



UNIVERSITI PUTRA MALAYSIA

***DEVELOPMENT OF A THREE-PRONGED MODEL FOR
IMPLEMENTATION OF TOTAL QUALITY MANAGEMENT***

FAZLOLLAH AGAMOHAMADI BASMENJ

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**DEVELOPMENT OF A THREE-PRONGED MODEL FOR
IMPLEMENTATION OF TOTAL QUALITY MANAGEMENT**

By

FAZLOLLAH AGAMOHAMADI BASMENJ

**Thesis submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfillment of the Requirements for the Degree of Doctor of Philosophy**

April 2014

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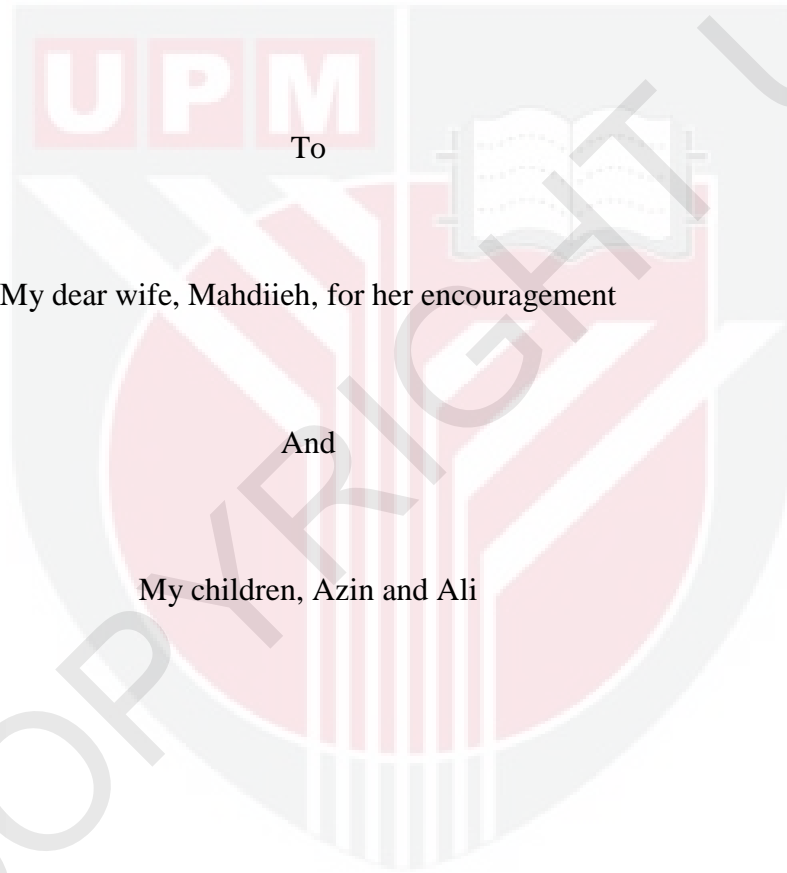
DEDICATION

To

My dear wife, Mahdiieh, for her encouragement

And

My children, Azin and Ali



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Abstract of thesis presented to the senate of Universiti Putra Malaysia in fulfillment
of the requirement for the degree of Doctor of Philosophy

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Chairman : Prof. Rosnah bt. Mohd Yusuff, PhD
Faculty : Engineering

One of the most significant current discussions with Total Quality Management (TQM) practices is achieving success from implementing of TQM in an organization. In an evolutionary process, researchers started from identification of TQM, TQM's main factors and their effect, different applications, and now it needs more focus on certain TQM factors and their role in successful implementation of TQM. TQM has addressed as a management strategy or system in the recent research. In any case, the goals, how to achieve the goals and results, are subject to review procedures. This leads researchers to identify the main elements of TQM implementation, including Critical Success Factors (CSFs) as the goals, Quality Tools (QTs) as the actions and Performance Measures (PMs) as the results. Most existing research on TQM has examined the relationships between the two elements of TQM practices, or TQM as a single structure with one of the elements. There is a lack of examination of the relationships of the three main elements. According to literature, an arrangement between goals, actions and measures should be aligned to achieve better success rate.

In this study, a three-pronged model for TQM implementation has been proposed. The relationships of three elements with each other were investigated to find the best way to perform TQM by identifying the most important elements of TQM and to classify them in the related division. In this regard, seven CSFs of TQM implementation were identified from the TQM literature. The QTs of TQM implementation were classified into four main groups based on literature to make the study possible. The PMs were studied by using five generic dimensions of performance related to quality management cited in literature. The empirical data for this study was drawn from a survey. Of 243 questionnaires delivered in Kuala Lumpur and Selangor area, 100 questionnaires were returned and used for the further analysis. Using the Simple Additive Weighting method (SAW), the relationship between three main elements of TQM implementation was analyzed. It ranks the effect of quality tools application to increase the critical success factors ability and to improve the performance measures of an organization. The obtained results from this step were aggregated to determine the rate of success in TQM implementation. Three

viewpoints have been considered in the aggregation, to apply the quality tools, to increase the critical success factors ability, and to improve the performance measures. The results were validated by another independent data set collected from Iranian industries (central province-Arak) and a real case study. The study was able to propose a model, suggesting the best scenarios for successful implementation of TQM based on the goal of an organization. Therefore, this study has supported the premise of Dixon theory, which holds that a strategy can be implemented more successfully through the presence of aligned goals, action, and measures. Organizations will be able to achieve their objectives, including satisfying assumed critical success factors or improving supposed performance measures.



Abstrak tesis dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**PEMBANGUNAN MODEL SERAMPANG TIGA MATA BAGI
PELAKSANAAN PENGURUSAN KUALITI MENYELURUH**

Oleh

FAZLOLLAH AGAMOHAMADI BASMENJ

April 2014

Pengerusi : Prof. Rosnah bt. Mohd Yusuff, PhD
Fakulti : Kejuruteraan

Salah satu perbincangan terkini di dalam amalan pengurusan kualiti menyeluruh (TQM) ialah memperoleh kejayaan dari pelaksanaan TQM dalam sesebuah organisasi. Evolusi penyelidikan bermula dari pengenalan mengenai TQM, faktor utama dan kesannya, aplikasi yang berbeza dan kini ia memerlukan lebih tumpuan kepada faktor-faktor TQM yang tertentu dan peranan yang dimainkan dalam memastikan kejayaan pelaksanaan TQM. TQM telah di kenalpasti sebagai satu strategi pengurusan atau sistem dalam penyelidikan baru-baru ini. Bagi setiap kes, tujuan dan cara-cara untuk mencapai matlamat dan keputusan adalah tertakluk kepada semakan prosedur. Ini membawa penyelidikan untuk mengenal pasti elemen-elemen utama pelaksanaan di dalam TQM, termasuk (faktor-faktor kejayaan yang kritikal) sebagai matlamat, kaedah (alat kualiti) dan keputusan (langkah-langkah prestasi). Baru-baru ini kajian berkenaan TQM kebanyakannya telah memeriksa hubungan TQM dengan 2 elemen, atau TQM sebagai satu struktur tunggal dengan salah satu elemen. Namun kurang kajian dijalankan terhadap TQM bersama tiga elemen. Kajian terdahulu menyatakan, model serampang tiga mata bagi pelaksanaan TQM menggunakan kaedah membuat keputusan telah dicadangkan untuk memeriksa hubungan elemen utama dengan satu sama lain untuk mencari cara terbaik dalam pelaksanaan TQM dengan mengenal pasti elemen-elemen yang paling penting dalam TQM dan untuk mengklasifikasikan mereka dalam kepada bahagian yang berkaitan. Dalam hal ini, tujuh indikator pelaksanaan TQM telah dikenal pasti dari bahan rujukan berkenaan TQM. Alat kualiti (QTS) pelaksanaan TQM telah diklasifikasikan kepada empat kumpulan utama dalam melaksanakan sesuatu kajian. Langkah-langkah prestasi (PMS) telah dikaji dengan menggunakan lima dimensi generik prestasi yang berkaitan dengan pengurusan kualiti seperti yang dinamakan dalam bahan rujukan. Data empirikal untuk kajian ini telah diambil dari kaji selidik industri yang besar dan sederhana kawasan Kuala Lumpur dan Selangor dengan menggunakan kaedah soal selidik sebagai instrumen kajian. Persampelan rawak mudah telah digunakan dalam pemilihan sampel untuk kajian. Daripada 243 soal selidik yang telah dihantar, 100 soal selidik telah dikembalikan dan digunakan untuk

analisis selanjutnya. Analisis telah dijalankan menggunakan kaedah pemberat aditif mudah (SAW) sebagai kaedah membuat keputusan dengan mengkaji hubungan antara tiga elemen utama pelaksanaan TQM. Keputusan yang diperolehi daripada langkah sebelumnya telah diagregatkan untuk mengukur kadar kejayaan dalam pelaksanaan TQM. Tiga factor utama telah dipertimbangkan; (i) untuk memohon alat kualiti, (ii) untuk meningkatkan keupayaan indikator, dan (iii) untuk meningkatkan langkah-langkah prestasi. Keputusan telah disahkan oleh satu lagi bebas data yang dikumpul daripada industri Iran (pusat wilayah-Arak) dan satu kajian kes sebenar. Kajian ini dapat mencadangkan model, menunjukkan senario yang terbaik untuk kejayaan pelaksanaan TQM berdasarkan matlamat organisasi. Oleh itu, kajian ini menyokong teori Dixon, yang berpendapat bahawa strategi dapat dilaksanakan dengan lebih jayanya dengan adanya matlamat, tindakan, dan langkah-langkah yang dilaksanakan. Organisasi akan dapat mencapai matlamat mereka, termasuk memuaskan dianggap faktor kejayaan kritikal atau meningkatkan langkah-langkah prestasi sepatutnya.

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I certify that a Thesis Examination Committee has met on 18 April 2014 to conduct the final examination of Fazlollah Agamohamadi Basmenj on his thesis entitled "Development of a Three-Pronged Model for Implementation of Total Quality Management" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy.

Members of the Thesis Examination Committee were as follows:

Napsiah binti Ismail, PhD

Professor Datin
Faculty of Engineering
Universiti Putra Malaysia
(Chairman)

Tang Sai Hong, PhD

Associate Professor
Faculty of Engineering
Universiti Putra Malaysia
(Internal Examiner)

Zulkiflle bin Lemam, PhD

Associate Professor
Faculty of Engineering
Universiti Putra Malaysia
(Internal Examiner)

Kess, Pekka Antero, PhD

Professor
University of Oulu
Finland
(External Examiner)



NORITAH OMAR, PhD

Associate Professor and Deputy Dean
School of Graduate Studies
Universiti Putra Malaysia

Date: 18 August 2014

This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as a fulfillment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

Rosnah Bt. Mohd Yusuff, PhD

Professor
Faculty of Engineering
Universiti Putra Malaysia
(Chairman)

Md. Yusof B. Ismail, PhD.IR

Professor
Faculty of Engineering
Universiti Putra Malaysia
(Member)

Norzima Bt. Zulkifli, PhD

Associate Professor
Faculty of Engineering
Universiti Pertahanan Nasional Malaysia
(Member)

BUJANG BIN KIM HUAT, PhD

Professor and Dean
School of Graduate Studies
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