SEMBIT2-13 - SQA Unit Code F9JM 04
Contributing to the application of Six Sigma methodology to a project

Overview

This unit covers the competences required for contributing to the application of a structured Six Sigma methodology to a project. It involves contributing to the identification of the Six Sigma organisational infrastructure, roles and responsibilities and business-specific metrics that will apply. These will include financial, quality and process aspects of the project. You will be expected to contribute to identifying areas where the Six Sigma tools, techniques and activities can be applied, in order to demonstrate those factors that are critical to the customer, business and process.

Contribution to the identification of the cost of poor quality, by identifying the defects per million opportunities (DPMO), is a major part of this unit.

Your responsibilities will require you to comply with organisational policy and procedures for the activities undertaken, and to report any problems with the activities that you cannot solve, or that are outside your responsibility, to the relevant authority. You will need to contribute to all the five phases of Six Sigma within the project (such as define, measure, analyse, improve and control) and to the completion of all necessary project documentation, which must be accurate and legible. You will be expected to take responsibility for your own actions within the activity, and for the quality and accuracy of the work that you produce.

Your underpinning knowledge will provide a good understanding of the application of Six Sigma methodology, and will provide an informed approach to the techniques and procedures used. You will need to understand the principles and application of Six Sigma methodology, in adequate depth to provide a sound basis for carrying out the activities to the required criteria.

Applying safe working practices will be a key issue throughout.

Specific Unit Requirements

The word `contribute' is used throughout this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance you must be able to demonstrate:

1. specific, quantifiable and auditable personal contributions in the achievement of this unit

2. competence in all the areas required by the standard

3. your ability to combine the performance statements specified when contributing to the application of the principles and processes of this unit.

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Performance criteria

You must be able to:

- P1 work safely at all times, complying with health and safety and other relevant regulations and guidelines
- P2 contribute to applying the structured Six Sigma methodology and approach to the selected project
- P3 contribute to identifying the Six Sigma organisational infrastructure, roles and responsibilities and business-specific metrics that would apply
- P4 contribute to identifying areas where the Six Sigma tools, techniques and activities can be applied
- P5 contribute to the identification of the cost of poor quality, by identifying the defects per million opportunities (DPMO)
- P6 contribute to relating defects per million opportunities to the sigma score and identifying the gap to Six Sigma performance

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Knowledge and understanding

You need to know and understand:

K1 the Six Sigma methodology and how it is applied to a project
K2 the Six Sigma infrastructure of the business
K3 the benefits that could arise from a Six Sigma project
K4 the parts per million opportunities goal of Six Sigma
K5 the calculation of defects per million opportunities
K6 the five phases of Six Sigma that are applied to a project
K7 how to define a Critical to Quality Characteristic (CTQC)
K8 how non-value added activity can serve as a `roadblock' to achieving Zero Defect
K9 how to identify an `Opportunity for Defect'
K10 the different roles of the key people in the Six Sigma process (Champion, Mentor, Master Black Belt, Black Belt, Green Belt and Yellow Belt)
K11 the relationship between key process input variables and key process output variables
K12 the extent of your own authority, and to whom you should report in the event of problems that you cannot resolve

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Additional Information

Scope/range related to performance criteria

You must be able to:

1. contribute in Six Sigma projects which cover **two** the following:
   - 1.1. manufacturing
   - 1.2. quality level
   - 1.3. administration
2. contribute to utilising the five phases of Six Sigma within the project:
   - 2.1. define
   - 2.2. measure
   - 2.3. analyse
   - 2.4. improve
   - 2.5. control
3. contribute to producing a metric chart for the Six Sigma projects undertaken, to include:
   - 3.1. financial
   - 3.2. quality
   - 3.3. process
4. contribute to identifying the Critical To Quality Characteristic (CTQC) of the projects, to include:
   - 4.1. cost
   - 4.2. quality
   - 4.3. delivery
5. contribute to producing a diagram (family tree) of the Six Sigma organisational infrastructure and the roles of the following:
   - 5.1. Champion
   - 5.2. Mentor
   - 5.3. Yellow Belt
   - 5.4. Green Belt
   - 5.5. Black Belt
   - 5.6. Master Black Belt

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