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SUSTAINABLE GARMENT INDUSTRY TOWARD ECO-FASHION: A CASE  
STUDY AT KIM TAI GARMENT & TRADING CO

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## DECLARATION

“I hereby declare that this thesis entitle “Sustainable Garment Industry Toward Eco-Fashion: A Case Study at Kim Tai Garment & Trading” is my own work except for the quotations summaries that have been duty acknowledged”

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## **DEDICATION**

I dedicated this research to my friends, parents and supervisor, who are always be there when i need help and motivation during the process of preparing this research. Thank you all for the motivation, inspiration and guidance for me to pass through the process of this research. Not forgetting, to those who indirectly contributed to this research, your effort means a lot to me. Thank you very much.

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## ABSTRACT

In recent year, sustainability of garment industry and eco-fashion has received increase attention among the world. There are several studies proved that, by implementing sustainable practices, firms can access to international market, enhance company image and build good consumer perception. However, the implementation of sustainable practices is still not widely employ by local company. This research aims to determine the factors and also the strategies to sustain garment industry toward eco-fashion in Malaysia. In this research, the complete entire production process of garment industry will be investigated and data will be collected through an interview with garment manufacturing firm's manager. The result of this research will be the factors and strategies to sustain garment industry toward eco-fashion. This research has been able provide innovative suggestion that will help to improve the sustainability of garment industry toward eco-fashion.

*Keywords:* garment industry sustainability, eco-fashion, production process, Malaysia

## ABSTRAK

Kebelakangan ini, kemampuan industri pakaian dan eko-fesyen telah menerima perhatian yang semakin banyak di dalam dunia. Terdapat beberapa kajian telah membuktikan bahawa, firma yang melaksanakan amalan mampan boleh akses kepada pasaran antarabangsa, meningkatkan imej syarikat dan membina persepsi pengguna yang baik. Walau bagaimanapun, pelaksanaan amalan mampan masih tidak dilaksanakan oleh kebanyakan syarikat tempatan. Kajian ini bertujuan untuk mengetahui faktor-faktor dan juga strategi untuk mengekalkan kemampuan industri pakaian ke arah eko-fesyen di Malaysia. Dalam kajian ini, keseluruhan proses and aktiviti pembuatan di dalam industri pakaian akan disiasat dan data akan dikumpul melalui temu bual dengan pengurus firma pembuatan pakaian ini. Hasil kajian ini adalah faktor dan strategi untuk mengekalkan industri pakaian ke arah eko-fesyen. Kajian ini telah dapat menyediakan cadangan inovatif yang akan membantu untuk meningkatkan kemampuan industri pakaian ke arah eko-fesyen.

*Kata Kunci:* kemampuan industri kemampuan, eko-fesyen, proses pengeluaran, Malaysia



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## CHAPTER 1

### INTRODUCTION

#### 1.1 Introduction

Nowadays, sustainability is the major concern in the age of the modern world (Khan and Islam, 2014). Sustainability issues will influence all organisational aspects of the human life, from the economic, political, social and environmental points of view. Recent years, increasing awareness of the environmental and social concerns surrounding the garment industries and consumers has led to a rise of attention in implementing sustainability initiatives into garment production activities (Khan and Islam, 2014). Garment industry is one of the most important industry in Malaysia as (MIDA, 2016) reported, in 2015, the textiles and textile products industry was the ten largest export earner with RM13.2 billion, contributing approximately 1.7 per cent to Malaysia's total exports of manufactured goods. Thus, it is essential to promote sustainability in this large industrial sector.



Weitman (2014) explains that sustainable manufacturing is the creation of manufactured products that use processes that are non-polluting, conserve energy and/or natural resources; making them economically sound and safe for employees, communities, and consumers. Gardetti and Torres (2013) agree that sustainability within fashion means that through the development and use of a thing or a process that bring no harm to the environment, meanwhile enhance well-being of people. In Malaysia, the rapidly growth of garment industry has detrimental the sustainability due to the increase in the pollution, waste and rapid consumption of natural resources (Eltayeb, Zailani and Filho, 2010). Hence, this research is conducted to determine the factor and strategy to sustain garment industry in Malaysia and toward eco-fashion. Niinimäki (2010) defines eco-fashion is clothing that is designed for long lifetime use; it is produced in an ethical production system, perhaps even locally; it causes little or no environmental impact and it makes use of eco-labelled or recycled materials.

The conventional production process of garment industry has brought the humanity great material wealth but at the same time, it also brought a lot of new problems: the environmental pollution, the waste of resources, energy crisis, and worse ecology (Li and Cai, 2008). Hence, it is necessary to develop innovative suggestion to overcome the problem and achieve sustainable garment industry toward eco-fashion. This research will emphasis on the sustainability of garment industry in Malaysia. Every activities of garment industry will be investigated to ensure it is the best sustainable garment production practices. This research aims to find out the factors required to sustain garment industry and the strategies to sustain it toward eco-fashion garment industry.

Every activities in garment industry playing an important role in sustainability of garment industry since it is an accumulative process. The conventional production process of garment industry in Malaysia is not sustainable. Hence, this research is worth for investigation.

## 1.2 Problem Statement

Conventional production process of garment industry is not sustainable. Sustainable development have to be done by garment industry owner to sustain garment industry toward eco-fashion. Hence, the research question will lead the researcher to figure out the way to develop sustainable garment industry. The research questions constructed as below

1. What is the factors to sustain garment industry in terms of process of garment production?
2. What are the strategies to sustain garment industry throughout the process of garment production?
3. What is the innovative suggestion in process of garment production that could sustain garment industry?

## 1.3 Research Objective

The objectives of this research are to determine the entire complete activities of sustainable garment management. This research also aims to finding out the strategies to sustain garment industry toward eco-fashion. By studying the complete activities of sustainable garment industries management, factors to sustain and strategies to overcome the problems could be identify. This research will be beneficial for the customer, society, environment and also producer itself.

Thus, the objectives of the research are state as below:

1. To examine the factor required to sustain garment industry in terms of process of eco-fashion garment production.
2. To investigate the strategies to sustain garment industry throughout the process of eco-fashion garment production.

3. To propose the innovative suggestion to sustain process of garment production that could sustain garment industry.

#### **1.4 Scope, Limitation and Key Assumptions of the Study**

The scope of this research is the garment industry manager level staff who is clear and understand the whole manufacturing process. This research will be conducted in Batu Pahat, Johor, Malaysia. The manager level staff will be interviewed to answer the question that prepared by researcher in order to get importance information and data. Moreover, the whole manufacturing process of garment will be observed and data will be collected.

This study is subjected to some limitation. Sustainable garment industry is a profound concept to most of the manufacturer in Batu Pahat. Therefore, the knowledge about sustainable of the respondent might be inadequate to answer the question during interview. Moreover, the respondent might be not honest when answering the questions.

The key assumption is that the respondent will be knowledgeable about the topic and could answer the question prepared correctly. Furthermore, hopefully the respondent will be honest in answering all the question that being asked so that the information will be accurate and useful.

#### **1.5 Importance of the Study**

The aim of this research is to determine factors and strategies of sustainability of garment manufacturing company in order to order to increase the sustainability.

The finding of this research will be helpful to garment manufacturer to be sustainable moving toward eco-fashion. By determining the factor and strategy, this research will be able to give innovative suggestion for the company in order to increase their sustainability. Hopefully, the research could be beneficial to every of local garment manufacturer and strengthen their sustainability. Moreover, this study also hopes to reduce the pollution of environment that produce by garment industry and increase the awareness of the owner about eco-fashion.

## **1.6 Summary**

This chapter is an introduction of what the research is about. This research is about sustainable garment industry toward eco-fashion. Garment industry is a large industrial sector in Malaysia. Thus, this research, it is essential to be conducted in order to promote sustainability in this large industrial sector toward eco-fashion. The objective of this research are to determine the factor and strategies of sustainable garment industry toward eco-fashion. Another objective of this research is to determine innovative suggestion to increase the sustainability of garment production process and garment industry toward eco-fashion. Besides, it also explain the importance of sustainable garment industry which is to contribute toward garment industry and promote the concept of eco-fashion. This chapter also clearly stated the scope, limitation and key assumption of this research.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Introduction

This chapter discusses about the relevant literature review of sustainable garment industry toward eco-fashion. This chapter covered the scope which is the process of garment production from the very beginning raw material selection until the end distribution. Every process will be define by theory and the also the best existing practices of each process. Factors and strategies is also covered in this chapter together with theoretical framework.

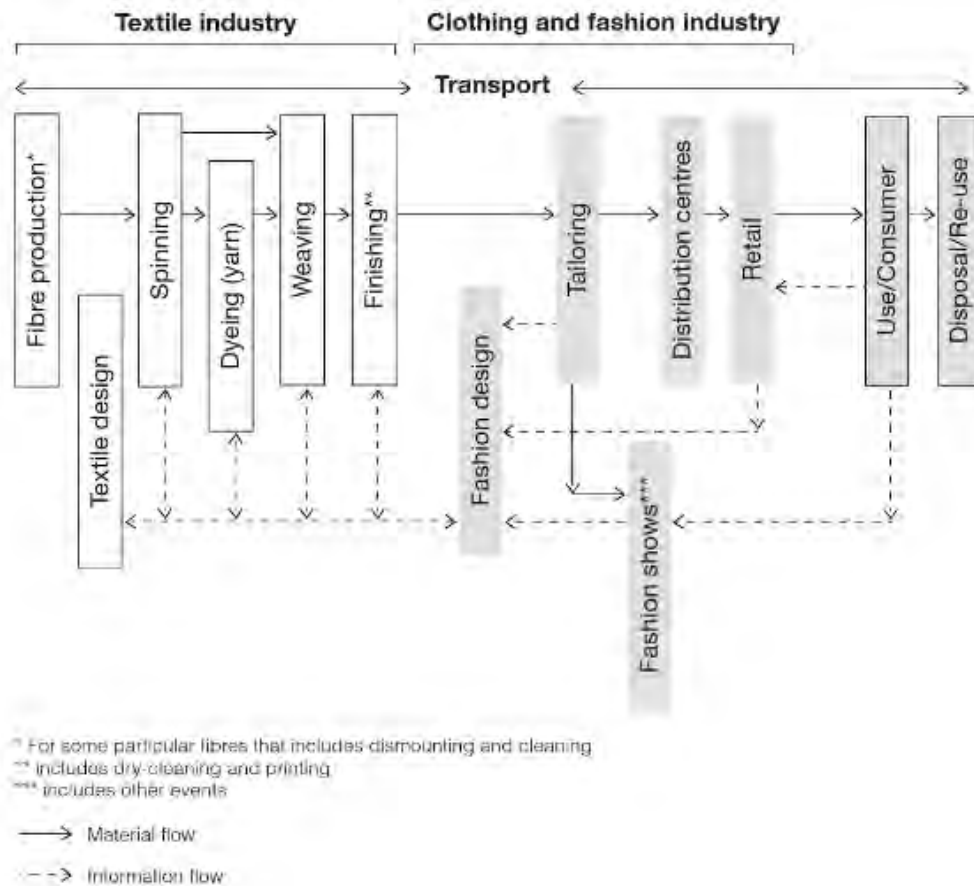
Joergens (2006) defines sustainable fashion as “fashionable clothes that incorporate fair trade principles with sweatshop-free labour conditions while not harming the environment or workers, by using biodegradable and organic cotton. Muthu et al. (2010) adds that sustainable garment is the textile products produced using raw materials, energy, various resources, and other ingredients which are

derived from renewable resources that cannot be exhausted and consequently do not affect the next generation.

Garment industry is a popular industry among consumers, but it has great effects on many environmental, social concerns (Khan and Islam, 2014). The concerns is challenging the sustainability of garment industry. Niinimaki and Hassi (2011) explore that the garment industry prepares the base materials and the fashion, and the apparel industry converts these materials to suit the desires and needs of consumers; both industries are responsible for high utilization of energy, water, chemicals, and resources from cotton to petroleum. Thus, it is essential that garment manufacturer should employ new strategies to enhance garment industry sustainability toward eco-fashion. Product sustainability is the easiest aspect to alter for an apparel brand, as this is where a company has the most and direct control through design and product development (Khan and Islam, 2014).

## **2.2 Scope**

The figure has shown all the activities in garment industry from raw material to end-user. The arrow shows that process flow of garment industry is an accumulative process.



**Figure 1: Process Flow of Garment Industry**

Source: Sustainability in Fashion and Textiles, 2013

### 2.2.1 Design

Design is first ever activity in garment production. According to Dombek-Keith (2008), an increasingly common practice of design has been to conduct a Life Cycle Analysis (LCA), which examines the environmental impacts of a given item over its entire lifespan, from design goals through disposal. E. Barnes, J. Reed, M. Wallace, M. Peterson and P. O'Leary (2012) confirms that LCA is a demonstrated method to objectively and scientifically evaluate the environmental impact and resource utilization of a product, from the raw materials used in its

creation to the disposal of the product at the end of life. Companies such as Levi Strauss, Marks and Spencer, and Patagonia have all conducted LCAs for a range of products, as a strategy to reveal the environmental impacts associated with a garment's life cycle (Dombek-Keith, 2008; Gwilt, 2012).

Gwilt (2012) explains that the rationale for conducting an assessment of a product is based on the principle that all stages of the product's life cycle need to be examined before any sustainable strategies or solutions can be applied. Choudhury (2014) clarifies that in terms of life cycle assessment, sustainable textiles are manufactured and used in sustainable ways without using restricted substances and can be disposed of sustainably after use. An assessment will typically explore: the raw materials extraction; manufacturing; distribution; use and disposal of an item.

Improvements in product design can be made by improving the flow of life cycle information and eco-design guidelines, integrating environmental considerations into the manufacturing processes, and involving relevant stakeholders to review the approach (Steinberger et al. 2009). According to Dombek-Keith (2008), eco-design addresses environmental concerns by making an effort to decrease overall material use while promoting production and consumption cycles that imitate closed natural cycles through innovative new materials and methods of fabrication. Dombek-Keith (2008) explains that the eco-design goal was to reduce environmental impact by replacing current materials and production methods with alternatives that were more efficient and caused less environmental harm.

### **2.2.2 Raw Material Selection**

Khan and Islam (2014) indicate that selecting the eco-friendly raw materials is an important aspect for minimizing overall environmental impact throughout the