

## **SQA Advanced Unit Specification**

### **General information for centres**

**Unit title:** Supply Chain Service Levels: Setting the Standards

**Unit code:** HP5V 47

**Superclass:** VB

**Publication date:** August 2017

**Source:** Scottish Qualifications Authority

**Version:** 01

### **Unit purpose**

This Unit introduces learners to the concept of service levels within a supply chain environment and the characteristics of internal and external customers. Supplier partnerships, the role of inventory in the supply chain and the concept of vertical integration in a supply chain are also introduced.

It 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 Explain the role and benefits of customer/supplier partnerships within the supply chain.
- 2 Analyse inventory levels throughout the supply chain to improve customer service.
- 3 Describe the transformation process and explain the difference between efficiency and effectiveness.
- 4 Compare the concept of vertical integration to customer/supplier relationships.

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### Credit points and level

1 SQA Credit at SCQF level 7: (8 SCQF credit points at SCQF level 7\*)

*\*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 a section of the supply chain. It is not necessary that learners hold a team leader, supervisory or management position.

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 Instrument of 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](http://www.sqa.org.uk/assessmentarrangements).

### Unit specification: statement of standards

#### Unit title: Supply Chain Service Levels: Setting the Standards

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

Explain the role and benefits of customer/supplier partnerships within the supply chain.

#### Knowledge and/or Skills

- ◆ Definition, structure and purpose of a supply chain
- ◆ The concept of internal and external customers and suppliers
- ◆ The benefits of customer/supplier partnerships
- ◆ Extended supplier and customer relationships
- ◆ Single sourcing

#### Evidence Requirements

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

- ◆ explain the structure and purpose of a specific supply chain
- ◆ describe the role of internal customers and suppliers, making reference to **three** of the following:
  - product design as supplier to manufacturing or materials planning
  - manufacturing as a supplier to product costing
  - materials planning as supplier to capacity planning or production
  - production as a supplier to assembly
  - assembly as a supplier to dispatch
  - reverse any of the above to view the customer requirements
  - (other suitable examples can be used)
- ◆ describe the role of external customers and suppliers, making reference to **three** of the following:
  - retailer of white goods from manufacturer
  - end customer of white goods from retailer
  - shipbuilder and major suppliers of modules
  - petrochemical company and refinery
  - organisation requiring staff training and training provider
  - passengers and airline/train company/bus company
  - patient and doctor
  - (other suitable examples can be used)
- ◆ explain the advantages and disadvantages of customer/supplier relationships
- ◆ describe the characteristics of extended customer supplier relationships
- ◆ identify the advantages and disadvantages of single sourcing

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### Outcome 2

Analyse inventory levels throughout the supply chain to improve customer service.

#### Knowledge and/or Skills

- ◆ Material flows
- ◆ Statistical analysis techniques
- ◆ Statistical processes to calculate levels of inventory safety stock
- ◆ Different levels of inventory to improving standards of customer service

#### Evidence Requirements

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

- ◆ identify the material flows within a specific supply chain
- ◆ use **two** statistical techniques, such as Standard Deviation (SD) or Mean Absolute Deviation (MAD), to analyse historical data and calculate levels of inventory safety stock
- ◆ explain how adjustments to inventory levels can improve customer service

### Outcome 3

Describe the transformation process and explain the difference between efficiency and effectiveness.

#### Knowledge and/or Skills

- ◆ The need for efficiency in the transformation process
- ◆ Satisfying customers' needs
- ◆ The difference between efficiency and effectiveness
- ◆ Adding value to a product or service
- ◆ The cost of waste relating to the level of inventory

#### Evidence Requirements

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

- ◆ examine the efficiency of the transformation process within the supply chain
- ◆ describe the effectiveness of the transformation process and the effect it has on satisfying the customer needs
- ◆ explain the difference between efficiency and effectiveness
- ◆ discuss how the transformation process adds value to a product or service
- ◆ examine the costs of waste of holding inventory within the supply chain

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### **Outcome 4**

Compare the concept of vertical integration to customer/supplier relationships.

#### **Knowledge and/or Skills**

- ◆ The concept of vertical integration
- ◆ Supplier partnerships
- ◆ Single source suppliers

#### **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 concept of vertical integration
- ◆ explain the advantages and disadvantages of supplier partnership and how this method of working compares with vertical integration
- ◆ explain the advantages and disadvantages of vertical integration and differentiate this with the practice of using a single source supplier

The learner evidence presented requires a satisfactory response to all of the above Evidence Requirements for each Outcome.

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### Unit specification: support notes

**Unit title:** Supply Chain Service Levels: Setting the Standards

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 enable learners to understand the relationships between customers and suppliers within the supply chain, the formalisation of partnerships and other options for ensuring appropriate levels of service to the customer.

Learners will also apply statistical techniques to determine the most efficient level of inventory to provide a given level of customer service.

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

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 looks at the roles and benefits of customer/supplier partnerships within the supply chain.

- ◆ Purpose and structure of supply chain
- ◆ Internal and external customers and suppliers
- ◆ Benefits of customer/supplier partnerships
- ◆ Extended supplier and customer relationships
- ◆ Single sourcing

Outcome 2 covers the analysis of inventory levels to improve customer service.

- ◆ Material flows
- ◆ Statistical analysis techniques — Standard Deviation (SD), Mean Absolute Deviation (MAD)
- ◆ Calculation of inventory levels
- ◆ Customer service

Outcome 3 focuses on the transformation process and the difference between efficiency and effectiveness.

- ◆ Transformation process
- ◆ Satisfying customer needs
- ◆ Difference between efficiency and effectiveness
- ◆ Adding value to a product/service
- ◆ Cost of waste relating to level of inventory

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Outcome 4 looks at the concept of vertical integration and comparison to customer/supplier relationships.

- ◆ Vertical integration
- ◆ Supplier partnerships
- ◆ Single source supplier

### **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.

To achieve this Unit, learners must produce satisfactory assessment evidence that shows they have achieved all of the Unit Outcomes.

### **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, learners must produce satisfactory assessment evidence that shows they have achieved all of the Unit Outcomes. This Unit could be assessed by a combined report for Outcomes 1, 3 and 4. Outcome 2 may be assessed by a numerical case study which requires learners to analyse numerical dates supported by a response of approximately 800 words.

Learners could be assessed by a report based on the learner's experiences of working within a supply chain related environment. The report could comprise of three sections — one for Outcomes 1, 3 and 4. Where evidence is presented as a written report, it is recommended that each section be approximately 1,000 words in length. Diagrams may be included in the report.

Where learners have no industrial experience, they may be assessed using questions based on a case study. The questions must cover all the specified Evidence Requirements. Where this approach is adopted, the case study may be issued 2–3 weeks in advance of the assessment event, with the questions being distributed at the assessment event. The assessment should be carried out under open-book supervised conditions.

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To achieve this Unit, learners must produce satisfactory assessment evidence that shows they have achieved all of the Unit Outcomes.

### 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](http://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 5 and the Core Skill of *Numeracy* at SCQF level 6 in this Unit.

#### **Communication — Written Communication at SCQF level 5**

All four 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 of Outcomes 1, 3 and 4 which may be a written project or responses to questions based on a specific case study. Learners will, therefore have to analyse information and organise the content of their report/responses into a logical and effective structure.

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

In Outcome 2, learners have to use a minimum of two statistical techniques such as Standard Deviation or Mean Absolute Deviation to calculate levels of inventory safety stock.

In Outcome 3, learners have to examine the costs of waste of holding inventory. Learners are therefore applying in combination a wide range of numerical methods to solve complex problems in everyday and specialised situations.

#### **Problem Solving — Critical Thinking at SCQF level 5**

In all four Outcomes, learners will have the opportunity to develop their critical thinking skills as they have to analyse situations and issues.

#### **Problem Solving: — Planning and Organising at SCQF level 5**

Learners have to plan and organise the different tasks prior to completing the tasks. They will have to identify and obtain resources to carry out the tasks.

#### **Problem Solving — Reviewing and Evaluating at SCQF level 5**

Learners will have to review and evaluate the problem solving activities. In Outcome 2 once the data has been analysed they will have to explain how adjustments can be made to achieve a particular outcome.

## Administrative information

Version	Description of change	Date

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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 Service Levels: Setting the Standards

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 introduces you to the concept of customer and supplier relationships in a supply chain.

It can be studied as a standalone Unit if you simply wish to gain an understanding of supplier partnerships and customer service levels.

Outcome 1 looks at customer/supplier partnerships within the supply chain.

In Outcome 2, you will analyse inventory levels throughout the supply chain to improve customer service. This will involve using statistical techniques.

In Outcome 3, you will examine the efficiency of the transformation process and its effects on satisfying customer needs.

Outcome 4 looks at the characteristics of vertical integration and you will compare this concept to customer/supplier relationships.

Where you have industrial experience in a supply chain environment, you may be assessed by means of a report for Outcomes 1, 3 and 4. Alternatively, the assessment may be based on a case study. Outcome 2 may be assessed by the analysis of a case study containing suitable numerical data.

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.