GREEN SUPPLY CHAIN MANAGEMENT PRACTICES AND FIRM SUSTAINABILITY PERFORMANCE OF MANUFACTURING COMPANIES IN BATU PAHAT, JOHOR

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GREEN SUPPLY CHAIN MANAGEMENT PRACTICES AND FIRM SUSTAINABILITY PERFORMANCE OF MANUFACTURING COMPANIES IN BATU PAHAT, JOHOR

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A thesis submitted in partial fulfillment of the requirement for the award of the Bachelor Degree of Technology Management with Honors.

Faculty of Technology Management and Business
Universiti Tun Hussein Onn Malaysia

December 2017
I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged.

Student : ............................................

LEONG CHUN PENG

Date : ............................................

Supervisor : ............................................

DR. WAN NURUL KARIMAH BINTI WAN AHMAD
To my beloved mother and father,

Sisters and brothers,

Thank you for always being there for me.
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ABSTRACT

Environmental issues like air and water pollutions are increasing because of the speedy growth of industrial modernization especially in the manufacturing sector. Manufacturing companies are considered as the source of the most of the environmental problem. Green supply chain management (GSCM) practices can help the companies improve firm sustainability performance through reduction of environmental risk, at the same time, provide economic and environmental benefit. In Malaysia, researchers were more focused on IEM practices such as the implementation of ISO 9001 and ISO 14001 and the number of the research on GSCM practices is very few. This research was conducted to explore GSCM practices used by and sustainability performance of manufacturing companies in Batu Pahat. It also compares the GSCM practices and sustainability performance of two manufacturing companies. Mixed approach with questionnaire based survey and interview was adopted in this research. The finding reveals that the manufacturing companies in Batu Pahat had a moderate level of GSCM implementation and sustainability performance.
# CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>TITLE</td>
<td>i</td>
</tr>
<tr>
<td>DECLARATION</td>
<td>ii</td>
</tr>
<tr>
<td>DEDICATION</td>
<td>iii</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>iv</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>v</td>
</tr>
<tr>
<td>CONTENTS</td>
<td>vii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>xii</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>xiv</td>
</tr>
<tr>
<td>LIST OF SYMBOL AND ACRONYM</td>
<td>xv</td>
</tr>
<tr>
<td>LIST OF APPENDICES</td>
<td>xvi</td>
</tr>
</tbody>
</table>

## CHAPTER 1 INTRODUCTION

1.1 Introduction

1.2 Research Background

1.3 Problem Statements

1.4 Research Questions

1.5 Research Objectives

1.6 Scope of Research

1.7 Significance of Study
1.9 Conclusion 6

CHAPTER 2 LITERATURE REVIEW 7

2.1 Introduction 7

2.2 Definition of Green Supply Chain Management (GSCM) and Practices of GSCM 7

2.2.1 Internal Environmental Management (IEM) 8

2.2.2 Cooperation with Customer (CC) 10

2.2.3 Eco-design (ECO) 10

2.2.4 Reverse Logistic (RL) 12

2.3 Firm Sustainability Performance 13

2.3.1 Environmental Performance (EP) 14

2.3.2 Economic Performance (ECP) 15

2.4 Conclusion 16

CHAPTER 3 LITERATURE REVIEW 17

3.1 Introduction 17

3.2 Research Design 17

3.2.1 Quantitative research 18

3.2.2 Case Study Research 18

3.2.3 Qualitative analysis process 19

3.3 Sampling 19

3.3.1 Population 19

3.3.2 Sample 20

3.3.3 Sampling Techniques 20
3.3.4 Unit Analysis 21

3.4 Data Collection 21
  3.4.1 Questionnaire 21
  3.4.2 Interview 22

3.5 Data Analysis 22
  3.5.1 Descriptive Analysis 23
  3.5.2 Frequency Analysis 23
  3.5.3 Likert Scale Analysis 23
  3.5.4 Case study data analysis 24

3.6 Pilot Test 24

3.7 Conclusion 25

CHAPTER 4 DATA ANALYSIS AND DISCUSSION 26

4.1 Introduction 26

4.2 Response Rate 26

4.3 Reliability Analysis 27

4.4 Respondents’ Demographic Information 28
  4.4.1 Types of Manufacturing Sector 28
  4.4.2 Number of employees’ analysis 29
  4.4.3 Annual revenue of the company 29
  4.4.4 ISO 14000 certification analysis 30
  4.4.5 Working experience 31

4.5 The GSCM Practices used by manufacturing companies in Batu Pahat, Johor. 31
4.5.1 Internal environmental management (IEM) .......................................... 32
4.5.2 Cooperation with Customer or Supplier ............................................. 33
4.5.3 Eco-Design ..................................................................................... 34
4.5.4 Reverse Logistics .......................................................................... 35
4.5.5 Summary of GSCM Practices Analysis ........................................... 36
4.6 The level of firm sustainability performance ........................................ 36
4.6.1 firm sustainability performance analysis ........................................... 37
4.6.2 Summary of firm sustainability Performance (Environmental performance and Economic performance) .......................................................... 38
4.7 Qualitative analysis ........................................................................... 38
4.7.1 Respondent’s background ............................................................... 38
4.7.2 Interview’s data analysis ................................................................. 39
4.7.3 Analysis interview’s factors ............................................................. 41
4.8 Conclusion ....................................................................................... 45

CHAPTER 5 CONCLUSION AND RECOMMENDATION ............................. 46

5.1 Introduction .................................................................................... 46
5.2 Discussion on the finding ................................................................... 46
5.2.1 First Objective ............................................................................ 46
5.2.2 Second Objective ........................................................................ 47
5.2.3 Third Objective ........................................................................... 47
5.3 Research Limitation ......................................................................... 47
5.4 Recommendation and Suggestions .................................................. 48

REFERENCES ....................................................................................... 49
LIST OF TABLES

2.1 GSCM Practices 8
2.2 The Summary of Definitions of GSCM Practices 13
2.3 Firm Performance 14
2.4 The Definition of Firm Performance 16
3.1 Determining sample size for a given population 20
3.2 Likert Scale Analysis 24
4.1 Response Rate 26
4.2 Reliability Coefficient Value 27
4.3 Result of Reliability in Real Study 27
4.4 Frequency for Types of Manufacturing Sector 28
4.5 Number of Employees 29
4.6 Annual Revenue of The Companies 30
4.7 ISO 14000 Certification 30
4.8 Working Experience 31
4.9 Central of Tendency 32
4.10 Internal Environmental Management Practices Analysis 32
4.11 Cooperation with Customer Analysis 33
4.12 Eco-Design Analysis 34
4.13 Reverse Logistics Analysis 35
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.14</td>
<td>Summary of GSCM Practices Analysis</td>
<td>36</td>
</tr>
<tr>
<td>4.15</td>
<td>Firm Sustainability Performance Analysis</td>
<td>37</td>
</tr>
<tr>
<td>4.16</td>
<td>Summary of Firm Sustainability Performance</td>
<td>38</td>
</tr>
<tr>
<td>4.17</td>
<td>Respondent’s Background</td>
<td>39</td>
</tr>
<tr>
<td>4.18</td>
<td>Issue/Factors Form Both Company</td>
<td>39</td>
</tr>
<tr>
<td>4.19</td>
<td>Similarities Factor of Both Companies</td>
<td>42</td>
</tr>
<tr>
<td>4.20</td>
<td>Differences Factor of Both Companies</td>
<td>43</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

3.1 Research planning flow chart 18
3.2 The constant comparative method 24
## LIST OF SYMBOL AND ACRONYM

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEM</td>
<td>Internal Environmental Management</td>
</tr>
<tr>
<td>CC</td>
<td>Cooperation with Customer or Supplier</td>
</tr>
<tr>
<td>ECO</td>
<td>Eco-Design</td>
</tr>
<tr>
<td>RL</td>
<td>Reverse Logistic</td>
</tr>
<tr>
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<td>Environmental Performance</td>
</tr>
<tr>
<td>ECP</td>
<td>Economic Performance</td>
</tr>
<tr>
<td>GSCM</td>
<td>Green Supply Chain Management</td>
</tr>
<tr>
<td>SPSS</td>
<td><em>Statistical Package for Social Science (SPSS)</em></td>
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<tr>
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<td>Universiti Tun Hussein Onn Malaysia</td>
</tr>
<tr>
<td>ISO</td>
<td>International Organization for Standardization</td>
</tr>
<tr>
<td>ISO9001</td>
<td>Quality Management Systems</td>
</tr>
<tr>
<td>ISO14001</td>
<td>Environmental Management Systems</td>
</tr>
</tbody>
</table>
# LIST OF APPENDICES

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Questionnaire survey form</td>
<td>58</td>
</tr>
<tr>
<td>B</td>
<td>Application Letter for Undergraduates Final Year Project Information</td>
<td>64</td>
</tr>
</tbody>
</table>
CHAPTER 1

INTRODUCTION

1.1 Introduction

Nowadays, the government, societies, and business organizations are giving more attention to environmental issues. The negative environmental impact such as global warming, waste and environmental pollutions had increased recently because of the speedy growth of the industrial activities especially in the manufacturing sector.

In Malaysia, the rapid growth of the manufacturing sector had increased its contribution to GDP by 75%, from RM100 billion in 2005 to RM193 billion in 2013 (Business Circle, 2014). According to the Malaysian Trade Development Corporation (MATRADE, 2016), the manufacturing sector had contributed 82.2% of Malaysia’s total exports in 2016 and its sales recorded RM61.2 billion, an increase of 10.7% in 2017 (Department of Statistics Malaysia, 2015). In addition, the number of the employees, salaries, and productivity of manufacturing had increased around 1.4%, 1.5%, and 9.2% respectively (Department of Statistics Malaysia, 2015).

Manufacturing companies were considered as the source of the most of the environmental problem (Mitchell et al., 2011). According to Abdullah (2016), the manufacturing sector hired the most workforce and have the highest footprint and impact on the community. The manufacturing process is turning raw materials into products or goods. But those raw materials leftover or substances produced may be harmful to the environment that contributes to air and water pollutions (Myers, 2017). The Malaysian manufacturing sector spends around RM1.62 billion and it was the highest contributor (72.1%) of environmental protection expenditure to solve the environmental issues in 2014 (Department of Statistics Malaysia, 2016).
With the intensification of the competition in the 1990s, awareness of the green supply chain management (GSCM) practices has increased and prompted firms to manage their supply chains in ethically and socially responsible ways (Diabat & Govindan, 2011). Jayashree et al. (2013) state that GSCM is a useful tool to improve firm sustainability performance through reduction of environmental risk that can, at the same time, provide economic and environmental benefits. GSCM was developed as a crucial organizational principles or knowledge to accomplish company profit and market share objectives by decreasing the negative environmental risks and impacts while increasing the ecological benefit of these organizations and their partners (Hoek, 1999).

Current GSCM studies were mostly conducted in developed countries like the United States and Europe. The results from those researches might not portray the implementation of GSCM practices in the Malaysian manufacturing industry. In addition, researchers in Malaysia were more focused on IEM practices such as the implementation of ISO14001 and EMS. The number of the research on GSCM in Malaysia was relatively few compared to other topics. Therefore, this research was aimed at addressing the research gap in GSCM studies in the Malaysian industry context. It can contribute towards increasing our knowledge regarding the practices and offers guideline for the Malaysian manufacturing industry.

1.2 Background of Research

Economic activities in the manufacturing sector will cause negative impact on the natural environment. For example, industrial waste can pollute drinking water supplies or poison plants and animals. To overcome this problem, the Malaysian government has introduced a lot of programs and established some government departments and associations to provide information and knowledge about GSCM practices. This information can guide manufacturing industry to reduce or manage the environmental problem or issues in their workplaces.

For example, Department of Standards Malaysia is agency under the Ministry of Science, Technology and Innovation (MOSTI). The main mission of this department is to deliver product and service across 24 sectors of the Malaysian economy including the manufacturing sector (MOSTI, 2014a). Manufacturing companies can gain GSCM information and knowledge from the department’s
website and the management of the manufacturing companies can register or contact them to get more information and detail about, for example, Quality Management Systems (ISO 9001), Environmental Management System (ISO14001), and Occupational Health and Safety (OHSAS 18001) (MOSTI, 2014b).

With the intensification of the promotion on GSCM or ISO 14001, the importance and benefits of the GSCM must be communicated to the Malaysian manufacturing companies. According to the Department of Standards Malaysia (MOSTI, 2014b), Environmental Management System (MS ISO 14001:2015) is a systematic approach or method to protect the environment and prevent environmental pollution such as air, water, land and noise pollution. Besides, it also helps to improve the environmental performance.

According to Chin et al (2015), GSCM practices such as environmental collaboration, internal environmental practices, and green product and process design were the key elements for Malaysian manufacturing companies to implement. Many companies especially those successful companies such as Nike implemented GSCM practices after they identified benefits of the GSCM practices. The website of the Nike states that “Every product and partner, every decision, every gateway, every stage from concept to reclamation adds to a near infinite ecosystem of cause and effect and to offer as much clarity into this ecosystem as possible, we have distilled it down to seven fundamental stages – Plan, Design, Make, Move, Sell, Use, Reuse” (Freddie Pierce, 2013). Therefore, manufacturing company in developed countries such as United State, Japan, and South Korea who had advances knowledge of GSCM practices can be a benchmark or references for developing countries like Malaysia.

1.3 Problem Statement

GSCM practices such as internal environmental management are very important to guide manufacturing industries to reduce their environmental effects. However, the advantages or benefits of the ISO 14001 certification are not recognized by some manufacturing companies (Jayashree et al., 2013). Issue or conflict on decision making occur within the management of organization that either they need to decide on firm profitability or implementation of pollution reduction approaches like GSCM practices (Melnyk et al., 2003).
On the other hand, lack of expertise from the management, costly implementation of GSCM, long time period of implementation, complex procedure and lack of experiences in development of sustainable performance are the obstacles faced by the manufacturing industry in implementation ISO 14001 EMS certification (Arifin et al., 2016). Investing in environmental management practices will increase the operational costs and applying proactive measures can be costly and unrealistic to many companies (Sambasivan et al., 2013).

Some companies require their suppliers or producers to have ISO 14001 certificate and which directly increases the production cost. But, increase of production cost will decrease the demand of the product in the market and firm will not adopt GSCM practices within organization (Jeganova, 2004). Generally, firms will not implement eco-design strategy for their products as part of GSCM practices and prefer to buy a new green product from other sources. This is because they do not need to spend more time on designing a new product and can efficiently use their time to earn more money (Rio et al., 2013).

Lau & Wang (2009) stated that reverse logistic as a GSCM practices has faced a lot of problem in its implementation. Normally, firms may not able to manage the implementation of this strategy on their own without collaboration with their supply chain partners. Besides, lack of management attention and suitable policies, absence of standardized processes and technologies were common obstacles or challenge for reverse logistic practices (Rogers & Ronald, 1999).

Most of the studies that have been discussed were conducted in developed countries such as China, USA and other. Thus, results of the research might not represent the Malaysian manufacturing industry context. In Malaysia, researchers were more focused on IEM practices such as the implementation of ISO 9001 and ISO 14001 and the number of the research on GSCM practices is very few. Therefore, more studies need to be conducted to understand the implementation of GSCM practices in Malaysia.

1.4 Research Question

The research questions for this study were as follow:

1. What are the GSCM practices of manufacturing companies in Batu Pahat, Johor?
2. What is the level of firm sustainability performance among the manufacturing companies?

3. What are the similarity and differences of the GSCM practices and firm sustainability performance among the two manufacturing companies?

1.5 Research Objective

This study was aimed to:

1. To explore the GSCM practices used among manufacturing companies in Batu Pahat, Johor.

2. To explore the firm sustainability performance among manufacturing companies in Batu Pahat, Johor.

3. To compare the GSCM practices and firm sustainability performance among two manufacturing companies in Batu Pahat, Johor.

1.6 Scope of Research

This research was focused on the GSCM practices used by manufacturing companies (e.g. internal environmental management (IEM), cooperation with customer, eco-design and reverse logistic) and the level of the firm sustainability performance (e.g. environmental performance and economic performance) in manufacturing sector. This research was conducted in Johor, Malaysia where the respondents are the manufacturing companies in Johor through survey forms. The respondents in this research were assistant manager, managers of the manufacturing companies or personnel who are in charge of supply chain department or environmental management systems.

1.7 Significance of Study

GSCM practices play important role in term of managing or controlling the activities along a company’s supply chain. It also provides many benefit and competitive advantages to the organization. For example, in gaining more profit and building a positive image. Since there are less research on the topic of GSCM practice and sustainability performance among manufacturing sector in Malaysia, this outcome of
the research able to provide some insight regarding the topic for local manufacturing sector who want to implement the GSCM practices into their operation process. The research outcome also showed that the current practices that applied by the research respondents and how these practices can affect their company’s sustainable performance. Therefore, the research outcomes can contributes as a reference for other local manufacturing companies who want to apply the GSCM practices.

1.8 Conclusion

This chapter had discussed about the background of GSCM practices and sustainability performance, research questions, problem statement and the significance of the study. This research was aimed to provide a better understanding about GSCM practices and sustainability performance of the manufacturing companies in Malaysia. The review of the past studies regarding to the topic would be explained further in the following chapter.
CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In this chapter, the definition of green supply chain management (GSCM) and firm sustainability performance would be defined. In addition, several GSCM practices were discussed, namely internal environmental management (IEM), green purchasing, cooperation with customers, eco-design, and investment recovery. The level of firm sustainability performance such as environmental performance, economic performance, social performance and operational performance in manufacturing industries are also discussed in this chapter.

2.2 Definition of Green Supply Chain Management (GSCM) and Practices of GSCM

Nowadays, the awareness of environmental issues and global warming are increasing among the consumers, which create pressure on companies to improve the sustainability of their activities. The companies can use GSCM as a tool to green their manufacturing process and supply chain, measure their carbon footprint and improve recycling practices (Murray, 2009). Ganapathy (2014) stated that with the environmental awareness had to be increased day by day and environmental issues need to solved, it has led to the development of GCSM practices. The element in the supply chain such as supplier, factory, warehouse, distribution center, consumer, and store need to work closely together to provide goods or services to the market