

UNIVERSITI TEKNOLOGI MARA

**VALUE ENGINEERING DEVELOPMENT IN
MALAYSIA: A DIFFUSION STUDY**

VOLUME 1

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Thesis submitted in fulfillment of the requirements
for the degree of
Doctor of Philosophy

Faculty of Accountancy

November 2010

ABSTRACT

The increased global competition and complexity within the Malaysian automotive and construction industries have led organizations to find ways to maximize their products' values, processes, projects or services within a total system while controlling the costs. This can be achieved through Value Engineering (VE), one of the key methods in cost management, which aims to provide better products or services for less cost. Research has been lacking in examining corporate adoption of value appraisal tools such as VE in terms of product development. Little attempt also has been made in the literature to examine and explain the diffusion of VE at individual, organizational and industry levels within Malaysian industries. In addition, the cumulative knowledge on why and how organizations adopt and implement innovations from the theoretical and practical perspectives is still lacking. Increasing competitive pressures and gaps revealed from the literature reviewed provide an opportunity for such study within the Malaysian industries to be carried out. Hence, the main objective of this study is to explore and explain the development of VE and its practice within identified Malaysian automotive components manufacturing and construction organizations, and both the industries using Rogers' (2003) theory of diffusion of innovation. Dual methods, combining both qualitative and quantitative approaches were adopted, to provide a complementary perspective. The QUAL method (Case Study 1 and Case Study 2) was conducted prior to the QUAN (Survey 1 and Survey 2), suggesting sequential triangulation used in the design. However, the case study method was central to the research process. The case study findings were able to show strong relationships between several environmental factors (external and internal) and VE adoption by case companies. It is also able to identify contextual variables that seem to facilitate or exacerbate the adoption within these different types of case organizations. The case study also contributes knowledge about the extent of VE adoption within both case companies and its effects on organizational performances. The survey findings showed that the driving forces for VE diffusion within each Malaysian industry did not change much over time. Efficient-choice seemed to be the dominant force within various stages in both industries. The present survey also identified the specific organizational characteristics at each stage of diffusion in both industries. These findings further advanced the literature on the historical and current practice of VE in Malaysia, explicitly within the automotive and construction industries. This study has also modified the framework developed by Rogers (2003) which can advance knowledge of theory of diffusion of innovation.

ACKNOWLEDGEMENTS

Thank you for the blessings of ALLAH SWT in the completion of my thesis. Foremost, I acknowledge my supervisor, Professor Dr. Suzana Sulaiman, who has been most encouraging, understanding and provided tremendous support, commitment and guidance throughout her supervision of my thesis. I would like also to thank my supervisor Professor Falconer Mitchell from the University of Edinburgh for his invaluable support, guidance and critical insights for this study.

I wish to gratefully acknowledge the personnel of both the case companies for their cooperation and contribution to the case studies especially En Mohd Seth Dato' Abu Bakar, En Mohd Said Harun, Tengku Azhan T. Z Rasid and Pn Zakiah Ramli. The support of Sr. Dr. Mazlan Che Mat (former President of Institute of Value Management Malaysia), En Razif Ahmad (Director of Procurement, Proton), En Hafiz Ramli (Senior Partner at HR Associates), Datuk Aishah Ahmad (President of Malaysian Automotive Association), and all the practitioners who have contributed in providing data through case study or survey are also greatly acknowledged.

Thank you to Professor Dr. Ibrahim Kamal Abdul Rahman and Professor Dr. Normah Omar for their support and valuable insights for this study. My sincere thanks to my colleagues at the Universiti Teknologi MARA for their helpful and constructive comments especially Associate Professor Dr. Zuraidah Sanusi, Rosni Muda and Halila Harun. Thanks are due to Sabariah Md Zin and En Zainuddin for helping me to administer some of the questionnaires.

I would like to acknowledge the contribution and support from Dato' Lukman Ibrahim. My sincere thanks to him for making my Ph.D. journey a memorable and delightful one. My appreciation also goes to the Universiti Teknologi MARA for the financial support.

CHAPTER 1

INTRODUCTION

1.1 Background of the research

Over the past few decades, there have been significant changes in the external environment faced by organizations in all sectors of the economy. These include highly active competitors and increasingly demanding customers. Globalization, increased government regulations, innovation in technology and shorter product life cycles have also contributed to the changes.

In the Malaysian context, Asean Free Trade Agreement (AFTA)¹ has led organizations to be more competitive through improving quality and creating values. The critical objective of AFTA is to increase ASEAN's competitive edge as a production base geared for the world market. This is realized by eliminating intra-regional tariffs and non-tariff barriers that allow manufacturing and construction industries to become more efficient and competitive. Investors can enjoy economies of scale in production due to the larger size of the market. AFTA provides opportunities for various industries through regional cooperation, besides allowing the manufacturing and construction industries to penetrate into global markets. In order to achieve this, it is essential for organizations to improve their quality of products and processes, become cost competitive, sustain their dominance and become competitive in the local market and the international market, respectively (Gabilaia, 2001). AFTA has led to the removal of all trade barriers, which can have negative implications for Malaysian organizations. They include serious threats from foreign competition, which can affect the future development of the manufacturing

¹ AFTA has ten members consisting of: Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam, Laos, Myanmar and Cambodia.

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