

## THE RELATIONSHIP BETWEEN REENGINEERING AND TQM

*Csaba Deák*

Ph.D student

MSc.Econ.

Assistant Lecturer

*Department of Management and Organization  
University of Miskolc*

Since the beginning of the last decade, it is unanimously admitted that large organizations are facing business pressures from intense competition in the business world. These business pressures may take the form of new entrants threatening, or margin shrinking due to business environment changes, or attack of customers base by other competitors. [1]

Earlier the Total Quality Management (TQM) has been the driving force and philosophical foundation for companies eager to regain market share lost to global competition. Recently, reengineering has struck a chord among business leaders as the approach to fundamentally change processes in order to dramatically improve cost, quality, and customer satisfaction. The goals strikingly similar to those of TQM. However, two of the recognized leaders in TQM, Juran and W. Deming have talked a great deal about such breakthrough change.

### What is Reengineering ?

Usually when an organization has downsized or restructured their work activities, the reengineering strategy is applied in order to decrease the work flow that no longer adds value to the organization. In other words, reengineering helps to eliminate the problems and to keep the qualified elements of the organization for continuous improvements. The objective of reengineering is to maximize cost reduction, prevent population regrowth, and optimize organizational efficiency and effectiveness.

While automation may play a role in BPR, it is important to realize that it is not the solution, but rather a tool of the movement. It should be used to improve the processes, and may even be used to introduce organizational change. The focus is on reorganizing the work of the organization around key business processes rather than distinct functions.

The reengineering has several definitions.

- Radical redesign of business processes to achieve quantum improvement in business performance, as perceived by the customer and realized by the company.[2]
- The fundamental rethinking and redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance such as cost, quality, service, and speed.[3]
- ... to rethink, restructure and streamline the business structures, processes, methods of working, management systems and external relationships through which we create and deliver value.[4]

- Stepping back from a process in inquire as to its overall business objective ,and then effecting creative and radical change to realize orders-of -magnitude improvements in the way that objective is accomplished .[5]
- A cross-functional initiative, focused on business processes, requiring simultaneous change to organization design , culture ,and information technology, that enables radical performance improvements.[6]

As mentioned by several authors ,the end of the 20th century has been characterized by a faltering administration based on principles built upon the Taylor 's theory of decomposition of job into elementary tasks to be performed by different people for their specialization and the high productivity. Taylorism has generated the lack of control and overall coordination of activities in large organizations ; some examples are given about this lack of coordination leading to the overall poor performance.

Also, it is crazy to observe that this could happen albeit the entrance and the development of computer in business. Most of large organizations functioning according the principles of division of work and decomposition of tasks are actually clumsy and bulky, loosing money and not managed. So they are particularly sensible when facing the competition.

This competition in which business are engaged has entailed a huge need for a revolutionary approach of performance. This approach should give way to order-of-magnitude of improvement in a few key business processes. No more than four to six core processes is the norm for most organizations.[7] Texas Instruments, for example, identified the following four core processes: strategy development, product development, customer design and support, and order fulfillment.

#### *Benefits of Reengineering:*

- Revolutionary thinking. It encourages organizations to abandon traditional approaches to problem solving, and to "think big".
- Breakthrough improvement. It helps organizations make noticeable changes in the pace and quality of the response to customer needs.
- Organizational structure. It helps the organization to identify real customer needs , rather than create products that ignore the needs and wants of the customers.
- Organizational renewal. It results in new organizational designs that help companies respond better to competitive pressures , increase market share and profitability, and improve cycle times, cost ratios ,and quality.
- Corporate culture. It helps the culture of the organization to achieve change and know how to deal with it.
- Job redesign. It helps create more challenging and more rewarding jobs with broader responsibilities for employees. [8]

The reengineering is the process of trying to break away from outdated rules, and guidelines and strive for change. However, one of the biggest problems is trying to get the people to believe that change is good.

BPR adopts a process perspective of the business, where the other programs retain functional or organizational perspectives. It also involves a willingness to rethink how work should be done, even to totally discard current practices if that should prove necessary.

Finally, BPR takes a holistic approach to business improvement, encompassing both the technical aspects of processes (technology, standards, procedures, systems, and controls) and the social aspects (organization, staffing, policies, jobs, career paths, and incentives). In other words, business process reengineering leverages technology and empowers people.

Although the definition and benefits of BPR are clear, that does not mean that the way to achieve those benefits is obvious.

#### **What is TQM?**

Total quality management (TQM) is "an approach to improving the competitiveness, effectiveness and flexibility of a whole organization. It is essentially a way of planning, organizing and understanding each activity, and depends on each individual at each level".[9]

The literature on TQM is extensive, and the number of definitions probably equals the number of authors. In general these definitions describe TQM as a philosophy and attitude about doing business and managing that focuses on integrating strategic and quality plans, delighting the customer, using data to analyze problems and make decisions, empowering the workforce to be active participants, and continuously improving products, services, and processes. [7]

Total Quality Management 's main goal is to aim for a structural system is order to satisfy internal and external customers and suppliers ,while changing organizational culture. It's main objective is to make quality a guiding factor in every process.

**T-** Total, simply means that everybody involved in providing the product or service also works to improve its quality in every aspect.

**Q-** The customer defines quality. In manufacturing businesses , customers want a good product at a reasonable price. In service business , customers usually want prompt, polite, and correct responses to their requests. Quality is what the customer thinks it is.

**M-** Management is planning and organizing work. management includes the actions an organization takes to continuously improve the quality of products and services.

**TQM-** Total Quality Management means continuously improving the quality of products and services by working together with everyone involved in the process .[10]

A fundamental basis of TQM is a culture of continuous improvement. It is a culture rather than a project ,because the aim is to improve continuously. It is an endless process. After one project ,there is another project. This culture postulates that workers are the experts because they have the detailed knowledge of how the work is done.[11] They are the best to improve the process. This view contrasts with the traditional Tayloristic approach in which the experts were the engineers and the

operators just a pair of hands ,who were asked to leave their brains at home! However, implementing this change of culture requires years.

New measurement techniques -- based on criteria originally developed for quality awards - have been developed in both Europe and the USA. The use of such techniques to monitor the "health" and performance of organizations is termed "self-assessment.[9][12] The most common frameworks for self-assessment are based on the Malcolm Baldrige National Quality Award (MBNQA) criteria (from the USA), the European Quality Award (EQA) criteria and the Hungarian National Quality Award (HNQA) criteria.

### TQM and BPR

Most companies undertaking reengineering today have some experience with total quality management. TQM and reengineering share many characteristics, including a focus on customers, orientation toward processes ,and commitment to improved performance. In general the reengineering teams use the Plan-Do-Check-Act (PDCA) cycle, as further described by the Quality Improvement Process (QIP) and Problem Solving Process (PSP).

Flow charting and process mapping are additional tools utilized to describe the process being reengineered and to understand the inter-relationships among processes. These are all tools that have long been part of the TQM lexicon.[7]

TQM involves placing the customer as the focal point of operations. The aim is to continuously improve process performance in order to satisfy customer requirements.[9][14]

TQM involves the bottom-down communication and deployment of objectives, and the bottom-up implementation of continuous improvement activities. At the center of TQM is the concept of the management of processes, and the existence of internal suppliers and customers within organizations. Organizations which have adopted TQM are likely to have developed an understanding of the processes which are operated, and attempt to make the customer the target of improvement activities.[9]

BPR also emphasizes focus on the process. However, some authors such as Klein [15] suggest that BPR is much more radical than TQM, while others, notably Davenport[12] and Harrison and Pratt [16] suggest that TQM and BPR can and should form an integrated strategic management system within organizations. Davenport [12] suggests there is a need to undertake process value analysis, in order to identify which processes should be re-engineered, and which should be managed on the basis of continuous improvement. The situation is in reality less clear-cut than re-engineering versus continuous improvement, since improvement activities form a continuum from small incremental improvements to wholesale radical restructuring of operations. [13]

Several authors on BPR appear to consider continuous improvement of processes to be the only link to TQM. However, other aspects of the management of processes are considered vital in both TQM and re-engineering, including benchmarking [15][16], culture change [17], and performance measurement [13][16]. There is therefore a need to clarify the relationship between BPR and TQM in order to maximize the benefits from each.

Successful Reengineering is defined by an empowered, educated workforce with individuals doing multi-dimensional work in process teams. The number of checks and controls is minimized, organizational structures have fewer levels of authority, and executives are leaders rather than managers. It is interesting to note the similarities between these characteristics of a reengineered environment and Deming's 14 Points for Management.[7]

TQM stresses incremental improvement through structured problem solving ,whereas reengineering is about radical improvement through total process redesign. TQM assumes the underlying process is sound and looks to improve it ; reengineering assumes it is not and seeks to replace it.[18]

Reengineering proponents compete that since continuous improvement implies making incremental changes to existing processes, it does not foster the total redesign of processes viewed as necessary for organizations to make the significant advances required to stay competitive. Reengineering starts from the premise that existing processes are inadequate to compete and also are rife with inefficiencies. Consequently, radical redesign is required, and previous methods are to be challenged.[7]

BPR differs from many other quality movements in that those movements focused on continuous change and process improvement. BPR is design work, requiring it's followers to apply discontinuous process change.

### Conclusion

1. While TQM seeks continuous improvement ,reengineering seeks a one time gain. Furthermore, reengineering is used in producing a good basic design yielding dramatic improvements ,and TQM is used to perfect processes, gradually improving efficiencies.
2. These methodologies involve different risks, are aimed at different levels of improvements over time and involve a different attitude towards learning. Reengineering has a relatively high risk because it aims at very high improvements in a short time. For a company with processes suspected to be far from efficient or in an industry facing big changes, re-engineering c be the required tool. Michael Hammer and James Champy, authors of Reengineering the Corporation and the foremost proponents of this new improvement technology, estimate that 50 to 70 percent of organizations that undertake reengineering efforts do not achieve dramatic results. [3] The continuous improvement has a low risk but requires a major effort to change corporate culture.
3. Reengineering does not include the policy deployment methodology among its basic principles. Policy deployment is a quality planning approach for deploying strategic cross-functional change initiatives seeking breakthrough performance.[7]
4. Process reengineering focuses on selected core processes for a redesign project. In contrast, TQM is more system-wide and hopefully never ending story.
5. BPR pursues multifaceted improvement goals, including quality, cost, flexibility, speed, accuracy, and customer satisfaction, concurrently, whereas programs focus on fewer goals or trade off among them.

6. Information technology has been more formally integrated into the reengineering process.

Reengineering vs. TQM

Reengineering	TQM
Process orientation	Process orientation
Dramatic improvement goals	Incremental improvement goals
Contrast with Taylorism	Contrast with Taylorism
Radical change	Change step-by-step
Customer centered	Customer centered
Project	Never end process
High risk	Low risk

After a company has reengineered its thinking style or mental map, the next step toward becoming customer-centered is to change its management methods. The two dominant management approaches of the past quarter century have probably been MBO (management by objectives) and TQM (total quality management). Both of these approaches have been heavily internally focused with very little consideration given to the customer's interest.

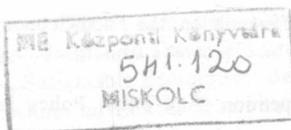
The experience seems to indicate that it is better to start with re-engineering and benchmarking, if appropriate, and then later pursue the cultural change towards continuous improvement.

- MARTINEZ E. V., **Successful reengineering demands IS/business partnerships** Sloan Management Review, Summer 1995
- LITTLEJOHN M., Pacific Bell, [www.cox.smu.EDU](http://www.cox.smu.EDU)
- HAMMER, M. and CHAMPY, J., **Re-engineering the Corporation - A Manifesto for Business Revolution**, Nicholas Brealy, London, 1993.
- TALWAR, R., **Business re-engineering - a strategy-driven approach**, Long Range Planning, Vol. 26 No. 6, 1993, pp. 22-40.
- DAVENPORT, Thomas H. **Process Innovation: Reengineering Work Through Information Technology** Harvard Business School Press 1993 Boston
- STODDARD, JARVENPAA, and LITTLEJOHN, HBS, [www.cox.smu.edu](http://www.cox.smu.edu)
- BAKER Donald D., **Reengineering, Total Quality Management and ISO 9000: Three Approaches on a Common Theme** Rochester 1995
- BREBNER, Jennifer and CABRALES, Paty **ISO 9000, Reengineering, TQM** University of Texas Pan American INTB 4365 Fall 1996
- OAKLAND, J., **Total Quality Management**, 2nd ed., Heinemann, London, 1993.
- MCDANIEL, 1996 [www.cox.smu.edu](http://www.cox.smu.edu)
- CORDON, C. **Ways to improve the company - What are re-engineering, benchmarking and continuous improvement ?** Financial Times, November 10, 1995.

- DAVENPORT, T.H., **Need radical innovation and continuous improvement? Integrate process reengineering and TQM**, Planning Review, Vol. 21 No. 3, May/June 1993,
- ZAIRI, M., SINCLAIR, D.: **Business process re-engineering and process management: A survey of current practice and future trends in integrated management** 1995
- HARRINGTON, H.J., **Improving business processes**, TQM Magazine, February 1991,
- KLEIN, M.M., **Facilitator role in benchmarking operations to improve performance**, Industrial Engineering, Vol. 25 No. 9, September 1993,
- HARRISON, D.B. and PRATT, M.D., **A methodology for reengineering businesses**, Planning Review, Vol. 21 No. 2, March/April 1992,
- JANSON, R., **How reengineering transforms organizations to satisfy customers**, National Productivity Review, Vol. 12 No. 1, Winter 1992,
- HAMMER M.: **The reengineering revolution** Harper Business 1995

J.S.Arbache: Inter-Industry Wage Differentials in Developing Countries: The Case of Brazil .....	1
J.Binfeld: Trade Policy and Agri-Food Structure in Transition Economies .....	9
A.Botos: Situation and Developmental Outlook of Transylvanian Agriculture .....	17
A.Bugalska: "The Structure of Power within an Organization versus Management System" .....	22
Cs.Deák: The Relationship between Reengineering and TQM .....	31
J.Duda, D.Sala: Evolutionary Algorithms for the Flowshop Problem .....	38
S.Dumanoglu, S.Drewer: Political Change and the Growth of Foreign Trade in Construction: The Turkish Construction Industry in Central Asia .....	46
T.Dziubinski: Reforms of Polish Insurance System .....	55
H.Friederiszick: Investment, Information Externality and Product Differentiation .....	63
E.Gwarda-Gruszczynska: Holding Companies in Poland .....	73
P.Halmaj, L.Velikovszky: New Challenges of Economic Transition for the Agriculture, Rural Aspects in the CEE Countries: the Hungarian Case .....	81
B.Heidrich: Cultural Changes in Organizations .....	91
L.Hernádi: Women Entrepreneurs in Small Business in the Transforming Hungarian Economy .....	100
Csaba Horváth: Virtual Organizations in the Mirror of the Literature .....	112
Csilla Horváth: Consumer Image Analysis of Butters and Margarines .....	120
J.Kozłowska: Benchmarking in Conversion of Bank Products (On the Example of Polska Kasa Oszczędności Bank Państwowy in Warsaw) .....	125
A.Krzywicka: Sales Department's Role in Marketing Management .....	132
A.Laczkó: Globalization, and Regional Differentiation, the Food-Economy of Southeast-Asian Region (Japan) .....	137
A.Lebman: The Economic Role of Competition (Anti-Trust) Policy in the Europe Agreements .....	142
R.Lisowski: Effect of Indirect Tax on Market Balance .....	147
R.Magda: Arable Land and Company Management Nowadays .....	154

L.Major: Competitiveness in the Light of the Environment .....	157
E.McGloin: Issues in Reinforcing and Developing Strategic Purchasing: Partnership Sourcing the Case of Multinationals and Small to Medium Sized Enterprises in Ireland .....	165
E.Meskó: The Performance the Poultry Industry after the Transition, The Hungarian Case .....	176
J.Obrzud, A.Jamróz, M.Dudek: An Evolutionary Algorithm to Group Parts into Parts Families.....	181
B.Ónodi: A Conception for Standardise the Hungarian Agricultural Information System: The Benefits of EDI .....	189
B.Ónodi: EDI in Agriculture .....	197
A.Palus: Fairs in the Present Marketing Policy.....	205
A.Rafailidis: Networks: Enhancing Firms' Technological and Economic Performance .....	213
D.Sala, J.Duda: Nexpert Object™ - a Tool for Building Expert Systems Applications in Management .....	222
D.A.Sarpe: Preliminary Conditions for Japanese Management System Implementing in the Romanian Industry .....	230
K.Szegedi: A Study of Small Business Ethics in Hungary .....	238
J.Wachol, B.Ziebicki: The Analysis of First Survey Results in the Companies Participating in National Investment Funds Programme .....	246
C.Wilson: Empirical Results of a Willingness-to-pay Study for a Reduction in Pesticide Pollution in a Developing Country.....	253
J.Wojanowska: Ecotourists and their Demand in Tourism Market .....	272





**INTERNATIONAL CONFERENCE OF  
PHD STUDENTS**

*University of Miskolc, Hungary*

*11 - 17 August 1997*

**SECTION PROCEEDING**

**ECONOMICS**