

EDITORS

ERRY YULIAN TRIBLAS ADESTA

MOHAMMAD YEAKUB ALI

AKM NURUL AMIN

DESIGN FOR MANUFACTURE

Towards Improved Manufacturability



IIUM Press

DESIGN FOR MANUFACTURE

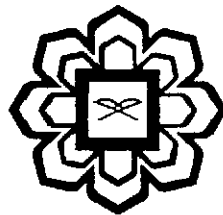
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Value Stream Mapping: an Important Footstep for Value Analysis and Value Engineering

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1. Introduction

Value stream mapping is an effective tool for implementation of value engineering. Experts from all over the world confirm that value engineering (VE) is an important process that eventually helps to reduce cost and improve the quality of products. Because of this well based knowledge, manufacturing companies are interested to adopt this technique into their production systems. The term 'value engineering' dates back to the period of the World War II and according to Web, A., (1993), Value engineering was developed in the USA after the Second World War and first appeared in Britain in the mid 1960s. It became popular at that time but has since been somewhat eclipsed. However, with competitive pressures on producers the interest has been renewed. This two-part series describes that this powerful technique with no one being responsible for managing engineering development is not destined to succeed. Due to these factors, they introduced the term substitutes. Substitutes always offer better options which can reduce cost and improves the product quality.

As defined by Alphonse, K., (2001), "Value Engineering is defined as a creative, organized approach whose objective is to optimize cost and/or performance of a facility or system". Value Engineering (VE) is basically directed toward the analysis of operation. Replacement is considered as one of the options for VE. The purpose of VE is to identify and remove any unnecessary cost, the cost that neither provides quality, useful life, appearance nor customer required features.

Value engineering formerly known as Value analysis, then, after several discussions from experts, they decided to change it to Value Engineering (VE). However, a terminology combining both value analysis and value engineering (VAVE) is quite common now-a-days. Currently, in the industry, VAVE is widely applied in order to reduce cost and to enhance the quality of product. For example, this VE has been applied to make the lightweight fuel tank. This fuel tank used the