

BNM850 QUALITY MANAGEMENT

Number of Aston Credits: 10

Number of ECTS Credits: 5

Staff Member Responsible for the Module:

Dr Ben Clegg, Operations & Information Management Group Aston Business School, Room 274, Extension 3063 Email: b.t.clegg@aston.ac.uk, Availability: see office hours

Or contact the Operations and Information Management Group Administrator John Morley, ABS266, Extension 3236

Pre-requisites for the Module:

None

Mode of Attendance:

On Campus

Module Objectives and Learning Outcomes:

Students completing this module will be able to answer the following questions. The answers will be discussed using currently popular tools, frameworks and examples.

- Why is quality important?
- How is quality defined?
- Who are the quality 'gurus'?
- What are the costs of quality?
- > Why does quality need a strategic approach?
- > Why is there a need to have a process focus?
- > Who are the customers (internal and external)?
- What structured techniques are there to build in quality?
- Quality: large projects or small initiatives?
- > What methodologies / frameworks are there for quality management?
- What are quality awards?
- What standards are there for quality management?
- What are quality programmes?



- What are quality characteristics?
- What is the difference between an attribute and a variable?
- > What are quality tools?
- How and when should tools be used?
- What is Statistical Process Control (SPC)?
- How do you measure quality using sampling and quantitative techniques?
- What is process capability and stability?
- What are the different sorts of SPC control charts for variables?
- How can attributes be monitored with control charts?
- When to use which charts?
- How can statistical techniques become a strategic differentiator?
- What is acceptance sampling used? When is it used?
- > What is the 'service concept'?
- Differences between manufacturing quality and service quality?
- How do you characterise service operations?
- > What are the dimensions of service quality?
- What service quality tools exist?
- How do you 'benchmark' your organisation's performance against others?
- How to decide which quality dimensions are most important?
- How do you plan quality maintenance: prevention, appraisal and failures?
- How do you make processes more tolerant / capable?
- What is a quality system?

Module Content:

	Session 1	Session 2
Week 1	Introduction to Quality Management: > Basic concepts > Definitions of quality > The characteristics of quality > The quality gurus > Cost of Quality	Video case study: Discussions
Week 2	 Quality Management: A Strategic Approach Vision, Mission Internal and external customers Quality function deployment Functions and processes Critical success factors 	Case study: Executive Holloware
Week 3	Methodology, Standards Awards and Programmes Six Sigma EFQM Kaizen, improvement teams, quality circles ISO standards	Case study: Eurocamp Travel









Managing quality programmes

Week 4 Quality Characteristics and Quality Tools

- Variables and attributes
- > The 7 basic quality tools

Visiting Speaker:

to be confirmed

Week 5 Statistical Techniques I:

Statistical Process Control (SPC) -

Variables

- Theory of measuring
- Control Charts
- > Tolerance levels and capability levels
- Capability Index

Game:

Statistical Process

Control

Week 6 Statistical Techniques II:

Statistical Process Control (SPC) - Attributes

- Control charts
- Tolerance and capability levels

Acceptance Sampling

- Sampling Errors
- Operating characteristics curves

Case Study:

'Handles and Hinges'

Week 7 Service Quality

- The service concept
- Basic service tools
- The SERVQUAL tool
- Benchmarking

Case Study:

London Zoo

Week 8 Poor Quality: Detection, Prevention and Recovery

Performance versus importance

- Measuring failure, reliability and availability
- Failure, Mode and Effect Analysis (FMEA)
- Design of Experiments

Case Study:

Better Late and Happy than just

Late

Week 9 Revision Session

(NOTE: for part-time students only see below)

Week 10 Examination

Corporate Connections:

It is planned that an expert guest speaker from industry will be invited to present a session.









International Dimensions:

The module will explore the above questions using UK and international companies. It will build on theories developed from around the world: principally Japan, USA and Europe.

Contribution of Research:

Examples will be drawn from current research into quality management, lean and six sigma practices.

Method of Teaching:

The module will involve three main components:

1. Lectures and Discussions

The first half of the session each week will be devoted to a lecture / discussion on quality topics shown in the module timetable. You will be expected to come the session having completed the essential readings for the session and discuss issues arising.

2. Case Study and Analyses

In the second half of the session each week there will usually be a case study (or exercise) that will have to be analysed. **Students should have read and individually prepared the case study prior to attending the session**. Syndicates will then analyse the case and be prepared to present back to the class in plenary at the end of the session. This enables the critical analyses of the case studies and shared experience of the group to be communicated. Syndicates are arranged by the lecturer, usually with the agreement of the students concerned. Syndicate groups usually comprise of 3 students with mixed experiences.

3. Individual Study

A reading list is given to supplement lectures which includes not only essential material (that directly backs up lecture notes), but also a list of books, periodicals and websites that form recommended reading. The purpose of the recommended reading is to enable students to conduct their own research into the subject for exam revision purposes.

Method of Assessment and Feedback:

A two hour RESTRICTED BOOK examination is the sole assessment. A case study will be given out two weeks before the exam; this may be annotated and an additional single A4 sheet of notes bought into the examination. One compulsory question will be on the case study and a further two questions to be answered from a choice of five.









Feedback will be available on request either via office hours, email or on generic feedback on Blackboard.

Information for Distance Learning Students:

Distance learning students will have an extra 'study weekend' session. This will cover the fundamental issues within the modules. Students will be expected to prepare a case study and engage in the SPC Game.

Learning Hours:

Contact Hours	27
Directed Learning	30
Private Study / Group work	41
Examination	02
Total	100

Essential Reading:



Paton, S, Clegg, B., Hsuan, J., Pilkington, A., 'Operations Management'. McGraw Hill Education. 12th Aug 2011. UG and PG core text book (560 pages)

ISBN 0077126173 and 978-0077126179

http://www.mcgraw-hill.co.uk/html/0077126173.html

ST Foster, 'Managing Quality: An Integrative Approach'. International Edition. 2nd Edition. Pearson Prentice Hall. 2004. Website http://www.prenhall.com/foster

- J Bicheno. 'The Quality 75'. 2002. PICSIE Books. ISBN 0954124405. Available to purchase from: www.picsie.co.uk
- J. Bicheno and M. Holweg, 'The Lean Toolbox: The Essential guide to Lean Transformation'. 4th Edition. ISBN 978-0-9541244-5-8 PICSIE Books 2009.

N Slack, S Chambers and R Johnston. 'Operations Management'. 4th Edition. 2004. FT Prentice Hall. ISBN 0273 67906 6. Website for book: http://www.booksites.net/slack.









Indicative Bibliography:

G. Wilson, 'Six Sigma and the Product Development Lifecycle' 2005. Butterworth-Heinemann. 0-7506-6218-2

James R Evans & William M. Lindsay, 'The Management and Control of Quality'. 4 th Ed. 1999. South Western, ISBN 0-324-045-6.

L. Munro-Faure & M. Munro-Faure, 'Implementing Total Quality Management'. 1993. Pitman. ISBN 0-273-03848-6.

V.A. Zeithmal, A. Parasuraman & L.L. Berry, 'Delivering Quality Service: Balancing Customer Perceptions and Expectations'. 1990. Free Press. ISBN 0-029-357012

N. Logothetis, 'Managing for Total: From Deming to Taguchi and SPC'. 1992. Prentice Hall. ISBN 0-13-5535123

J.S. Oakland, 'TQM: Text with Cases'. 2001. 2nd Ed. Butterworth Heinemann. ISBN 0-7506-3952-0

B.G. Dale and J.S. Oakland, 'Quality Improvement through Standards'. 1991. Stanley Thomas.

Journals

Total Quality Management (TQM) Journal

Total Quality Management and Business Excellence Journal

Benchmarking: an International Journal

International Journal of Quality and Reliability Management

Recommended Websites:

European Federation of Quality Management – copies of the EFQM model http://www.efqm.org

International Organization for Standardization - copies of ISO standards http://www.iso.ch/iso/en/iso9000-14000/iso9000/iso9000index.html

British Quality Foundation http://www.quality-foundation.co.uk

American Centre for Quality http://www.asq.org





