

Title:

Development of Attributes of Quality Tools and Techniques for Quality Engineering Improvement

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Authors:

Siti Zawani Ibrahim, szawani.ibrahim@s.unikl.edu.my

Mohd Amran Mohd Daril, mamran@unikl.edu.my

Khairanum Subari, khairanum@unikl.edu.my

Mohamad Ikbar Abdul Wahab, mikbar@unikl.edu.my

Khairul Anuar Mohd Ali.

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Abstract:

Attribute can always be used as a mean to recognize anything because it is a characteristic or inherent part of someone or something. Nevertheless, it may become confusing if there are many attributes to characterize one thing without the attributes being sorted out following their similarities first. Therefore, the understanding toward the attribute is essential in the study of quality tools and techniques (QTT) because nowadays there are abundant of quality tools and techniques that have been developed to be used during the improvement activity or problem-solving. Given that there are various industries that use quality tools and techniques, the establishment of new quality tools and techniques becomes countless. Thus, the selection of QTT becomes difficult. Some practitioner just simply uses any QTT they once heard without prior knowledge about the QTT. Some of the selection of QTT being made without considering the whole situation thus resulting in pointless improvement or dead-end to find the solution to the problem. Apart from that, to compete in industry 4.0, all manufacturing industries should consider adapting all quality tools and techniques and all quality practitioners should have adequate knowledge in QTT or at least have some 'first-aid' to use the right QTT. That is when the development of attribute comes in handy. Correspondingly, attributes of quality tools and techniques are compulsory to be known to describe each of them since attributes are used to identify thus distinguish each individual QTT from one another. Therefore, the user or quality practitioner can understand the QTT from different standpoints. Expressly, attributes here are the characteristic of QTT that makes them 'that' QTT. That is why, review on attributes of quality tools and techniques is crucial. To collect the attributes from previous studies, researcher uses the integrated literature review where these attributes found are being summarized to establish a freshly new attributes framework but still in the same field which is the development of QTT attributes. In this paper, researcher expresses a detailed overview of various classifications of attributes that describe the quality tools and techniques and successfully exhibit the classification

of QTT attributes based on 5 main group which are categorization, input, function, output, and demographic. Consecutively, this classification group of QTT attributes will be used as main items to the development of applications that are equipped with prediction system of QTT selection using a machine learning algorithm.