CRITICAL SUCCESS FACTOR OF SIX SIGMA IMPLEMENTATION IN MANUFACTURING INDUSTRY

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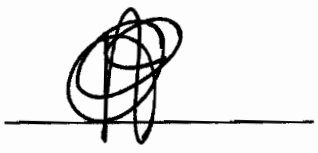

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ABSTRAK

Kajian ini melibatkan dua kajian kes mengenai perlaksanaan Six Sigma dalam dua organisasi di Malaysia. Objektif kajian ini berasaskan kes adalah untuk mengetahui secara kualitatif proses perlaksanaan dengan fokus kepada faktor-faktor penting yang menyumbang terhadap kejayaannya. Siasatan itu dilakukan dengan alat analisa yang sebelumnya telah dilaporkan dalam rumusan. Analisis ini diharapkan dapat memberikan wawasan dan panduan bagi organisasi yang melakukan atau terlibat dalam projek yang sama.

ABSTRACT

This paper presents two case studies of Six Sigma implementation in two organizations in Malaysia. The objective of this case based research is to investigate qualitatively the implementation process, with a focus on the critical factors that contribute to its success. The investigation was carried out with analytical tools which had previously been reported in the literature. This analysis is expected to provide insights and guidelines for organizations that undertake or engage in similar projects.

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LIST OF ABBREVIATION

CSF = Critical Success Factor

GE = General Electric

EMS = Electronic Manufacturing Services

TQM = Total Quality Management

SPC = Statistical Process Control

SQC = Statistical Quality Control

ANOVA = Analysis of Variance

DOE = Design of Experiments

QFD = Quality Function Deployment

VOC = Voice of the Customer

DMAIC = Define, Measure, Analyze, Improve, Control

DMADV = Define, Measure, Analyze, Design, Verify

QS 9000 = Quality Standard 9000

SPSS = Statistical Package for the Social Sciences

CHAPTER 1

THE PROBLEM AND ITS BACKGROUND

1.1 BACKGROUND

Competitive pressures in the global manufacturing environment are forcing manufacturing organizations to reorient their strategies, operations, processes, and procedures. The manufacturing industry has strived for a number of years to improve the quality of the products by implementing different quality program such as Lean Manufacturing, Total Quality Management and other quality program. The new breakthrough in quality that is known as Six Sigma is famous for both increasing quality and reducing organization cost simultaneously. Many practitioners accept Six Sigma as a philosophy that provide a better product and services in a faster manner and with lower cost than competitors. This new program became an idol for the manufacturing industry since studies show that there are numbers of successful anecdotes about organizations that implemented the program successfully.

The organization have adopted the principle and concepts of Six Sigma methodology should be aware that once they achieve five sigma levels, the way to progress further is to redesign their products, processes and services. Six Sigma involves the utilization of powerful and useful statistical tools. It can only be achieved through team based project implementation with the ultimate goal to improve quality and saving money. The Six Sigma team needs to determine the real saving from the project in order to be successful in implementation of the methodology. Six Sigma methodologies is not an easy or simple task. It requires arduous effort and strong commitment in order to reduce the sources of variation in the processes.

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