Student Self-administered case study

Quality Improvement Methods an Introduction

Case duration (Min): 45-60

Operations Management (OPs)

Principles of Management (PoM)

Quality improvement methods

Managing quality and performance

Worldwide

Case summary:

Quality is consistent conformance to customer expectations. Quality, particularly when it is associated with competitive advantage, is a significant concern for most organisations. When quality is managed, the costs of waste, reworked, complaints and returns are reduced and customer satisfaction enhanced and, in many cases, improvements in quality translate into improvements in profit. In the case of not-for-profit organisations, quality improvements ensure the efficient use of resources and improvements in service. This case considers the use of quality improvement methods by a not-for-profit organisation that has learned from the quality improvements made in profit organisations.

Learning objectives:

Describe two strategies used to bring about quality improvement.
Identify and describe the common tools used for improving quality within organisations.

Case problem:

What techniques can be used for (operations/quality) improvement?

Company

Non Specified

Health Care Plans

First, if you are taking a taught management course then consult with your tutor and ensure that the case has not been scheduled into a teaching class or tutorial. If it has not:
1. Play/ read the media associated with the case. You may need to access the Internet and enter a URL to locate any video clips.
2. Attempt the Case study questions.
Consider attempting the case study as a group exercise; you could form a study group with fellow students.
3. Check the suggested answers - remember these are suggestions only and there are often many possible answers.
Discuss questions and answers with other students.
4. If you feel your answer(s) were weak then consider reading the relevant suggested readings again (also see the case study suggested references).

Title/ Media type	URL/ Media description
Curing the Health-Care Industry :	http://feedroom.businessweek.com/?fr_story=6e0ad5d6d5bca6ba36588af56bce19836d742fb3&rf=bm
Film	As founder and CEO of the Institute for Healthcare Improvement, Donald Berwick adapts the best practices of manufacturing and consumer-goods companies to the health-care system.

NOTES:

Case study questions...

	Action	Pre/During/After class
1	**IMPROVEMENT :** Identify and describe two fundamentally different strategies used to bring about improvement within organisations.	During
2	**QUALITY AND COST :** Improvements may focus on a number of aspects of operations such as cost, speed, quality, flexibility, dependability etc. Drawing upon the content of the film clip and your wider reading, critically discuss (with reference to cost and quality in particular) whether such aspects must be treated as mutually exclusive (contradictory: unable to do both at the same time).	During
3	**METHODS, TOOLS & TECHNIQUES :** All operations, no matter how well managed, are capable of improvement. With regard to quality, list and outline 5 Methodologies, Techniques, and Tools (MTTs) for improvement.	During
4	**APPLICATION OF QUALITY IMPROVEMENT METHODS :** With reference to the quality improvement tools and methods discussed in the previous question, evaluate their application in both profit and not-for-profit organisations-is there any difference in the way quality might be improved in either case?	During

Answers...

QUALITY

(a) The characteristics of a product or service that bear on its ability to satisfy stated or implied needs, (b) A product or service free of deficiencies.

QUALITY ASSURANCE

The specific actions firms take to ensure that their products, services, and processes meet the quality requirements of their customers.

QUALITY CIRCLE

Small group of workers which meets regularly to identify problems and discuss solutions.

QUALITY MANAGEMENT

Refers to systematic policies, methods, and procedures used to ensure that goods and services are produced with appropriate levels of quality to meet the needs of customers

QUALITY RELATED COSTS

an attempt to capture the broad cost categories that are affected by, or affect, quality, usually categorized as prevention costs, appraisal costs, internal failure costs, and external failure costs.

COST OF QUALITY

Refers specifically to the costs associated with avoiding poor quality or those incurred as a result of poor quality

PERFORMANCE MEASUREMENT

The process of quantifying the efficiency and effectiveness of actions

BENCHMARKING

the process of identifying, understanding, and adapting outstanding practices from organizations to help improve perfromance

Question/ Answer

1 **IMPROVEMENT :**

Identify and describe two fundamentally different strategies used to bring about improvement within organisations.

1 Radical change (breakthrough improvement) - breakthrough improvement implies major and dramatic change. Business reengineering implementation can be characterized as the implementation of deliberate and fundamental change in business processes to achieve breakthrough improvements in performance, (Grover and Jeong 1995).
2 Continuous improvement (see also Kaizen) is a term used to describe a recurring activity to increase the ability to fulfil requirements. An individual or team tasked with continuous improvement may start by critically reviewing the existing ('as is') situation.
Students should recognise that companies need to establish how good they are (the 'as is' situation) before they can set about improvement. A variety of tools and methods may be used to measure existing performance in terms of operations and quality. Without performance measurement it would not be feasible to exert any control over an operation on an going basis.

2 **QUALITY AND COST :**

Improvements may focus on a number of aspects of operations such as cost, speed, quality, flexibility, dependability etc. Drawing upon the content of the film clip and your wider reading, critically discuss (with reference to cost and quality in particular) whether such aspects must be treated as mutually exclusive (contradictory: unable to do both at the same time).

In the film clip Donald Berwick believes that they are not mutually exclusive and that quality improvement and cost reduction should be considered at the same time, as the same thing and not in competition with each other. Whilst students might argue that some quality improvement initiatives may have associated costs, they might also argue that quality improvement initiatives will remove waste, defects and aim for the better utilisation of resources through better targeting. Quality and cost improvement objectives are similar in that they both seek to remove inefficiency. Students may also discuss the cost of quality - the costs associated with avoiding poor quality or those incurred as a result of poor quality and Quality related costs - an attempt to capture the broad cost categories that are affected by, or affect quality, usually categorized as prevention costs, appraisal costs, internal failure costs, and external failure costs.

BREAKTHROUGH IMPROVEMENT

an approach to improving operations performance that implies major and dramatic change in the way an operation works, for example, business process reengineering (BPR) is often associated with this type of improvement, also known as innovation-based improvement, contrasted with continuous improvement.

CONTINUOUS IMPROVEMENT

an approach to operations improvement that assumes many, relatively small, incremental, improvements in performance, stress the momentum of improvement rather than the rate of improvement; also known as kaizen, often contrasted with breakthrough improvement.

KAIZEN

Japanese term for continuous improvement.

SCATTER PLOT

A graphical representation of the relation-ship between two variables.

PROCESS MAP

The sequence of all process activities and tasks necessary to create and deliver a desired output or outcome

CAUSE-AND-EFFECT DIAGRAM

A graphical tool used to cate-gorize the possible causes for a particular result.

PARETO LAW

a general law found to operate in many situations that indicates that 20 per cent of something causes 80 per cent of something else, often used in inventory management (20 per cent of products produce 80 per cent of sales value) and improvement activities (20 per cent of types of problems produce 80 per cent of disruption).

3 METHODS, TOOLS & TECHNIQUES :

All operations, no matter how well managed, are capable of improvement. With regard to quality, list and outline 5 Methodologies, Techniques, and Tools (MTTs) for improvement.

There are numerous Methodologies, Techniques, and Tools (MTTs) for conducting business process change projects. BPR projects typically include attempts to transform the organizational subsystems of management (style, values, and measures), people (jobs, skills, and culture), information technology, and organizational structures, including team and coordination mechanisms. Changes to these subsystems are viewed through the analytic lens of the business process (intrafunctional, cross-functional, and interorganizational). A BPR project is a set of coordinated efforts to modify various organizational subsystems through business process change. Methodologies generally focus on cross-functional and interorganizational processes. They take the customer view and leverage IT's coordination and processing capabilities.
Tools and techniques:
Research conducted by Kettinger et al (1997) indicated that at least 72 techniques are used to accomplish activities associated with TQM/BPR or BPM projects and a set of 102 tools were identified. For example, techniques used in the diagnostic stage include process mapping to assists project teams in "documenting the existing processes". Consultants sometimes use simple depiction techniques such as process flow- charts or more structured techniques. Techniques used in the reconstruct (implementation) stage include force field analysis. Tools may be used in order to design and develop process models and other documentation; to initiate improvement projects; to investigate problem causes or establish cause-and-effect relationships. Tools may make use of numerical or non-numerical data and all members of the organization should receive training in the application of improvement tools.
Flowchart - To describe an existing or design a new process. A flowchart illustrates the steps in a process. By visualizing the process, a flowchart can help identify bottlenecks swiftly or inefficiencies where the process can be streamlined or improved.
Cause-and-effect diagram - To facilitate problem solving from symptom to cause to solution. The cause and effect diagram (fish bone diagram) is a tool used for thinking through and displaying relationships between a given effect and its potential causes. Cause and Effect analysis helps think through causes of a problem thoroughly. The major benefit is they encourage consideration of all possible causes of the problem, rather than just the obvious.
Brainstorming- To identify possible solutions to problems and potential opportunities for quality improvement. Brainstorming is a technique for tapping the creative thinking of a team and generating a list of ideas, problems or issues.
Benchmarking - To compare a process against those processes of recognized leaders to identify opportunities for quality improvement. Competitive benchmarking involves analysis of available information about a competing company. This data is then used as a goal for your own improvement efforts. Many companies benchmark against those recognized as 'best in industry'.
Data-collection form - To gather data systematically to obtain a clear picture of the facts. A form used to collect data in a consistent manner.
Histogram - To display the pattern of variation of data and then support decision-making about where to focus improvement efforts. Data is displayed as a series of rectangles of equal width but varying height. A graphical representation of a frequency distribution.
Pareto diagram - To display, in order of importance, the contribution of each item to the total effect. A simple graphical technique for ranking items. A chart used to graphically summarise and display the relative importance of the differences between groups of data.
Scatter diagram - To discover and confirm relationships between two associated sets of data. A chart that plots the relationship of one numeric variable with another on a horizontal and vertical axis, and determines the degree of dependency or interdependency.
Students may also discuss quality culture, total quality management, the need for top management support etc.

4 APPLICATION OF QUALITY IMPROVEMENT METHODS :

With reference to the quality improvement tools and methods discussed in the previous question, evaluate their application in both profit and not-for-profit organisations-is there any difference in the way quality might be improved in either case?

Both profit and not-for-profit organisations share a need to be efficient in the way they utilise the resources; both wish to deliver good products and services without wasting resources. Similarly, both types of organisations must be effective-do the right things. In the case of a profit organisation, efficiency through cost reduction provides advantage that may translate into higher profit margins. In the case of not-for-profit organisations, efficiency through cost reduction enables them to satisfy stakeholders (better use of donated financial resources etc) whilst creating capabilities to help more people etc.

TOTAL QUALITY MANAGEMENT (TQM)

A managerial approach in which the entire organization is managed so that it excels in all quality dimensions that are important to customers.

Case study references

Cole, G A. and Kelly, P P. (2011) 'Management Theory and Practice', Ed. 7. Cengage EMEA.

Collier, D. and Evans, J. (2009) 'OM', Ed. 1. Cengage Learning.

Evans, J. and Collier, D. (2007) 'Operations Management Integrated Goods & Services Approach, International Edition', Ed. 2. South Western.

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Slack, N., Chambers, S. and Johnston, R. (2007) 'Operations Management', Ed. 5. Financial Times Press.