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Tandatangan :……..

Nama Penyelia Utama : Dr. Chew Boon Cheong

Tarikh : 31st May 2014

*Potong yang tidak berkena

Implementation of Green Supply Chain Management for Production: A Case Study in SONY (Malaysia) Sdn. Bhd.

CHOONG CHIEN KHAY

Laporan ini dikemukakan sebagai
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Ijazah Sarjana Meda Pengurusan Teknologi (Pemasaran Teknologi Tinggi)

Fakulti Pengurusan Teknologi dan Teknousahawan
Universiti Teknikal Malaysia Melaka

JUNE 2014

"Saya akui laporan ini adalah hasil kerja saya sendiri kecuali ringkasan dan petikan yang tiap-tiap satunya saya telah jelaskan sumbernya"

Tandatangan :……..

Nama : Choong Chien Khay

Tarikh : 31 May 2014

DEDIKASI

Untuk keluarga, pensyarah dan rakan-rakan tersayang

PENGHARGAAN

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ABSTRAK

Pada era globalisasi ini, kebanyakan syarikat mulai menggunakan konsep hijau kerana pelepasan gas rumah hijau telah mencapai tahap kritikal dan mendapat kesedaran sosial. Syarikat-syarikat diminta untuk bertanggungjawab untuk masalah pencemaran mahupun secara langsung atau tidak langsung. Malaysia Technology Corporation Hijau (Green Tech Malaysia) telah memulakan jejak karbon (CFP) projek pelabelan untuk membantu pelanggan membezakan antara produk hijau dan bukan hijau, melalui sokongan dasar ia akan memberi kesan kepada keputusan pembelian pelanggan. Oleh itu organisasi memerlukan suatu cara yang komprehensif untuk menguruskan keseluruhan perniagaan mereka dengan cara yang memenuhi konsep hijau dan keuntungan untuk mengekalkan kelebihan daya saing mereka. Pengurusan rantaian bekalan Hijau (GSCM) direka untuk mempertimbangkan kesan alam sekitar bagi semua proses rantaian bekalan daripada pengekstrakan bahan mentah untuk pelupusan muktamad barangan untuk mencapai kesan alam sekitar yang minimum dengan memastikan kepuasan pengguna dimaksimumkan. Penggunaan pengurusan rantaian bekalan hijau (GSCM) akan menjadi pendekatan penting bagi sesebuah organisasi untuk memastikan perniagaan mereka adalah alam sekitar yang mampan . Dalam kes ini, SONY Malaysia Sdn. Bhd telah dipilih untuk kajian dalam pelaksanaan GSCM dan aktiviti-aktiviti yang terlibat pada setiap proses untuk membolehkan syarikat itu mengimplikasikan kriteria persekitaran ke dalam konteks membuat keputusan daripada pengurusan rantaian bekalan tradisional. Responden dalam kajian ini akan melibatkan 25 orang pengurus melalui temu bual bagi memastikan kesahihan penyelidikan. Kajian ini membuktikan bahawa penggunaan GSCM dalam SONY membawa banyak faedah seperti melaksanakan tanggungjawab sosial, peningkatan inventori dan menurunkan kos. Kesimpulannya, GSCM berkemungkinan menjadi strategi yang cekap bagi SONY untuk menuju ke arah konsep hijau dan ia membolehkan pengilang untuk mengubah pengurusan rantaian bekalan mereka.

ABSTRACT

Nowadays each company is going green due to global greenhouse gases emission has reached a critical level and awaked the social awareness. Companies are requested to be responsible for all direct or indirect pollution of their act. Malaysia Green Technology Corporation (Green Tech Malaysia) has embarked on a carbon footprint (CFP) labeling project to help the customer differentiate between green and non-green product, with the support of policy it will affect the customer purchase decision. Therefore organizations need a way to comprehensively manage their entire business in a manner that meets green and profitability targets in order to maintain their competitive advantages. Green supply chain management (GSCM) is designed to consider the environmental effects of all processes of supply chain from the extraction of raw material to the final disposal of goods to achieve minimized environmental impact while assuring maximized consumer satisfaction. Thurs GSCM Green supply chain management (GSCM) will be a key approach for an organization to make sure their businesses are environmentally sustainable. In this case study SONY Malaysia Sdn. Bhd. was selected to investigate the process to implement GSCM and the activities that involved at each process to allow the company imply the insertion of environment criteria within the decision –making context of the traditional supply chain management. The respondent of the study will be aims for 25 managers through interviews to ensure the research validity. This study proved that the application of GSCM in SONY brings a lot of benefits such as more social responsibility, inventory improvement and lowered the cost. As a conclusion, GSCM might become the most efficiency strategic for SONY to go green and it could be implementation for other manufactures that to transform their supply chain management.

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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

In 2008, global economic faced serious financial crisis. The financial crisis has causes the global economic downturn and directly affect the competition among each organization in the market. To sustain competitive advantages in the market, most of the companies have begun to focus on their supply chain management. According to Taylor (2003) the classic model of company versus company is starting to give way to a new model: supply chain versus supply chain. Success of a company now depends on assembling a strong supply chain to deliver the best product at the best price. Beside that global warming issue is highly emphasized by the social nowadays, green product are slowly been demanded by the market. Thus, company must implement green into their organization in order to produce green product. Greening supply chain could be the new area that ensures the organization gain double wining situation by create more competitive advantage and reduce company carbon footprint. The idea of green supply chain is also supported by the World Wildlife Fund (WWF). Pollard (2010) agrees the time for action on greening supply chains has come, WWF created the Global Forest and Trade Network (GFTN) to provide structured support and framework that provide confidence and encouragement for both suppliers and buyers to take the necessary steps to green their operations and supply chain that connects them. Most of the companies think that it will not bring

any benefits if they go green on their supply chain, but with the correct strategy there are possible to gain extra tangible benefit as lower cost and inventory efficiency to the company while moving towards a green supply chain.

1.2 Problem Definition

More recently The World Meteorogical Organization (WMO) reported that the amount of greenhouse gases in the atmosphere reached a new record high in 2012, continuing an upward and accelerating trend which is driving climate change and will shape the future of our planet for hundreds and thousands of years. The awareness of social will not only impact the customer life style but it also has raised a new trend to push most of the product going green. Beside of fulfill customer needs manufacture must act fast to implement green in to the business because the time is limited. Jarraud (2013) stated"Limiting climate change will require large and sustained reductions of greenhouse gas emissions. We need to act now, otherwise we will jeopardize the future of our children, grandchildren and many future generations and time is not on our sides. In this situation, organization will be likely to identify the most efficient sector to implement green to gain win-win situation for the organization and also for the environment. Organization should start go green and the place to go green will be supply chain. According with (Vachon and Klassen, 2007; Vachon and Klassen, 2006;Vasileiou and Morris, 2006). Environmental sustainability is a supply chain imperative rather than an organizational imperative.

The research question constructed as below:

i. What are the activities involve in green supply chain management (GSCM) implementation at SONY'S production?

ii. How SONY Malaysia Sdn Bhd implement the green supply chain management (GSCM) to its production?

iii. What are the innovative solutions in order to wilder green supply chain management (GSCM) implement in the company?

1.3 Objectives

The objective of the study is to identify the activity and the process of implement green supply chain management at SONY‟S Malaysia Sdn Bhd.

The objectives of the study are stated as below:

i. To investigate the process of implementation green supply chain management (GSCM) at SONY‟S production.

ii. To identify the activities that involves in Green supply chain management (GSCM) implementation at SONY‟S production.

iii. To propose innovative solutions for wilder green supply chain management (GSCM) implement in the company.

1.4 Scope

The scope of this project is to investigate the step to implement green supply chain management to SONY Malaysia Sdn. Bhd. production. The study will identify the activities that involved at each implement stage. Innovation solution that could wilder the strategy also will be the scope of this research .The study will conduct in SONY Malaysia Sdn Bhd, to gain adequate and comprehensive information.

The research will be targeted 30 managers from SONY Malaysia Sdn. Bhd as respondents. The respondent will be divided become three main categories, the first category will be 10 managers that involved with product life cycle design, the second categories will be 5 managers for quality assessment department and the third categories will be 10 managers that involved with procurement or logistics. The purpose of selecting 25 managers was to ensure the accuracy of data and to ensure the research is reliability.

1.5 Limitation

Three limitations are identified in this case. Firstly, the case is to study how to implement green supply chain management in SONY Malaysia Sdn. Bhd production. Secondly the case will only investigate at the stage of planning and further process will not include in this study because the early step of planning will be the most significant area .Thus the result and outcome of the study is only applicable for SONY Malaysia Sdn. Bhd. Thirdly researcher assumed the all respondents conscientiously provided correct answer.

1.6 Summary

Green supply chain is considered as one of the most strategic strategy to implement green for an organization. SONY Malaysia Sdn Bhd as the leading of OME manufacture needs the most effective strategy to gain competitive advantage and yet still fulfilled the aim of environmental sustainability. The aim of the case study in SONY Malaysia Sdn. Bhd. is focused on finding out the factor of transformation green supply chain and how the company implemented green properties in to the existing supply chain.

Chapter 2

LITERATURE REVIEW

2.1 Introduction

In this chapter, overview of green supply chain management will be clearly explained to reader. After the basic concept of green supply chain management, section 2.2.1 until 2.2.3 will explain each implement step to implement green supply chain management. Activity that involved at each implement step also will be clearly listed with explanation. Lastly theoretical framework will be conducted at the end of the chapter.

2.2 Green Supply Chain Management

The traditional supply chain has been describes as the functions used to manage all the demand and supply activity. According to Crandall, et al. (2010) defines supply chain management as follows:

> Supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics

management activities. Importantly, it also includes coordination and collaboration with channel partner, which can be suppliers, intermediaries, thirdly party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies.

The formation of green supply chain management can be completed by implement green properties into the existing supply chain management. Emmett and Sood (2010) state green supply chain management will fully integrate environmental considerations into traditional supply chain management. However there is another view of green supply chain management. Wang and Gupta (2011) state industries have been gradually shifting towards environmentally friendly supply chains by integrating green technologies into their product designs, production, and distribution processes. These efforts, together with the desire to incorporate extended production responsibility (EPR), have led to the evolution of green supply chain management (GSCM). Thus, the steps and each involved activities for implement green supply chain management will needed as guideline to the organization.

Scope of implement must be formed to implement green supply chain management into an organization. Seven key areas that implement green supply chain management have been proposed by Emmett and Sood (2010). However three key areas will be selected. Base on the researcher opinion planning, procurement and execution are the most significant area that relate with production and there are:

I. Green supply chain planning
II. Green procurement
III. Green supply chain execution

2.2.1 Green Supply Chain Planning

Green supply chain planning is the first key area to implement green supply chain. Each activity that involved with supply chain will implement green concept during the early stage of planning. According to Emmett and Sood (2010) green supply chain planning introduces a revolutionary new mindset to the traditional supply chain planning. All activities across the entire supply chain are planned with a view point of minimizing the environmental impact of the overall endeavor while still achieving the same result.

2.2.2 Green Procurement

Procurement also knows as purchase, according Benton (2010) the function of purchasing is to provide a firm with component parts and raw materials. Green procurement is aimed to green the company recourses. Emmett and Sood (2010) state green procurement aim to reduce overall expenditure on organizations, product, and services by removing or minimizing the usage of "hazardous to Green initiatives" in the entire supply chain.

2.2.3 Green Supply Chain Execution

The last key area of implement green supply chain management is green supply chain execution. This step is aimed to execution green to other area or activity that is related with green supply chain. According to Emmett and Sood (2010) green supply chain framework, there are five activities that under green supply execution. Those five activities are green production, green logistics, green packaging, green marketing and

supply loops. Green production will be selected as the most significant area that relate with production.

2.3 Activities in Green Supply Chain Planning

Activities in green supply chain planning are the significant activity that involved during the early stage of planning. Green supply chain planning will played the role to gather all important planning stages in supply chain and implement green property to formed green supply chain planning. According to Emmett and Sood (2010) the activities in supply chain planning are:

a) Life cycle engineering

Life cycle engineering was directly related to the company product. It form a basis of the green supply chain planning, the aim was to reduce the waste by reusing and thus readily assist in promote sustainable development. It leads to collaboration and integration between various groups such as marketing, engineering, production and others. With life cycle engineering the potential economic, environmental, and technical impacts of products, services, or processing methods are analyzed for the entire life cycle at conceptualization and design phases.

b) Green sales and Operations Planning (S&OP)

Sales and Operations Planning (S&OP) is seen as an organization process aimed at harmonizing plans across different functional departments within an organization. The main components of green Sales and Operations Planning (S&OP) are green demand planning and green supply planning. Table 2.1 will show the details of green demand planning and green supply planning.

Components of (S&OP)	Key elements
Green demand planning - Main objective is to create collaborative forecasting. - Collaborative forecasting is the process for collecting and reconciling the information from diverse sources across the supply chain to create one single unified statement of demand.	i. Applying statistics and other algorithms to past data to recover relevant information. ii. Process and systems that collect customer level input from the markets routinely. iii. Process that merge management decision overrides with the data collected at customer level. iv. Process that merge Green marketing input, which in usually product focused, with the sales view, which is usually customer focused.
Green supply planning - Supply need to come essentially from production or inventory. The important consideration is in what stage of production do store the material to achieve maximum profitability and „Greenness".	i. Green production planning - adds variables related to the environmental impact in the decision-making process. ii. Green Inventory planning - consideration of the overall supply and demand.

Table 2.1 Green Sales and Operations Planning (S&OP)

Supply management is recommended to include at the early stage of planning. Monczka et al. (2009) explains supply management is a strategic approach to planning for and acquiring the organization"s current and future needs through effectively managing the supply base, utilizing a process orientation in conjunction with cross-functional team to achieve organization mission. Thus supply

management will measure each of the planning resources needs to ensure the planning achievable.

2.4 Activities in Green Procurement

Green procurement target was to reduce overall expenditure and reduce company carbon footprint by controlling the input that provide by the supplier. However, to achieve green procurement there are five main key activities that contribute green procurement. Table at below shows the main activities that propose by Emmett and Sood (2010):

Activity	Description
Collaboration	Organization can get more return on their Green initiatives if involve partner and examine the entire upstream and downstream supply chain and not just their own part.
Incentive Alignment	Substantial saving and waste reduction can be achieved by providing incentives to suppliers to find ways that will help reduce material consumption.
Supplier Development	Any effort of a buying firm with a supplier, to increase its performance and/or capabilities and meet the buying firm‟s short and/or long-terms need.
Energy-Efficient Procurement	Setting minimum energy efficiency standard and all of the measures that will promote energy efficiency across the organization. Once the standard has been