



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **MCMS600A Develop a competitive manufacturing system**

**Release: 1**

## MCMS600A Develop a competitive manufacturing system

### Modification History

Not applicable.

### Unit Descriptor

This unit covers the knowledge and skills required to develop a new **competitive manufacturing** system or make improvements to an existing system.

#### Competency field

MCM Systems

#### Application of the competency

In a typical scenario, the person (who may be a manager, technical specialist or similar) in a competitive manufacturing organisation, or an organisation wishing to embark on the competitive manufacturing path, needs to be able to analyse the needs of the organisation and lead them through a change process and down the competitive manufacturing path. This would typically be done in a team, or at least in close liaison with all relevant stakeholders.

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### Application of the Unit

Not applicable.

### Licensing/Regulatory Information

Not applicable.

### Pre-Requisites

Not applicable.

## Employability Skills Information

Not applicable.

## Elements and Performance Criteria Pre-Content

Not applicable.

## Elements and Performance Criteria

### Elements and Performance Criteria

Element	Performance Criteria
1 Determine appropriate analytical techniques	1.1 Liaise with key stakeholders to determine objectives of manufacturing strategy
	1.2 Examine current manufacturing situation to determine major areas requiring improvement
	1.3 Compare possible strategies, techniques and tools against organisation needs
	1.4 Select possible strategies, techniques and tools
	1.5 Consult with key stakeholders to confirm selected strategies, techniques and tools
2 Develop competitive manufacturing strategies	2.1 Estimate benefit/cost ratio for major stakeholders and the value chain overall
	2.2 Select preferred manufacturing strategy
	2.3 Examine and adapt strategy to organisation needs and priorities
	2.4 Examine and adapt techniques and tools required to implement strategy
	2.5 Negotiate with key stakeholders to develop an implementation plan
	2.6 Identify key information and performance indicators required
3 Implement strategy	3.1 Identify data collection required
	3.2 Identify methods of collecting and processing

- required data
- 3.3 Identify hardware and other resources required
- 3.4 Identify skill needs required
- 3.5 Ensure all resources/training are available and completed
- 3.6 Implement strategy
- 4 Monitor implementation of strategy
  - 4.1 Compare information/performance indicators with desired levels
  - 4.2 Liaise with key stakeholders regarding strategy issues
  - 4.3 Identify areas requiring adjustment
  - 4.4 Make required adjustments

## **Required Skills and Knowledge**

Not applicable.

## Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required skills and knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

### Overview of assessment requirements

The person will be able to conceptualise scenarios, determine which ones are of sufficient benefit to proceed with, and take their team with them.

### Specific evidence requirements

#### What critical aspects of evidence are required to demonstrate competency in this unit?

Evidence of scenarios developed and implemented (and/or rejected for valid reasons) which have had a positive impact on the entire value chain should be available.

#### In what context should assessment occur?

Assessment needs to occur in an organisation following competitive manufacturing.

#### Are there any other units which could or should be assessed with this unit or which relate directly to this unit?

This unit could be assessed concurrently with other relevant units to do with change in the competitive manufacturing environment.

This unit is related to:

MCMC210A - Manage the impact of change on own work which covers individual impact aspects in CMI.

#### What method of assessment should apply?

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the elements, performance criteria, skills and knowledge. A holistic approach should be taken to the assessment.

Assessors should gather sufficient, fair, valid, reliable, authentic and current evidence from a range of sources. Sources of evidence may include direct observation, reports from supervisors, peers and colleagues, project work, samples, organisation records and questioning. Assessment should not require language, literacy or numeracy skills beyond those required for the unit.

The assessee will have access to all techniques, procedures, information, resources and aids which would normally be available in the workplace.

The method of assessment should be discussed and agreed with the assessee prior to the commencement of the assessment.

#### What evidence is required for demonstration of consistent performance?

Generally evidence will come from a range of scenarios and the improvements which flow.

#### What skills and knowledge are needed to achieve the performance criteria?

##### Skills

- communication
- teamwork
- analysis
- problem solving
- mathematics
- planning
- computer use
- prioritising
- recording data.

##### Knowledge

overview of competitive manufacturing principles and the decision rules for selecting the appropriate tools to use and place to start

- methods of estimating costs/benefits
- acceptable benefit/cost ratios
- continuous improvement principles
- principles of motivation and leadership
- systems thinking
- characteristics and strengths of different types of strategies, techniques and tools such as 5S, JIT, 6 sigma, lean manufacturing, agile manufacturing etc
- business goals sufficient to match the strategy to the business needs
- strategic thinking
- principles of process equipment and how to improve its reliability
- resources required and how to obtain them.

### **What are the specific resource requirements for this unit?**

Access to an organisation using competitive manufacturing.

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## 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 in the Performance Criteria is detailed below. Add any 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.

### Competitive manufacturing

Competitive manufacturing is used to describe the range of systemic manufacturing practice concepts and approaches. It covers but is not limited to:

- lean manufacturing
- agile manufacturing
- preventative and predictive maintenance approaches
- monitoring and data gathering systems such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Manufacturing Resource Planning (MRP), and proprietary systems such as SAP etc.
- statistical process control systems including six sigma and three sigma
- Just in Time (JIT), kanban and other pull related manufacturing control systems
- supply, value, and demand chain monitoring and analysis
- other continuous improvement systems.

Competitive manufacturing should be interpreted so as to take into account the stage of implementation of competitive manufacturing approaches, the enterprise's size and work organisation, culture, regulatory environment and manufacturing sector.

### Strategy

There are many approaches used to embarking on competitive manufacturing. Successful organisations select an appropriate array of techniques and tools and formulate a strategy for their implementation.

### Techniques and tools

There are many techniques and tools used to implement a competitive manufacturing strategy such as 5S, six sigma, root cause analysis, etc.

### Value chain

Competitive manufacturing organisations encompass the entire production system, beginning with the **customer**, and includes the product sales outlet, the final assembler, product design, raw material mining and processing and all tiers of the value chain (sometimes called the supply chain). Any truly 'competitive' system is highly dependent on the demands of its customers and the reliability of its suppliers. No implementation of competitive manufacturing can reach its full potential without including the entire 'enterprise' in its planning.

### System

A competitive manufacturing system is that holistic combination of the process, plant and equipment, procedures and practices including the skills and work organisation of the workforce which make up the productive organisation.

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## **Unit Sector(s)**

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