statements regarding to BPR complimentary capabilities of your organization on the scale of **[Tick (√)]**

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neither agree nor disagree</b>	<b>Strongly Disagree</b>	<b>Disagree</b>
1. Our organization broadly uses information system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Our organization has sufficient capacity to support IT applications developed in the course of BPR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Our organization has established clear guidelines on how to use IT post-BPR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Our organization has clear process governance system & structure for process management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Our organization provides training & education program to update employees skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Our organization has empowered process leaders to improve and manage their business process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Our organization has created necessary organizational and technical capabilities to sustain and enhance the BPR outcome	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**21.** Comments or Suggestions, if any.....  
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