SQA Advanced Unit Specification

General information for centres

Unit title: Supply Chain: Lean and Agile Approaches

Unit code: HP61 48

Superclass: VB

Publication date: August 2017

Source: Scottish Qualifications Authority

Version: 01

Unit purpose

This Unit is designed to provide the learner with detailed knowledge of lean and agile approaches in supply chain management. It gives the learners a comprehensive overview of methods, techniques and factors concerned with lean and agile approaches in supply chain management, resulting in improved cycle times, lower inventory costs and increased customer satisfaction.

This Unit is primarily intended for learners who aspire to take up a management position in any type of organisation where the supply chain will play a major role. It would also be appropriate for those involved in the various functions associated with service, retail, public and manufacturing organisations, including inventory, stores, production, distribution planning, demand management and purchasing.

Outcomes

On completion of the Unit the learner should be able to:

1 Determine the objectives of a lean and agile approach to supply chain management.
2 Evaluate the methods, techniques and management tools used in the accomplishment of lean and agile supply chain management.
3 Describe the benefits from using a lean and agile approach to supply chain management.

Credit points and level

1 SQA Credit at SCQF level 8: (8 SCQF credit points at SCQF level 8*)

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from National 1 to Doctorates.*

Recommended entry to the Unit

Access to this Unit is at the discretion of the centre. However, learners are expected to have work experience relevant to the activities of supply chain management. It is not necessary that learners hold a team leader, supervisory or management position.

Learners, however, require an understanding of modern manufacturing methods, systems and the concept of waste reduction.

Learners are also expected to have competency in numeracy and communication skills to at least SCQF level 5. This may be evidenced by possession of the Core Skills Units in *Numeracy* and *Communication* or similar qualifications or experience.

Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes for this Unit specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit.

Context for delivery

If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

The Assessment Support Pack (ASP) for this Unit provides assessment and marking guidelines that exemplify the national standard for achievement. It is a valid, reliable and practicable assessment. Centres wishing to develop their own assessments should refer to the ASP to ensure a comparable standard. A list of existing ASPs is available to download from SQA's website (http://www.sqa.org.uk/sqa/46233.2769.html).

Equality and inclusion

This Unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.

Unit specification: statement of standards

Unit title: Supply Chain: Lean and Agile Approaches

Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

Outcome 1

Determine the objectives of a lean and agile approach to supply chain management.

Knowledge and/or Skills

- Concept of modern lean and agile methods
- Just-in-time (JIT) manufacturing and Kanban operation
- Waste reduction
- Lean and agile approaches within different industries
- Economic benefits

Evidence Requirements

Learners will need evidence to demonstrate all aspects of their Knowledge and/or Skills in this Outcome, by determining the objectives of a lean and agile approach to supply chain management, by showing that they can:

- explain the concept of modern lean and agile methods
- explain the concept of JIT methods and Kanban operation
- evaluate **four** areas of focus in waste reduction from:
  - over production
  - waiting time
  - transport
  - process
  - inventory
  - excessive movement
  - defective goods
  - poor service
  - (any other current area if focus is waste reduction)
- evaluate lean and agile approaches within different industries
- describe economic benefits to both supplier and customer using the lean and agile approaches

Outcome 2

Evaluate the methods, techniques and management tools used in the accomplishment of lean and agile supply chain management.

Knowledge and/or Skills

- Just-in-time (JIT) and Kanban concepts
- Tools, techniques and problem solving methods
- Lean and agile approaches in different industries
- Flexible and team work implementation

Evidence Requirements

Learners will need evidence to demonstrate all aspects of their Knowledge and/or Skills in this Outcome by showing that they can:

- evaluate the JIT and Kanban concepts
- evaluate the tools, techniques and problem solving methods used for lean and agile management, making reference to **four** of the following:
  - 5 s rules
  - five (6) zeros
  - ishakawa diagrams
  - pipeline map
  - process flow chart
  - pareto analysis
  - statistical quality control charts
  - quality function deployment
  - failure mode, effect and criticality analysis
  - benchmarking
  - (another current tool/technique/problem solving method)
- compare lean and agile approaches for **two** different industries
- describe the cultural requirements for flexible and team work implementation

Outcome 3

Describe the benefits from using a lean and agile approach to supply chain management.

Knowledge and/or Skills

- Economic benefits
- Changing work methods
- Competitive edge

Evidence Requirements

Learners will need evidence to demonstrate all aspects of their Knowledge and/or Skills in this Outcome by showing that they can:

- describe the economic benefits of lean and agile manufacturing in the supply chain
- evaluate the effects of production improvements and customer satisfaction caused by changing work methods
- identify and describe the competitive edge realised for organisations through the lean and agile approach

Unit specification: support notes

Unit title: Supply Chain: Lean and Agile Approaches

Unit Support Notes are offered as guidance and are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this Unit

This Unit is likely to form part of an SQA Advanced Supply Chain Management Group Award. It is designed to provide the learner with detailed knowledge of lean and agile approaches in supply chain management.

It is recommended that the learner should have experience of working in a supply chain or associated function.

Learners are expected to have work experience relevant to the activities of supply chain management. It is not necessary that learners hold a team leader, supervisory or management position, but it would be beneficial if they had an understanding of the nature of strategy and how it is developed within an organisation.

There may be opportunities for learners who successfully achieve this Unit to gain exemptions from a number of professional bodies. Learners should contact the relevant professional bodies to ascertain their current exemption policies.

Outcome 1 covers the objectives of a lean and agile approach.

- Modern, lean and agile methods
- Just-in-time (JIT) manufacturing
- Kanban operation
- Waste reduction
- Approaches within different industries
- Economic benefits to suppliers and customers

Outcome 2 looks at the methods, techniques and management tools used in the accomplishment of lean and agile supply chain management.

- Just-in-time (JIT) and Kanban concepts
- Tools, techniques and problem solving methods
- Approaches in different industries
- Cultural requirements for flexible and team work implementation

Outcome 3 focuses on the benefits from using a lean and agile approach.

- Economic benefits
- Changing work methods — effects on production improvements and customer satisfaction
- Competitive edge

Guidance on approaches to delivery of this Unit

This Unit may be delivered as one of the Units within the SQA Advanced Diploma in Supply Chain Management.

It is anticipated that this Unit may be delivered to a variety of learner groups and, wherever possible, teaching and research should be slanted towards their individual needs. The latest materials and examples from current and business practice should be used to highlight and illustrate the differences between organisations.

In addition to the classroom explanations and discussions that this Unit provides, learners should be encouraged to make use of relevant websites to gather information for themselves. Direction may be required on the location of useful information sources, however learners should be encouraged to use their initiative to discover the other various sources of information available.

Industrial visits, or preferably work placements, should be organised and guest speakers should be invited to speak to learners, especially where the learners do not have industrial experience.

Guidance on approaches to assessment of this Unit

Evidence can be generated using different types of Instruments of Assessment. The following are suggestions only. There may be other methods that would be more suitable to learners.

Centres are reminded that prior verification of centre-devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education.

To achieve this Unit, the learners must produce satisfactory assessment evidence that shows they have achieved all of the Unit Outcomes. The assessment for this Unit may be integrated with learners submitting a report covering the Evidence Requirements for the three Outcomes. It is recommended that the report comprise of three sections — each section reflecting an individual Outcome. The report may be submitted in three stages so that learners may remediate before progressing to the next stage. This also enables assessors to monitor each learner's progress. It is suggested that each section of the report be approximately 1,000 words, and the report may include diagrams if appropriate.

Where possible, the report should be based on the learner's own organisation, or one they have knowledge of, but where this is not possible the centre may supply suitable case study material.

It is recommended that the assessment include an evaluation of the methods, techniques and systems used in lean and agile approaches in supply chain management, and the objectives of lean and agile approaches in supply chain management from order through to customer receipt.

Where re-assessment is required for Outcomes 1 and 2, it is recommended that the learner evaluate alternative areas of focus in waste reduction (Outcome 1) and tools, techniques and problem solving methods used (Outcome 2).

Opportunities for e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at www.sqa.org.uk/e-assessment.

Opportunities for developing Core and other essential skills

There are no Core Skills embedded in this Unit. However, there are opportunities for developing the Written Communication component of the Core Skill of *Communication* at SCQF level 6 and the Core Skills of *Numeracy* and *Problem Solving* at SCQF level 6 in this Unit.

***Communication* — Written Communication at SCQF level 6**

All three Outcomes provide learners with the opportunity to develop their written communication skills.

Opportunities will occur where learners present written responses as part of their work throughout the Unit, but especially in the assessment where evidence may be presented as a written report. Learners will have to produce a well-structured report which evaluates a substantial body of information in-depth. The report will use a format, layout and word choice effective in meeting the purpose. Diagrams may be included in the report to support the report findings.

***Numeracy* — Using Number at SCQF level 6**

In Outcome 2, where learners evaluate the tools, techniques and problem solving methods used for lean and agile management, they may carry out a number of sustained, complex calculations.

***Numeracy* — Using Graphical Information at SCQF level 6**

In Outcome 2, some of the techniques and tools used may include ishakawa diagrams, process flow charts and statistical quality control charts, thereby enabling learners to apply a wide range of graphical skills to interpret and present complex information.

***Problem Solving* — Critical Thinking at SCQF level 6**

All three Outcomes provide learners with the opportunity to develop their problem solving skills.

Learners will have to analyse complex situations/issues. They will have to identify factors involved and assess the relevance of these, and thereafter evaluate the situation.

***Problem Solving:* — Planning and Organising at SCQF level 6**

Learners will have to identify and obtain resources, from a wide range of familiar and unfamiliar sources, to carry out the assessment tasks.

Problem Solving — Reviewing and Evaluating at SCQF level 6

Learners will have to review and evaluate their findings, and compare approaches in different industries. In Outcome 2, in particular, they will evaluate tools, techniques and problem solving methods used within the supply chain management.

Administrative information

Version	Description of change	Date

SQA acknowledges the valuable contribution that Scotland's colleges have made to the development of SQA Advanced Qualifications.

FURTHER INFORMATION: Call SQA's Customer Contact Centre on 44 (0) 141 500 5030 or 0345 279 1000. Alternatively, complete our Centre Feedback Form.

General information for learners

Unit title: Supply Chain: Lean and Agile Approaches

This section will help you decide whether this is the Unit for you by explaining what the Unit is about, what you should know or be able to do before you start, what you will need to do during the Unit and opportunities for further learning and employment.

This Unit will provide you with a detailed knowledge of lean and agile approaches in supply chain management. It will give you a comprehensive overview of methods, techniques and factors concerned with lean and agile approaches in supply chain management, which will result in improved cycle times, lower inventory costs and increased customer satisfaction.

There are three Outcomes in this Unit.

Outcome 1 looks at the objectives of a lean and agile approach including just-in-time (JIT) manufacturing and Kanban operation. Waste reduction is also covered, along with the economic benefits from using a lean and agile approach to both supplier and customer. You will look at lean and agile approaches within different industries.

In Outcome 2, you will look at the methods, techniques and management tools used to accomplish lean and agile supply chain management.

Outcome 3 covers the benefits gained from using a lean and agile approach to supply chain management. These benefits will include economic benefits, improved production and customer satisfaction, and competitive edge.

The assessment for this Unit may be based on your own organisation, but where you do not have relevant industrial experience case study material may be supplied by your centre. Your assessment evidence may be presented as a report.

If you achieve this Unit there may be opportunities for you to gain exemption from a number of professional bodies. It will be your responsibility to ascertain from the professional body what is included in their current exemption policies.