

**UNIVERSITI TEKNOLOGI MARA**

**SUPPLIER SELECTION DECISION  
SUPPORT MODEL:  
A CASE STUDY OF GIANT  
HYPERMARKET IN SELANGOR**

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Thesis submitted in fulfilment  
of the requirement for the degree of  
**Doctor of Philosophy**

**Faculty of Business and Management**

March 2016

## ABSTRACT

Increased global competitiveness in supply chain foresees the significance of supplier selection with radical changes in decision-making process. Uncertain situation in purchasing, such as supplier selection, makes hypermarket relies on multiple criteria to make decision. Recent approaches of supplier selection implemented by hypermarket are still practicing a traditional decision-making process, using experience and personal judgment to decide on the supplier. Conflict of interest occurred when personal history is influenced by individual decision by decision makers. Hence, there are four types of multi criteria decision-making (MCDM) methods to solve decision problem and one of the decision models under MCDM is analytical hierarchy process (AHP), developed by Saaty (1980), is a tool for decision-making process continuously be the extensively decision-making theory to be employed. AHP has been widely exercised in solving decision problems. However, AHP tools are still lacking in performance and there are issues regarding supplier selection decision-making have been identified. This study introduced a multidisciplinary approach to operational decision support model applied to Giant hypermarket to provide the decision maker with a systematic decision making process. The purpose of new decision support model developed is to contribute new knowledge as well as for the improvement of decision-making methods to the industries, especially key player industry. This study presents a conceptual framework to summarize the research framework, comprising five main criteria and 41 sub-criteria, aligned with this study first research objective, to identify preference criteria for supplier selection decision, making process within the context of supply chain management. This is a quantitative approach study, using questionnaire for data collection methods. Self-administered questionnaires were distributed to 13 procurement managers at 13 stand-alone Giant hypermarkets located in Selangor. Data were analyzed and compared, using three approaches; statistical approach, AHP approach and AHP-SCOR integrated model approach. The final findings indicated that there were three different results shown in each of the three comparative approaches suggested that the new developed model in this study has imperative significant in supplier selection process. The results amplify the most appropriate decision-making, providing the implication of novelty development of new integrated approach. Finally, this study provides practitioners at personal or professional setting to achieve a success of the holistic approach in future decision support model.

## ACKNOWLEDGEMENT

Praise be to Allah S.W.T the most gracious, the most merciful. My most grateful to Allah S.W.T for giving me the ability and strength to complete this research. May the highest of his blessings of Allah be showered upon our Prophet Muhammad (PBUH), his family members and companions.

This research was a series of long journey and had undoubtedly to reach this point without the contributions of other peoples. First and foremost, I am very grateful to have Professor Dr. Saadiah Bte Yahya as my main supervisor, who has consistently and patiently guided me from the beginning and throughout this research and also to Associate Professor Dr. Muhammad Rozi Bin Malim as second supervisor for making my PhD study a success. Their guidance and invaluable advised has enabled this research to attain and develop a novelty model to new body of knowledge which beneficial to individual, organization, public and private industries as well as to the education system in Malaysia.

I would like to thank Giant Hypermarket's staffs, the 13 procurement managers at the 13 stand-alone Giant hypermarkets in Selangor for their assistance in providing data and information for the analysis of this research. The personal contacts that I have developed with some of them helped stimulated my thinking which assisted in the flow of this study. I am also grateful to Dean of the Faculty of Business Management, Prof. Dr. Haji Zaini Abdullah and the former dean, Prof. Dr. Faridah Hj. Hasssan for their understanding, support and encouragement.

My sincere gratitude is granted to my parents, Raja Abdullah Bin Raja Yaacob and Tengku Molfi Bte Tengku Yusof Shah, for their love, prayers and supports. My sincere appreciation to my beloved wife, Nazalina Zulkifli, who has made an infinite sacrifice and untiring support of this endeavor. Also not forgetting my lovely daughter, Raja Naira Adelia and my new born son, Raja Airel Shah.

I would also like to dedicate my gratitude to my siblings, Raja Nadia, Raja Natrah and Raja Nazril for their continuous support and inspiration. Without their encouragement and understanding, this research may not have been accomplished until the end of my PhD journey.

Last but not least, I would like to express my gratitude for the participation of various people including relatives and friends in making this research materialized.

Thank you.

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# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 INTRODUCTION**

Interest in supply chain decision has been highly outlined in the context of supply chain efficiency. Local and global organization supply chain member entails on making choices among alternative courses of actions and rapid improvement in supply chain performance. Many literatures have reviewed on the supplier selection problem that discussed on multi criteria decision making method. In contrast, selecting supplier is imperative practice in the industry, including manufacturers, distributors, retailers, and service providers.

The evolution of supply chain interaction underlines that suppliers are required to have an adequate set of competencies to be part of a supply system capable of facing market competition (Esposito and Passaro, 2009). To this effect, customer firms have to be consistent in various actions and strategies, particularly with the assessment processes that are assumed a crucial importance. It represents a compulsory and critical starting point for the achievement of a collaborative customer supplier system (De et al., 2001).

The most crucial action organization should undertake is selection a supplier. The assessment process of supplier selection presents two different stages (De et al., 2001). The first concerns the selection process (selection problem) of new suppliers for inclusion in a supplier list. Selecting the right supplier is a difficult task as suppliers are characterized by strengths and weaknesses which require careful evaluation (Asamoah, Annan & Nyarko, 2012). The supplier's strengths and weaknesses can be compared, using qualitative and quantitative methods of decision making models by comparison of each supplier criteria to a reference (Tahriri, Osman, Ali, & Yusuff, 2008).

Tahriri et al. (2008) discussed criteria in Chen-Tung et al., (2006) study including quality, price, and flexibility and delivery performance that must be considered to determine suitable suppliers. This is generally done through a ranking