



Australian Government

MSS404053 Use DMAIC techniques

Release: 1

MSS404053 Use DMAIC techniques

Modification History

Release 1. Supersedes and is equivalent to MSS404053A Use six sigma techniques

Application

This unit of competency covers the skills and knowledge required to apply the Define, Measure, Analyse, Improve, and Control and standardise (DMAIC) to improve quality, cost and delivery in operations and other supporting processes in the workplace. This will be undertaken with other members of the process team.

This unit requires the application of skills associated with using information, problem solving, initiative, enterprise, planning and organising in order to identify an area requiring improvement and develop a measured process to make improvements.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Identify an area requiring improvement	1.1	Identify customer needs from process.
		1.2	Identify customer benefits delivered by process.
		1.3	Identify areas requiring improvement.
2	Apply DMAIC process	2.1	Define improvement project.
		2.2	Acquire required measurements/data.

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| | | 2.3 | Analyse data and determine possible process improvements. |
| | | 2.4 | Develop and test improvement solutions. |
| | | 2.5 | Control and standardise the improvement. |
| 3 | Review and confirm improvement | 3.1 | Determine and document benefits. |
| | | 3.2 | Ensure procedures and other relevant documentation is updated for improved procedure. |
| | | 3.3 | Review process data after an appropriate period and confirm the improvement. |

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

- Competitive systems and practices include one or more of:**
- lean operations
 - agile operations
 - preventative and predictive maintenance approaches
 - 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
 - run charts
 - standard procedures
 - current reality tree.
- DMAIC includes all of:**
- define
 - measure
 - analyse
 - improve
 - control and standardise.
- Define improvement project includes all of:**
- ‘as is’ process map
 - defining benefits from the project
 - problem statement
 - goal statement
 - project scope.
- Measurement includes one or more of:**
- identification of key measures/attributes
 - sampling schedule for project
 - variations and limits.
- Analyse includes one or more of:**
- statistical analysis of data
 - root cause analysis
 - use of various problem solving/analysis tools.
- Improvement includes one or more of:**
- generation and testing of improvements
 - selection of appropriate improvements.
- Control and standardise includes one or more of:**
- documenting
 - transferring ownership of improved process.

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

Assessment Requirements for MSS404053 Use DMAIC techniques

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability on one (1) or more occasions to:

- identify a required improvement
- apply DMAIC to that improvement
- confirm the improvement has occurred.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- methods of identifying customer needs and benefits
- methods of identifying areas requiring improvement
- DMAIC processes
- methods of confirming benefits and improvements.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
 - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
 - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real DMAIC approach to a workplace improvement.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
 - relevant VET or other qualification/Statement of Attainment AND/OR
 - relevant workplace experience
- Currency can be demonstrated through:
 - performing the competency being assessed as part of current employment OR
 - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

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