



Australian Government

Department of Education, Employment and Workplace Relations

MSS405002A Analyse and map a value stream stream

Release: 1

MSS405002A Analyse and map a value stream

Modification History

New unit, superseding MSACMS601A Analyse and map a value chain* - Not equivalent

* Prerequisite *MSACMT631A Undertake value analysis of product costs in terms of customer requirements* - removed

Unit Descriptor

This unit of competency covers the skills and knowledge required to analyse and map a value stream, including the clear identification of the place of an organisation in the value stream and its contribution to the value stream. The unit includes the identification of an organisation in a value stream, their relationships and the activities undertaken by value stream organisations. The identification skills include identification at the virtual or information level, the technical or process level, and at the physical or logistic level.

The unit includes the analysis of value-adding and non-value adding activities and the information needs for successful value stream mapping, including information technology (IT) needs.

This unit covers the analysis of the supply chain, the demand chain as well as the overall value stream.

Application of the Unit

This unit applies to a person in a senior role in an organisation, such as an operations manager, purchasing manager, senior technical officer performing planning or scheduling or similar who needs to analyse and map a value stream, a supply chain, or a demand chain in order to understand the interactions between all members and determine the value added/potential value added by each member. The value stream is represented visually according to organisation format requirements.

This information is the basis for the design of Just in Time (JIT) and for the determination of waste. Value stream analysis is not a one-off activity but rather an ongoing activity of re-analysis as the value stream changes and its members progress towards excellence in competitive systems and practices.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Map the value stream	1.1	Select a product/product group for analysis
		1.2	Identify ultimate customer
		1.3	Identify ultimate supplier
		1.4	Identify all organisations between ultimate supplier and ultimate customer
		1.5	Identify all steps in own organisation
		1.6	Map value stream
2	Define customer need	2.1	Determine the features/benefits obtained by customers from product
		2.2	Determine methods of measuring the contribution to each features/benefits
		2.3	Identify possible data sources for required measures
		2.4	Implement measurement of contribution to features/benefits
3	Assess the value added at each step	3.1	Identify value contributed by each external organisation
		3.2	Determine value added by each internal step

- 3.3 Determine method of measuring value added
- 4 Reduce waste
 - 4.1 Compare value added to customer benefit/feature
 - 4.2 Identify activities on value stream map which do not add to customer benefit/features
 - 4.3 Liaise with external value stream members to determine methods to reduce overall waste
 - 4.4 Take required actions to reduce waste

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- identifying for an individual organisation its place in the value stream, including immediate upstream and downstream organisations
- determining flow of materials and information along the value stream, including:
 - output quantities and qualities
 - variability in quality and quantity
 - uptime
 - other key performance indicators (KPIs) indicators appropriate to the organisation and customer requirements
- classifying steps and processes into value adding and non-value adding, including determining appropriate methods for measuring value added
- mapping value stream showing flow of information and materials in either hard copy or using software
- communicating at all levels in the organisation and value stream and to audiences of different levels of literacy and numeracy

Required knowledge

Required knowledge includes:

- purpose of value stream analysis
- methods of value stream analysis and mapping
- concept of waste and value in terms of customer benefit
- types of waste and methods of reducing it
- processes, and operations used in own organisation to make products or deliver services to internal and external customers
- processes employed by other members of the value stream sufficient to have meaningful dialogue with them

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment

Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of their ability to:</p> <ul style="list-style-type: none"> • review activities of organisations to determine: <ul style="list-style-type: none"> • their place in value stream • value added by each organisation • non-value added steps within each organisation • determine methods of measuring value added • prepare a map of a value stream that includes all value creating and non value adding steps.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p>

	Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving
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	<ul style="list-style-type: none"> • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Value stream	<p>The value stream begins with the customer and includes all actions (both value-adding and non-value added) by both internal sections/departments and external organisations to meet a customer requirement.</p> <p>Depending on the operations and the customer requirement stages where value stream actions may occur include:</p> <ul style="list-style-type: none"> • sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/collation/preparation • support services (e.g. accounting, finance and legal) • storage and delivery to customer • after market support
Value-added	<p>Value-added is measured against its contribution to the customer benefits/features and may be in the form of:</p> <ul style="list-style-type: none"> • technical benefits/features • location benefits/features • aesthetic benefits/features • information benefits/features
Map value stream	<p>The map of the value stream can be completed using:</p> <ul style="list-style-type: none"> • hard copy (e.g. paper or whiteboard) • appropriate software tools <p>The map should show all participants and stages of materials and information flow and the value creating and non-value adding steps and processes</p>
JIT	<p>JIT refers to:</p> <ul style="list-style-type: none"> • a production scheduling concept that calls for any

	item needed at a production operation (whether raw material, finished item, or anything in between) to be produced and available precisely when needed, neither a moment earlier nor a moment later
Waste	<p>Waste (also known as muda in the Toyota Production System and its derivatives) is any activity which does not contribute to customer benefit/features in the product. Within operations, categories of waste include:</p> <ul style="list-style-type: none"> • excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items • activities which do not yield any benefit to the organisation or any benefit to the organisations customers

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.