

Unit BR8: Applying Lean Principles to Business Operations

Unit code: A/503/7387

QCF level: 6

Credit value: 15

Aim

The aim of this unit is to provide the understanding needed to evaluate the effectiveness of the quality management of business operations, and to develop the skills needed to apply lean tools and techniques for planning a quality change.

Unit abstract

Business operations includes how organisations produce goods and services. Every organisation has an operations function.

In this unit learners will consider the meaning and role of business operations and its importance and management in all types of organisation. This knowledge will enable learners to evaluate the suitability of the management processes in the business operations of an organisation in their pursuit of quality.

Learners will gain knowledge and understanding of the principles and concepts associated with quality management. This unit gives learners the opportunity to look at how managers can improve business operations through using different approaches. The lean philosophy has been transposed to non-manufacturing organisations and in this unit learners will assess the suitability of using different tools and techniques to improve work activities.

Learners will examine the practices needed for planning a quality improvement programme. Through identifying and planning the resources needed to meet specific organisational objectives, learners will be able to make a significant contribution to planning the introduction of a quality change to improve organisational performance. Critical thinking and self-directed study are important aspects of working at this level.

Finally, learners will consider the performance measurement methods available to evaluate the impact of the improvement on the business activities.

Learning outcomes

On successful completion of this unit a learner will:

- 1 understand the suitability of the management of business operations in an organisation
- 2 understand the role of quality management in an organisation
- 3 be able to use lean methods to improve the management of business operations in an organisation
- 4 be able to plan a quality improvement in an organisation
- 5 be able to evaluate the impact of quality improvement on an organisation.

Unit content

1 Understand the suitability of the management of business operations in an organisation

Operations management: activity of managing the resources needed for the production and delivery of products and services; managing processes; operations as a core function and as an activity; transformation process; importance; relevance for all managers and organisations

2 Understand the role of quality management in an organisation

Quality: definitions; quality gurus; evolution of quality; product quality and service quality, benchmarking; best practice; self-assessment; vision; continuous improvement; quality models; quality characteristics

Total Quality Management (TQM): definition; philosophy, principles, methods, techniques; quality costs

Importance of quality management: improvement in quality of the final product or service; reduction in wasted resources; increased productivity as effective use of time by staff; long-term increase in market share, leading to sustained competitive advantage; motivated workforce as employees realise their full potential

3 Be able to use lean methods to improve the management of business operations in an organisation

Lean principles: philosophy; definition; background; benefits; design and state of the workspace; differences between lean production and lean organisation techniques

Lean tools and techniques: applying the tools; tools

4 Be able to plan a quality improvement in an organisation

Planning for a quality change: identifying improvement needs; developing plan; gap analysis; setting aims and objectives; justification; prioritising activities; identifying constraints; success criteria; review

Designing systems: process, objectives, systems and operations; layout and flow of processes; approaches to improvement

Resources, tools and systems: project-management techniques; facilities; workforce; machinery; transportation; technology; quality systems; quality circles; TQM; aligning resources with objectives; resource constraints

Benefits of a quality change: improved business performance, corporate image, reputation, standing; competitor response; impact on other functions and departments

5 Be able to evaluate the impact of quality improvement in an organisation

Performance measures: key performance indicators; objectives; balanced scorecard; difference between performance measurement and performance management; benchmarking

Evaluation of quality improvement: monitoring and evaluation techniques; action learning; business performance indicators; customer feedback; effect on sales and profit

Learning outcomes and assessment criteria

Learning outcomes On successful completion of this unit a learner will:	Assessment criteria for pass The learner can:
LO1 Understand the suitability of the management of business operations in an organisation	1.1 Discuss why the management of business operations is important in any organisation 1.2 Evaluate the suitability of existing business operations management for a selected organisation
LO2 Understand the role of quality management in an organisation	2.1 Explain the importance of a total quality approach to achieving organisational excellence 2.2 Critically evaluate the suitability of existing quality processes for a selected work activities in an organisation
LO3 Be able to use lean methods to improve the management of business operations in an organisation	3.1 Compare the benefits of using lean tools and techniques with other approaches when managing the improvement of business operations in an organisation 3.2 Propose lean tools and techniques which can be used for improvement in selected work activities in an organisation 3.3 Justify the most appropriate approach for promoting continual improvement of business operations in a selected organisation
LO4 Be able to plan a quality improvement in an organisation	4.1 Plan for a quality change to improve organisational performance 4.2 Recommend resources, tools and systems to support business processes in a quality improvement in an organisation
LO5 Be able to evaluate the impact of quality improvement on an organisation	5.1 Critically evaluate the impact of the quality improvement on business activities in a selected organisation

Guidance

Links to National Occupational Standards

The content of this unit has been designed and mapped against the Engineering Council's current Learning Outcomes for IEng Accreditation. The completion of the learning outcomes for this unit will contribute knowledge, understanding and skills towards the evidence requirements for IEng Registration.

See *Annexe B* for summary of mapping information for IEng Accreditation.

Essential requirements

There are no special requirements for this unit.

Delivery

This unit will help learners develop an understanding of the factors involved in lean quality management operations through considering a quality improvement in the business operations of an organisation. It is recommended that centres use a wide range of teaching and learning methods so that learners achieve all of the learning outcomes in the unit. These could include lectures, seminars, workshops, project work, individual and group assessments.

The teaching/learning methods used should draw on material from industry wherever possible, also learners' own experiences. This will help learners to develop the transferable skills necessary in a changing and dynamic environment. Learners will develop skills to apply lean tools and techniques when planning a quality change.

To introduce the unit and learning outcome 1, it would be useful for learners to have a discussion on the historical development of operations management. Learners could then explore the functions and activities of operations management in an organisation, including their own. Learners need to understand how operations management impacts on the achievement of organisational objectives and through individual and group work, they could reflect and evaluate whether their own and other organisations' operations management has been successful or not. Case studies can be used to demonstrate the importance of operations management.

For learning outcome 2, learners need to understand the importance of managing quality in an organisation to achieve organisational excellence. Learners could assess quality management in their own organisations and guest speakers could be used to give learners useful information on how other organisations manage quality.

For learning outcome 3, learners need to understand the concept of lean as an approach to operations management that emphasises the continual elimination of waste. A guest speaker could explain how the principles and techniques of lean manufacturing have affected non-manufacturing environments to improve business performance. Learners could research the lean techniques used in their own organisations, and use case study exercises to apply these techniques

and explore the differences between the improvement approaches in terms of a gradual, continuous approach to change or a more radical 'breakthrough' change.

For learning outcome 4, learners will need to understand the processes involved in order to plan a quality change and the resources needed to achieve success. Group activities can involve simulation exercises to plan a quality improvement, identifying the resources, tools and systems that need to be in place. Again, case studies and visiting speakers can be used to help learners understand the importance of planning to ensure a successful outcome.

For learning outcome 5, learners need to understand how to evaluate the outcomes of a quality improvement. Tutors could encourage learners to use their experiences and knowledge gained in their own organisations where quality improvements may have been introduced. They also need to know about the various evaluation methods and how they can be put in place to measure success. Case studies or guest speakers would be useful to help examine the impact of the improvement on the business.

Assessment

Assessment for this unit should be evidenced through research carried out on the operations management either in a selected organisation or using a case study approach. Where possible, learners should be encouraged to use examples from their own organisations. If case studies are used they must be sufficiently detailed to enable learners to apply their evaluative skills.

A range of assessment methods can be used, for example presentations, management reports, essays, or professional discussion. All evidence presented must support achievement of the assessment criteria.

One assignment could cover the evidence requirements for this unit, although centres should write their own assignments to meet local needs. The learner could act as a lean quality operations consultant for an organisation of their choice that wants to improve its quality management operations. They could investigate the existing quality operations within the organisation, and apply lean tools and techniques to plan a quality improvement for a selected work activity, ensuring that monitoring systems are in place to evaluate the outcomes of the improvement.

Resources

Books

Aikens C H – *Quality Inspired Management* (Prentice Hall, 2011)
ISBN 978-0131197565

Fliedner EB – *Lean Management* (Business Expert Press, 2011)
ISBN 978-1606492475

Goetsch D L and Davis S B – *Quality Management for Organisational Excellence*, 6th Edition (Pearson, 2010) ISBN 978-0135019672

Johnston R, Chambers S, Slack N, Harrison A and Harland C – *Cases in Operations Management*, 3rd Edition (Financial Times/Prentice Hall, 2002)
ISBN 978-0273655312

Oakland J S – *TQM: Text with Cases*, 3rd Edition (Butterworth-Heinemann, 2003) ISBN 978-0750657402

Slack N, Chambers S and Johnston R – *Operations Management*, 6th Edition (Financial Times/Prentice Hall, 2010) ISBN 978-0273731603

Journals

Production, Planning and Control (Taylor and Francis)

The TQM Magazine (Emerald)

Websites

www.efqm.org	EFQM – helping European organisations learn from each other and improve performance
www.hse.gov.uk	Health and Safety Executive
www.iso9000.org	International Quality Systems Directory
www.managerwise.com	Business management information and resources
www.praxiom.com	ISO quality standards translated into understandable language
www.quality.co.uk	Quality Network – a guide to subject of quality management
www.uk.kaizen.com	Information on Kaizen tools and techniques