UNIVERSITI TEKNOLOGI MARA

INTEGRATED QUALITY MANAGEMENT MODEL BASED ON TQM, LM, EMS AND ENMS FOR MALAYSIAN AUTOMOTIVE COMPANY

ARGUSTINA BINTI ZAINUDDIN

MSc

April 2020

AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

Name of Student	:	Argustina Binti Zainuddin
Student I.D. No.	:	2015267258
Programme	:	Master of Mechanical Engineering – EM 750
Faculty	:	Mechanical Engineering
Thesis Title	:	Integrated Quality Management Model Based On TQM, LM EMS and EnMS in Malaysian Automotive Company
Signature of Student	:	Argustina

Date	:	April 2020
		1

ABSTRACT

An integrated management system (IMS) is integrated in all the systems and process into one complete framework, enabling an organization to work as a single unit in achieving the organization target and goals. In Malaysia, local manufacturing company usually adopted three quality systems such as Total Quality Management (TQM), Lean Manufacturing (LM) and Environmental Management System (EMS). The implementation of three management systems makes the organization very difficult to liaise with the objective because there are of a lot of documentation that is not being standardized. The objective of having all the management system is supposedly to make the organization to transform to become more competitive and sustainable organization. This study is a continuation from previous study and additional on Energy Management system (EnMS) to identify common parameters within four systems with a view of formulating a valid Integrated Quality Management Model applicable to the automotive industry to enhance their quality management endeavors. The study looks into quality management parameters, leadership, human resource, operation control, supplier organization and customer management. The study is implementing 30 active automotive companies MAJAICO and non MAJAICO participants in Klang Valley, Malaysia. The proposal is to integrate the framework model which is developed based on the responses of the survey. It also considering the impact of five common practices to financial and non-financial performance measurement indicators (PMIs) using SPSS. There were one company selected and two service centers for case study assessment. The data was analyzed to evaluate the percentage of the implementation and to determine the level of the practices which would be contributed to the establishment of Integrated Quality Management Model based on TQM, LM, EMS and EnMS in Malaysian Automotive companies which would develop a new framework model of integrated quality management system. The result from the case study assessment show that the awareness and knowledge about the energy management system is still not up to expectation more over lack of management aware and team focus for this IMS is not discuss up to management level. When explanation on the benefit of it make the company interested to implement however the readiness of it still need more time. The integrated management system for all quality system is new for all the company, the knowledge is given but the implementation still on hold up to management decision. The study suggests to extend more population not only in MAJAICO company but all selected automotive company in Malaysia. This will show more result and variant on the solution and recommendation. The study also needs to start increase announcement on benefit, improvement of integrated management system to the organization structure, resources and procedures that support the planning, monitoring, quality control, cost effective, energy efficiency and other activities of an organization. Lastly, the new framework can be proposed for implementation to the automotive industry in Malaysia.

ACKNOWLEDGEMENT

Firstly, I wish to thank God for giving me the opportunity to embark on my Master's Degree and for completing this long and challenging journey successfully. I am greatly indebted to my research guide, Ir. Dr.Noor Azlina Mohd Salleh, who accepted me as her student and offered me her mentorship, love and care. This work would not have been possible without her guidance and involvement, her support and encouragement on daily basis from the start of the project till date. Under her guidance I successfully overcame many difficulties and learnt a lot.

My earnest thanks to Prof Dr. Salmiah Kasolang for supporting this project. I am grateful for her valuable advice, constructive criticism, positive appreciation and counsel throughout the course of the investigations which led to the successful completion of the research work.

No research is possible without infrastructure and requisite materials and resource. For this I extend thanks to En Zaid Sabtu from Autokeen Sdn Bhd for giving chance to having pilot study at his factory, En Mohd Kamarul Azmi for Honda Service Center and Pn Rozana Ismail for Perodua Service Center in Klang Valley to comparison on Energy Management System study.

I owe thanks to my family and friend for always giving motivation and support to complete my Master Degree.

This piece of victory is dedicated to all of you. Alhamdulillah.

TABLES OF CONTENT

Page

CO	NFIRMATION BY PANEL OF EXAMINERS	i		
AU	AUTHOR'S DECLARATION			
ABS	STRACT	iii		
ACI	KNOWLEDGEMENT	iv		
TAF	TABLES OF CONTENT			
LIS				
LIS	T OF FIGURES	xi		
LIST OF FIGURES				
LIS	I OF ADDREVIATION	хш		
СН	ΑΡΤΕΡ ΟΝΕ. ΙΝΤΡΟΡΙΟΤΙΟΝ	1		
		1		
1.1 1 2	Introduction Objective of the Research	1		
1.2	Scope of Study	 Δ		
1.4	Importance of the research	4		
1.5	Significance of Study	4		
CHA	APTER TWO:LITERATURE REVIEW	6		
2.1	General			
	6			
2.2	Thesis Related Publication	6		
2.3	Brief introduction of QMS (TQM+LM), EMS and EnMS	8		
	2.3.1 Quality Management System (QMS)	9		
	2.3.2 Environmental Management System (EMS)	10		
2.4	The Quality Management System and Lean Manufacturing Implementation			
	Status in Malaysia Automotive Companies	11		
	2.4.1 The Environmental Management System and Energy Management			
	System Status in Malaysia Automotive Industry	12		
	2.4.2 The Integrated Management System of TQM, LM, EMS and EnMS	13		
	2.4.5 The Comparison Between TQM, LM, EMS and EnMS 2.4.4 The Similarities and the Implementation of TOM, LM, EMS and EnM	14 15		
	2.4.4 The Similarities and the implementation of TQWI, LWI, EWIS and Enty	13		
2.5	Lean Manufacturing Models	18		
2.6	2.6 Environmental Model			