

**FACTORS THAT INFLUENCE CONSUMER SUSTAINABLE  
PRODUCT PACKAGING ACCEPTANCE IN E-COMMERCE  
PLATFORM**

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**FACTORS THAT INFLUENCE CONSUMER SUSTAINABLE PRODUCT  
PACKAGING ACCEPTANCE IN E-COMMERCE PLATFORM**

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in partial fulfillment of the requirements for the degree of  
Bachelor of Technology Management (High Technology Marketing) With Honours**

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**2022**

## DECLARATION

I declare that this thesis entitled “FACTORS THAT INFLUENCE CONSUMER SUSTAINABLE PRODUCT PACKAGING ACCEPTANCE IN E-COMMERCE PLATFORM’ is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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**SUPERVISOR'S APPROVAL**

'I/We hereby declare that I/We had read through this thesis and in my/our opinion this thesis is adequate in terms of scope and quality which fulfil the requirements for completion and reward of Bachelor of Technology Management (High Technology Marketing) With Honours.

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Date : 3/2/2023

## DEDICATIONS

I would like to dedication my gratitude to my dear parents, who have supported me both spiritually and monetarily.

Tan Tee Chai

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A big thanks to my supervisor and panel for guiding me through my research study.



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Dr. Fam Soo Fen  
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## ABSTRACT

In line with the Sustainable Development Goals (SDG), sustainable packaging is crucial for reducing environmental waste and preserving the environment. Nevertheless, the most generally recognized reasons for inhibiting the use of sustainable packaging are a lack of environmental knowledge, inconvenience with services, cost, and a lack of government and social media regulation. Current study aims to establish a model to understand the motivational drivers of sustainable packaging acceptance from the lens of the Theory of Consumption Value. For this quantitative investigation to address the affirmative hypotheses and the relationship between independent variables and dependent variable, survey questionnaire data were collected. Online shoppers in Malaysia's Johor and Melaka were given a total of 212 surveys using purposive and convenience sampling techniques. Researcher used a descriptive analysis, reliability analysis, correlation coefficients and multiple regression analysis by using SPSS version 26 to interpret. Findings from this study indicated that all five values have significant impact on consumer's sustainable packaging acceptance which are functional, social, emotional, epistemic, and conditional value. In conclusion, it can be said that users prioritize on functional value, and their level of acceptance towards sustainable packaging is moderate high based on all five hypotheses are accepted. These research findings contribute to the growing body of knowledge on the drivers that motivate consumers to shift from traditional packaging to sustainable packaging and long-term benefits of using sustainable packaging. It may change their habits in the direction of sustainability, like increasing favouring brands with a commitment to environmental sustainability and making sustainability an important purchase criterion for their purchases. Future researcher should be taken forward by undertaking further studies which include local culture as a moderating variable influencing customer acceptance or preference for sustainable packaging on e-commerce platforms.

**Key words:** Role of packaging in e-commerce platform, overpackaging issues, sustainable packaging, consumers' awareness and attitude, consumption value

## **ABSTRAK**

Pembungkusan mampan memainkan peranan penting untuk mengurangkan sisa alam sekitar dan melindungi alam sekitar yang sejajar dengan Matlamat Pembangunan Mampan. Namun begitu, sebab yang paling dikenali umum untuk menghalang penggunaan pembungkusan mampan ialah kekurangan pengetahuan alam sekitar, kesulitan dengan perkhidmatan, kos, dan kekurangan undang-undang kerajaan dan media sosial. Kajian semasa bertujuan untuk mewujudkan model untuk memahami dorongan motivasi penerimaan pembungkusan hijau daripada perspektif Teori Nilai Penggunaan. Data soal selidik tinjauan telah dikumpul untuk menentukan hipotesis afirmatif dan hubungan antara pembolehubah tidak bersandar dengan pembolehubah bersandar. Pembeli dalam talian di Johor dan Melaka Malaysia telah diberi sejumlah 212 tinjauan dengan menggunakan persampelan secara kebetulan dan bertujuan. Penyelidik menggunakan SPSS versi 26 untuk mentaksir dan menentukan analisis deskriptif, analisis kebolehpercayaan, pekali korelasi dan analisis regresi berganda. Penemuan daripada kajian ini menunjukkan bahawa kelima-lima nilai mempunyai kesan yang signifikan terhadap penerimaan pembungkusan lestari pengguna iaitu nilai fungsi, sosial, emosi, epistemik dan bersyarat. Kesimpulannya, boleh dikatakan pengguna mengutamakan nilai fungsi, dan tahap penerimaan mereka terhadap pembungkusan mampan adalah sederhana tinggi berdasarkan kelima-lima hipotesis diterima. Dapatan penyelidikan ini menyumbang kepada peningkatan pengetahuan tentang pemacu yang mendorong pengguna untuk beralih daripada pembungkusan tradisional kepada pembungkusan mampan dan menikmati faedah jangka masa yang panjang dalam menggunakan pembungkusan mampan. Ia mungkin mengubah tabiat mereka ke arah kemampanan, seperti meningkatkan berat kepada jenama dengan komitmen terhadap kemampanan alam sekitar dan menjadikan kemampanan sebagai kriteria pembelian penting untuk pembelian mereka. Penyelidik masa depan harus dimajukan dengan menjalankan kajian lanjut yang merangkumi budaya tempatan sebagai pembolehubah penyederhana yang mempengaruhi penerimaan atau keutamaan pelanggan untuk pembungkusan mampan pada platform e-dagang.

**Kata kunci:** Peranan pembungkusan dalam platform e-dagang, isu pembungkusan berlebihan, pembungkusan mampan, kesedaran dan sikap pengguna, nilai pengguna

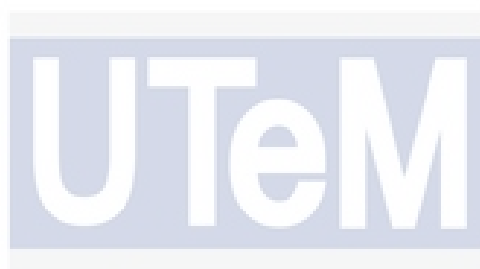


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## LIST OF SYMBOLS AND ABBREVIATIONS

IR	-	Industrial Revolution
IR 4.0	-	Industrial Revolution 4.0
DOSM	-	Department of Statistics Malaysia
FMCG	-	Fast Moving Consumer Goods
E-comm	-	Electronic commerce
SPA	-	Sustainable Packaging Acceptance
LCA	-	Life-cycle Assessments
SIRIM	-	Institute of Standards and Industrial Research Malaysia
PBV	-	Planned Behavior Theory
TCV	-	Theory of Consumption Values
FunV	-	Functional Value
SocV	-	Social Value
EmoV	-	Emotional Value
EpiV	-	Epistemic Value
ConV	-	Conditional Value
SPSS	-	Statistical Package for the Social Sciences

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## CHAPTER 1

### INTRODUCTION

#### 1.0 Introduction

This chapter describes an overview of the research topic which is the factors which influence consumer sustainable packaging acceptance in e-commerce platform. It's gone into discussion about the background of study that explain the more about the phenomena of sustainable packaging from overpackaging issues in e-commerce platform. After that, this will have followed with the problem statement, research questions, research objectives, scope and limitation and the research significance.

#### 1.1 Research Background

Malaysia's ecommerce business is continuously expanding and has become one of Southeast Asia's top markets. It increased by 37 percent in 2020, adding to the 26 percent global growth rate. Based on the analytics of GlobalData's eCommerce, the e-commerce market in Malaysia is expected to reach \$12.6 billion by 2024, with a compound annual growth rate of 14.3 percent between 2020 and 2024. The research conducted over the past two decades has yielded important insights on the nature of e-commerce in Malaysia and the fundamental drivers driving its expansion. E-commerce has been defined in several ways, but this study will use the definition by (Tze San et al., 2020) which says that it is the buying and selling of products, data, information, services, and goods over a computer network. In the age of the fourth industrial revolution, Yang et al. (2021) found that the main things driving e-commerce are customers' growing preference for online shopping and the growth of e-banking and digital wallets (IR 4.0).

As reported by the Department of Statistics Malaysia (DOSM), Malaysia's e-commerce revenue climbed by 23.1% to RM801.2 billion in the first nine months of year of 2021. Even though Malaysian government has a clear direction in digital business development, several challenges are still unresolved like overpackaging issue of e-commerce delivery experience. In this paper, overpackaging in e-commerce is

defined as any packaging that does not provide neither containing nor grouping functions, it classified as redundant, avoidable, and non-vital for the product (Elgaaied-Gambier, 2014; Georgakoudis & Tipi, 2021). Online retailer added excessive packaging materials which is no provide extra value to the product to prevent damage during handling, transportation, and storage. Y. Kim et al (2022) also stated that e-commerce business generates 4.8 times more packaging waste than offline shopping, surge in packaging waste raising environmental concerns. This situation has held back the e-commerce market because overpackaging issues causes inefficient use of resources and leads to enormous waste production and eventually generates negative impact to environment. As consumers gaining the awareness regarding their choices' impact to environment and environmentally sustainable development from government policies to trigger online merchants to be proactive to handle overpackaging issues by sustainable initiatives (Jamsheer K, 2019).

In this research, the aim was to identify the factors that affect consumer sustainable packaging in e-commerce platform and how it eliminates the overpackaging issue in e-commerce. The results should then lead to recommendations, providing a new packaging design for online FMCG companies' delivery chains by focusing on high recyclability and recycled materials. This study first gives a brief overview of the recent history of e-commerce in Malaysia, as well as the factors that influence consumer sustainable packaging in e-commerce platform which cover conventional and contemporary approach. Following the introduction, chapter 2 begins with literature review to define the definition of the 5 main variables (the role of packaging in e-commerce sector, overpackaging issues, sustainable packaging, consumers' awareness and attitude towards sustainable packaging and theory of consumption values and constructed a theoretical framework to discuss how the previous study concluded about related topic. After that, chapter 3 focuses on explain the method that used for data collection to address study research questions and its hypotheses. Chapter 4 and 5 are the main parts of this study which deal with results from questionnaire and measured by SPSS software as well as explain how the two research objectives achieved with the independent variables. This study concludes with recommendation and implication to direct prospective researchers on similar studies in future.

## 1.2 Problem Statement

Since the Covid-19 pandemic triggered and accelerated online shopping behaviors, consumers increased adoption of e-commerce and prefer to purchase goods online to protect themselves from risks of spreading the virus. Exponential growth in the e-commerce sector causes competition to become intense. E-commerce businesses hesitant to strive for better services, they use packaging as their marketing tool to improve customer buying experiences. At a basic level, packaging involves designing a container to fit the products and protecting itself from damage during transmission between the online retailer and consumers. As now more products shipped direct to consumers via e-commerce platform, it requires several times the normal requirements to ensure products arrive in good condition. They may use multiple packaging materials, such as paper, cardboard, masking tape, bubble wrap that acts as secondary or tertiary packaging which is unnecessary or unwanted by the consumer. As cited by Qing & Guirong (2012), packaging fulfils its mission for one time only, consumers throw away as soon as the packaging content runs out. This results in excess packaging that may result in unnecessary waste. Hence, environmental damage due to over-packaging is long-lasting to humans, animals, and plants.

With society's growing concern for sustainability, consumers are more aware that how their choice affect the environment, and they willing to pay for packaging that they perceive to be sustainable. From GlobalWebIndex, found out 61% of U.K consumers willing to spend more to support the eco-friendly companies, because they care and concern about the sustainable packaging with the environment. Consumer demand for sustainable alternatives to packaging is critical to online retailers and encourages them to emphasize on their company's commitment to the environment concerns throughout the lifecycle of product's packaging. As the need for environmentally conscious alternatives keeps growing, both consumers and businesses are adopting this new "green" approach.

Due to these adverse effects from overpackaging issues, numerous studies focused on identifying the solutions to overpackaging in e-commerce using comparative analysis from Pålsson et al. (2017) while in research from Escursell et al. (2021), they use literature reviews about e-commerce packaging which focused on its environmental side or model optimization from Brinker & Gündüz (2016), by using *p*-

median approach to find an optimal, demand-related packaging sizes to achieve average material savings. Although extensive research has been carried out on solutions on overpackaging issues and consumer purchase intention towards sustainable packaging, no single study exists which exploring the factors that influence sustainable packaging acceptance in e-commerce platform. Indeed, there appears to be a lack of literature on consumer acceptability of sustainable packaging, with only two studies exploring the drivers of sustainable packaging adoption (Long & Schiffman, 2000; Wahab et al., 2021). Specifically, it is highly rare to come across a comprehensive study that both theoretically and practically investigates and defines the factors that influence consumers' acceptance of sustainable packaging. Focusing on consumer acceptance of sustainable packaging can help vendors and governments build more sustainable solutions on their packaging while still meeting customer demands; increase consumers' awareness about the impact of their choices on environmental concerns; and encourage FMCG companies to create their commitment to sustainability and respond to public concerns about packaging waste.

In order to address this gap in the existing literature, the current study seeks to answer the following question: What are the factors that influence the sustainable product packaging acceptance among online consumers in e-commerce platform? To answer this question in this paper, the theory of consumption values will serve as a strong predictive theory for predicting environmental human behaviours. This theory constitutes the theoretical foundation of the current study. Current study aims to better understand consumers' acceptance towards sustainable packaging in emerging economy context. Quantitative methods will be used to perform data's validity, reliability and descriptive analysis, Pearson correlation analysis as well as multiple regression analysis by IBM's SPSS statistical software version 26. Additionally, this data will be contextualized with a review of recent literature on the sustainable packaging in order to achieve deeper knowledge of the behavioural aspects that drive certain sustainable packaging behaviours.

### 1.3 Research Questions

The research question is the initial phase of a research project, and this research will address the following issues:

RQ1. What are the factors that influence the sustainable product packaging acceptance among online consumers in e-commerce platform?

RQ2. What are the levels of consumers acceptance towards sustainable product packaging in e-commerce platform?

### 1.4 Research Objective

Researcher will accomplish these research questions by meeting the following objectives:

**RO1:** To identify the factors that influence the sustainable product packaging acceptance among online consumers in e-commerce platform.

**RO2:** To determine the levels of consumers acceptance towards sustainable product packaging in e-commerce platform.

### 1.5 Scope and Limitation

The study aims to investigate the factors that influence the sustainable product packaging acceptance among online consumers in e-commerce platform. It allows researcher to focus on the levels of acceptance towards sustainable product packaging in e-commerce platform based on the data of groups that have similar characteristics (active online shoppers who aged from 20 to 60 years old and above). The target respondents are at least making one online purchase in the previous 90 days. This study would be done through the utilization of an email questionnaires surveys (Google Form) to identify consumer's acceptance towards sustainable packaging in order to make a more accurate conclusion to be explained and interpreted.

This research will not extend to advanced determinants that affect the consumer acceptance of sustainable innovation like its buying intention, development,

trends, advantages, and disadvantages. However, the basic performance and applications of the sustainable packaging in e-commerce platform will be covered. It will also show the relation of the factors with one another like the relationship between factors that influence sustainable packaging and consumer acceptance towards sustainable packaging, how the solutions applied in packaging delivery system in e-commerce platform.

## 1.6 Research Significance

The thesis has made several significant contributions to online shoppers because they will understand the factors that influence the sustainable product packaging acceptance in e-commerce platform. Online shoppers can be aware of the long-term benefits of using sustainable packaging and change their habits in the direction of sustainability, like increasing favouring brands with a commitment to environmental sustainability and making sustainability an important purchase criterion for their purchases.

For the researcher, the study helps to push the forces for sustainability and looking forward to online FMCG companies creating their commitment and responding about the packaging waste. Based on the survey questionnaires, companies able to analyse these insights and feedback from consumers and proactively embrace sustainability issues and their solutions in order to fulfil consumers' needs and wants in designing eco-friendly products' packaging. In addition, the analysis presented in this study will be used for future discussions to explore a new landscape of innovation with today's processing technology in the packaging industry.

## 1.7 Summary

In a nutshell, Chapter 1 introduces the research area (sustainable packaging) and outlines the background of e-commerce in Malaysia and rationale for the current study. It briefly reviews why sustainable packaging issues that is in need of study and outlines difficulties faced by parties who involved like consumers, packaging converters, retail industry and government policymakers in increasing consumers acceptance towards sustainable packaging. The chapter subsequently describes the

summary of previous research on related topics in order to give readers a understanding of the developments in sustainable packaging field.



## CHAPTER 2

### LITERATURE REVIEW

#### 2.0 Introduction

In this section, review of existing academic research and articles for both the broad and specific areas of sustainable packaging will be discussed. To have more understanding, this research will present a review of literature and relevant research associated to gain more opinions and information to support this research. Numerous scholars have conducted extensive research in its framework, consumers preferences on overpackaging solution, how sustainable packaging affecting on customers' acceptance, the roles of packaging in e-commerce platform. However, these studies are predominantly focused on the framework of packaging (theory of consumption value) and its effect. Therefore, this review critically evaluates what factors that influences sustainable packaging and the levels of consumer acceptance towards sustainable packaging. This section will explore five main variables: role of packaging in e-commerce, overpackaging issues, sustainable packaging, consumers' awareness and attitude towards sustainable packaging and the theory of consumption values with 5 determinants (i) Functional value, (ii) Social value, (iii) Emotional value, (iv) Epistemic value and (v) Conditional value.

#### 2.1 Role of packaging in e-commerce sector

Scholars, academics, and authors have all defined e-commerce because it is considered a revolution in the entire world based on the adoption of digital technologies and consumer preferences. Electronic commerce is a process of buying and selling or exchanging products, services, and information through computer networks (Anupam, 2011). Jamsheer K (2019) agreed with Anupam, 2011 and modified its definition of the role of telecommunication. According to Jamsheer (2019), e-commerce is considered the use of telecommunication networks to automate business relations and their processes. The term commerce is regarded as transactions among business partners. The use of an e-commerce platform enhanced customer service and increased its efficiencies. This view is founded by Poon & Joseph (2001)