

FACULTY OF TECHNOLOGY MANAGEMENT AND TECHNOPRENEURSHIP

**THE INFLUENCE OF GREEN SUPPLY CHAIN MANAGEMENT PRACTICES
ADOPTION IN SMES' MALACCA MANUFACTURERS**

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The Influence of Green Supply Chain Management Practices Adoption In SMES' Malacca
Manufacturers

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This report submitted in fulfillment of the requirement for the award of degree of
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CONFESSION

I declare this project is the result of my own research except as cited in the references. The research project has not been for any degree and is not concurrently submitted and in candidates for any other degree.

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DEDICATION

Specially dedicated to my father and mother, Mohd Azhar Bidin and Saibah Sulong,

Thank you for your prayers and your fully support.

To my siblings Mohd Izzat and Nur Aina Shahirah

Thank you for your concern.

Another special dedicated to my research supervisor Dr Ismi Rajiani

Thanks for your advice, encouraged, support and your patience.

For all the encouragement, a big thanks to my dearest friend.

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Thank you very much.

ABSTRACT

In the global of world today, Green Supply Chain Management became an effective way to improve the sustainable environment. SME's is the appropriate organization that can develop the Green Supply Chain Management in their organization. Therefore, the study aims to develop a theoretical framework to examine on the factors that influence green supply chain management practices adoption by SMES' manufacturing sector in Malacca. This study, adopt the green supply chain management practices of Green Procurement, Green Distribution, and Reverse Logistic; with an dependent variable of intention to adopt green supply chain management practices. The quantitative research had been applied for this study. Besides, this study uses Multiple Regression Analysis to analyze linear relationship between dependent variable and independent variable. The results confirm the Green Procurement and Reverse Logistics are significant which they positively influence the SMES' manufacturer to accept the Green Supply Chain Management in their organization whereas Green Distribution is proven not significant.

Keywords :Green Supply Chain Management, Green Procurement, Green Distribution, Reverse Logistic, Regression Analysis, SME's manufacturer sector.

ABSTRAK

Kemajuan dunia global pada hari ini membolehkan pengurusan rantaian bekalan hijau menjadi salah satu cara yang efektif untuk menambah baik dan menjadikan alam sekitar lebih terjaga dan bersih. Perusahaan Sederhana Kecil (PKS) merupakan salah satu organisasi yang sesuai untuk melaksanakan pengurusan rantaian bekalan hijau ini bagi membangunkan organisasi mereka menjadi lebih kondusif. Oleh itu, kajian ini bertujuan untuk membangunkan satu rangka kerja teori untuk mengkaji faktor-faktor yang memberi kesan kepada niat PKS di Melaka untuk mengamalkan pengurusan rantaian bekalan hijau dalam organisasi mereka. Kajian ini menerima pakai amalan pengurusan rantaian bekalan hijau berdasarkan beberapa faktor iaitu Perolehan Hijau, Pengedaran Hijau, dan Logistik Terbalik serta pembolehubah bersandar iaitu niat untuk menerima amalan pengurusan rantaian bekalan hijau dalam organisasi mereka. Strategi penyelidikan kuantitatif telah digunakan dalam kajian ini. Selain itu, kajian ini menggunakan Analisis Regresi Berganda untuk mengkaji hubungan diantara pembolehubah bebas dan pembolehubah bersandar. Hasil keputusan menunjukkan Perolehan Hijau Dan Logistik Terbalik memberi kesan positif untuk mereka mengamalkan pengurusan rantaian bekalan hijau dalam organisasi mereka. Manakala, keputusan menunjukkan Pengedaran Hijau memberikan pandangan yang negatif dari mereka untuk mengamalkan pengurusan rantaian bekalan hijau dalam organisasi mereka.

Kata Kunci: Pengurusan Rantaian Bekalan Hijau, Perolehan Hijau, Pengedaran Hijau, Logistik Terbalik, Analisis Regresi Berganda, Sektor Pengeluar PKS Melaka

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CHAPTER 1

INTRODUCTION

1.0 Introduction

This chapter had been discussed towards the overview of the research. It will consists of the introduction, background of study, problem statement, research question, research objectives, scope of study, limitations of study, key assumption of study and the summary that explained more detail.

1.1 Background of Study

Now days, the issue of environmental awareness is the critical issues among the organizations. Organizations must more alert to make significant contributions towards the reduction of toxic substances (waste) to the environment. Due to human action, our earth is not in the good condition like before. There is a lot of pollution and other bio-substances have been emitted to our earth environment. As result of these degrading effects, a systematic approach integrating environmental concerns into the supply chain was envisaged and adopted by some organizations (Zhu et al, 2010).

Green Supply Chain Management (GSCM) is the new approach for enterprise to gain their profit and increase market share objectives by reducing environmental risks and impact. Green Supply Chain Management is

integrated environment thinking towards Supply Chain Management (SCM). Adding the “green” component to supply chain management involves addressing the influence and relationships of supply chain management to the natural environment. Motivated by an environmentally conscious mind set, it can also stem from a competitiveness motive within organization. Green Supply Chain also can be formulae as below (Joseph Sarkis, 2005);

Green Supply Chain Management (GSCM)

= Green Purchasing + Green Manufacturing/Material Management +
Green Distribution/Marketing + Reverse Logistics

According to Sheu and Hu (2011), Green Supply Chain Management has been adopted by some leading multinational enterprises as a strategy, as they invest in researching and the development of green product, establishing standard restrictions towards the usage of hazardous substances and demanding suppliers provide products void of hazardous materials along the supply chain. For example; Pepsi-Cola had been practicing Reverse Logistics in their organization. Good result had been achieved when they can saved about \$44 million by switching from corrugated to reusable plastic shipping containers for one liter and 20-ounce bottles, conserving pounds of corrugated material (Taylor Wilkerson, 2005).

In future, GSCM practices will give benefits to the organization. GSCM practices are one of that needs to commercialize for our global in future. Keah Choon (2013) illustrates this interest of this study had been mirrored by the increasing interest in the environment and climate change and the efforts by government and organizations around the world to minimize their impact on the environment. Thus, the implementation of Green Supply Chain Management practice by firms has been viewed as an initial strategy in compliance with the requirements of legislation imposed by most industrialized nations, thereby resulting to a competitive advantage (Hsu and Hu, 2008).

According to Rao and Holt (2005), GSCM also promote efficiency and synergy among business partners and their leads corporations and helps to enhance environmental performance, minimize waste, and achieve cost saving. GSCM is gaining increasing interest among researchers and practitioners of operations and supply chain management. S.K.Srivastava, (2007) doubts that the growing

importance of GSCM is driven mainly by the escalating deterioration of the environment for example, diminishing raw material resources, overflowing waste sites and increasing levels of pollution. However, it is not just about being environment friendly; it is about good business sense and higher profits. In fact, it is a business value driver and not a cost centre (Wilkerson,2005).

1.2 Problem Statement

According to Sarkis (2012), the integration of environmental issues and supply chain management has become a thriving subfield over the past two decades. Keah Choon (2013) analyze that GSCM has also begun to gain popularity in emerging economy countries such as Malaysia and China. Kenneth (2012) admits that GSCM practices such as green purchasing, cooperation with customers, eco-design, and investments recovery will lead to improved environmental and performance which support improved operational and organizational performance. Sen (2009) discovers that, supply chain and organizations can gain competitive advantage leading the first to adopt environmental sustainability and implement GSCM practices. To effectively manage the environmental aspects of supply chain, policy makers, organizations and managers need to understand various reaches of supply chain and their environmental implications over these boundaries. Joseph Sarkis (2010) points out that the interrelated boundaries that will occurred are included of organizational(1), proximal(2), political(3), informational(4), temporal(5), legal(6), cultural(7), economic(8) and technological(9). Those organizations play an important role in the global market because their products have a significant market share. For example, the Taiwanese information industry has outpaced the majority of its international counterparts, at one time resulting in the island being positioned as the third largest producer of information products globally (Chen, 2004). The lack of awareness of this green supply chain management towards the organization makes the objective of the sustainable environment had been not achieved successfully. In this study, the researcher wills proposes how the awareness of the green supply chain management towards SME's manufacturing sector influences their intention to adopt GSCM practices?

1.3 Research Questions

The research question is gained from relevant information and relevant statement. We will take consideration of several research questions on how to solve the problem that had been mentioned before. The following are some of the research questions for this study;

- i. How does the awareness of green procurement towards SME's manufacturer sector influence their intention to adopt GSCM practices?
- ii. How does the awareness of green distribution towards SME's manufacturer sector influence their intention to adopt GSCM practices?
- iii. How does the awareness of reverse logistic towards SME's manufacturer sector influence their intention to adopt GSCM practices?

1.4 Research Objectives

Objectives are aims or goals by the statement of research that are need to be answered for the research questions mentioned. The following are some of the research objectives for this study;

- i. To identify the awareness of green procurement towards SME's manufacturer sector influence their intention to adopt GSCM practices.
- ii. To identify the awareness of green distribution towards SME's manufacturer sector influence their intention to adopt GSCM practices.
- iii. To identify the awareness of reverse logistic towards SME's manufacturer sector influence their intention to adopt GSCM practices.

1.5 Scope, limitation and key assumption of study

1.5.1 Scope

In this research, researcher focused on the ways to influenced GSCM practices adoption by SMES' manufacturer sector. The researcher target respondents are SMES' manufacturer sector organization. This research is conducted in Malacca, Malaysia

1.5.2 Limitation

Throughout this study, researcher has highlighted several limitations. Firstly, lack of experience doing the research. Researcher had been had a difficult time during to choose the suitable title for the research.

Second, the researcher challenges in this study are during the collection of information by reading the others researchers' journal.

Thirdly, because of the Green Supply Chain Management (GSCM) is still developing, it was hard for researcher to find suitable journal. This is because, the little existence number of journal cause a difficulties to researcher to complete this study.

Lastly, the researcher has a difficult time during the collection of data. The researcher needs to sacrifice their time and money to get the data from the respondents. It was not an easy thing to make people will contributed and give their cooperation.

1.5.3 Key Assumption

Researcher want to introduce the elements of GSCM that appropriate for SME's to implement it in their organization. The researcher wants to influence SMES' to apply GSCM elements in their business. The researcher also wants to approve that GSCM practices will give beneficial toward their organization in the future.

1.6 Importance of Study

Through this study, the researcher wants to influence communities to adopt GSCM practices in their lives. For the first step, the researcher target is move towards the SMES' manufacturer sector in Malacca. The researcher wants communities to know their own social responsibilities. Because of that, the communities played a main role to show some respect toward the environment. In future, our environment will be sustained from the performance of the environment with the activity of reduces the sources of waste for example.

1.7 Summary

Overall, this chapter 1 is briefly clarified about the development of the framework for the research. The introduction briefly explained the definition of Green Supply Chain Management (GSCM). This chapter also explains the research objective as well as the research question for this study.

The significance of this research will explained the element of Green Supply Chain Management (GSCM) practices towards SMES' manufacturer sector in Malacca. Besides, it will also discover how the awareness of the green supply chain management towards SMES' manufacturer sector influences their intention to adopt GSCM practices.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

In this chapter, the researcher had determined the influence of GSCM practices adopted by SMES' manufacturer in Malacca. Researcher will describe with detailed for the each of independent variable and dependent variable. Besides, researcher also will explain the theoretical framework for this study.

2.1 Green Supply Chain Management (GSCM)

According to Sheu (2005), GSCM practices originated due to increased environmental awareness regarding pollution accompanying industrial development, being addressed together with the supply chain management. Srivastava (2007) conclude that, GSCM is an integrating environmental thinking into supply chain management, including product design, materials sourcing and selection,

manufacturer processes, delivery of the final product to the consumers as well as end-of-life management of the product after its useful life.

According to Sheu and Hu (2010), GSCM practices has been look upon of late by some enterprise as a new approach to increase profit margins and market share by reducing environmental risk and impact. Ekane and Nshimirimana (2012) advocate that many enterprises nowadays, strive to implement the GSCM system, not just to solve environmental problems but also to create some degree of competitive advantage. It is important to understand that a sustainable supply chain is one that does not necessarily need to be optimal just for the organization but also optimal relative to its limited environmental impact (Li and Wang, 2008).

According to Ekane and Nshimirimana (2012), GSCM practice should be beneficial to organizations implemented it, as well as the society if properly managed. But, it could also detrimental to the environment if the concept of green is not applicable to all aspects of the supply chain. A proactive action needs to adopt for streamline the implementation process of GSCM practice.

2.2 Intention for Adoption Practices

According to Gollwitzer (1999), concept of intention is a recent development in intention behavior relations. In addition intention means needs that will achieve by the organization. It also shows the real reason if the organization doing something in their business. In this study, researcher had been study the intention of SMES' manufacturing sector in Malacca to adopt the GSCM practices. There are included of (1) minimize cost and maximize revenue, (2) build good image, (3) ethical and social responsibility and (4) achieve competitive advantages.

2.2.1 Minimize Cost and Maximize Revenue

According to Choon et al (2013), by green distribution with applying eco design, organization will can minimize cost savings opportunities at the beginning of the supply chain tend to be greater and that buying organizations need to actively seek for opportunities to utilize recycled and reused components. Lin et al (2011) and Green et al(2012) echoes that by implementing GSCM, organization can reduced cost and increased profitability in their economic performance.

2.2.2 Build Good Image

Eltayeb et al (2011) argued that organization that implement GSCM can give the results of intangible outcomes such as company image, product image and customer loyalty and customer satisfaction. Green et al (2012) endorses that with GSCM practices such as green purchasing, cooperation with customers, eco-design and investment recovery will lead to improve their organizational performance. With GSCM practices organizations will build their good image and reputation amongst their customers.

2.2.3 Ethical and Social Responsibility

According to Joseph Sarkis (2005), environmental performances are described in ISO 14031 as environmental management. Because of that, that was organization responsibility to follow the rules. Tuang (2001) indicated that in order to deliver and raise the awareness of environmental issues among suppliers, customers and staff. The organization need to draw up the environmental for GSCM to their customers and suppliers.

2.2.4 Achieve Competitive Advantage

According to Sen (2009), organizations can gain competitive advantages when they are being adopted and implement the GSCM practices in their organizations. Ekane and Nsimirimana indicates that enterprise nowadays strive to implement the GSCM practices not just to solve environmental problems but to create some degree of competitive advantage.

2.3 Influencing GSCM Practices Adopted by SMES'

2.3.1 Green Procurement

Green procurement had formerly known as sustainable procurement. Green procurement is the purchasing of products or services which have a lower impact on the environment over their whole life cycle than the standard equivalent. Kostantinos (2012) articulates that green procurement involves the integration of environmental issues into purchasing decisions based on price, performance and quality. Green procurement also been perceived as environmental purchasing, entailing activities that include reduction, reuse and recycling of materials in the process of purchasing. The goal of green procurement is to reduce sources of waste and promotes the recycling of purchasing materials.