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The role of TQM and BPR in executing quality improvement: a comparative study

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Abstract
In order to sustain a competitive edge in this global manufacturing era, enterprises need to adopt appropriate improvement schemes. This article examines a detailed study of quality improvement tools mostly used in the organizations. As this is the conceptual paper, the paper focuses on two important quality improvement techniques, BPR (Business Process Reengineering) and TQM (Total quality management). Both the approaches clinch the same thoughts and objectives for organizational enhancement but the difference lies in terms of means used by each technique, the risk, time frame and the magnitude of change expected from each of these programs. In order to attain this comparison, the article first defines and explains each of the approaches for the in depth understanding of the difference as well as similarities between these two. The articles (related to the comparison of these two improvement tools) of almost last 15 years are gathered and studied in detail and then conclusion is drawn based on the findings of different previous articles. The methodology used primarily is literature review as well as the case study method also helps in gathering the data. The study concludes that even though both the approaches intend to enhance organizational competence, they are relatively different both theoretically as well as practically and each of the approach is suitable for different situation depending upon the needs and requirements of the organization.
Keywords: Competitive edge, TQM, BPR

1. Introduction:

Businesses are experiencing a modification from manufacturing oriented beliefs to the consumer/ customer orient philosophy. Organizations use different strategies to increase the worth (value) of their products/ services and to gain the competitive edge in the global market. The business approaches are used to satisfy customers, retain them and to attract new customers. Because of competition the consumers also gain the awareness that quality is the most important aspect in service as well as in manufacturing companies.

Progressively more firms are becoming familiar with the strategic significance of excellence and quality management. Many businesses have arrived at the result that efficient quality management can augment their competitive talent and offer tactical benefits in the market (John & Roger; 1999). This principle is pursued by many firms, both big and small, service and manufacturing, profit and non profit to figure out and develop their approaches towards quality management.

The importance of quality is mounted because of two main factors

- Tough competition
- Educated customers

Quality means right specification, right time and right price. The product / service is valued when it is achieved as

per requirements of the customer and hence customer satisfaction is the greatest achievement of any organization which ultimately leads towards high profitability. Therefore quality control should be given focus rather than inspection which increases the cost and wastes the time. Quality control emphasize on:

- Starts before & along with production
- Ensures that bad things will not happen
- Every body's responsibility

Poor quality causes many losses in production (tangible) as well as in service sector (intangible). It can be in the form of increased rejection, less production, high complaints from customers, loss of time and high rework and in service sector it can be conflicts between different departments, loss of goodwill or loss of morale. Quality can be in the form of design, process, product, system or services. As quality and productivity are complementary for each other so productivity increases when there is good quality.

Quality means creativity and in order to be considered creative, the product, service or idea should be different from that which was before and it must also be suitable to the goal at hand, correct and valuable (Amabile, 1996)

When all the game is about improving the quality, organizations are using different tools for quality improvement **TQM (total quality management) and BPR (Business process reengineering) are two such tools.**

TQM is defined as an incorporated approach which is proposed in order to develop the quality at all the levels of organization and quality should be developed according to the standards of consumers. TQM is a belief for supervising the firm in such a method, which assist it to fulfill the demands of the stakeholders and prospect effectively and efficiently without negotiating the moral standards (ISO 8402, 1994).

TQM is considered to be one of a very successful management approaches which deals with the quality of services and gaining long term objectives by this. A study is analyzed related to TQM that whether it is considered a vital theory with respect to management or it has turned into fad products/ now and the conclusion was drawn out that still many renown and large organizations implement this theory and it becomes the reason for their success as well as its diffusion is on the increase globally (Benjamin and Elizabeth, 1967) but it should be adapted in such a way that employees affairs, culture, leadership styles, rewards, incentives and all such policies should be kept in mind for implementing TQM theory (Laza and Wheaton; 2012)

In the TQM process, Quality Circles are used in the organizations where the group of people is there to increase the quality of the work and to discuss the problems or any issues related to the tasks. This is considered very useful and a risk free approach if employees are to be involved in decision making and a participative culture of the organization is required (Harv Bus Rev, 1985). By increase in the quality, customers get satisfied and the cost of the organizations is also reduced (Shortell, Bennette and Byck, 1998).

BPR, on the other hand, is the rapid and radical redesign of the organization to optimize the workflow and productivity in an organization and achieve the dramatic performance (Guha, Kettinger, Teng, 2007). The changes that take place during BPR are fast and drastic. The goal here is to demolish old processes to clear the way for new ones.

The increased pressure from the competitive environment has directed the firms in changing the focus of management from the understanding of responsibilities towards the determining of business processes and rationalizing towards market and customer direction. The mounting individualization of consumer needs require a raise in elasticity and quickness of the concerned firms (Clegg, Wall & Pepper; 2002). Flourishing parties are generating fresh, innovative and different affiliation outlines and they operate consequently, on the other side, they are struggling to discover achievements for original and latest thoughts and theories. (Bullinger and Zinser, 1996)

Firms have been constantly conducting experiments with either single or both of these models for struggling with the matter of executing quality, managing change, improvement in productivity, accomplishing success and for gaining the competitive edge.

2. Literature Review:

Organizations comprising high level of innovation and advancement also illustrate high intensity of TQM practice execution i.e. innovation is considered to be a major aspect of TQM execution program and similarly in the global world and the market place of this era, quality is considered to be the most important factor in gaining the success and the competitive edge (Dean and Evans 1994) and this is achieved by acquiring such manager's tool kit in which the major portion is of TQM practices (Dow, Swanson and Ford, 1999). A TQM model is developed in order to

explore the impact of TQM practices on the firm's quality performance. They specify that quality performances can be characterized into 9 proportions: employee's dedication, shared visualization, consumer focus, using the groups, training of employees, benchmarking, supportive associations with suppliers, superior manufacturing policies and usage of JIT philosophy (Dow et al; 1999)

The TQM strategy refers to the fact that the troubles do not initiate with workforce, however from the requirement of accepting and understanding the work procedures. The objective of TQM is to examine methods and practices to classify the obstacles to quality, satisfying the beneficiary of the firm, retaining the customers and generating an environment of permanent improvement (James S. Bowman; 1999)

In case of implementation of TQM, there are certain techniques which make this strategy successful. TQM is not just considered to improve the operations, rather it should be embedded in all the stages of the organization's culture and for such a task specific HR related practices are needed and amongst such practices, the most important ones are employee involvement, participative culture, suitable dimensions and proper rewards for achievement, protected and sound functioning environment and above all is the appropriate TQM training programs. In fact there is not any limited list of TQM practices (Partlow; 1999).

A research explored with respective to the implementation of TQM and comparing it with other such management programs which are used to enhance the individual performance in the organization and thus no such evidence is gathered that TQM is difficult to implement as compared to other strategies and the consequences are clear from those organizations where it is executed (Carlos, Candido & Sergio; 2011).

Efforts are done to increase the performance and to make it valuable for the organization, many management philosophies and programs are used for this purpose (Barbara, Sadao & Roger; 2007). The research spotlights both the core excellence and quality management performances as well as on the system / environment which generate the situations encouraging the use of such practices. And these situations mostly include support of the top management and the management of workforce whose performance is properly managed. Performance management focus on the fact that firms express in identifying, determining, and encouraging performance of the employees and making it the quality performance with the eventual objective of gaining the quality performance of the whole organization. (Deanne, Den, Paul, Jaap; 2004)

The effect of TQM practices is shown on employment linked outlook and ultimately on the performance. Education, training, empowerment and collaboration which are the important aspects of TQM appreciably augment job participation, job satisfaction, and management dedication (Karia, Hasmi & Asaari; 1994).

BPR was mostly used as well as embracing and appreciating management technique till around 1990 but as time passes now it is becoming unpopular because of people's mistrust on IT without noticing the fact that IT is one agent of BPR not its driver (Diakins; 1996)

In BPR, risk is considered to be present in excess but there are certain conditions for every success and thus in the study there were given some pre conditions for the prevention of failures and making the implementation of BPR successful (Barbara, Meishen and Markus; 2007).

The risky aspect of TQM are also present and especially in case of public utility which is functioning in monopoly, the usage of TQM approach gives some pitfalls which leads to competitive disadvantage rather than competitive advantage. So it depends on the fact that how to use this approach (Laza and Wheaton; April 2012).

Business Process Reengineering (BPR) has been touted as necessary for dramatic improvements in organizational competitiveness. In practice, there have been successful and unsuccessful cases; thus, there is a need for systematic and rigorous assessment of the factors deemed important to project success In this study, success is defined in three ways: goals and objectives accomplished by the project, benefits derived from the project, and the project's impact on company performance (Guimaraes; Sep 1999). Some of the large firms of U.S.A are analyzed in order to study the impact of BPR on the performance of the firms and specifically on ROA (return on assets), ROE (return on equity) and labor productivity and it was concluded that the performance of organizations boost after the BPR is totally implemented whereas during the execution phase, it does not affect the performance. Other than this the functionally focused BPR systems affect in a better way as compared to cross-functional. This indicates that impending disappointment of BPR projects may boost if it goes above a certain scope level (Ozkelik; April 2009)

TQM is positively and significantly related to differentiation strategy, and it only partially mediates the relationship between differentiation strategy and three performance measures (product quality, product innovation, and process innovation). The implication is that TQM needs to be complemented by other resources to more effectively realize the strategy in achieving a high level of performance, particularly innovation (Daniel, Prajogo and Sohail;2006)

Most BPR methodologies share common segment and characteristic, but at the same time they differ in the means they come up for reengineering (Sungsoo & Pyo; 2008). Their major distinction are, detail representation and investigation of existing conditions; whether the existing situation sustain dramatic or fundamental modification to business processes and the study of flourishing firms before boarding a BPR project (Manganelli & Klein; 2001). The significance of modeling and investigation of BPR is considered as a core part of reengineering (Razvi & Nevin; 2001). An interactive BPMSR (business process modeling simulation reengineering) methodology is used which is very flexible on the origin that analysis of performance in a step wise manner reduces the reengineering collapse threat by determining before time modeling and imitation troubles. The preliminary expenses, which can be in the form of financial, time or human resources in order to apply the projected BPMSR to any business process will be turned back in the form of improvements in efficiency (Selladurai; 2010)

3. Methodology:

The method selected for this review is totally literary study. Articles of different authors published in various reputed journals within the time span of last 15 years are selected and in depth overview is done. Other than this, different case studies related to quality management approaches are also analyzed and the impact of using TQM or BPR on organizational effectiveness towards achieving goals is studied in detail.

The study of different articles related to the comparison between TQM and BPR is shown in tabular form where the authors as well as conclusion drawn from their studies are also illustrated.

Title of Study	Author	Journal	Year	Conclusion
Productivity gains of BPR achieving success somewhere others have failed	Maryam Alavi & Youngjin Yoo	Information Systems Management	1995	IT-induced business process reengineering (BPR) offers promise of dramatic performance improvements in productivity and quality and can form a vital component of an ongoing total quality management (TQM) program
An Integrative Approach for Selecting a TQM/BPR Implementation Plan	Salegna	International Journal of Quality Science	1997	TQM and BPR are integrated in order to commence changes and both are helpful in gaining competitive edge.
Need Radical Innovation and Continuous improvement: Integrate Process Reengineering and TQM.	Thomas H. Davenport	Strategy and Leadership	1993	Integrating TQM and BPR to address different organizational problems and initiate changes of different magnitudes.
TQM and BPR - Can you spot the difference?	Rob Valentine, David Knights	Personnel Review	1998	Success rate of BPR projects is disappointing but at the same time incremental process improvements are the more viable option for organizations seeking to improve quality and performance
TQM and BPR: lesson for maintenance management	I.B.Hipkin,C.DeCock	The international journal of management science	1999	The case organizations that had earlier embarked on TQM and BPR did not find them to be successful
Revisiting BPR: A holistic review of practice and development	Majed al- Mashari & M. Zairi	Business Process Management Joutnal	2000	This article defines aspects of improving business with BPR and the impacts of IT-enabled change on organizations are also identified

BPR and TQM	Pankaj, R Sinha	Enterprise Engineering	2000	Both the methods are convincing but only if they are applied together. Both have similar focus of customer satisfaction, streamlined process and committed to improve performance. TQM provides the support to enable BPR.
Business Process Re-engineering (BPR): The REBUS Approach	V. Hlupic, J. Cahuadhary, N. Patel	Cognition, technology & work	2000	Many organizations undertake BPR projects in order to improve efficiency and reduce cists. Although this approach ca result in significant improvements and benefits, there are high risks associated with radical changes of business processes and the failure rate of BPR projects is reported to be as high as 70%
The roles of TQM and BPR in organizational change strategies: a case study investigation	Frances M. Hill, Lee K. Collins	International journal of quaity and reliability management	2000	The empirical research comprised six in-depth case studies. At the case organisations, TQM and BPR were regarded as complementary approaches to organisational change rather than being mutually exclusive
Should you start from scratch	Raymond L. Manganelli and Mark M. Klein	Management Review	2001	BPR supporters argue that clean slate approach (BPR) is a myth and is not practical in most of the organizations.
Leadership and HR Focus in TQM Research in Australia: An assessment and agenda	Shams-ur Rahman	ITS	2002	improvements may not be attained by implementing BPR alone, they may need to be supplemented by other improvement techniques such as TQM, TPM and Kaizen
BPR in financial services: Factors for success	Stepehen Drew	Long Range planning	2002	Financial institutions are experiencing strong pressure for change arising from technology, increased competition and demands for improved customer service so Re-engineering of key business processes is becoming a central element of corporate and business strategies.
An international survey of the use and effectiveness of modern manufacturing practices	C. Clegg, T. Wall and K. Pepper	Human Factors and Economics in Manufacturing & Service industries	2002	It depends on the extent use of the practice and nature of the organization that whether TQM, BPR or any other management tool suits it the best
Managing commitment: increasing the odds for successful implementation of TQM, TPM or RCM	Jonas Hansson, Fredrick Backlund, Liselott Lycke	Internatinal Journal of quality and reliability management	2003	TQM is considered to promote organizational presentation described by gaining competitive edge and long-term productivity. It also increases management and employee commitment
Prioritizing barriers to successful business process re-engineering (BPR) efforts in Saudi Arabian consindustry	N Abdul-Hadi, A Al-Sudairi and S Al Qahtani	Construction, management and economics	2003	To enable sound BPR efforts and increase success chances, thorough investigation of barriers is essential and there are about 30 such barriers related to IT, commitment, culture, lack of knowledge and other
An integrative approach for Selecting a TQM/BPR Implementation Plan	Gary Salegna and Farzaneh Fazel	International Journal of Quality Science	2006	a short-term, radical change achieved through BPR programs should be followed by TQM's long-term continuous improvements. BPR could later be used when another dramatic change is required

From quality to excellence in the 21st century	John Oakland	Total Quality Management & Business Excellence	2007	TQM offers a sound way of managing organizations in the 21st century
Preconditions for BPR success and how to prevent failures	Barbara J. Bashein, M. Lynne Markus & Patricia Riley	Information Systems Management	2007	There are some organizational conditions which set the stage for BPR and organizations should be assessed before against such negative and positive preconditions
Reengineering methodologies and tools a prescription for enhancing success	Mark M. Klein	Information Systems Management	2007	This article concludes that approaches to BPR can lead the organizations towards the odds of success
Choosing Quality Tools	Sungsoo, Pyo	Journal of quality asurance in Hospitality & Tourism	2008	A firm understanding of the purpose and the way to use the tools is the prerequisite for proper use of the tools
Birds of Different Feather Flock Together? Rhetorical Competition and the Convergence of Management Discourses	Dong-Il-Jung	Korean Journal of Sociology	2008	TQM is used as a normative control discourse and BPR is used as a techno-structural discourse
An organizational profitability, productivity performance (PPP) model: Going beyond TQM and BPR	R. Selladurai	Total Quality Management	2010	An integrated, synergistic model is very useful that integrates the two models of TQM and BPR
Comparative study of western & Japanese improvement system	Juan Magaña - Campos & Elaine Aspinwall	Total Quality Management & Business Excellence	2010	In Japan, innovation and customer satisfaction, were more closely related to TQM than to BPR value attributed to BPR was lower than for TQM in all the regions
Integration of BPR and TQM: Past, present and future trends	Senthil, Devadasan, Selladurai & Baladhandayutham	Production Planning & Control: The Management of Operations	2010	The ultimate objective of TQM can be achieved with more vigour if BPR concepts are integrated with it. highly integrated approaches of these two concepts are going to o¶ er enhanced quality levels with higher productivity.
Business process for competitive advantage	P Obara, M Kiplimo, Kaptoge, Stephen and Godwi	African Journal of Business and Management	2010	The Wrigley Company managed to achieve competitive advantage by implementing BPR
TQM and BPR & integrating them for organizations improvement	F Gouranourimi	American journal of Scientific Research	2011	TQM and BPR share a cross-functional relationship
The relationship between total quality management and quality performance in the service industry: a theoretical model	Faisal Talib, Zillur-Rehman, M. N. Qureshi	International Journal of Business, Management and Social Sciences	2010	The greater the extent to which TQM practices will be high, the quality performance of the organizations will be higher
Critical success factors	Ayoob A. Wali, S. G.	Production	2010	The concept of critical success factors for

of TQM: A select study of Indian organizations	Deshmukh & A. D. Gupta	Planning & Control: The Management of Operations		successful TQM) was given and their use in supporting planning efforts is examined and this is possible with the development and implementation of management information systems
OD,TQM and BPR …a comparative approach	S Harvey & B Millett	African Journal of Business and Management	2011	BPR is clearly the most divergent as compare to OD and TQM. BPR is the most suitable approach and used by org having widespread problems or are close to bankruptcy as it creates innovation for improvement rather than survivor.
Approach for Selecting a TQM/BPR Implementation Plan	Tor Guimaraes	International Journal of Quality Science	2011	The best organizational change programs are those that integrate quality and reengineering initiatives

4. **Conclusion and Recommendation**

The study has analyzed issues related to quality improvement in the organization. The two major approaches towards quality improvement are analyzed in detail. Similarities and differences of both these approaches are analyzed in detail. The literature review related to their comparison is illustrated and it is concluded that although the approaches all aim to increase organizational efficiencies, they are quite different both conceptually and in the way they are practiced. TQM advocates believe that TQM supports a building block approach to improvement projects. On the other hand, BPR supporters say that BPR produces the most organizational benefits. And still there are many authors who say that integration is the best technique or it depends upon the situation and the changes required in the organization that which approach suits best.

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