



IE407 Total Quality Management

Lecture 25



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Reminder: SA grade

- ▶ SA grade will be determined by the attendance system
- ▶ More than 8 absents will automatically lead to SA grade
- ▶ Please be careful about your attendance in lectures





Besterfield Chapter 7: Performance Measures





Relating Quality Cost to Business Measures

Quality Cost Bases

- ▶ Reporting of quality cost is more meaningful and have more impact if these are related to the overall business measures such as total sales, total profit and the like
- ▶ Some examples of bases are
 - ▶ As a percentage of sales
 - ▶ Most accounting reports already use this practice
 - ▶ As compared to profit
 - ▶ Comparison with profit can surprisingly show that cost of quality are more than profit
 - ▶ As related to production
 - ▶ As related to unit of production
- ▶ This facilitates comparison with other similar products

Quality Cost Bases - 2

- ▶ Quality cost reports are issued periodically (typically monthly) by accountants
- ▶ Data for previous period(s) is usually shown for comparison
- ▶ This can be used for preparation of budget for the next period and for forming strategy for control
- ▶ See figure 7-6 on page 171
- ▶ It is normal practice to use more than one indexes to avoid disadvantages of single index



Analysis

Trend Analysis

- ▶ Comparison of present cost levels to past levels on the basis of:
 - ▶ Cost category, sub-category, product, measurement base, plants within a corporation, department, work center
- ▶ Trend analysis provides information for
 - ▶ Long-range planning
 - ▶ Instigation and assessment of quality improvement programs
- ▶ While using trend analysis due considerations should be given to chance variations and time lag between occurrence of a cost and its reporting
- ▶ The important factor to observe is the trend
- ▶ Attempt end of chapter problems



Pareto Analysis

- ▶ Pareto analysis help us focus attention on those costs whose reduction will bring substantial benefit
- ▶ In this analysis the cost categories are listed in descending order of respective cost. A typical pattern is usually observed
 - ▶ A small number of quality cost categories account for a large percentage of total cost. These are referred to as the “vital few”
 - ▶ A large number of quality cost categories account for the remaining small percentage of total cost. These are referred to as the “useful many”
- ▶ Projects can be developed to reduce the quality costs identified as vital few

Pareto Analysis - 2

- ▶ See examples on p. 441-443
- ▶ Do problems at the end of chapter



Improvement Action Strategy and Plan

- ▶ The basis of action plan is that failure have a root cause and these causes are preventable
- ▶ Increasing inspection to detect defect will not eliminate root causes
- ▶ Management should take structured approach towards determining and elimination of root causes
 - ▶ Management techniques like structured problem solving, Kaizen, Six Sigma, discussed in Chapter 5, are often used
- ▶ Deming has indicated that 85% of quality problems cross departmental boundaries and functional lines
 - ▶ To solve such problems formation of cross functional teams is most appropriate

Limitations of Quality Cost

- ▶ Quality cost information only provides broad direction towards problems and usually does not suggest specific actions
- ▶ Further detailed analysis is required to narrow down to pinpoint the specific problem area
 - ▶ Such as item-wise analysis of rejections, warranty claims, customer complaints
- ▶ Another limitation of use of quality cost information for improving product or service quality is that often quality cost data is not accurate
 - ▶ For this reason it is not reviewed seriously



Malcolm Baldrige National Quality Award

- ▶ See the following presentations available in LMS
 - ▶ Introduction to Baldrige Program
 - ▶ Introduction to the Baldrige Excellence Framework
 - ▶ Baldrige Excellence Framework
- ▶ These presentations are from NIST website:
www.nist.gov/baldrige/



Other Quality Awards

- ▶ Japan: Deming Prize
(https://www.juse.or.jp/deming_en/award/)
- ▶ Europe
 - ▶ EFQM Award (<http://www.efqm.org>)
 - ▶ Formerly European Foundation Quality Management
- ▶ Pakistan Quality Award
 - ▶ <http://www.npo.gov.pk/prime-minister-quality-award/>
- ▶ Read about these awards from the text book and/or their respective websites



Balanced Scorecard

- ▶ Use of only financial measures such as profit is not adequate to assess overall business performance
 - ▶ For example, financial measures provide no information about customer satisfaction
- ▶ In 1990, Robert Kaplan and David Norton proposed a more comprehensive set of measures to bring them in line with achievement of strategic goals
 - ▶ They named it balanced scorecard
- ▶ Balanced scorecard approach provides a mechanism to achieve feedback on internal business processes and external output such as customer satisfaction



Balanced Scorecard - 2

- ▶ Balanced scorecard suggests that we review the organization from four perspectives:
 - ▶ The learning and growth perspective
 - ▶ The business process perspective
 - ▶ The customer perspective
 - ▶ The financial perspective
- ▶ For each perspective
 - ▶ Appropriate metrics are developed
 - ▶ Data is collected using the metrics
 - ▶ Data is analyzed to gain insight
- ▶ See figure 7-8 on page 181 for deriving performance measures from strategy

Comments

- ▶ Read concluding remarks on page 184



References

- ▶ Besterfield, Dale H. and others. 2019. *Total Quality Management*, 5th edition. Pearson India

