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綠色行銷、消費價值和綠色創新產品的採用之整合模式，以刺激—機制—反應模式及創新擴散理論為基礎

An Integrative Model of Green Marketing, Consumption Values and Green Innovation Products Adoption: Based on S.O.R Model and Diffusion of Innovation Theory

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Letter of Recommendation for ABT Masters

Leav Phichlorng, a student of NHU Master Program for Business Administration for 1,5 years, has completed all of the courses and theses required for graduation.

1. In terms of studies, Leav Phichlorng has acquired 39 credits, passed all of the obligatory subjects such as Research Methods, Management Science, Seminar on Marketing Management, Seminar on Business Ethics, etc. (Please refer to transcript.)
2. In terms of theses, Leav Phichlorng has completed the following:
   i. Master thesis : An Integrative Model of Green Marketing, Consumption Values and Green Innovation Products Adoption: based on S.O.R model and Diffusion of Innovation Theory
   ii. Journal :

I believe that Leav Phichlorng has already received full formative education of NHU Master Program for Business Management and is qualified to apply for Master's Degree Examination. Therefore, I hereby recommend his preliminary paper, An Integrative Model of Green Marketing, Consumption Values and Green Innovation Products Adoption: Based on S.O.R model and Diffusion of Innovation Theory, for the oral defense.

Academic Advisor: Tong Kai Ling

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南華大學管理學院企業管理學系管理科學碩士班

109 學年度第 1 學期碩士論文摘要

論文題目：綠色行銷、消費價值和綠色創新產品的採用之整合模式，以刺激—機制—反應模式及創新擴散理論為基礎

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中文摘要：

現今環境惡化已引起國家、社區、企業和個人的嚴重關注，並開始將消費行為的觀點從傳統或非綠色轉變為環境永續之觀點。借鑒現有文獻，許多公司已廣泛應用於產品變革，推行綠色行銷。然而，在發展中國家，有關消費者對這種現象的反應的知識和訊息似乎仍相當有限。本研究旨在以「刺激(S)-機制(O)-反應(R)」模型及創新擴散理論對於綠色行銷策略影響柬埔寨 Y 世代消費者的創新綠色產品採用行為之調查。本研究之目的除了探討消費者綠色採用意願的主要因素，並且研究人口統計變數對消費價值、感知的創新特徵和市場潛力對創新綠色產品採用意願的調節效果。本研究採用量化研究，通過社交媒體平台（如 Facebook、Line、Instagram 等）蒐集 331 份有效問卷。由 smartPLS 檢驗研究模式，ANOVA 用於檢驗調節效果。本研究結果，驗證了綠色行銷策略影響柬埔寨 Y 世代消費者的創新綠色產品採用行為會受到消費價值之中介效果，同時，年齡、教育、潛在市場及**感知的創新特徵具有顯著之調節效果**。本研究結果除可供學者進一步驗證，亦可供行銷從業人員和企業家提供了行銷管理和應用之參考。

關鍵詞：綠色行銷策略、消費價值、感知的創新特徵、市場潛力、綠色產品創新採用

Title of Thesis: An Integrative Model of Green Marketing, Consumption Values and Green Innovation Products Adoption: Based on S.O.R model and Diffusion of Innovation Theory

Department: Department Master Program in Management Sciences, Department of Business Administration, Nanhua University.

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ABSTRACT

Nowadays, deterioration in the environment has triggered severe concerns to nations, communities, businesses, and individuals. Thereupon, everyone eventually become aware of the impact and start to shift their perspective regarding consumption behavior from traditional or non-green to more sustainable and greener. Drawing upon appropriate extant literature, green marketing mix is one among widely used to reform the way company produce more greener products due to its beneficial to the environment. Nevertheless, the knowledge and information on the consumers' respond to that phenomenon in developing countries, as though Cambodia is remains restricted. In this matter, the current research is to investigate the Generation Y consumers in Cambodia on the green innovation products adoption of green products through green marketing mix strategy by utilizing S-O-R model. As the core purpose of this research not only to examine the major factors that could assist the better consumers' green adoption intention, but also to scrutinize the moderating role of demographic on consumption values, perceived innovation characteristics and market potential on green adoption intention. To conduct this research, quantitative method was

employed. The survey conducted based on 331 respondents via social media platform, such as Facebook, Line, Instagram, and Telegram. Exploratory factor analysis is performed by SPSS 25, confirmatory factor analysis, and smartPLS are used to test hypotheses. The finding of this study has produced an imperative contribution to both entrepreneurs/marketers and academics from the empirical results since the study not only focus on consumers' respond in Gen Y, but also carried out some crucial variables such as green investment intention as outcome, and potential market as a moderator between consumption value and adoption intention that being overlooked in the green marketing field.

Keywords: Green marketing strategy, consumption value, perceived innovation characteristics, market potential, green innovation product adoption

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CHAPTER ONE
INTRODUCTION

In this chapter, research background and research motivation, research objectives, research scope, and procedure and research structure of the topic were addressed in details.

1.1 Research Background and Research Motivation

Attention to the potential benefits of globalization has brought countless enrichment within both academic life and business performance. As the results of the free trade agreements plentiful countries have represented rapidly growth. This trendy leads to environmental depletion and causes the imbalance within ecology. According to Chen and Linng (2011), more and more consumers worries and aware of the impact of their behaviors on environment. One among other reactions for reducing their consumption behavior impact on environment is that they make a very careful decision to purchase green or eco-friendly products instead of non-green product. Singh and Gupta (2013) suggested in order to stop supplemental damage to the environment, additional studies should be conducted in developing countries that sketch different behavior, concern, attitude toward environment from others consumers in developed countries.

Since there is a fine line between green product, environmentally friendly product, eco-friendly product, the researcher used these three words interchangeably in this research. In this case, green product donates to product that produced through ecologically processes which throwing harmless consequences to the environment (Kinoti, 2011). While there was no exactly accepted definition of green products, Bhatia and Jain (2013) has assumed some characteristics of

green products based on the general definition in relation to green marketing concerning:

1. Energy efficient (both in use and in production)
2. Water efficient (both in use and production)
3. Low emitting (low on hazardous emissions)
4. Safe and/or with recycled content
5. Recyclable and/or with recycled content
6. Durable (long-lasting)
7. Biodegradable
8. Renewable
9. Reused products
10. Third party certified to public or transport standard (e.g., organic, certified wood)
11. Locally produced

According to Liu et al. (2012), the concept of "consuming environmental friendly product" has resulted in an increasing of environmental friendly product throughout market which firms deliberately received many benefits from its products in the marketplace. Bailey et al. (2016), stated that due to the sudden existing of green products in market, many researches focused on green marketing specified on consumers have been responding to the product that endorse the environmental responsibility. Whereas, other studies indicate that some consumers are still not willing to purchase or use green products as the lack of knowledge or receive the inferiority of products, the superior prices of the green products over non-green products, and the prior amplifications of firms related to their green performance (Olsen et al., 2013; Moser, 2015; Majid and Russell, 2015). It is clearly indicated that there has been shortage to academically examine

green marketing strategies. There are many research studied the relationship between green products and purchasing intention, the study on green marketing issues on sketching green consumer (Megicks et al., 2012), the assessment of divers of green marketing strategies (Cronin et al., 2011), and green marketing policies (Chan, 2013b; Hsieh, 2012); yet, there are very few studies focused on green marketing mix and green innovative products adoption concerning green purchasing and green investing (Ansar, 2013).

The idea of green marketing strategy was firstly introduced into the market in 1975, which is mainly focused on either negative or positive effects on environmental pollution, the consumption of energy as well as of other resources which in turn result in marketing strategy. Then, the notions of green marketing have been recognized by numerous firms about the paramount important of green initiative in marketing, to fulfill customers' needs and to promote firm's competitiveness (Schubert et al., 2010). Green marketing practices provides countless prospect to deal with these kind of environmental trepidations to match with the consumer need or expectations. Many companies are employed green marketing strategies which in turn provide green product options, recycled products; product packaging emphases on the usage of recycled materials; green promotion throughout advertisement and public relation efforts in order to improve the communication of green as well as environment protection.

In addition, environmental attitude has been defined as psychological propensity expressed by evaluating the green or eco-friendly products alongside with the degree of satisfy or dissatisfy to adopt based on the strategy that firm used to market their product in the market place (Milfont and Duckitt, 2010). Sharmar and Bagoria (2012) sated that social value (image concern, peer opinion), epistemic value (desire to seek knowledge), conditional value (influence of

promotional activities and subsidies), value for money (perception about product performance with respect to price) perform as imperious groundwork that holding the power to influence the innovative green product adoption of consumer including innovative green product purchase behavior and innovative green product investment intention. However, there is a lack of empirical studies regarding the relationship between consumption values and green innovation products adoption. Some studies indicated only on the context of green purchase intention behavior that resulted from the consumption value (Biswas and Roy, 2015), while Suki (2016) investigated on the relationship between consumption values and consumer environmental concern as expressed through purchase of green products. Lam, Lau, & Cheung (2016) indicated the relationship between consumers perceived values of products or services and green repurchase intention. Drawing upon the above perspective, we propose that green innovation products adoption may expressed through green investment intension that cause market performance refers to the ability of the company to satisfy the consumers' need or want in order to create and maintains the consumers satisfaction, in the regard, company deliberately benefits and increase their sale volume as well as profit by selling their products or services that group of consumers. Put it differently, this concept refers to the market size company can expense based on the number of buyer and sale volume of their products in the market (Weeks, Gao, Alidaeec and Rana, 2010). Han, Hsu, & Sheu, (2010) revealed that green marketing strategy has a significant impact on the market performance or potential market by reflecting the growth of profitability. Throughout the research in green marketing strategy the potential market has rarely been discussed.

This study proposed to use the potential market as a moderator that promote the influence of consumption vales on green innovation products adoption.

According to the economic setting, businesses are classified as a main sources to create jobs for society and offer products and services to earn profit, upsurge sale' revenue and expense the market size (Visser, 2008). Hence, this study propose that potential market may moderate the relationship between consumption values and green innovation products adoption.

Cambodia is one among other developing countries in Southeast Asia with a rapid economic growth of 6.9% as of 2017 (World Bank, 2018). Along with its fast-moving path, it is realized that there are growth of developments, populations, as well as urbanization. The common main problems that Cambodia is facing are solid waste, water pollution, and air pollution. It is reported from the Institution of Technology of Cambodia and Cambodia Education and Waste Management Organization (2015) that 1286 tons of waste in every single day were produced by Phnom Penh alone. In addition, the same report indicated that it is predicted to double the 3112 tons per day by the year of 2030. As observed, wastes that dumped in landfill each day are generally non-degradable items such as either plastic bags or plastic bottle, for example.

In order to deal with such a terrible environmental problems, the Royal Government of Cambodia enforced plastic bag free law in the supermarkets since 2015 and calls for incorporate action from each stakeholder. Additionally, either small, medium enterprises or multinational companies have taken environmental issues into consideration and started to take in green aspect alongside with their product qualities. To mention, there is emergence of green condos and apartment, organic foods, green hotel, and environmentally friendly products.

Likewise, the idea of green marketing along with green product innovation has accepted numerous noticeable attention from various sectors and individual consumers; especially, youth. Such a hug sustained movement of environment

protection was generally initialized by a group of youth. There are both official and unofficial event being organized in the direction of raising environmental problems awareness. Despite of youth movements, there are emerging projects from a group of environmental concern individuals, NGOs and businesses. In fact, there are also NGOs in Cambodia trying to encourage environmental movement. The projects include Caring for Cambodia and Nerd Night (Tong). Siem Reap Green Committee (SRGS) introduced a website, so-called "CleanGreenCambodia.org" where it offers countless information and educate people regarding sustainable community, which is a platform where people can look for environmental products, services, support organization, as well as projects (Siemreap.net, 2018). It is the implication that youth are always more aware and sensitive to the environmental problem. Specifically, if they actually can transform their apprehension into action as well as incorporated it alongside with their intention to adopt green products innovation is still questionable.

Besides, despite the awareness of youth in environment, in Cambodia context information and research on green marketing strategy and green innovation product adoption is still inadequate; hence, it is imperative to do an investigation on younger consumers. Epecasilly, the study of Gen Y regarding this phenomenon to understand their tendency and their perspective about green marketing strategy toward green product which are integrated with environmental attributes.

1.2 Research Objectives

Based on the above research background and motivation, and theoretical foundation of green marketing strategy as well as environmental attitude, this

proposed thesis aims to examine the relationship between green marketing strategy, consumers' value perception, and innovative green product adoption under S-O-R model. Accordingly, the objectives were formulated to achieve the aims of the study as follows:

1. To identify the effect of perception of green marketing strategy on environmental attitude;
2. To identify the effect of both perception of green marketing strategy and environmental attitude on formulating consumption values;
3. To identify the impact of consumption values on innovative green product adoption;
4. To investigate the moderating role of demographic data on the link between both perception of green marketing strategy and environmental attitude on consumption values;
5. To investigate the moderating role of perceived innovation characteristics and potential market on the link between consumption values innovative green product adoption

1.3 Research Contribution

This thesis exemplified the relationship between green marketing strategy, consumers' value perception, and innovative green product adoption that meaningfully donates beneficial information and critical acquaintance to both advertisers/marketers and academics.

1. Entrepreneurs/marketers: This research would predominantly be a market research for entrepreneurs and business associations who were passionate in perception of green marketing strategy in Cambodia. Essentially, it would be

more beneficial if they were planning on investing in eco-friendly products since this research exposed the most perception of green marketing strategy, consumption values and green product adoption behavior with two dimensions such as green purchase intention and green investment. Understanding consumer reasons and intentions to adopt or not adopt innovative green products was imperative in designing strategy that gave values to meet with consumption value. Realizing all this crucial information, entrepreneurs would stand a high chance of establishing products supplying potential needs of the Cambodia consumers; also, developing effective product offerings, marketing strategies, distribution campaigns and massaging.

2. Academics: Throughout this present study, people actually could not only extend their knowledge of effective eco-friendly strategy, but also advance their understanding some theoretical concept comprising of consumption value and innovative green product adoption. Due to the fact of limitation of environmentally friendly strategy literature in Cambodia context. It would be exclusively for further researchers who would like to extend on this topic, since they would be able to benefit from that by using as a secondary data to support them.

1.4 Subject and Research Scope

This research primarily focused on the relationship between green marketing strategy, consumers' value perception, and innovative green product adoption. And the scope of study development are illustrated in the below table:

Table 1-1 The Scope of the study

Items	Scope of The Study
Type of research	The nature of research is quantitative research. The structure was built based on the reviews of existing literature to review the theoretical research comprised approach, research framework, and hypotheses development. The development of data measurement was used to describe, analyze data to test hypotheses and draw a conclusion.
Key Issue	Examine the relationship between perception of green marketing strategy and innovative green product adoption
Independent Variables	Effective green marketing and environmental attitude
Dependent Variables	Green purchase intention behavior and investment intention
Mediating Variables	Consumption values
Moderating Variables	Demographic, perceived innovative characteristic, and market potential
Underlying Theories	Ecological Modernization Theory (EMT), Consumption Value Theory and Diffusion of Innovation Theory
Research Study Location	Phnom Penh, Cambodia
Research Method and Data Analysis	Quantitative approach questionnaire survey, utilizing SPSS version 25, Smart PLS to test the hypothesis, and ANOVA to test moderating effect

Source: This Study

1.5 Procedure and Research Structure

Firstly, this research chose a topic related to consumers' side which is favorable to collect data, then showed the research background, motivation, and objectives. After that a literature review displayed in terms of perception of green marketing strategy, environmental attitude, consumption value, social responsibility, perceived innovation characteristics, market potential and potential consumer needs; exclusively, about the interrelationship among these constructs. Afterward, the conceptual model and research hypotheses were formulated. Subsequently, the questionnaire and data sample was considered in which focused on the Cambodia context. Meanwhile, the questionnaire survey was distributed via online platform by Google form to fill out. The SPSS software version 25 tool was essentially used to do data analysis. Since then, in order to interpret or explain the results, factor loading and reliability test, and smart partial linear square (smart PLS) were employed. Eventually, the conclusions and implication were compared based on the results of the thesis. The research process is displayed in Figure 1-1.

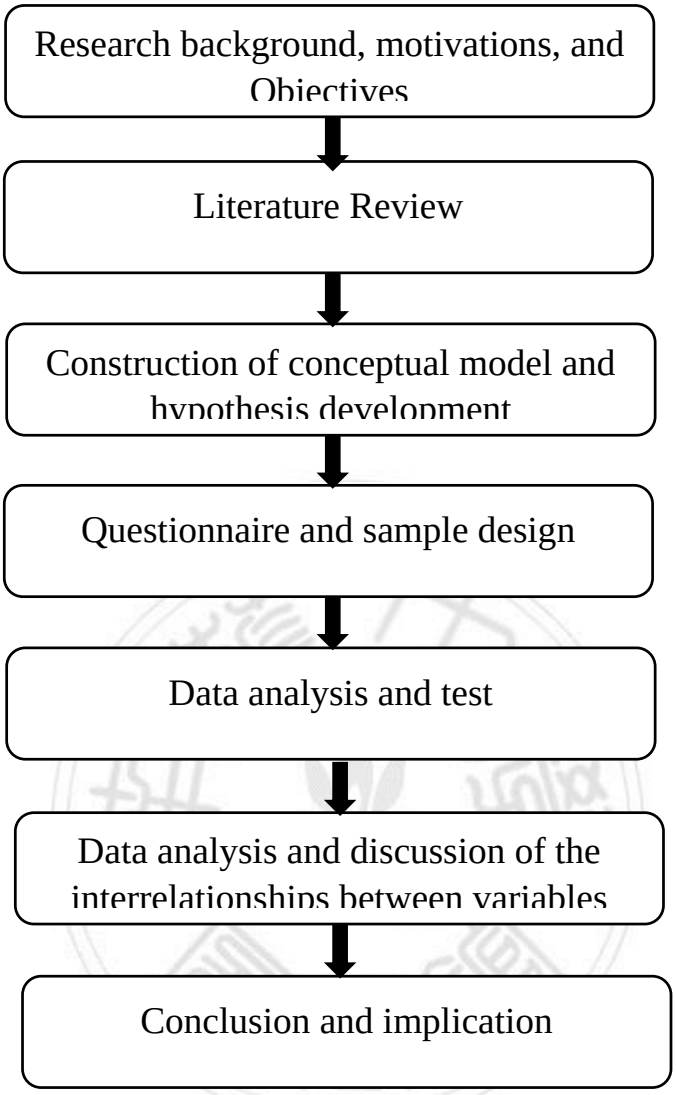

Figure 1-1 Research Process

Source: This Study

The research was conducted with five different stages of arrangements, each of which was parted into distinct chapters as depicted as below:

- Chapter one details the background of the research and research motivations. This chapter also states the objectives of the study, research scope, procedures and structure.

- Chapter two describes the exiting literature and theories related to the topic, concerning the theoretical foundation, definition of research variables, and development of the research hypotheses.
- Chapter three illuminated how this research is going to be conducted. It specifics the research model, research design and research questionnaire, the sample selection, data collection and data analysis.
- Chapter four indicates the overall findings of the data collection. The analysis will be done statistically through SPSS, as well as, the hypotheses testing.
- Chapter five states the discussion of the research. It deeply discusses the four main research questions based on the findings, and literature review, especially points out the concluding idea and recommendations of the researcher. It also states the suggestions for future research.

CHAPTER TWO

LITERATURE REVIEW

This chapter discussed various literatures related to Ecological Modernization Theory, Consumption Value Theory, and Diffusion of Innovation Theory, and additional constructs used to investigate the innovative green product adoption. Besides, hypotheses were developed and the conceptual framework was be addressed.

2.1 Theoretical Background

2.1.1 Consumption Values Theory

Theory of consumption values, answering the question of why purchases or not to purchase (or adopt or not to adopt) a particular products or services under the condition of choosing one product/brand over another. This theory is applied for the choice or decision of consumers involving a wide range of product types. Three main basic propositions are obvious of theory: (1) Consumer choice is resulted from multiple consumption values, (2) The consumption values make differential contributions in any given choice situation, (3) The consumption values are independent. The theory itself has been applied to tested in more than 200 applications, as a result, has proved the consistently a good predictive validity (Sheth, Newman and Gross, 1991). Moreover, this theory was an integrated model related to the numerous of consumer value due to the assumption that consumers choice simply resulted from the values of consumption. Value is refers to the personal concept concerning intrinsic needs as though emotional aspects, knowledge concern and other implicit factors which is more state to the experiential need and want related to purchase component (Biswas and Roy,

2015).Consumption values are commonly the judgment between the price to pay and what they will receive. The benefit or value of green products is higher than the traditional substitutes ones which will be considered as an imperative situation for consumers to make decision. The products should result in a good and strong consumption intention if the products contained extraordinary value.

Therefore, following Biswas and Roy (2015), four dimensions of consumption values such as value-for-money, social value, conditional value, and epistemic value are going to use in this study to measure the main construct on consumption values on green products innovation adoption of consumers.

2.1.2 Diffusion of Innovation Theory

Rogers (1962, 1995, 2003) stated that diffusion of innovation theory has been found to be a remarkable influential factors and has been employed in many field such as marketing, decision-making and communication. It was used to explain diffusion in which innovation was conveyed under various channels of social system. This theory increasingly being used in order to study the user innovation adoption in various areas such as agriculture, sociology, information systems, manufacturing, and so on (Rogers, 2003). Adoption refers to the possibility of acceptance and still continuous to use or endure the product, service or idea (Paulose & Nair, 2015). Innovation is donated to a creative idea, novel practices or methods for consumers to experience different thing, while diffusion is considered as the mechanism which could spread the innovation to reach consumers, eventually (Rogers, 1995). Differently put, innovation adoption is well-defined as the consumers' decision whether to accept the new innovation of product or not. For that reason, the diffusion of innovation theory is imperative to have a better understanding for potential users or consumers to make a decision if

or whether to adopt or deny the innovation based on their individual perception (Parkes et al. 2013; Rogers, 1995). Namely, this theory is better grasp in what way innovation spread to the public instead of its achievement in the very early stage of diffusion (Parkes et al. 2013).

Therefore, based on Rogers (1995), consumers are likely to perceived value from the innovation of product. Holak (2003) stated that the degree of consumer acceptance is dependent on the innovation of product characteristics brings to consumer, which in turn result in purchase intention and green investments that classified as one among other effective solutions to deal with the environmental crisis (Inderst et al., 2012) Holak and Lehmann (1990) identified that the benefits of products that consumer perceived are likely dependent on the product which is more innovative than the existing one, in which increase consumers' intention to adopt the innovative products. In addition, Horn and Salvendy (2006) claimed that the intention to adopt the product is much easier to encourage or influence as long as they perceived adequate detail information and relevant utility of innovative products. Even though there were lack efforts of previous study have been conducted to investigate the moderating role of perceived innovation characteristics but it still has been shown to have significant impact on consumers' intention. Venkatesh and Davis (2000), empirically stated that adoption could be predicted from perceived innovation characteristics. It suggested that when the characteristic of green innovation products matches with the consumers' perspective, then consumers will easily to develop their intention to adopt or use. Huang (2018), in social networking sites (SNSs) suggested that perceived innovation characteristics are possible to link between the consumption value and adoption intention or continuance intention. They further explained that the degree of fit between perception of consumption values and innovation characteristics are

the vital factor to create the consumers performance which resulted in their intention to adopt and use. Larsen et al. (2009), argue that the greater of green innovation products match with consumers perception, the easier to contribute to develop consumers performance.

This implies consumers perceived innovation characteristics will moderate the link between consumption values and green adoption intention. To better confirm the moderating role of perceived innovation characteristics in green marketing strategy, accordingly, this research adopt the perceived innovation characteristics as a moderator to test whether this factor affect the strength of interrelated between consumption values and green innovation products adoption.

2.1.3 Stimulus-Organism-Response Theory

Mehrabian and Russell's (1974), Stimulus-Organism-Response (S-O-R) model was one of the former patterns exploring the personal relation between the environment stimulus that influence the consumers' perception (emotional) which resulted in cooperation. By way of illustration, S-O-R model is intentionally employed to conduct deeper understanding regarding the influence of a particular environmental stimulus (S), exercises on consumers' perception (O), which further influence the response of consumers, so-called behavioral outcomes (R) (Chang et al., 2011; Choi and Kandampully, 2019; Goi et al., 2018). An imperative, yet still less examined concept since the prior research in environment field has focused more on investigating the interrelationship between organism and response as opposed to studying the influence of stimulus latent is built upon (Chang et al., 2015). Being the reason of this lacking emphasis may have roots in distinguishing a certain stimulus while there are numberless stimuli concerned in environmental context. This is supported by Choi and Kandampully (2019) who

claimed the necessity of doing research regarding the factors of environment stimuli which influence consumers' involvement under multiple antecedents of stimuli is imperative.

In addition to the study of Chang et al., (2015), conducted that there are many imperative factors concerned in the physical atmosphere in which serve as the external stimuli in S-O-R theory. The notion of organism is generally determined as the internal process that come to urge the relationship between external stimuli and individual response. It is thus argued that stimulus can influence the consumers' resonance or behavior as long as it mediated by the consumers' emotional status.

This study proposed the perception of green marketing strategy as stimulus, consumption values as the organism and green product innovation adoption as the response. With the expectation that consumption values will mediate the casual chain of perception of green marketing strategy and green product innovation adoption.

2.2 Conceptualization of Research Constructs

2.2.1 Stimulus

2.2.1.1 Perception of Green Marketing Strategy

"Environmental marketing strategy", also known as green marketing or sustainable marketing, can be interpreted as marketing practices with the purpose to protect and promote the environment to ensure the prosperity of the business, including production modification, process modification, packaging materials, and advertising in order to satisfy the needs and wants of society and consumers in such a profitable and sustainable means (Polonsky, 2011). Green marketing

strategy is also defined as the business strategy designed in order to satisfy consumers' needs with the intention to minimize the harmful impact on environment welfare (Lin et al., 2017; Khare and Pandey, 2017). In the rapidly growing economics, green products are now gaining more and more attraction and attention from both marketers and consumers. Due to the fact, eco-friendly products are the products that intentionally produce to decrease the impacts of environment (Polonsky, 2011).

Despite the shifting of both marketers and consumers over green products require lots of expense, there will be deliberately yield out many benefits in the long run. Many prior studies have illustrated a variety of suitable marketing which related to the interconnected amid customers attitudes and environment strategies in relation to green marketing of the organizations. In another word, environmental crisis are being tackled by employing green marketing strategy. That is to say that the underlying value of sustainable marketing to increase the public awareness on the ecological problems can result in changing customer's decisions to switch their purchasing to green consumption. That is the reason why, green marketing need to integrate valuable and detail information to persuade to shift consumers' behavior to eco-friendly lifestyle (Cherian & Jacob, 2012).

Importantly, the benefits of applying green marketing have spurred companies to acknowledge the significant of introducing green into their marketing practices as well as to create competitive advantage and consumer preference (Schubert et al., 2012). Kumar and Venkatasubbaiah (2017) argued the main importance to start green marketing is that this strategy provides the likelihood to increase the possibilities of growth of the business. Even though the instantaneous of business to adopt green practices into their production process might entail lots of costs but it will gradually save up for in the long run. Thus green marketing allow firms to

continuously improve accessing to potential markets, increase profits, and gain competitive advantage over the non-green alternative ones. According to the above discussions, this study defines the perception of green marketing strategy based on Lin et al., (2017); Khare and Pandey, (2017).

Green marketing is considered the common aspects of price, product, promotion and place (Kinoti, 2011). One evident to prove the difference between traditional marketing mix and green marketing mix is that it is the improvement of value in production process with the purpose to minimize the harmful impact on environmental welfare (Chan, He, and Wang, 2012). That is to make the best use of the variety of this green marketing mix to fulfill customer needs (Najafabadi, Asrari and Lashgarara, 2017).

1. Green Price: price is one of the significant factors in marketing mix. The green price refers to the regulatory price that consumers need to pay for more extra value of product such that balance their payment and products value in terms of green (Davari and Strutton, 2014). Chan et al., (2012) sated that company need to be capable enough to urge consumers to pay more for green products as regarded to the numberless benefits not only for themselves and company, but also for the next generation and environment. By so doing, companies need to put some crucial factors to their consideration while setting price or premium price for their products in ways to improve their product performance, function, design, visual appear, or the overall quality of the products (Kinoti, 2011; Das, Dash & Padhy, 2012).
2. Green Product: products that are being made through the harmless process to environment with regards to the reducing the consumption of natural resource as well as pollution to increase the possibility of sustainable environment in the future (Kinoti, 2011; Davari and Strutton (2014). The improvement of green

products needs to be in line with consumers needs who considers to consume eco-friendly products. Additionally, there are many fundamental procedures comprising of recycling materials, repurposing, reducing packaging materials, producing more durable of product life cycle, re-consumption, restorable, disposables, and the safety of products (Kinoti, 2011).

3. Green Promotion: green promotion is defined as another essential role in green marketing mix since globally green promotion utilized as an essential tool to deliver messages to convince consumers to consider to "go green" advantage the environment (Kinoti, 2011; Davari & Strutton (2014). Advertising via social media such as web sites and videos by concerning the benefits of environment, people and company' profits in the process is deliberated as the most effective tools for promotion (Das, Dash and Padhy, 2012). Following some criteria of Banerjee, Gualas, and Iyer, (1995) green promotion is supposed to follow: (1) the expressly or impliedly the relation between green products and biophysical environment; (2) support the green lifestyles, either include or exclude the focused products or services; (3) improve or develop sustain environmentally responsible in terms of their reputation.
4. Green Place: green place is mainly discussed on the techniques to distribute or deliver products to reach consumers' accessibility (Mishra & Sharma, 2014; Davari and Strutton (2014). Green place not only focuses on where consumers can reach out the products but also refers to the ways company delivers or transports their products in such cut down the transportation emission related to the reducing/limiting the carbon footprint (Das, Dash and Padhy, 2012). Likewise in the decision making of where and how to make green product available for consumers to shop around is extraordinary imperative for the

company. The reason is that consumers will easily shop repetitively to green products (Mishra and Sharma, 2014).

2.2.2 Organism

2.2.2.1 Environmental Attitude

Scholars have descried environmental attitude as the stimuli of mental and neural as though belief, affect, action or behavioral attitude contribute to the consumers' behavior or intention of going green (Chen and Tung, 2014; Prete et al., 2017). Environmental attitude also identified is as the "psychological tendency" to exerts the consumers' perceptions or trust about the environment (Milfont and Duckitt, 2010). Based to Chen (2014) and Wang (2014), environmental attitude is defined as the environmental concern that consumers put into consideration when making any judgment or decision on green products or services in direction of reducing the impact on natural environment. Following this concept consumers are likely to think more ecologically regarding the possible causal impact that could be made by their purchasing attitude.

What consumers prefer or not prefer can determine their attitudes while their intentions or perceptions are always based upon their environmental attitudes (Blackwell et al., 2006). The value of protecting the environment have rooted in the attitudes toward environment since it acts as the main psychical judgment of consumers (Lee, 2008). Abdul-Muhmin, (2007) stated that based on the prior researchers and environmental activists, consumption of eco-friendly products with the recyclable packaging and materials is a good sign of contribution to further develop the environmental welfare.

According to Lin and Huang, (2012), the higher degree of environmental attitude of consumers, the greater positive perceptions for green products

consumption. To put differently, the positive environmental attitude will empower each individual to go green with numerous reasons. The term of "pro-environmental" is indicated as an action of individual behavior to the level of concern for environmental wellbeing, especially the daily practices to minimize the harmful impact on environment (Shabecoff, 1993). Since then this notion has been used by Bohlen et al., (1993) as one-dimensional scale expressing the consumers' worried regarding environmental, in turn, provide the reflecting on environmental attitude toward green products consumption. Due to the above discussions, this study describes the environmental attitude based on Chen, (2014) and Wang (2014).

2.2.2.2 Value-for-Money

Value-for-money is defined as an impression of consumers about the utility of product performance compared with price, in which related their green consumption. To put it simply, the term of "value for money" is well represented the benefit of green products that could satisfy consumers' need and is worth to the price to pay based on Chen (2014). In light of this value-for-money was evaluated as the principal driver choice for the consumers with a view to go green or known as intention to use green products (Biswas and Roy, 2015). In contrast, the extra limited features of products are additionally proved to be the influential factor to consumers (Lin and Huang, 2012). As stated by Maheshwari and Malhotra (2011), the level of consumers' price sensitivity or weak perception over eco-friendly products' price are mostly resulted in lacking environmental responsibility and attitude. To exemplify, people who considers environmentally responsible is matter are willing to pay the green premium price in the scenery of developed countries with reference to Laroche et al., (2001); Eriksson, (2004);

Lung, (2010). Relying on the earlier discussions, this study specifics value-for-money followed Chen (2014).

2.2.2.3 Social Value

Social value is the beneficial value that consumer can receive when making green purchasing in relation to the influence of social, as well as the desire for some recognition in terms of green consumption behaviors (Turel et al., 2010; Lin and Huang, 2012). In addition, several social factors are very influential in purchasing, including social pressure or comparison, peer opinion also known as social dilemma (Jager, 2006; Pickett-Baker and Ozaki, 2008), etc. In the concept of subjective norm, social pressure is one among other factors to urge consumers to adopt a specific behavior. Despite the effect of social pressure, the personal norm as well as moral attitude are considered as the value to convince consumers due to the expectation of self-rewards or punishments (Arvola et al., 2008). There is a study showing that social group and social recognition were resulted in their consumption behaviors (Biswas and Roy, 2015). Due to the above discussions, this research defines social value based on Turel et al., (2010); Lin and Huang, (2012).

2.2.2.4 Conditional Value

Conditional value is detected as the benefit or utility resulted from green product consumption that is consistency with their individual benefit in terms of getting some discounts or other perception that lead them to purchase under the condition of products perform the same function, so-called substitute products (Turel et al., 2010; Lin and Huang, 2012). Substitute products is demonstrated as all products surrounding consumers which performance the same or similar

function that could meet their needs as well. Belk (1974) stated that "a situation as one in which all factors related to particular times and places and do not rely on personal knowledge (intra-individual) and stimulus (choice of alternative) attributes which have demonstrable and systematic effects on current behavior." According to the earlier discussions, this study identifies conditional value based on Turel et al., (2010); Lin and Huang, (2012).

2.2.2.5 Epistemic Value

Epistemic value is defined as the garnering or generating relevant information regarding the green products before making any consumption, as well as the disclosures information put on the packaging in terms of product attribute or product eco-friendly labeling (Chen, 2014; Wang, 2014). In consumer research, knowledge is classified as the primary factor that could impact on decision making. That is the reason why consumers' knowledge of products are playing the vital role in the process of adopting new green products (Laroche et al., 2001). The assessment of the various information or familiarity with the products type and eventually the information of upcoming products once consumers deal upon the new products adoption. This is due to the fact that there was a prerequisite that it needed to be corresponding the relationship amid the perceived situational characteristics of buyer's and contribution of products. With the regard to the above discussions, epistemic value defines based on Chen, (2014) and Wang, (2014).

2.2.3 Response

2.2.3.1 Green Innovation Products Adoption

Green innovation product adoption is determined to what extent the earlier consumers decided to adopt the new innovation of green products in the market which introduce by a specific firm (Cheng et al., 2014). Green innovation product adoption has shown itself to be a dominant topic in business, especially in the literature of innovation because of its favorable impact on business performance, sustainability and competitiveness. Green innovation is defined as the newest method to employ in the production process and practices to add more value through reducing any possible negative impact on environment that could cause from manufacturing company (Leal-Millan et al., 2016). Carrillo-Hermosilla et al., (2010) showed that the process of modification or invention some things new to terrific improve the environmental welfare of the business practices with the value chain is imperative. For instance, the production cycle of green innovation practice concerning the result of final products of green innovation are all eco-friendly enhanced (e.g., recycling materials, introducing sensors), additionally the practices of green innovation mission is to express the concern of environment by saving energy and lowering the pollution and waste through adopted the systems or efficient process as if LED appliances, solar panels motion sensors and wind turbines. Eventually, comprehensive environmentally friendly concept towards sustainable development by using the fundamental amendments in the company' systems and society (e.g., transforming the consumption habits, introducing new resource dependency) was categorized as an effective green innovation practices (Carrillo-Hermosilla et al., 2010). There were witnessed from the prior researches which pointed out that the main reason of being green innovation adoption was primary depended on the external factors including regulatory pressures,

governmental policy, environmental regulations, normative forces, values of consumption, and market forces (Demirel and Kesidou, 2011; Klewitz and Hansen, 2014; Bigliardi et al., 2012).

Fraj et al., (2011) argued that the intention to adopt green innovation products was literally arise based on the level of company's' strategy to market their products to consumers. Even though applying the green marketing strategy might not give a greater result of financial performance in the first place but they still be able to continually improve the company's image, reputation to environmentally friendly conscious consumers. Thus, motivate consumers' intention to purchase or their desire to invest due to their environmental behaviors (Inderst, Kaminker and Stewart, 2012). This study argued that two main dimensions are essentially resulted from innovation green product adoption: innovative green product purchase intention behaviors and innovative green investment intention behaviors.

1. Innovative Green Products Purchase Behaviors: innovative green purchase intention behavior refers to the desire of consumers to purchase green products based on their own intention for consumption for now or for the future based on Leonidou et al. (2010); Halkier et al. (2011) and Van Doorn et al. (2010). Newton et al., (2015) stated consumers always make an evaluation on the products after they once purchased based on the products performance and utility that somehow related to the possibility of future intention. Consumers with the greater among of information regarding environmental concern were always proved to hold more intention to purchase green products, and at the same time consumers have higher willingness to gather more about product information and contribution. Pitaloka and Gumanti (2019) argued that the green purchasing intention of consumers is defined as the intention of

consumers to purchase a particular eco-friendly product in a period of time. Gadenne et al., (2011); Kilbourne and Pickett, (2008); Lung, (2010); Biswas and Roy, (2015), all argued that value-for-money, social value, conditional value and epistemic were the driver of innovative green products purchase behavior.

2. Innovative Green Products Investment Behaviors: innovative green product investment refers to the degree of which consumers wish to contribute in green product by investing in any assets not only in industries sector but also green building, infrastructure, stocks, bonds, so on, so forth (Inderst, Kaminker & Stewart, 2012). Green investments are broad notion that classified as one among other effective solutions to deal with the environmental crisis. Lately, the server problem about the climate crisis, utilization of natural resource and other green problems that commonly would happen, have caught lots of intention from potential investor to start their investment in anyway.

2.2.4 Moderators

2.2.4.1 Demographics

Demographic characteristics of each consumer with regards to their income, gender, education, age and other personals relevance, have found to have significant effect on the process of perceiving value, knowledge and further developing or shaping their behavior (O'Doherty et al., 2008). Blackwell et al. (2006) stated that the importance of demographic analysis is critical to contribute in three means: (1) Use in trend analysis, (2) Use as market segment descriptors,

and (3) Use to provide helpful information for policy questions related to macro marketing (p.371-376). Meaning that, the segmentation of demographic could offer numerous of consumers' cluster who are supposed to have different

perception, attitude toward ecological products (D'Souza, Taghian, Lamb & Peretiatko, 2007; Paco and Raposo, 2010; and Han et al., (2010).

2.2.4.2 Perceived Innovation Characteristics

Perceived innovation characteristics is followed the concept of Rogers (1962, 1995, 2003), stated to the degree to which the characteristics of innovation is imperative match with the individual consumers' perception on the acceptance of the green products. Accordingly, perceived innovation characteristics have become the most influential factor on adoption behaviors of consumers. Potential adopters believe that the information of innovative products could provide them the capability to identify the characteristics of innovative products (Rogers, 2003). Innovation characteristics always act as a potential stimuli to customers to adopt the products in reference to the four essential characteristics such as relative advantage, compatibility, trialability and observability.

Therefore, this research defined perceived innovation characteristics based on Rogers (2003) and adopted the concept of relative advantage, compatibility, trialability and observability to study.

1. Relative Advantage*:* according to Rogers (2003), relative advantage refers to "the degree to which an innovation is perceived as better than the idea it supersedes". This term was commonly cited as the most significant in respect of influencing the intention to adoption. The relative advantage could occur when an innovation provides the greater performance or benefit compared to the previous ones that perform the same function (Flight, Allaway, Kim, & D'Souza, 2011).
2. Compatibility: Rogers (2003) defines compatibility as "degree to which an innovation is consistent with existing values, past experiences and need of

potential adopters". Put another way, compatibility states to how well the innovative products meet with the existing social, consumers value, previous experience, personal life style, and other technological factors of consumers life (Rogers, 2003). Then, it is considered as compatible on personal level, when innovation performed to fit with the consumers' value and lifestyle, they will perceived higher relative advantage (Flight, Allaway, Kim, & D'Souza, 2011).

3. Trialability: trialability referred to the capability of innovation which could be experimented with or tired out to make an evaluation before deciding whether to purchase or not. It will have a higher intention to adopt if the innovative products designed to be easily tried out for trialability in the earlier stage (Rogers, 2003). Based on the originate definition of Rogers (2003) trialabilty is the "degree to which an innovation may be experimented with on limited basis". In the study of Molesworth and Suortfi, (2002), trialability has high related in the intention to adopt.
4. Observability: Rogers (2003) defined observability as "degree to which the results of an innovation are visible to others". Observability sometime is also defined as the visibility. In addition to that, there were high possibility for consumers to adopt when the innovative products are easy to see their results or contributions (Rogers, 2003).

2.2.4.3 Market Potential

In this study market potential is defined as the extent of which firm could advantages from its own business strategy performance by fulfillment the needs of consumers, which in turn gain more sale volume and profit (Weeks, Gao, Alidaeec and Rana, 2010). To put it simply, potential market is referred to the

capability of company to enhance, satisfy and retain consumers in order to gain their market size by offering the products or services that match with their preference or needs. By doing so, it will lead the company to have a better financial performance due to some logical reasons: (1) Satisfying consumers will automatically increase their repurchasing intention, decreasing the possibility of consumers to purchase other company products, (2) Succeeding the consumers' loyalty that make it possible for company to maintain a solid consumers base, and also could sell the products at the given price even at premium price, (3) Under the help from consumers (e.g., satisfaction and loyalty, etc.) could facilitate company to expand its potential market or known as market size because of its ability to increase the company profitability (Homburg, Grozdanovic and Klarmann; 2007; Leonidas et al., 2013).

2.3 Hypotheses Development

2.3.1 The Effect of Perception of Green Marketing Strategy on Environmental Attitude and Consumption Values

Perception of green marketing strategy refers to all activities that company employed in their marketing programs to satisfy consumers' needs and wants, profitability and expand market size/market potential under the concept of environmental protection. Basically, the concept of green marketing is the method used to design, price, product, promotion and distribution which have no impact on environment (Chan, 2013a). According to Peattie and Crance (2005), green market strategy that popularly appear in 1980s was found to be a reason for consumers to change or switch their attitude toward environmental practices, meaning that they devote more attention to their attitude/activities to promote

preserving the environment. Besides, Chang et al. (2013) demonstrated that four sorts of green marketing mix are the main factors to influence and maintain the environmental attitude of consumers since green marketing could urge consumers to consider the environmental issue and social standards when making any purchasing decisions (Belz and Peattie, 2009). Therefore, this study indicated the perception of green marketing strategy have influence on environmental attitude. Green marketing strategy is assumed to be one of the most critical tool to advertise and educate consumer regarding green product innovation/service that is ultimately goes to stimulus the consumers awareness. The awareness of environmental welfare can shape consumers attitude towards green products innovation, respectively. Additionally, Juwaheer et al. (2012) indicated that the change in consumers' environmental attitude which resulted from green marketing activities has proved to be a main factor to consume green products for the purpose of contributing the harmless impact to environment.

According to Pomering (2017), the benefits of green marketing strategy not only focus on the contribution of the four elements marketing mix, but also provide countless variables that firm could use to develop and manage the performance to create or influence the consumer's consumption value. Epstein and Roy (2001), exercising green marketing mix could be considered as a little bit complex, but terrific necessary and important to enhance solutions to deal with environmental problems, and green consumer need. By so doing, each of the green marketing mix foundations are the stimulus factors to promote consumers' consumption value of consumers. Additionally, the consumption value including value-for-money, social value, conditional value, and epistemic value was created throughout the implementation of each element of green marketing mix, respectively.

Therefore, this research proposed the following hypotheses:

H1: Perception of green marketing strategy has positive influence on environmental attitude.

H2: Perception of green marketing has positive influence on consumption values.

2.3.2 The Effect of Environmental Attitude on Consumption Values

Environmental attitude is defined as the "psychological tendency" to exert the consumers' perceptions or trust about the environment (Milfont and Duckitt, 2010). Tanner and Kast (2003); and Barr et al. (2005) stated that environmental attitude basically related to the concerns of consumers attitude toward the environmental problems which are measured through each individuals' value of consumption concerning value-for-money, social value, conditional value and epistemic value, along with the significant influence on their adoption. Lin and Huang (2012) argued that consumers' environmental attitude could be expressed by their optimistic consumption valued or perception toward green products. Likewise, the function of value-for-money, social value, conditional value, and epistemic value toward consumption can be influenced by the level of consumers' environmental attitude (Kollumuss and Agyeman, 2002; Tanner and Kast, 2003; Barr et al., 2005; Gadenen et al., 2011). Thus environmental attitude will lead to a great contribution to consumers' conscious consumption of green products based on price sensitivity, social recognition/norm and other conditional factors that related to the consumption value (Franzen and Meyer, 2010; Malhotra and Maheshwari, 2011; & Milfont, 2012). Consumers believe that their green consumption attitude will reduce the impact on environment. The intention to adopt the green products expressed through purchasing and investment socially is related to individuals' response price sensitivity, conditional factors and attitude

toward ecological preservation (Rex and Baumann, 2007; Franzen and Meyer, 2010; Malhotra and Maheshwari, 2011; Milfont, 2012). Environmental attitude could urge consumers to meet their desire for more information and knowledge (Tanner and Kast, 2003).

Hence, this research proposed the following hypotheses:

H3: Environmental attitude has positive influence on consumption values.

2.3.3 The Effect of Consumption Values on Green Innovation Product Adoption

Many studies have figured out that the consumption values had an imperative influence on the intention to adopt green product throughout the purchase behaviors (Biswas and Roy, 2015) and investment behaviors (Inderst, Kaminker & Stewart, (2012) to give a positive environmental impact. Consumption values will not only create or form the long-term relationship with consumers, but also act as a crucial component to influence the purchase intention and investment intention (Zhuang, Cumiskey, Xiao, & Alford, 2010). Shaharudin et al. (2010) and Biawas and Roy (2015) argued that the green price perception, availability, social influence, available information and seek for new products information are among the most important factors that directly influence green purchase intention.

Value-for-money refers to the measurement or evaluation of consumers' perception about the green products with regards to the price paid and the products' performance or utility (Biswas and Roy, 2015). Laroche et al. (2001) and Eriksson (2004) and Lung (2010) stated that the consumers' positive perception regarding the price and contribution of green products will eventually impact on the green

innovation product adoption with the exhibition of purchase and investment behaviors.

Social value demonstrates the beneficial value that consumer can receive when making green purchasing in relation to the influence of social, as well as desire for some recognition in terms of green consumption behaviors (Turel et al., 2010; Lin and Huang, 2012). In resulted, consumers who desire to purchase green product would be not only contributed to the environmental protection, but also influence or urge other people as if family or friends' green consumptions behaviors (Perrin and Barton, 2001). Importantly, there is a witnessed significant relationship between social value and green innovation adoption which expressed through purchase and investment behaviors (Suki, 2016; Inderst et al., 2012).

Conditional value relates to the benefit or utility resulted from green product consumption that is consistency with their individual benefits some discount or other perception that lead them to purchase under the condition that products are performing the same function, so-called substitute products (Turel et al., 2010; Lin and Huang, 2012). Additionally, consumers' choice to adopt the green products are related to personal conditions, time, places and the products sorts. Lin and Huang (2012) found that conditional value impacted on consumer's purchasing or investment behaviors adopt a particular green products when considering the environmental impact (Inderst et al., 2012).

Epistemic value is defined as the garnering or generating relevant information regarding the green products before making any consumption, as well as the disclosures information put on the packaging in terms of product attribute or product eco-friendly labeling (Chen, 2014; Wang et al., 2014). In the concept of green products, epistemic value such as the characteristics of the products as well as products design were regarding as the most influential factors in consumer

adoption behaviors (Lin and Huang, 2012), these epistemic values including the familiarity with the brand, attention to the upcoming products, or the interest to seek other relevant information regards to green products. Kaufmann et al. (2012) argued that generally consumers would like to access to related products' information regarding the process of products production and how it could affect the environment. A part from this, consumers tend to be influenced by their own knowledge of the recycling process and other environmental protection practices (Hanyu et al., 2000). The environmental knowledge has a positive impact on the green consumer adoption intention (Suki, 2013).

Due to above discussions, this research proposed the following hypotheses:
H4: Consumption values have positive influence on green innovation product adoption.

2.3.4 The Moderating Effect of Demographic Characteristics

Due to easily reachable, the demographic characteristics were categorized as one of the most statistical analyses used for segmenting consumers (Diamantopoulos et al., 2003). Generally, demographic variables are used to study the relationship with the green consumers (do Paco and Raposo, 2010; Han and Kim, 2010). Those variables, concerning age, sex, income and education are significant for marketer to segment and identify green consumers (Diamantopoulos et al., 2003). Homburg and Giering (2001) argued that demographic characteristics played the most critical role as moderators that amplify the influence of marketing activities on psychological, sociology, organizational behaviors (Munson, 1984). This is to say that the psychological aspect of consumption value and attitude could be explained based on consumers' demographic characteristics (Homburg and Giering, 2001). Pinto et al., (2011)

claimed that demographics variables are considered as a significant role of any contexts, especially environmental consumption. In consistent with the theory of consumption value, demographic variables could be positively or negatively depend or impact of consumption value (Sheth et al., 1991).

Evanschitzky and Wunderlinch (2006) proposed that consumers with more product experiences are less likely to search for new information. There is a common belief that age is greatly related to consumers perception and behaviors, especially, the majority of young consumers tend to be curious about the consumptions value of green products than older ones (Han et al., 2011; Rowlands et al., 2003). Due to the fact that consumers who have grown up in a period of environmental concerns were being serious, and mostly to be sensitive to the environmental issues. For the personal value on the path of consumption value, Candan and Yidlirm (2013), proved that age has a significant correlated with the values of consumption. As young people are more likely to take consumption values as the most important variables (Evanschitzky and Wunderlinch, 2006). Han et al. (2011), there were much written in prior researches on studying the consumers behavioral changes in knowledge or cognitive processes since they needed to go through many stage before making any decision. Following this much researchers have found that age is one among demographic characteristics that could be caused significant interaction between predictors variable and dependent variable. Morris and Venkatesh (2000) found that the elderly people loss a lot of intellectual capability to process the complex information of products, therefore young consumers are expected to have greater evaluation ability under the given condition. Out of the basis of above discussions, we can conclude that younger and elderly has difference of concentrated in the information-processing capacity that require to do an evaluation. Thus, the ability to transform or think of

the consumption values of product might also change to a lower level. While younger people are tend to be more favorably to translate those information to match with their consumption values. In keeping with these ideas, it is proposed that the relationships between perception of green marketing strategy, environmental attitude and consumption values in the conceptual model presented in this paper will be stronger among younger consumers than mature customers under the focus on Gen Y.

Education levels are positively interrelated with green consumer behavior since there were a number of past studies found its significant relationship between education level and green consumer behaviors (do Paco and Raposo, 2010; Diamantopoulos et al., 2003; Rowlands et al., 2003). These study results show that the higher level of consumers' education, the better the motivation to contribute to green performance. They also confirmed that the relationship among green marketing strategy and consumption values could be impacted by education. Yuan and Zuo (2013), argue that much studies have written about the degree of education have found to highly create the awareness of green consumption perception, resulting to a formative green adoption behaviors. While highly educated consumers are normally defined based on their behavior to adopt the pro-environmental in adoption process. For instance, Zsoka et al. (2013) found that the higher degree of educated consumers, the greater level of environmental knowledge and aware of their positive green footprint behaviors in hope to minimize the environmental crisis. Another study shown that consumers with greater of education level of ecological knowledge, the more they could interpret the right information or messages from firm, leading to add more values to their consumption toward green products (Zhao et al., 2014). Hence, this is empirically to explicate that greatly educated consumers are generally better informed

regarding environmentally-friendly products, they can be more sensitive to the negative effects and likely to act consistently (Torgler and Garcia-Valinas, 2007). Besides, Zhao et al. (2014) found out that any consumer who has higher degree of education of environmental knowledge, better environmental attitudes and concern, as well as higher possibility to be informed. Hence, they have adequate ability to evaluate information differently that leading to establish self-value or interest, respectively from a minority of group who has lower education. Based on the above discussions, we gradually can conclude that the higher level of education will lead to the greater environmental knowledge, environmental attitude, and based on those knowledge and understanding it will facilitate consumers to find out their significant consumption values. In this case, we researchers consider the level of education might moderate the relationship between perception of green marketing, environmental attitude and consumption values.

Therefore, this research proposed the following hypotheses:

H5a: Age will moderate the relationship between perception of green marketing strategy and consumption values.

H5b: Age will moderate the relationship between environmental attitude and consumption values.

H6a: Education will moderate the relationship between perception of green marketing strategy and consumption values.

H6b: Education will moderate the relationship between environmental attitude and consumption values.

2.3.5 The Moderating Effect of Perceived Innovation Characteristics

Van Slyke et al. (2002) examined the Rogers' diffusion of innovation theory

on users' intention in using the specific groupware application (Lotus Domino), the results indicate that relative advantage, complexity, compatibility, and demonstrability were significantly connected to users' intention to use the application. Due to the constructs proposed by Moore and Benbasat (1991), Van Slyke et al. (2004) examined the factors impact consumers decision to engage in Web-based shopping and found that compatibility has the strongest influence, followed by complexity, relative advantage and image on the intention of use. Agarwal and Prasad (1997) studied the individual perceptions as explanatory and predictive variables of users' World Wide Web adoption and illustrated that the concept of visibility, compatibility, and trialability were connected in the adoption behavior. Then, Claudy et al. (2011) studied the relationship between perceived product characteristics and willingness to pay. The findings shown that only relative advantage, compatibility, trialability and observability were related to the perception of consumers, while complexity had a negative influence. Lee and Kang (2013) also found an insignificant relationship between complexity and intention to adopt green products innovation. In conclusion, there were studies confirmed the important of perceived innovation characteristics introduced by Rogers (1983) and Moore and Benbasat (1991). They all well explained the adoption behavior in each context, yet it still has no consistent results.

Azu et al. (2017) argue that perceived innovation characteristics are considered to affect the intention to adopt green products or practices directly.

This means that each characteristic of innovation such as relative advantage, compatibility, trialability and observability can predict consumers' intention to adopt the innovation of green products aspect. Lee and Kang (2013) also stated that the innovation characteristics of innovation are theoretically the main predictors for adoption intention of green products. Lucarelli and Brostrom (2013)

contended that innovation characteristics would drive consumers' intention to adopt the green products innovation. This concept was shortened as most significant variables to explain the process of obtaining knowledge in order to the influence of innovation characteristics. In the study of Kapoor, Dwivedi and Williams (2014) focused on the influence of fourteen noteworthy innovation-attribution on the use intentions and adoption of green products in the context of household solar equipment by further modifying from innovation characteristics of Rogers (2003), and they found that the acceptance of green products is the needed factor that urge consumers' diffusion and veritable adoption. This is to say that there was an empirically positive relationship between the stronger characteristics of innovation factors adoption intention toward green products. Vollink et al. (2002) purposes that only advantages of innovation could caught up the interest from potential consumers or adopters while that advantage is reflected in levels of innovation of the attributes. Meaning that the characteristics of innovation predict a good intention to adopt green products. Hence, we can see the significant gap of perceived innovation characteristics as a moderator can be impact or influence on the antecedent of consumption value and green innovation product adoption.

According to consumption values theory (Sheth, Newman and Gross, 1991), to what extend consumers are willing to adopt new green products innovation is determined by the values of consumption. Perceived innovation characteristics are major variable to influence consumers' consumption values. Biswas and Roy (2015), consumption values can be influenced by numerous factors such as satisfied with product contributions, fulfilled need and want, and so on. The unique attribution of new green products innovation displayed critical values of consumption to consumers. This is to say that green products innovation is likely

to bring more values or benefits to consumer when making consumption. After all, this might be generate positive feelings among consumers. The perceived innovation characteristics may raise the consumption values and facilitate the intention adoption process that can be expressed in purchase and invest in. Therefore, consumers are more willing to absorb the consumption values, and their personal behavior towards green products innovation will have much better impact on adoption intention to purchase and invest. Following the above discussions, this is reasoning suggests that the perceived innovation characteristics comprising of relative advantage, compatibility, trialability and observability may be positively moderate the green innovation product adoption that consists of purchase behaviors and investment behaviors.

Relative advantage viewed as the degree to which innovation is perceived as greater than the existing products (Rogers, 2003). The unique attribution of green product innovation represents the potential values to consumers. Since the values are the crucial reasons consumers decide to adopt. Thus, this benefit may be consider as one among other consumption values for consumers to facilitate the purchase and even investment behaviors. Compatibility refers to the consistent with the existing values or experience of consumers (Rogers, 2003). The more compatible an innovation, the less of change in adoption process, hence it will quicker to influence the purchase and investment behaviors in order to satisfied their consumption values and promote the environmental welfare, at the same time. Therefore, the better perceived innovation characteristics of compatibility is the greater values to consumers in consuming the products and the easier they are willing to make an actual purchase and invest to foster the development of green products innovation. Trialability is considered as the experimental of trying or testing new green products innovation beforehand (Rogers, 2003). The more they

designed products to be tried out easily the shorten the rate of consumers to decide to adopt. In reality, the more consumers have already fully adopt new green products innovation, the less significant trialability will be, as others' experience can be a critical element or used in deciding to adopt (Jansson, 2011). Thus, by trying or observing the green products innovation consumers will easily figure out the relevant values to their consumption that eventually impact on the behaviors of purchase and investment on green products innovation. Lastly, observability indicated as the visibility of consumption of green products innovation. This is to state that by purchasing and investing in green products innovation is easily visible to others. Some idea of products innovation are easily to observed by other, while others are difficult to observe, express and describe to others . The faster or easier it is for consumers to feel or see the results and values of green innovation, the more likely they are to purchase and invest. In this way, we can assume that the perceived innovation characteristics of observability can influence the consumption values of consumers and the faster it will be transformed to purchase and investment behaviors.

Therefore, we posit the factor of perceived innovation characteristic may moderate the relationship between consumption values and green products innovation adoption due to the following logics. If consumers perceived a high level of innovation characteristics, satisfaction with that level will stimulus the consumption values that refer to the value consumers will be received when they make any green consumption. Hence, consumers perceiving consumption values may motivate his/her intention to adopt the green products and improve the repeat purchase rate due to their individual advantage and superior public image of adopting green products. As the high level of perceived innovation charismatic possibly add more value to consumers when making consumption, thereby

yielding greater intention to purchase and invest in green products (Fu and Elliott, 2013). This will potentially strengthen the relationship between consumption values and green products. With the expectation it will go beyond to facilitate or affect the strength of the relationship between consumption values and green adoption. Keep in line with that expectation, we hope that it will produces even more critical contribution and value in this study. To illustrate, the positive phenomenon of moderating role of perceived innovation characteristics is that the more consumers received the specific and relevant characteristics of innovation products. The greater is the possibility that those products will contribute to create more significant consumption values which in turn strengthen the adoption intention of consumers. Therefore, this research proposed the moderating effect of perceived innovation characteristics and assumed that it has a positive significant on the relationship between consumption value and green innovation products adoption.

Thus, this research hypothesized the following hypotheses:

H7: Perceived innovation characteristic will moderate the relationship between consumption values and green innovation products adoption.

2.3.6 The Moderating Effect of Market Potential

Market potential is another component detecting advantage by serving the products and services that satisfy the consumers' needs and wants in terms of protecting the environment, which reflects the degree of company' ability to expense their profitability at the same time. Strengthened the potential market element can promote the sustainability of company, with fewer competitors in the same business field. The notion of potential market or market performance state to the benefit that company gains by selling products or services to satisfy

consumers' need and want, reflecting the sale volume and profit (Weeks et al., 2010).

This researcher posit that market potential may moderate the interrelated between consumption values and green innovation products adoption for some critical reasons. Begin with the paramount of financial performance. Since green marketing strategy employment could invent the possibility of market potential through enhanced the utility of their products by creating values for consumers. Hence, implementing the green marketing strategy are capable of satisfying consumers' needs and wants by the value or utility of the products sold to consumers; especially, it will increase the repurchase intention by reducing the complaints. Second, establish the loyalty of consumers that assist company to maintain a solid consumer's base so the company could sell the products at the given price even at premium price. Third, helping from consumers (e.g., consumption value, satisfaction, loyalty, etc.) will facilitate company to expand its potential market. Apart from this, the potential market would catch the attention of people not only switch or maintain intention to purchase the green products, but they also consider to invest to such a business, project, real estate, etc. in the hope to gain more profit and income with minimal damaging impact on environmental welfare (Homburg et al., 2007; and Leonidas et al., 2013). This is to say that they are sensitive with this phenomenon by assuming that it will be definitely become the trend among other possibility businesses in the future as people are being educated wisely related to environmental crisis. Related market literature review have been discussed the possibility of moderating effect of market potential on the users' intention to adopt and continuous to use (Rodriguez and Cruz, 2007). They also stated that the faster green product introduce into the market the easier establish opportunity to dominant competitors, expand the market size, create firm'

standard, enhance firm reputation (Leonidou et al., 2013). Additionally, there is limited literature review related to market on the moderating role of market potential between the consumption values and products performance in which resulted in consumers' adoption intention. The literature review in market illustrate that the major factor for pioneer's success is depend on the degree of market potential at the first time of entry. Moreover, the late of market entry can lead firm to face with the products financially as it already lose the potential of demand, even the products were perform at the same function and on technical if compared with rivals. Especially, in marketing strategy recommend that, when market potential is favorable the demand is growing, it is effortless to maintain and entrant consumers at the same time (Carbonell and Rodriguez, 2006). There was some results to support this effect, in the time of rapidly growing markets, consumers still do not created any loyalty or supplier commitment. What consumers needs are refer to the meaningful advantage that presented in the products itself, and therefore by providing products based on the consumers preference or need will end up shaping individual consumption values. Due to the appealing market potential, firms are more easily to create and urge consumers' adopting intention.

In addition, we posit the potential market may moderate the relationship between consumption values and green products innovation adoption base on the following reasons. Firstly, from the consumer side overview of the green market potential is something happens upon the product is satisfied their need. Thus, we can logically state that the satisfaction with a particular product is caused from product values that bring to consumer when they make consumption. By doing so, consumer will further consider those values as a potential opportunity of company to increase their reputation as well as market size based on the popularity of the product itself. Then, those market potential will continue to gain more attention

form the various aspect of consumers. This leading to the intention to adopt the green innovation products that could be act in either ways to purchase in order to meet their individual need and satisfaction or to invest in any form of green aspect as they are more sensitive to reduce the environmental impact and promote the environmental sustainability for the very next generation. Secondly, differentiation is able to eliminate the level of competition among potential threat of firms (Tsai and Yang, 2013). Hence, when firms carefully establish more values of theirs products are likely to build differentiation advantage or competitive advantage. At the same time, firms holding more consumption values to consumers are more capable to gain more profit through improving the sale volume. Thirdly, when it comes to the rising of global environmental issues, more and more consumers are deliberately increasingly demanding of eco-friendly products from any firm. Thus, if firm can invent more special benefits, and therefore resulting in consumer consumption values. Those new inventions are purposely to eliminate the negative impact on environmental welfare, the performance effect of consumption values will potentially facilities the effect on outcome under the condition of high potential market. Therefore, firms have consumption values always come up with ultimately new solutions to reduce any negative impact on the environment of its operations or products and services, the performance effect on consumption values will be greater under the condition of antecedence of potential market. In the light of the above discussions, we ultimately can draw a conclusion that as long as consumer see there is a higher level of market potential of green product, which, result in, the better intention to make a purchase and even to invest in. Since having the market potential status, consumers may be more aware of the relevant self-value or consumption values to adopt such as make green innovation product purchase and do an investment. As

these action resulted from positive perception of consumers toward green products' popularity that considered as a trending products in this era. Then, we expected that the positive singularity of market potential is that consumer would definitely to persuade their intention to contribute to the green products such as purchasing and investing activities. This is to say they are sensitive with this phenomenon by assuming that it will be definitely become the trend among other possibility businesses in the future as people are being educated wisely related to environmental crisis. Moreover, trending products are easily to motivate consumers perception or intention to facilitate their decision making regarding purchase or investment in order to support and promote the environmental welfare. Drafting of the above perception, it is predicted that potential market as a moderator.

For that reason, this research hypothesized the following hypotheses:

H8: Market potential will moderate the relationship between consumption values and green innovation product adoption.

CHAPTER THREE
RESEARCH METHODOLOGY

This chapter provides a general view of research framework with research constructs development, research design and methodology concerning construct measurement, questionnaire design, sampling design, data collection methods, as well as data analysis techniques.

3.1 Research Model

In accordance with the above research hypotheses development, this thesis develops a research framework as displayed below in Figure 3-1.

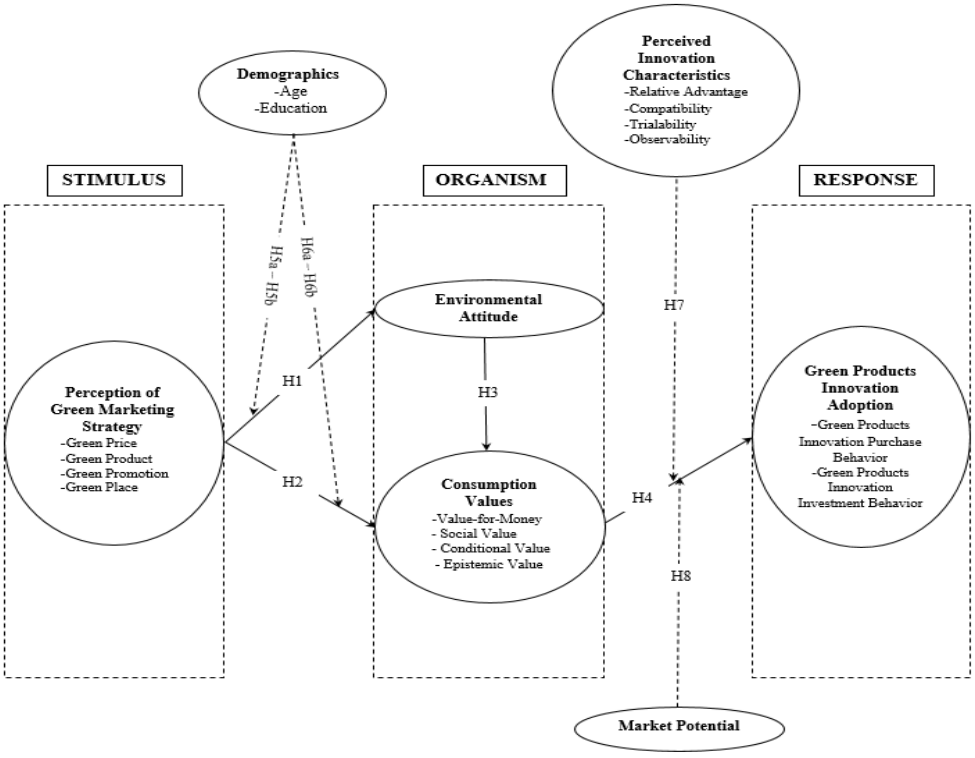

Figure 3-1 Research Framework

In compliance with the relevant research model, the hypotheses for the research are formulated:

Hypothesis 1: Perception of green marketing strategy has positive influence on environmental attitude.

Hypothesis 2: Perception of green marketing strategy has positive influence on consumption values.

Hypothesis 3: Environmental attitude has positive influence on consumption values.

Hypothesis 4: Consumption values have positive influence on green innovation product adoption.

Hypothesis 5a: Age will moderate the relationship between perception of green marketing strategy and consumption values.

Hypothesis 5b: Age will moderate the relationship between environmental attitude and consumption values.

Hypothesis 6a: Education will moderate the relationship between perception of green marketing strategy and consumption values.

Hypothesis 6b: Education will moderate the relationship between environmental attitude and consumption values.

Hypothesis 7: Perceived innovation characteristic will moderate the relationship between consumption values and green innovation product adoption.

Hypothesis 8: Market potential will moderate the relationship between consumption values and green innovation product adoption.

3.2 Research Design

This research used a quantitative approach since quantitative method allowed researchers to gather data from a large sample size through questionnaire survey, from which researchers could draw conclusions and generalization (Kumar, 2014). By nature, this study is categorized as descriptive study. The descriptive and explanatory studies were designed to observe, obtain, explain and describe what relationships between the following two aspects of phenomenon are: (1) Perception of green marketing strategy and (2) Green products innovation adoption. This kind of research can help researcher to develop deeper understanding and acquire more general overview of the specific given condition. In terms of time horizon, the research employed cross-sectional study. As reported by Kumar (2014), it purposes to figure out a problem or situation, phenomenon; especially, the benefit of cross-sectional study design is that it requires only one-time interface with the respondents and make it cheap and easy to analyze.

3.3 Research Sampling and Data Collection Procedure

The target respondents for this study are refer to Generation Y or also known as Millennial. This generation are those who born from 1980 to 2000 (Stein, 2013). Generation Y, generally called "Tech Savvy", are known to be familiar with technology, especially they have been informed immense a number of information and engrossed with ecological crisis in their lifetime (Barton et al, 2012; Hill and Lee, 2012). Being the technological savants, the evolution of green marketing cannot be overlooked from millennial attention. In the modern society, green marketing changes from traditional to modern one by using internet and social media platform to boost their potential contribution to the environment. And

young consumers now are highly educated related to environmentally-conscious, thus they are possibly more susceptible to green innovative products or ideas than previous generations (Kanchanapibul et al., 2014; and Royne et al., 2011). Following this Aksoy et al. (2013), argue that internet and social media have a strongest influence on consumers adoption behavior. Being the result of internet and social media power, it offers numerous effective channel to communicate with millennial consumers practices, since they are environmentalists to listen. Marketer can take fully advantage of users triggered content on social media in order to pinpoint means to further strengthen their green production practices (Sigala, 2014). Additionally, Gen Y firmly believe that the environmental degradation is caused by the daily human' activities and being more pro-active to environment; hence, they have higher tendency or intention to adopt and purchase green products instead of non-green consumers (Ottoman, 2011; May, 2013). In this study, Gen Y was basically defined based on their age range in between 20 and 40 years old. The questionnaire provided specific age rage group to respondent to specific their age in order to control and guarantee they are all categorized in Gen Y. The respondent was asked to identify their perception in regard to the perception of marketing strategy, as well as environmental attitude toward their green products adoption. Hence, the survey questionnaire was collected data throughout the convenience sampling method (Chen et al., 2011).

Seeing that the population was particular large, the sample size design was proposed based on formula following Marcoulides and Saunders (2006), Kerlinger and Lee (2000):

$$n = \frac{z_{\sigma/2}{}^{2} \cdot \sigma^{2}}{e^{2}}$$

Following the prior researchers, generally 7 point-scale questionnaires adopted the standard deviation as below, hence the research sampling calculation as below:

The tolerance is e = 1.3% accordingly,

$$n = \frac{z_{\sigma/2}{}^2 \cdot \sigma^2}{e^2} = \frac{z_{\sigma/2}{}^2 \cdot \sigma^2}{(7X\%)^2}$$

Assuming: $e = 0.02$, $Z = 1.96$, $\sigma = 1.3$

$$n = \frac{(1.96)^2 \cdot (1.3)^2}{(7 \times 0.02)^2} = 331$$

Based on the above calculation, the simple size of this research to be selected was 331respondents.

Additionally, all of questionnaire was collected using social media as a main tool such as Facebook, Line, Instagram, and Telegram. The Google form questionnaire survey was sent to target respondents whom live in Phnom Penh, the capital city where more people used new and modern technology, especially social media.

3.4 Research Instrument and Questionnaire Design

3.4.1 Research Instrument and Measurement

Seven main research constructs were distinguished and assessed the inter-relationship among each construct. These latent constructs are perception of green marketing strategy, environmental attitude, consumption values, green innovation product adoption, moderators of perceived innovation characteristics, potential market and respondents' demographics. This research also provides each

operational definition of each construct, as well as measurement items. The questionnaire is presented in the Appendix.

3.4.1.1 Perception of Green Marketing Strategy

In this study perception of green marketing strategy is defined as an endeavors of business to introduce new ways to produce, promote, distribute, package; especially the use of recycle materials or product that are focus on promoting or conserving environmental prosperity. The notion of "Green marketing strategy" also been defined as the business strategy designed in order to satisfy the human needs, so-called consumers' needs with the intent to minimized the harmful impact on environment welfare (Lin et al., 2017; Khare and Pandey, 2017). To measure perception of green marketing strategy, the dimension of green marketing mix 4Ps were extracted. Green price was measured on the willingness of consumer to pay more for green products with 4 items, green product was measured on the ability of consumers to recognized the green product in the market with 4 items, green promotion was measured on benefit of consumers which receive from purchasing green products with 3 items and green place was measured on the perception of consumers regarding the store or branch of green products with 4 items as retrieved from Davari and Strutton (2014) while some items were developed by researcher.

Table 3-1 Measurement Items of Green Price

GPrice	**Arezoo and David (2014) and Drummond and Ensor (2005)**
[GPrice1] Company that produces green products usually charges more price.	
[Gprice2] Green products that are made by this company are more expensive than non- green alternatives.	

Table 3-1 Measurement Items of Green Price (Continue)

GPrice	Arezoo and David (2014) and Drummond and Ensor (2005)
[Gprice3] I must pay more to purchase the green products that are made by this company.	
[Gprice4] Customer prefer to in this company store because of the price offered.	

Table 3-2 Measurement Items of Green Product

GProduct	Arezoo and David (2014) and Ahmetoglu et al. (2010)
[GProduct1] This company has been a pioneer in introducing green products to the market.	
[GProduct2] This company offers high quality of green products.	
[GProduct3] This company provides several green brand.	
[GProduct4] This company has good condition of green products.	

Table 3-3 Measurement Items of Green Promotion

GPromo	Arezoo and David (2014) and according to this research
[GPromo1] Advertisement of green products provide a lot of information.	
[GPromo2] The green products offers special promotions and deals (price discounts, coupons, etc.) to people who purchase its green products.	
[GPromo3] The green products companies give some coupons or discount when consumers use or bring their own container to shop to be changed with merchandise.	

Table 3-4 Measurement Items of Green Place

GPlace	Arezoo and David (2014) and according to this study
[GPlace1] The green products can be found in stores which themselves are known for supporting environmental and green causes.	
[GPlace2] The store sell green products are usually the one who support go-green.	
[GPlace3] The green products companies use plants to decorate to make consumers feel eco-friendly environment.	
[GPlace4] The green products companies usually uses green facility in the store as solar power for electricity, for example.	

3.4.1.2 Environmental Attitude

According to Chen (2014) and Wang et al. (2014), environmental attitude is defined as the environmental concern that consumers put into consideration when making any judgment or decision on green products or services in the direction of reducing the impact on natural environment. Following this concept consumers are likely to think more ecologically regarding the possible impact that could be made by their purchasing attitude. There are 3 items used to measure the environmental attitude of consumers' perspective.

Table 3-5 Measurement Items of Environmental Attitude

EA	Chen (2014) and Wang (2013)
[EA1]	I consider the potential environmental impact of my actions when making many of my consumption decisions.
[EA2]	I am concerned about wasting the resources of our planet.
[EA3]	I would describe myself as environmentally responsible.

3.4.1.3 Consumption Values

In this research, consumption values is measured by four main sub-dimensions such as value-for-money, social value, conditional value and epistemic value. For value-for-money is determined as impression of consumers about the utility of product performance compared with price, in which related their green consumption. To put it simply, the term of "value for money" is well represented the benefit of green products that could satisfy consumers' need is worth to the price to pay as reported by Chen (2014). The concept of social value is set out as the beneficial value that consumer can receive when making green purchasing in relation to the influence of social, as well as desire for some recognition in terms of green consumption behaviors (Turel et al., 2010; Lin and Huang, 2012). Conditional value is well detected as the benefit or utility resulted from green

product consumption that is consistency with their individual benefit in terms of getting some discount or other perception that lead them to purchase under the condition that products perform the same function, so-called substitute products (Turel et al., 2010; Lin and Huang, 2012). And epistemic value in this research is followed the definition of Chen (2014) and Wang (2014), which refer to the garnering or generating relevant information regarding the green products before making any consumption, as well as the disclosures information put on the packaging in terms of product attribute or product eco-friendly labeling To assess the consumption values there are 14 main items as presented below.

Table 3-6 Measurement Items of Value-For-Money

VM	Chen (2014)
[VM1] Green products are good products for the price.	
[VM2] Green products are reasonably priced.	
[VM3] Green products offer value for money.	

Table 3-7 Measurement Items of Social Value

SV	Turel (2010); Lin and Huang (2012)
[SV1] Purchase of green products will help me again social approval.	
[SV2] Purchase of green product will make a positive impression on peer groups.	
[SV3] Consumption of green products will improve the way I am perceived.	
[SV4] Consumption of green product will help me feel socially acceptable.	

Table 3-8 Measurement Items of Conditional Value

CV	Turel (2010); Lin and Huang (2012)
[CV1] I would purchase green products over conventional substitutes if they are offered at subsidized rate.	
[CV2] I would purchase green products over conventional substitutes if they are offered at a discount or with other promotional incentives.	
[CV3] I would choose green products over traditional substitutes under extreme environmentally deteriorating conditions.	

Table 3-9 Measurement Items of Epistemic Value

EV	Chen (2014) and Wang (2013)
[EV1] I prefer to check the eco-labels and certifications on green products before purchase.	
[EV2] I would prefer to gain substantial information about the makes and models of green products before purchase.	
[EV3] I will like to purchase products with eco-labels or eco-certification.	
[EV4] I will consider substantial information with environmentally friendly for purchasing decision making.	

3.4.1.4 Perceived Innovation Characteristics

In this study perceived innovation characteristics are measured followed the concept of Rogers (2003), stated to the degree to which characteristic of innovation is imperative match with the individual consumer's perception on acceptance of the green products. Innovation characteristics always act a potential stimuli to customers to adopt the products in reference to the four essential characteristics such as relative advantage, compatibility, trialability and observability. According to Biel and Thogersen (2007); Churchill (1979), Anderson (1988), relative advantage refers to "the degree to which an innovation is perceived as better than the idea it supersedes" and a 5-items measurement were introduced. Compatibility is defined as attribution of innovation that it is always in harmony with value, prior experiences, as well as needs of consumers, and 4 items were used to measure. Trialability refers to the capability of innovation in which could be experimented with or tired out to make an evaluation before decide whether to purchase or not, and 3 items were adopted from Moore and Benbasat (1991). Then, observability defines as the results of purchasing green products or services that it is a lot easier for other to noticed, 3 measurement items were adopted from Biel and Thogersen (2007).

Table 3-10 Measurement Items of Relative Advantage

RA	Biel and Thogersen (2007) and Churchill (1979), Anderson (1988), and Segars (1997)
[RA1] There are financial advantages for me if I purchase green products.	
[RA2] This green product is more comfortable to use than other products that meet similar needs.	
[RA3] This green product is more reliable than other products that meet similar needs.	
[RA4] This green product is more durable than others.	
[RA5] This green product is more efficient than others.	

Table 3-11 Measurement Items of Compatibility

CI	Biel and Thogersen (2007) and Churchill (1979), Anderson (1988), and Segars (1997)
[C1] To purchase green products is in line with my everyday life.	
[C2] The green products is in keeping with my self-image.	
[C3] Green products currently owned by many consumer.	
[C4] Green products fit into my existing lifestyle or social class.	

Table 3-12 Measurement Items of Trialability

T	Moore and Benbasat's (1991)
[T1] To use green products is in line with my value.	
[T2] I would be willing to use green products on a trial basis long enough to see what I could do.	
[T3] Before deciding to use green products, I would be able to properly try it out.	

Table 3-13 Measurement Items of Observability

O	Biel and Thogersen (2007)
[O1] By purchasing green products, I show that I care about the environment.	
[O2] If I bought green products, it would be noticed by people close to me.	
[O3] Green products stick out visibly.	

3.4.1.5 Market Potential

In this study market potential refers to the extent of which firm itself could advantages from its own business strategy performance by fulfillment the needs of consumers (Weeks, Gao, Alidaeec and Rana, 2010). In order to measure market potential, 4 items were modified from the same author and other 3 items were modified from Banerjee et al. (2003).

Table 3-14 Measurement Items of Market Potential

MP	Modified from Kelly, W., Hongman, G., Bahram, A., & Dharam, S.R. (2010) and Modified from Banerjee (2003)
[MP1]	I believe this product will gain lots of income due to its environmental performance.
[MP2]	I believe this product will has a very better sale growth due to its environmental performance.
[MP3]	I believe this product will has lots of investment due to its environmental performance.
[MP4]	I believe this product will satisfy very environmental consumer with a large purchasing.
[MP5]	I believe this product will has lots of cost saving due to its environmentally friendly practices.
[MP6]	I believe this product will has lots of substantial cost advantage due to its environmentally conscious.
[MP7]	By regularly investing in new eco-friendly technologies and products, I believe this products will be a leader in the market.

3.4.1.6 Green Products Innovation Adoption

Green products innovation adoption is determined to what extent the earlier consumers decided to adopt the new innovation of green products in the market which introduce by a specific firm. In this study the researcher decided to use two main dimensions which are essentially: innovation green product purchase intention behaviors and innovative green investment intention behaviors.

Innovation green purchase intention behavior refers to the desire of consumers to purchase green products based on their own intention for consumption for now or in the future, and 3 items were measured adopted from Halkier (2011) and Van Doorn (2010) while green products innovation investment refers to the degree of which consumers wish to contribute in green product by investing in any assets not only in industries sector but also green building, infrastructure, stocks, bonds, etc. 6 items were measured by modified from Chang and Chen (2012) and Inderst, Kaminker, and Stewart (2012).

Table 3-15 Measurement Items of Green Products Innovation Purchase Behavior

IGPB	Halkier (2011) and Van Doorn (2010)
[GPIB1] In the near future, I am willing to purchase products made from recyclable materials.	
[GPIB2] I will make an effort to purchase this product because of its environmental concerns.	
[GPIB3] I have changed my principal products for ecological reasons.	
[GPIII1] I intend to invest in eco-friendly products in the future because of its environmental concern.	
[GPIII2] I expect to invest in eco-friendly products in the future because of its environmental performance.	

Table 3-16 Measurement Items of Green Products Innovation Investment Intention

GPIII	Modified from Chen and Chang (2012) and Modified from Inderst et al. (2012)
[GPIII3] I am glad to invest in green products in the future because it is environmental friendly.	
[GPIII4] I plan to invest in green products in the future because of its performance.	

Table 3-16 Measurement Items of Green Products Innovation Investment Intention (Continue)

GPIII	**Modified from Chen and Chang (2012) and Modified from Inderst et al. (2012)**
[GPIII5] I intend to invest in alternative green project or job in the future because of its essential contribution to the environment.	
[GPIII6] I intend to invest in any green asset (building, infrastructure) in the future because of its harmless to the environment.	

3.4.2 Questionnaire Design

In this study, there are 7 major constructs consist in the questionnaire: (1) perception of green marketing strategy, (2) environmental attitude, (3) consumption values, (4) green products innovation adoption, (5) perceived innovation characteristics, (6) market potential, (7) demographic of respondents. The questionnaire was separated into 7 sections and containing 62 items in order to let respondents express their perspective toward each construct, and 10 more items refer to respondent characteristics, respectively. Questionnaire was mainly used as a main tool to gather data from target respondents. The questionnaire was formed as close-ended questionnaire in which the substitute choices are given. Specifically, in the beginning researcher written a brief self-introduction and the purpose of the survey, and the confidential agreement to the valuable respondents.

According to the procedures laid down by Sanders et al. (2009) the Likert-style rating was repeatedly used to rating questions. Basically, respondents are asked to rank or evaluate about his/her agreement or disagreement with the statement. A seven-point Likert scale was used in order to ranting the questions and to measure data, ranging from 1 = strongly disagree to 7 = strongly disagree.

SPSS and Partial Linear Square Regression (PLS) utilized to do a statically analysis in relation to the weighting of the Likert scale.

3.4.3 Questionnaire Translation

Since this current study is carried in Cambodia, the questionnaires were developed in both English and Khmer language. Khmer version was adopted in order to facilitate some Khmer respondents who had limited knowledge in English language. In order to make the Khmer translated meaning keep the consistency, researcher asked a professional translator who work in a private translation agency to assists, the translator received a master degree in English literature and also be a Khmer language lecturer in one public university in Cambodia.

3.4.4 Pilot Test

A pilot test of questionnaire was employed in order to eliminate any error as though wording, decrease the irrelevant questions and ultimately to assure the logical flow as well. Meanwhile, according to Connelly (2008), a pre-test or pilot test should be conducted on maximum of 20% to 10% minimum to expand the quality of questionnaire survey; hence, researcher decided to conduct 60 pilot tests as equaled to 20% of sample size in this study. Pursuant to Leech, Barrett and Morgan (2005), there is an obligatory for measurement of reliability as every item that used needed to be equivalent. Specifically, Cronbach's coefficient alpha, were calculated to point out the consistency of numerous item scale and, as well as to remove some unrelated variables. On the side, the mean or average correlation of the scale in each item with alternative item has the effect on the alpha.

There is a common belief that an acceptable value range of Cronbach's Alpha

is .70 and lower than .90. On the one hand, the correlation should be .40+ in order to make the best component of a summated rating scale; on the other hand, those items which correlation is below than that rating scale might have some problems (Leech, Barrett & Morgan, 2005).

3.4.5 Questionnaire Adjustment

Being the results of pilot testing, the questionnaires are redesigned due to some eliminating of questionnaire item.

- Reliability Test

Each Cronbach's Apha shows a good set range (0.726 to 0.920) of each research constructs.

Table 3-17 The Reliability Test of Research Constructs

Reliability Statistics		
Research Constructs	**Cronbach's Alpha Based on standardized coefficient**	**Number of Items**
GPrice	0.782	4
GProduct	0.808	4
GPromo	0.868	3
GPlace	0.825	3
EA	0.726	3
VM	0.833	3
SV	0.821	4
T	0.788	3
O	0.811	3
GPIB	0.780	3

Table 3-17 The Reliability Test of Research Constructs (Continue)

Reliability Statistics		
Research Constructs	**Cronbach's Alpha Based on standardized coefficient**	**Number of Items**
GPIII	0.903	6

Source: This Study

3.5 Data Analysis Technique

3.5.1 Descriptive Statistics

Descriptive statistics was proficient to prove the means, standard deviation, frequency and rank of the respondents' distinctiveness, especially for demographics data. Meanwhile, frequency distribution stated to the number of times every score on a single variable happens. For clarification, this research used frequency to grasp on the demographic data, mean, median and mode to measure the midpoint of the measurement items distribution by mainly using SPSS version 25.

3.5.2 Factor Loading and Reliability Test

The main objective of factor loading is to discover the underlying dimensionality of structure of the set of correlation coefficients. Factor loadings not only use to select the questionnaires item with the high factor loadings but also exploratory or confirmatory purposes. In other words, factor loadings was used to ascertain the dimensionality of each construct and to select the most relevant questionnaire items alongside with the approval value as it needed to be equal or higher than 0.6. Meaning that any items with lower factor score than 0.6 was

eliminated from the construct. In addition, KMO also in accounted that it is for testing the accuracy of the sampling for the variable and for a complete model, and its score is recommended to be greater than 0.5. To sum up, the aforementioned criteria were factor loading ≥ 0.6, eigenvalue ≥1, accumulatively explained variance ≥0.60, and KMO ≥ 0.5 (Hair et al., 2014).

After that, reliability test is to measure the correlation of each item that remaining in one factor, as well as to assume that total score is valid. There are also set with some crucial criteria in order to confirm a reliable finding. In reliability test, item-total-correlation and Cronbach's alpha were observed. The suggested score of item-total-correlation supposed to be ≥ 0.5 and Cronbach's alpha should be ≥ 0.7, but it is also acceptable with the value of 0.6 if the study is explorative in nature (Hair, Black, Babin, & Anderson, 2010).

3.5.3 One Way Analysis of Variance (ANOVA)

In order to test the difference between more than two groups in relation to one specific variable, one-way ANOVA is used. In this research, k-means method was used to cluster each respondent into four groups of moderator variables and dependent variables. Then ANOVA was performed to compare the mean score of independents variables among these four groups. The analysis will be significant with the t-value greater than 1.96 and *p*-value lower than 0.05.

3.5.4 Hypotheses Testing

Following the major methods in social science research, Partial Linear Square Regression (PLS) has now been generally used as a main method to the estimate for either measurement model or structural model between each indicator and constructs. PLS is argued to be more convenient since there is more lenient

on distribution assumption, sample size, multicollinearity problem (Vallahapurapu and Karin, 2009; Rigdon, 2016; Sarstedt, Hair, Ringle, Thiele, & Gudergan, 2016). As stated in Hair, et al. (2012) there are some critical rule of thumb needed to be followed in PLS-SEM: R^2 which refers to how much variance of each endogenous construct can be explicated. The R^2 would be lower with the lowest value is 0.19 then the moderate effect will be occurred in the value of 0.672 to 0.33, meaning that the value that greater than 0.67 is categorized as strong; 0.33 is classified as moderate, where 0.19 is defined as weak. The goodness of fit index (GoF), ranging from large with the value higher than 0.36; medium with the value of 0.25, while small with the value of 0.10. In line with Hair, et al. (2012), average variance extracted (AVE) should be exceeded the 0.5 which is used to measure the degree to which latent variables is interrelated with other constructs that supposed to be theoretically to correlate with, so-called convergent validity. Then, the composite reliability (CR) should be greater than 0.6 in order to indicate that each variance of indicator is strong. The above criteria can justify the validity and reliability measurement model (Hair, et al., 2017).

CHAPTER FOUR

DATA ANALYSIS AND RESULTS

This chapter details the results of the study discussed above. The results consist of the descriptive analysis of the respondents' background information and the measurement results of variables. The result of the factor loading, common method variance, measurement model, and structural model were presented.

4.1 Descriptive Statistics

Descriptive Statistics is performed to provides information regarding the characteristics of respondents and mean, standard deviation of relevant research variables and frequency.

4.1.1The Characteristics of Respondents

The detail of respondents characteristics are displayed in Table 4-1. There were totally 331 respondents, female comprised around 53% (174) of the participants, while there were about 47% (157) of male. The percentage of respondents whose age range between 26-30 years old were approximately 44%, followed by the various group age range accounted for 35% (20-25), 16.3% (31-35), and 4.2% (36-40) respectively. As it clearly shown that the majority of respondents hold the master degree as their education background, accounting for 42% (139), followed by the bachelor degree with 37.5% (124), doctorate degree with around 20% (67), and 0.3% (1) were from other. About respondent's occupation, approximately 50% (165) were student, unemployed 6% (21), other around 2% (6), and the rest were employed. The highest percentage of annual

income was ranged between 200-500 ($USD) is roughly 36% (120), and nearby 2% (6) of the respondents who had no income.

Additionally, there were absolutely 100% (331) of respondents who stated that they had experience of purchasing green innovation products, they all are willing to invest in green innovation products if they have chance in the future, and willing to purchase green products for those who have not got any experience of purchasing green products; respectively.

Table 4-1 Characteristics of Respondents

Descriptive variables		Frequency (n=331)	Percent (%)
Gender	Female	174	52.6
	Male	157	47.4
Age	20-25	116	35.0
	26-30	147	44.4
	31-35	54	16.3
	36-40	14	4.2
Education	Bachelor's degree	124	37.5
	Master's degree	139	42.0
	Doctorate's degree	67	20.2
	Other	1	0.3
Occupation	Student	165	49.8
	Professor	22	6.6
	Consultant/advisor	20	6.0
	Entrepreneur/self-employee	21	6.3
	Unemployed	21	6.3
	Government Official	35	10.6
	Private sector employee	41	12.4
	other	6	1.8

Table 4-1 Characteristics of Respondents (Continue)

Descriptive variables		Frequency (n=331)	Percent (%)
Annual income	No income	6	1.8
	Less than 200	92	27.8
	200-500	120	36.3
	500-800	70	21.1
	800-1000	36	10.9
	Above 1000	7	2.1

Source: This Study

4.1.2 Type of Green Products That Respondents Have Purchased or Used

Due to the Table 4-2, there were three items which indicated the highest range among each choice; it was roughly 83.3% (275), 82.7% (273), 82.1% (271) of respondents who have purchased or used recycle bags, paper sheets with green certificate and green service, respectively. Followed by recycle products with the proportion of 81.5% (269). The very low range among all items were other option of green products with proportion of 74.2% (245).

Table 4-2 Type of Green Products That Respondents Have Purchased or Used

Type of Green Products	N	Percent (%)	Percent of Case (%)
Recycle Products	269	10.4	81.5
Recycle Bags	275	10.6	83.3
Refilling Bottled Water or Tumbler	247	9.6	74.8
LED Lightning	261	10.1	79.1
Green Service	271	10.5	82.1
Tissue with Green Label	250	9.7	75.8
Toiletries with Green Label	243	9.4	73.6

Table 4-2 Type of Green Products That Respondents Have Purchased or Used (Continue)

Type of Green Products	N	Percent (%)	Percent of Case (%)
Paper Sheets with Green Certificate	273	10.6	82.7
Straw	249	9.6	75.5
Other	245	9.5	74.2

Dichotomy value 1 = Yes, N = the total number of multiple respondents that one respondent could chose more than one answers, Percent = the over-all percentage of 100%, Percent of cases = the total percentage of respondents who had answer yes to the question.

4.1.3 Factors That Encourage Respondents To Purchase or Use Green Products

It was clear from the Table 4-3, that three major factors were much higher than others. It noticeably seen that those three sorts of factors: health safety, social status, and environmental concern with the proportion of about 83.6% (283), 83% (273), 79.6% (262), separately. Social influence and global warming displayed the lowest range among all as only 78.7% (259) and 72.6% (239), individually.

Table 4-3 Factors That Encourage Respondents To Purchase or Use Green Products

Factors Encourage to Purchase or Use	N	Percent (%)	Percent of Case (%)
Health Safety	275	21.0	83.6
Environmental Concern	262	20.0	79.6
Global Warming	239	18.3	72.6
Social Status	273	20.9	83.0
Social Influence	259	19.8	78.7

Dichotomy value 1 = Yes, N = the total number of multiple respondents that one respondent could chose more than one answers, Percent = the over-all percentage of 100%, Percent of cases = the total percentage of respondents who had answer yes to the question.

4.1.4 Measure Results for Research Variables

The results in Table 4-4 displayed the statistics of descriptive which extracted from each variable of 331 respondents as if mean and standard deviations. Each items of research framework constructs: green price, green product, green promotion, green price, environmental attitude, value-for-money, social value, conditional value, epistemic value, relative advantage, compatibility, trialability, observability, potential market, innovation green products purchase behaviors, and innovation green product investment behaviors has mean scores over 5.0 in seven-point Likert scale. The is well represented that all respondents illustrate the high level to statements.

Table 4-4 Results of Mean and Standard Deviation of Items

Research Variables	Mean	Standard Deviation
Research Construct: Perception of Green Marketing Strategy		
Green Price		
[GPrice1] Company that produces green products usually charges more price.	5.59	1.361
[Gprice2] Green products that made by this company are more expensive than non- green alternatives.	5.49	1.577
[Gprice3] I must pay more to purchase the green products that made by this company.	5.26	1.494
[Gprice4] Customer prefer to in this company store because of the price offered.	5.33	1.381
Green Product		

Table 4-4 Results of Mean and Standard Deviation of Items (Continue)

Research Variables	Mean	Standard Deviation
[GProduct1] This company has been a pioneer in introducing green products to the market.	5.77	1.033
[GProduct2] This company offers high quality of green products.	5.89	0.966
[GProduct3] This company provides several green brand.	5.72	1.178
[GProduct4] This company has good condition of green products.	5.93	0.869
Green Promotion		
[Gpromo1] This company provides a lot of information about its green products in its advertisements.	5.84	1.096
[Gpromo2] This brand offers special promotions and deals (price discounts, coupons, etc.) to people who purchase its green products.	5.59	1.149
[Gpromo3] This company gives some coupons or discount when consumers use or bring their own container to shop to be changed with merchandise.	5.51	1.287
Green Place		
[Gplace1] This company's green products can be found in stores which themselves are known for supporting environmental and green causes.	5.82	1.273
[Gplace2] This store sell green products made by this company are usually environmentally friendly themselves.	6.09	0.864
[Gplace3] This company's store use plants to decorate to make consumers feel eco-friendly environment.	5.93	1.020
[Gplace4] This company usually uses green facility in the store as solar power for electricity, for example.	5.61	1.149
Research Construct: Value-for-money		
[VM1] Green products are good products for the price.	5.44	1.415
[VM2] Green products are reasonably priced.	5.53	1.360
[VM3] Green products offer value for money.	5.58	1.357
Research Construct: Social Value		
[SV1] Purchase of green products will help me again social approval.	5.65	1.378

Table 4-4 Results of Mean and Standard Deviation of Items (Continue)

Research Variables	Mean	Standard Deviation
[SV2] Purchase of green product will make a positive impression on peer groups.	5.51	1.279
[SV3] Consumption of green products will improve the way I am perceive.	5.61	1.147
[SV4] Consumption of green product will help me feel socially acceptable.	5.44	1.415
Research Construct: Conditional Value		
[CV1] I would purchase green products over conventional substitutes if they are offered at subsidized rate.	5.53	1.360
[CV2] I would purchase green products over conventional substitutes if they are offered at a discount or with other promotional incentives.	5.58	1.357
[CV3] I would choose green products over traditional substitutes under extreme environmentally deteriorating conditions.	5.49	1.364
Research Construct: Epistemic Value		
[EV1] I prefer to check the eco-labels and certifications on green products before purchase.	5.85	1.035
[EV2] I would prefer to gain substantial information about the makes and models of green products before purchase.	5.70	1.104
[EV3] I will like to purchase products with eco-labels or eco-certification.	5.75	1.071
[EV4] I will consider substantial information with environmentally friendly for purchasing decision making.	5.81	0.949
Research Construct: Perceived Innovation Characteristics		
Relative Advantage		
[RA1] There are financial advantages for me if I purchase green products.	5.32	1.361
[RA2] These green products are more comfortable to use than other products that meet similar needs.	5.38	1.341

Table 4-4 Results of Mean and Standard Deviation of Items (Continue)

Research Variables	Mean	Standard Deviation
[RA3] Theses green products are more reliable than other products that meet similar needs.	5.57	1.229
[RA4] These green products are more durable than others.	5.54	1.305
[RA5] These green products are more efficient than others.	5.41	1.236
Compatibility		
[C1] To purchase green products is in line with my everyday life.	5.32	1.361
[C2] The green products are in keeping with my self-image.	5.38	1.341
[C3] Green products currently owned by many consumer.	5.57	1.229
[C4] Green products fit into my existing lifestyle or social class.	5.54	1.305
Trialability		
[T1] To use green products is in line with my value.	5.41	1.236
[T2] I would be willing to use green products on a trial basis long enough to see what I could do.	5.69	1.236
[T3] Before deciding to use green products, I would be able to properly try it out.	5.64	1.278
Observability		
[O1] By purchasing green products, I show that I care about the environment.	5.74	1.033
[O2] If I bought green products, it would be noticed by people close to me.	5.41	1.459
[O3] Green products stick out visibly.	5.42	1.373
Research Construct: Market Potential		
[MP1] I believe this product will gain lots of income due to its environmental performance.	5.61	1.206
[MP2] I believe this product will has a very better sale growth due to its environmental performance.	5.66	1.135
[MP3] I believe this product will has lots of investment due to its environmental performance.	5.72	1.126

Table 4-4 Results of Mean and Standard Deviation of Items (Continue)

Research Variables	Mean	Standard Deviation
[MP4] I believe this product will satisfy very environmental consumer with a large purchasing.	5.62	1.151
[MP5] I believe this product will has lots of cost saving due to its environmentally friendly practices.	5.78	1.004
[MP6] I believe this product will has lots of substantial cost advantage due to its environmentally conscious.	5.47	1.099
[MP7] By regularly investing in new eco-friendly technologies and products, I believe this products will be a leader in the market.	5.50	1.181
Research Construct: Innovation Green Product Adoption		
Innovative Green Product Purchase Behaviors		
[IGPB1] In the near future, I am willing to purchase products made from recyclable materials.	6.35	0.849
[IGPB2] I will make an effort to purchase this product because of its environmental concerns.	6.29	0.821
[IGPB3] I have changed my principal products for ecological reasons.	6.30	0.831
Innovative Green Product Investment Behaviors		
[IGII1] I intend to invest in eco-friendly products in the future because of its environmental concern.	5.83	1.116
[IGII2] I expect to invest in eco-friendly products in the future because of its environmental performance.	5.85	0.995
[IGII3] I am glad to invest in green products in the future because it is environmental friendly.	5.77	1.016
[IGII4] I plan to invest in green products in the future because of its performance.	5.83	1.009
[IGII5] I intend to invest in alternative green project or job in the future because of its essential contribution to the environment.	5.84	0.848
[IGII6] I intend to invest in any green asset (building, infrastructure) in the future because of its harmless to the environment.	5.80	0.874

Source: This Study

4.2 Factor Analysis and Reliability Test

To ensure reliability and dimensionality of the proposed constructs, numerous analytical procedures were conducted. Exploratory factor analysis (EFA) and internal consistency analysis (Cronbach's alpha) were computed utilizing SPSS 25.0. Firstly, factor analysis was employed to identify the construct dimensionality in order to select maximum factor loading of each questionnaire item. Then, internal consistency and reliability of the constructs were measured by item to total correlation as well as coefficient alpha. The principal component factor analysis and varimax rotated methods were employed to extract the critical factor which eigenvalue is higher than 1, factor loading are greater than 0.6, variance of factor loadings between each item > 0.3, accumulated explained variance > 0.6, Item-to-total correlation > 0.5, and coefficient alpha (α)> 0.7 (Hair et al., 2010). All of the questionnaire items were exceed each criteria. The factor loading and reliability test are displayed from Table 4-5 to 4-10.

4.2.1 Perception on Green Marketing Strategy

Table 4-5 displays the results of exploratory factor analysis for measurement of perception on green marketing strategy consists of green price, green product, green promotion and green place. The factor result of green price for roughly 72% of total variance explained, KMO 0.817. Each factor had eigenvalue greater than 1and comparatively high reliability coefficient (Cronbach Alpha) exceeding the standard value of 0.7 was 0.870. And this had a coefficient of item-to-total correlation (0.656~0.778) and factor loading ranging from 0.799 to 0.885. For factor of "Green Product," KMO is 0.829, the total variance explained is 74. 119%, eigenvalue is 2.965, Cronbach Alpha (α) is 0.883, coefficient of item-to-total

correlation is ranging from 0.671 to 0.780 and factor loading (0.807~0.890). The factor of "Green Promotion," the total variance explained is 81.288%, KMO is 0.716, the eigenvalue is greater than 1 with the value of 2.439, Cronbach Alpha (α) is 0.885, this factor had factor loading ranging from 0.884 to 0.933 and the coefficient of item-to-total (0.746~0.838). Lastly, the factor of "Green Place," the value of KMO is 0.742, eigenvalue 2.698, Cronbach Alpha is 0.837, total variance explained is 67.443%, factor loading for each item was ranging from 0.732 to 0.888, and the coefficient of item-to-total correlation (0.552~0.772). Overall, this proposes high degree of internal consistency for every dimension and further reliability of measurement.

Table 4-5 Results of Exploratory Factor Analysis of Perception on Green Marketing Strategy

Research Variables	**Factor Loading > 0.6**	**Eigenvalue > 1**	**Cumulative Explained Variance > 60%**	**Corrected Item-to-total Correlation > 0.5**	**Cronbach's Alpha (α) > 0.7**
Green Price		2.879	71.981		0.870
[GPrice2]	0.885			0.778	
[GPrice3]	0.879			0.769	
[Gprice1]	0.828			0.694	
[GPrice4]	0.799			0.656	
Green Product		2.965	74.119		0.883
[GProduct1]	0.890			0.780	
[GProduct4]	0.874			0.761	
[GProduct2]	0.871			0.758	
[GProduct3]	0.807			0.671	
Green Promotion		2.439	81.288		0.885
[GPromo3]	0.933			0.838	
[GPromo2]	0.887			0.753	

Table 4-5 Results of Exploratory Factor Analysis of Perception on Green Marketing Strategy (Continue)

Research Variables	Factor Loading > 0.6	Eigenvalue > 1	Cumulative Explained Variance > 60%	Corrected Item-to-total Correlation > 0.5	Cronbach's Alpha (α) > 0.7
[GPromo1]	0.884			0.746	
Green Place		2.698	67.443		0.837
[GPlace2]	0.888			0.772	
[GPlace3]	0.843			0.696	
[GPlace1]	0.814			0.632	
[Gplace4]	0.732			0.552	

Source: This Study

4.2.2 Environmental Attitude

Table 4-6 illustrates the results of exploratory factor analysis for measurement of environmental attitude. The 3 items clarifying for 70% of the total variance extracted. Each item of the factor loading was just exponentially roes up ranging from 0.795 to 0.881 with the Cronbach's Alpha (α) was 0.788. KMO is 0.679, the coefficient of item-to-total correlation (0.70~0.694), eigenvalue is 2.110. Generally, this recommends great degree of internal consistency and reliability of measurement.

Table 4-6 Results of Exploratory Factor Analysis of Environmental Attitude

Research Variables	Factor Loading > 0.6	Eigenvalue > 1	Cumulative Explained Variance > 60%	Corrected Item-to-total Correlation > 0.5	Cronbach's Alpha (α) > 0.7
Environmen-tal Attitude		2.110	70.341		0.788
[EA2]	0.881			0.694	

Table 4-6 Results of Exploratory Factor Analysis of Environmental Attitude (Continue)

Research Variables	Factor Loading > 0.6	Eigenvalue > 1	Cumulative Explained Variance > 60%	Corrected Item-to-total Correlation > 0.5	Cronbach's Alpha (α) > 0.7
[EA3]	0.837			0.619	
[EA1]	0.795			0.570	

Source: This Study

4.2.3 Consumption Values

Table 4-7 represents the results of exploratory factor analysis for measurement of consumption values which consists of value-for-money, social value, conditional value, and epistemic value. The 3 items of value-for-money accounted for around 77% of the total variance extracted. The Cronbach's Alpha is 0.853, KMO is 0.672, eigenvalue is 2.323. The group of factor loading of each item was from 0.844 to 0.930 and coefficient of item-to-total correlation (0.662~0.821). All the items loading exceeded the threshold. While the factor of social value the results show adequate factor loading scores for each item ranging from 0.743 to 0.869 with the total variance explained of approximately 67%. Plus, KMO is 0.747, eigenvalue is 2.674, the Cronbach's Alpha score of constructs added up to 0.834, and the coefficient of item-to-total correlation (0.572~0.734), showing a satisfactory score of reliability test. All 3 items load well to support the construct of conditional value. The score of each factor loading are better range with the lowest of 0.880 to highest of 0.909. The items accounted for 80% of the total variance extracted, KMO is 0.737, eigenvalue is 2.401, the coefficient of item-to-total correlation (0.734 to 0.785), and the Cronbach's Alpha (α) was 0.875.

Eventually, the factor loading score of epistemic value is ranging from 0.879 to 0.918 with 80.643% of total variance explained. KMO is 0.833, eigenvalue is 3.226, the coefficient of item-to-total correlation (0.785 to 0.849) and the Cronbach's Alpha added up to 0.920. Overall, this suggests a great degree of satisfactory score of internal consistency and reliability of measurement.

Table 4-7 Results of Exploratory Factor Analysis of Consumption Values

Research Variables	**Factor Loading > 0.6**	**Eigenvalue > 1**	**Cumulative Explained Variance > 60%**	**Corrected Item-to-total Correlation > 0.5**	**Cronbach's Alpha (α) > 0.7**
Value-for-money		2.323	77.431		0.853
[VM3]	0.930			0.821	
[VM1]	0.864			0.694	
[VM2]	0.844			0.662	
Social Value		2.674	66.858		0.834
[SV3]	0.869			0.734	
[SV2]	0.831			0.679	
[SV4]	0.823			0.657	
[SV1]	0.743			0.572	
Conditional Value		2.401	80.018		0.875
[CV2]	0.909			0.785	
[CV3]	0.895			0.760	
[CV1]	0.880			0.734	
Epistemic Value		3.226	80.643		0.920
[EV3]	0.918			0.849	
[EV2]	0.905			0.827	
[EV4]	0.890			0.803	

Table 4-7 Results of Exploratory Factor Analysis of Consumption Values (Continue)

Research Variables	Factor Loading > 0.6	Eigenvalue > 1	Cumulative Explained Variance > 60%	Corrected Item-to-total Correlation > 0.5	Cronbach's Alpha (α) > 0.7
[EV1]	0.879			0.785	

Source: This Study

4.2.4 Perceived Innovation Characteristics

Table 4-8 displays the results of exploratory factor analysis of perceived innovation characteristics which consists of relative advantage, compatibility, trialability, and observability. All the 5 items load well to support the construct of relative advantage. The scores of the factor loading are in good ranging from 0.833 to 0.935 with the total variance extracted accounted for 80%. The eigenvalue is 4.007, KMO is 0.899, the coefficient item-to-total correlation (0.748~0.893) and the Cronbach's Alpha (α) is 0.937. For the factor of "compatibility," factor loading is in the better range with the lowest of 0.879 to the highest of 0.937, the items accounted for 84.457%, eigenvalue is 3.378, the coefficient item-to-total correlation ranging from 0.792 to 0.884, KMO is 0.853 and the Cronbach' Alpha (α) is 0.853. The construct of "Trialability," all 3 items load in a good rang score which the lowest is 0.838 to the highest 0.896, the total variance extracted accounted for 74% with the eigenvalue is 2.225, the coefficient item-to-total correlation (0.661 to 0.742), KMO is 0.701 and the Cronbach's Alpha (α) is 0.825. The final factor is "Observability," the scores of factor loading are in the good range from 0.895 to 0.936 with 84.283% of variance extracted, the eigenvalue is 2.528, the coefficient item-to-item correlation is ranging from 0.771 to 0.852,

KMO is 0.742 along with the Cronbach's Alpha is 0.907. Overall, this indicating an agreeable score of internal consistency and reliability test.

Table 4-8 Results of Exploratory Factor Analysis of Perceived Innovation Characteristics

Research Variables	Factor Loading > 0.6	Eigenvalue > 1	Cumulative Explained Variance > 60%	Corrected Item-to-total Correlation > 0.5	Cronbach's Alpha (α) > 0.7
Relative Advantage		4.007	80.149		0.937
[RA4]	0.935			0.893	
[RA2]	0.928			0.881	
[RA1]	0.919			0.867	
[RA3]	0.856			0.779	
[RA5]	0.833			0.748	
Compatibility		3.378	84.457		0.938
[C4]	0.937			0.884	
[C2]	0.932			0.874	
[C1]	0.927			0.868	
[C3]	0.879			0.792	
Trialability		2.225	74.156		0.825
[T3]	0.896			0.742	
[T2]	0.849			0.661	
[T1]	0.838			0.645	
Observability		2.528	84.283		0.907
[O3]	0.936			0.852	
[O2]	0.923			0.829	
[O1].	0.895			0.771	

Source: This Study

4.2.5 Market Potential

Table 4-9 describes the results of exploratory factor analysis of market potential construct. All the 7 items show good scores of factor loading ranging

from 0.841 to 0.936 with the variance extracted accounted for 77.525%, the eigenvalue is 5.427, KMO is 0.834, the coefficient item-to-total correlation (0.785~0.907) as well as the Cronbach's Alpha added up to 0.951. Generally, this recommends great degree of internal consistency for each item and reliability of measurement.

Table 4-9 Results of Exploratory Factor Analysis of Market Potential

Research Variables	Factor Loading > 0.6	Eigenvalue > 1	Cumulative Explained Variance > 60%	Corrected Item-to-total Correlation > 0.5	Cronbach's Alpha (α) > 0.7
Market Potential		5.427	77.525		0.951
[MP6]	0.936			0.907	
[MP1]	0.893			0.849	
[MP2]	0.889			0.848	
[MP4]	0.889			0.847	
[MP3]	0.859			0.804	
[MP5]	0.853			0.798	
[MP7]	0.841			0.785	

Source: This Study

4.2.6 Green Products Innovation Adoption

Table 4-10 draws the conclusion of results exploratory factor analysis of green products innovation adoption consists of innovation green product purchase behavior and investment intention. For the construct of "Green Products Innovation Purchase Behavior," each of 3 items show adequate factor loading scores for all the items ranging from 0.820 to 0.902 with the total variance explained of 75.834%. Eigenvalue is 2.275, KMO is 0.7, the coefficient item-to-total correlation (0.625~0.759), and the Cronbach's Alpha (α) is 0.840. For the

construct of "Green Products Innovation Investment Intention," the results indicated that all 6 items accounted for 72.106% with the satisfactory scores of factor loading ranging from 0.786 to 0.903. Moreover, eigenvalue rose up to 4.326, KMO is 0.877, the coefficient item-to-total variance (0.690 to 0.849) as well as the Cronbach's Alpha added to 0.922. Overall, this suggests great degree of internal consistency for each dimension and along with reliability of measurement.

Table 4-10 Results of Exploratory Factor Analysis of Innovation Green Product Adoption

Research Variables	**Factor Loading > 0.6**	**Eigenvalue > 1**	**Cumulative Explained Variance > 60%**	**Corrected Item-to-total Correlation > 0.5**	**Cronbach's Alpha (α) > 0.7**
Green Products Innovation Purchase Behavior		2.275	75.834		0.840
[GPIPB2]	0.902			0.759	
[GPIPB1]	0.888			0.730	
[GPIPB3]	0.820			0.625	
Green Products Innovation Investment Intention		4.326	72.106		0.922
[GPIII4]	0.903			0.849	
[GPIII2]	0.876			0.816	
[GPIII3]	0.863			0.800	
[GPIII6]	0.851			0.775	
[GPIII1]	0.810			0.730	
[GPIII5]	0.786			0.690	

Source: This Study

4.3 Correlation Among Research Constructs

The correlation coefficient can facilitate illustrate the bivariate relationship among research variables for this study are displayed in Table 4-11. According to correlation analysis of each variables it can be seen that the 6 constructs (perception on green marketing strategy, environmental attitude, consumption values, perceived innovation characteristics, market potential and green products innovation adoption) are significantly positively correlated with one another ($p < 0.01$). Firstly, this study discusses the relationship among each variable for measuring the hypothesis; the perception of green marketing strategy is significantly correlated with environmental attitude ($r = 0.817$, $p < 0.01$), and significantly correlated with consumption values ($r = 0.863$, $p < 0.01$). Environmental attitude significantly correlated with consumption values ($r = 0.858$, $p < 0.01$), while consumption values significantly correlated with green products innovation adoption ($r = 0.675$, $p < 0.01$). Secondly, the highest mean was for green products innovation adoption (5.989) with a standard deviation of 0.705, while the lowest mean was perceived innovation characteristics (5.493) with a standard deviation of 1.110. Additionally, the observed highest relationship is $r = 0.870$ and $p < 0.01$ and exists between perceived innovation characteristics and consumption values, while the lowest relationship is $r = 0.595$ and $p < 0.01$ and occurs between green products innovation characteristics and environmental attitude.

Table 4-11 Results of the Correlation Between Research Constructs

Variables	Mean	SD	PGMS	EA	CV	MP	PIC	GPIA
PGMS	5.695	0.851	1					
EA	5.594	1.063	0.817**	1				
CV	5.608	0.991	0.863**	0.858**	1			

Table 4-11 Results of the Correlation Between Research Constructs (Continue)

Variables	Mean	SD	PGMS	EA	CV	MP	PIC	GPIA
MP	5.628	0.993	0.775**	0.647**	0.742**	1		
PIC	5.493	1.110	0.822**	0.775**	0.870**	0.791**	1	
GPIA	5.989	0.705	0.750**	0.595**	0.675**	0.781**	0.729**	1

**. Correlation is significant at the 0.01 level (2-tailed), r = Sample correlation coefficient

PGMS = Perception of Green Marketing Strategy, EA = Environmental Attitude, CV = Consumption Values, MP = Market Potential, PIC = Perceived Innovation Characteristics, GPIA = Green Products Innovation Adoption

Source: This Study

4.4 Evaluation of The Measurement Model

Partial least square SEM (PLS-SEM) was employed to assess the measurement model. Due to Hair et al. (2011), there are five major rules of thumbs to measure the validity and reliability to ensure the goodness of fit of the measurement model. Firstly, the coefficient of determination (R^2) value of higher than 0.672 is considered to be extensive, 0.33 is considered as moderate, and value of less than 0.19 is considered to be weak. Therefore, this current research will utilize the value of 0.33 as a criteria of R^2 (Schroer and Herterl, 2009). Then the average variance extracted (AVE) was used measure the discriminant validity of each construct accounts for the amount of variance explained by construct in items loaded against it compared with the amount of measurement error, and it is recommended to be higher 0.5 (Henseler, 2017). The composite reliability (CR) was used to check the variance that shared by individual indicators, this is suggested to be greater than 0.6 (Nunnally & Bernstein, 2010). Cronbach's Alpha

coefficient was employed to internal consistency and it is supposed to be higher than 0.6 for constructs to be considered as acceptable level for convergent validity (Stevanovic et al., 2013). Hence, this research will use the value of 0.6 as a criteria. As a result, it can be concluded that the reliability and convergent validity of each construct are appropriate. In short, the model has a good convergent validity and reliability and displays in below Table 4-12.

Table 4-12 Evaluation of the Measurement Model

	AVE	Composite Reliability	Cronbach's Alpha	R^2
Perception of Green Marketing Strategy	0.738	0.918	0.879	-
Environmental Attitude	0.703	0.876	0.788	0.658
Consumption Values	0.829	0.951	0.930	0.826
Green Products Innovation Adoption	0.743	0.852	0.665	0.437

Note: The good-of-fitness = 0.694
Source: This Study

4.5 Evaluation of the Structural Model

The structural model of the direct hypotheses in this study was tested by employing the path parameter estimate of each construct. There are some critical criteria to fulfill the statistical significant of path coefficient to test the direct hypotheses; since a sample size of 331, a non-parametric bootstrapping method with 5000 subsamples was utilized. Specifically, the goodness-of-fit (GoF) index measures the full fitness between data and model. GoF greater than 0.36 is assumed to be large, while 0.25 is assumed as medium and 0.10 is assumed as small (Vinzi et al., 2010). Consequently, the GoF of this structural model is equal to 0.694, which considered to be large. Such a result assumed that the structural

model of this study is considerably predictable. The structure model is revealed in Figure 4-1.

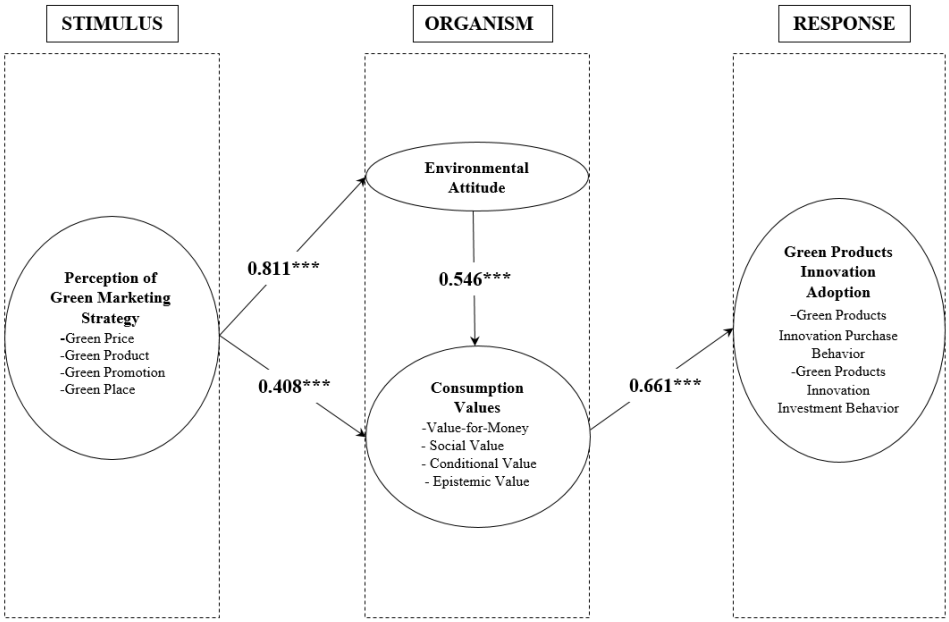

Figure 4-1 Structural Model

4.5.1 Direct Effects

Bootstrapping resampling technique was employed to evaluate the relationship between constructs of the model. Based on Hair et al. (2017) suggestion, sub-samples of bootstrapping were supposed to be 5000 replications. Additionally, the path coefficient for hypotheses testing are presented in the Table 4-13. Despite the theoretical expectations, the results displays the influence of perception of green marketing strategy on environmental attitude ($\beta = 0.811$, $p < 0.000$), (H1). Therefore, H1 was supported. This can be explained that the environmental attitude can be impacted by the perception of green marketing strategy. In short, perception of green marketing strategy has a positive relationship with environmental attitude. For the influence of perception of green

marketing strategy on consumption values (β = 0.408, $p < 0.000$). This result shows that the perception of green marketing strategy had a significant influence on consumption values which is align with the study finding of Epstien and Roy (2001). Hence, the H2 was supported. In terms of the influence of environmental attitude on consumption values (β = 0.546, $p < 0.000$), which suggests that environmental attitude had an imperative influence on consumption values. And therefore, H3 was supported. Gradually, the effect of consumption values on green innovation products adoption (β = 0.661, $p < 0.000$). This indicates that the consumption values could engender the intention to adopt the green products innovation. Biswas and Roy (2015) suggested that the consumption values contributes to a strong intention of consumers to adopt the green products innovation. Briefly, consumption values has a positive influence on green innovation products adoption. Therefore, H4 was supported

Table 4-13 Results of Direct Effects

Hypothesis	Path	Standardized Estimate	*t*-value	*p*-value	Remarks
H1	Perception of Green Marketing Strategy → Environmental Attitude	0.811	43.554	***	Supported
H2	Perception of Green Marketing Strategy → Consumption Values	0.408	9.509	***	Supported
H3	Environmental Attitude → Consumption Values	0.546	11.947	***	Supported

Table 4-13 Results of Direct Effects (Continue)

Hypothesis	Path	Standardized Estimate	*t*-value	*p*-value	Remarks
H4	Consumption Values → Green Products Innovation Adoption	0.661	22.205	***	Supported

Note: *** $p < 0.001$
Source: This Study

4.6 Analyzing the Moderating Effect of Demographic

4.6.1 Moderating Effect of Age

In order to test our moderating effect of demographic, this research used the k-means method to cluster the respondents into four groups for each variable of age. For instance, when using age as the moderator, the respondents were divided into four groups using age and perception of green marketing strategy (PMGS) as the two-categorizing variables. Therefore, the respondents were divided into four groups as follows: (1) High PGMS/High Age, (2) High PGMS/Low Age, (3) Low PGMS/High Age, and (4) Low PGMS/Low Age.

Hypothesis 5a proposes that age moderate the relationship between perception of green marketing strategy and consumption values. Hypothesis 5b proposes that age moderate the relationship between environmental attitude and consumption values. As the ANOVA results comparing the mean value of consumption values in the Table 4-14 and Figure 4-2 and 4-3. These results indicated that those who are younger and higher level of perception of green marketing strategy and environmental attitude tended to perceived greater consumption values ($F = 98.804$, $p < 0.000$; $F = 20.197$, $p < 0.000$, respectively) compared to those who are older and lower level of perception of green marketing

strategy and environmental attitude. The results of this study is align with Han et al. (2011). Younger consumers have higher ability to process information from green marketing strategy. Hence, H5a and H5b were supported.

Table 4-14 The Results of Consumption Values with Age Moderators

Name of Factor	Low Perception of Green Marketing Strategy		High Perception of Green Marketing Strategy		F-Value (*p*)	Duncan
	1.Low Age (Younger) (n=62)	2.High Age (Older) (n=47)	3.Low Age (Younger) (n=157)	4.High Age (Older) (n=65)		
Consumption Values	5.592	4.639	6.25	4.772	98.804 (0.000)	13,24
Name of Factor	Low Environmental Attitude		High Environmental Attitude		F-Value (*p*)	Duncan
	1.Low Age (Younger) (n=96)	2.High Age (Older) (n=59)	3.Low Age (Younger) (n=117)	4.High Age (Older) (n=59)		
Consumption Values	5.564	5.1	6.089	5.233	20.197 (0.000)	13,24

Source: This Study

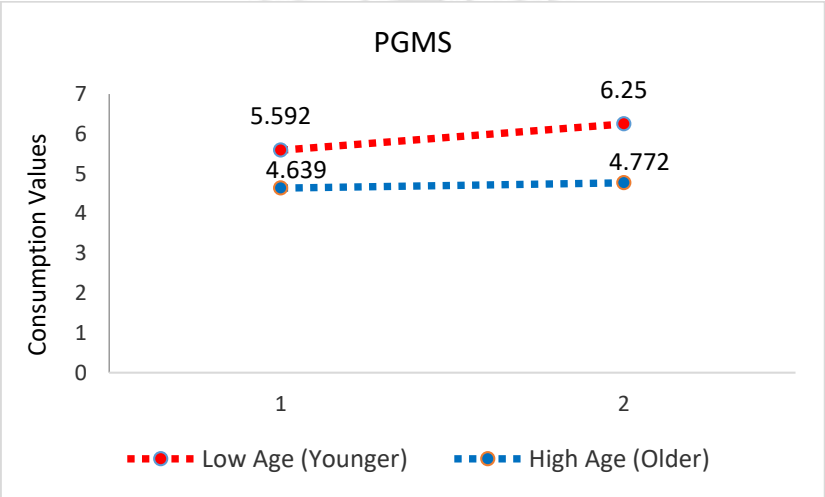

Figure 4-2 The role of demographic (age) moderators

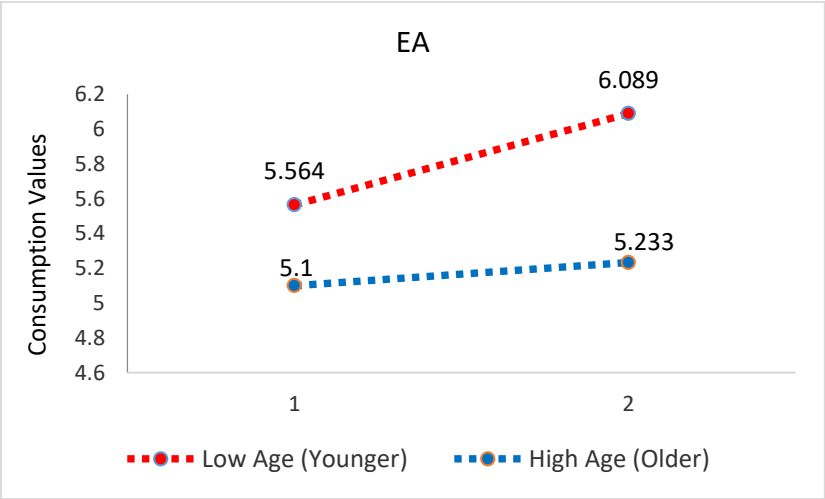

Figure 4-3 The role of demographic (age) moderators

4.6.2 Moderating Effect of Education

As a means to evaluate the moderating effects of education respondents, and therefore this study adopted k-means method in order to cluster the respondents into four different groups for consumption values. For example, when using education as moderator, the respondents were divided into four groups utilizing education and perception of green marketing strategy (PGMS) as the two-categorizing variables. Accordingly, each respondents were divided into four groups: (1) High PGMS/High Education, (2) High PGMS/Low Education, (3) Low PGMS/High Education, and (4) Low PGMS/Low Education.

Hypothesis 6a proposes that education moderate the relationship between perception of green marketing strategy and consumption values. Hypothesis 6b proposes that education moderate the relationship between environmental attitude and consumption values. As for above hypotheses, the ANOVA results comparing the mean value of consumption values are shown in Table 4-15 and Figure 4-4 and 4-5. These results showed those respondents who have higher education level of education with higher perception of green marketing strategy and environmental

attitude have more ability to evaluate and figure out the consumption values (F = 58.679, $p < 0.000$; F = 75.578, $p < 0.000$, separately) as opposed to those who have lower level of education and lower level of perception of green marketing strategy and environmental attitude. Thus, the results supported by Zhao et al. (2014) explained that those consumers who have higher degree of education with greater level of perception of green marketing strategy and environmental attitude, they have more capacity to understand, interpret and access their self-value or interest of green products, gradually, this can lead to their favorable consumption values. Therefore, H6a and H6b were supported.

Table 4-15 Results of Consumption Values with Education Moderators

Name of Factor	Low Perception of Green Marketing Strategy		High Perception of Green Marketing Strategy		F-Value (*p*)	Dun-can
	1.Low Education (n=14)	2.High Education (n=102)	3.Low Educatio n (n=57)	4.High Education (n=158)		
Consumpt-ion Values	4.525	5.479	4.652	6.132	58.679 (0.000)	24,13
Name of Factor	Low Environmental Attitude		High Environmental Attitude		F-Value (*p*)	Dun-can
	1.Low Education (n=21)	2.High Education (n=107)	3.Low Educatio n (n=41)	4.High Education (n=162)		
Consumpt-ion Values	4.357	5.558	4.405	6.108	75.578 (0.000)	24,13

Source: This Study

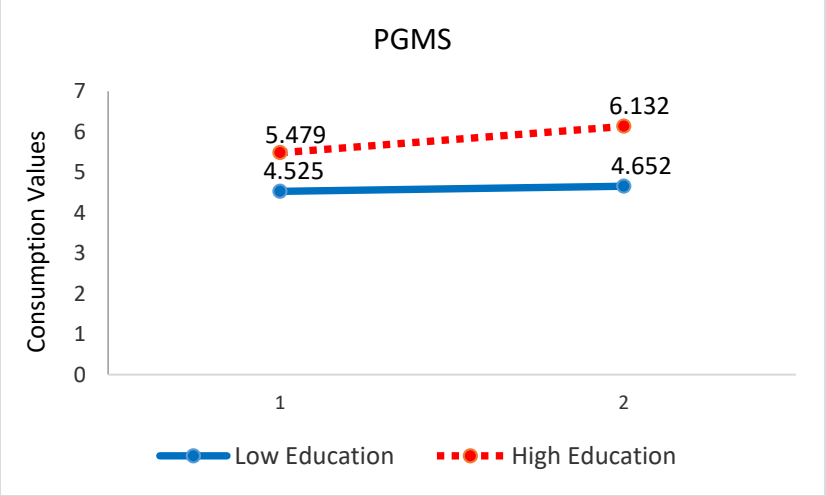

Figure 4-4 The role of demographic (education) moderators

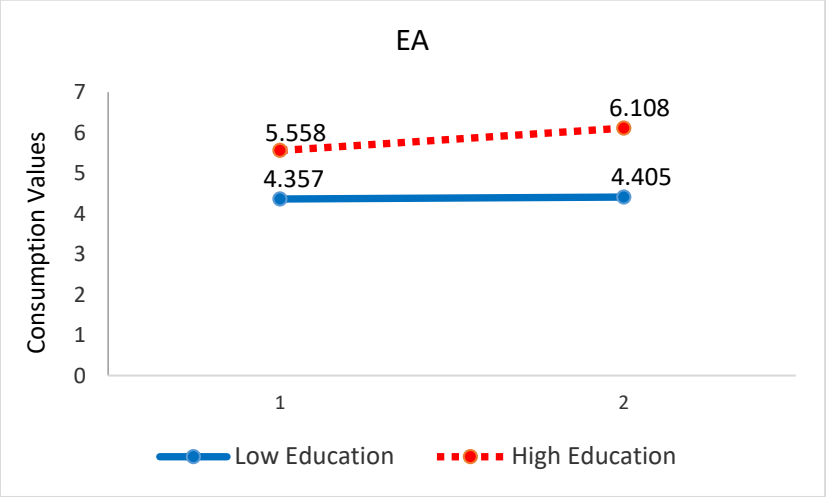

Figure 4-5 The role of demographic (education) moderators

4.7 Analyzing the Moderating Effect of Perceived Innovation Characteristics

In order to assess the moderating effect of perceived innovation characteristics, this research used k-means method to cluster the respondents into four groups for each perceived innovation characteristics variable. As for example, when using perceived innovation characteristics (PIC) as the moderator, each respondents were divided into four groups adopting perceived innovation characteristics (PIC)

and consumption values (CV) as the two-categorizing variables. Consequently, the respondents were divided into four groups: (1) High CV/High PIC, (2) High CV/Low PIC, (3) Low CV/High PIC, and (4) Low CV/Low PIC.

Hypothesis 7 proposes that perceived innovation characteristics moderate the relationship between consumption values and green innovation products adoption. As for the above hypothesis, the ANOVA results comparing the mean score of green innovation products adoption displayed in the Table 4-16 and Figure 4-6. These results reported that those who perceived higher innovation characteristics with greater consumption values ($F = 48.523$, $p < 0.000$) compared to those perceived lower innovation characteristics with lower consumption values. Since the results is align with researchers expectations. The higher level of perceived innovation characteristics positively strengthens the relationship between consumption values and green innovation products adoption. Thus, H7 was supported.

Table 4-16 Results of Green Innovation Products Adoption with Perceived Innovation Characteristics Moderators

Name of Factor	Low Consumption Values		High Consumption Values		F-Value (*p*)	Duncan
	1.Low PIC (n=29)	2.High PIC (n=30)	3. Low PIC (n=74)	4.High PIC (n=198)		
GIPA	5.413	5.859	5.445	6.296	48.523 (0.000)	24,13

Source: This Study

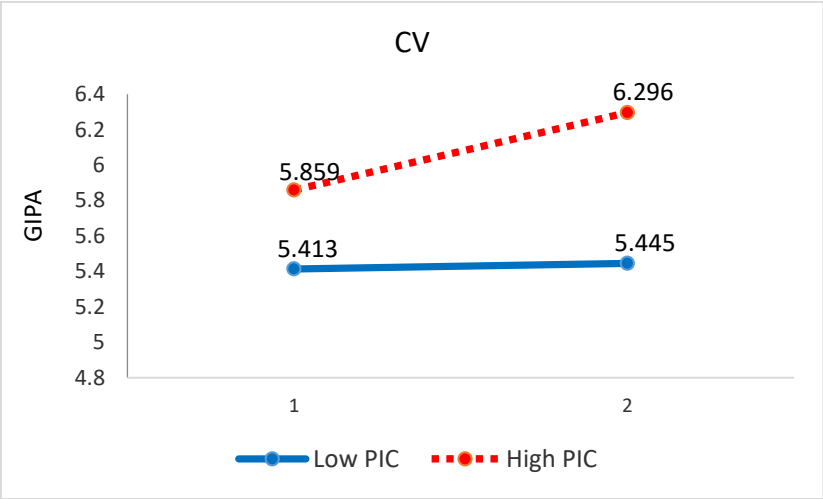

Figure 4-6 The role of perceived innovation characteristics moderator

4.8 Analyzing the Moderating Effect of Market Potential

As using the same method of k-means cluster to evaluate the moderating effect of market potential in order to cluster each respondents into four groups for market potential variable. For instance, when using market potential (MP) as moderator, each respondents were divided into four groups using market potential (MP) and consumption values (CV) as the two categorizing variables. As a result, the respondents were divided into four groups as follows: (1) High CV/High MP, (2) High CV/Low MP, (3) Low CV/High MP, and (4) Low CV/Low MP.

Hypothesis 8 proposes that the market potential moderate the relationship between consumption values and green innovation products adoption. The ANOVA results comparing the mean score of green innovation products adoption are displayed in the Table 4-17 and Figure 4-7. As for H8, the results indicated that those respondents who have better market potential and higher consumption values have greater intention towards green innovation products adoption ($F = 75.904$, $p < 0.000$) rather than lower level of market potential with lower consumption values. The results of this research are keeping with researchers

expectations. Market potential contributes a significant effect to shorten the relationship between consumption values and green innovation products adoption. Therefore, H8 was supported.

Table 4-17 Results of Green Innovation Products Adoption with Market Potential Moderator

Name of Factor	Low Consumption Values		High Consumption Values		F-Value (*p*)	Duncan
	1.Low MP (n=18)	2.High MP (n=109)	3.Low MP (n=39)	4.High MP (n=165)		
GIPA	5.448	5.956	5.666	6.426	75.904 (0.000)	24,13

Source: This Study

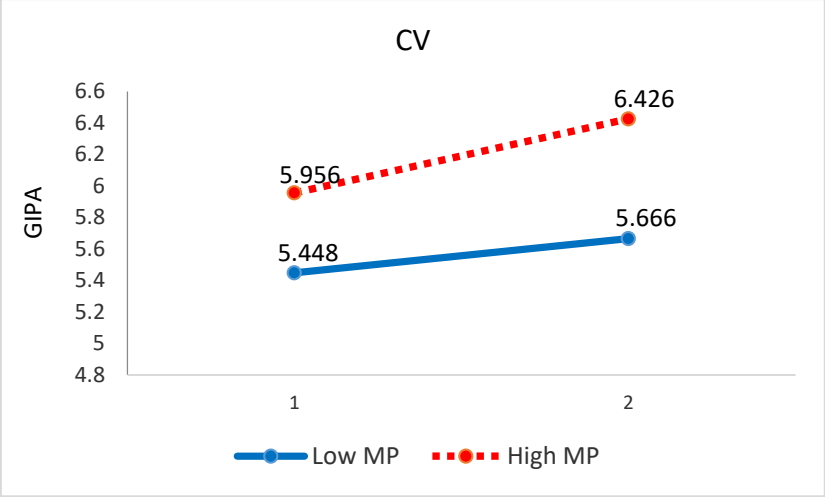

Figure 4-7 The role of market potential moderator

CHAPTER FIVE

CONCLUSIONS

This chapter comprises of the detailed research conclusion, managerial implication, limitation as well as recommendation for further research. For the first part, the summary of research hypotheses are specified, additionally, the study results from chapter four is also discussed. Drawing conclusion from those results, managerial implications are presented. Eventually, suggestion for further research and study limitations are addressed.

5.1 Conclusions and Implications

5.1.1 Summary of Hypotheses

The Table 5-1 represents the summary results of each hypothesis testing that proposed in the research framework. The results can explain why each hypothesis is supported. Eight hypotheses provide statistically significant results with all value exceeded the threshold such as *p*-value < 0.000, *f*-value > 4, *t*-value >1.96, and $\beta > 0.1$, respectively.

Table 5-1 Summary of Research Hypotheses

Hypotheses	Relationship	Hypotheses Statement	Assessment
H1	PGMS → EA	Perception of green marketing strategy has positive influence on environmental attitude.	Significant Beta = 0.811 *t*-value = 43.554 *p*-value = 0.000
H2	PGMS → CV	Perception of green marketing has positive influence on consumption values.	Significant Beta = 0.408 *t*-value = 9.509 *p*-value = 0.000

Table 5-1 Summary of Research Hypotheses (Continue)

Hypotheses	Relationship	Hypotheses Statement	Assessment
H3	EA → CV	Environmental attitude has positive influence on consumption values.	Significant Beta = 0.546 *t*-value = 11.947 *p*-value = 0.000
H4	CV → GIPA	Consumption values have positive influence on green innovation product adoption.	Significant Beta = 0.661 *t*-value = 22.205 *p*-value = 0.000
H5a	Age*PGMS → CV	Age will moderate the relationship between perception of green marketing strategy and consumption values.	Significant *f*-value = 147.352 *p*-value = 0.000
H5b	Age*EA → CV	Age will moderate the relationship between environmental attitude and consumption values.	Significant *f*-value = 76.764 *p*-value = 0.000
H6a	Education*PGMS → CV	Education will moderate the relationship between perception of green marketing strategy and consumption values.	Significant *f*-value = 146.746 *p*-value = 0.000
H6b	Education*EA → CV	Education will moderate the relationship between environmental attitude and consumption values.	Significant *f*-value = 76.718 *p*-value = 0.000
H7	PIC*CV → GIPA	Perceived innovation characteristic will moderate the relationship between consumption values and green innovation product adoption.	Significant *f*-value = 48.523 *p*-value = 0.000

Table 5-1 Summary of Research Hypotheses (Continue)

Hypotheses	Relationship	Hypotheses Statement	Assessment
H8	MP*CV → GIPA	Market potential will moderate the relationship between consumption values and green innovation product adoption.	Significant *f*-value = 75.904 *p*-value = 0.000

Source: This Study

5.1.2 Research Discussions and Conclusions

Since this research has an intention to identify an integrative model of perception of green marketing strategy, consumption values and innovative green products adoption. Some critical conclusions can be concluded from the results of this research.

Begin with the perception of green marketing strategy namely green price, green product, green promotion and green promotion have a significant effects on environmental attitude. The results are paralleled with the prior researches (e.g., Chan ,2013a ; Peattie and Crance, 2005; Chang et al., 2013; Belz and Peattie , 2009; Juwaheer et al.,2012). Hence, green marketers should emphasis on the these four sorts of green marketing mix since it can be considered as substantial tactical to help consumers in better understanding of green products. The green marketing mix strategy with 4Ps are essentially in building a brand image of consumers partiality; boosting consumers to start to consider their attitude toward environmental crisis as well as social standards as the most imperative factors to deal with when making adopting decisions. Additionally, green marketers should have a powerful purpose and process of producing, interconnecting, delivering their green products.

Second, this study proved that the perception of green marketing strategy can impact on the consumption values. This is consistent with the previous study of Pomering (2017), which shown that marketing mix (4Ps) are critical to formulate the value-for-money, social value, conditional value and epistemic value which known as the consumer's consumption values, which ultimately drive to green products innovation adoption (Biswas and Roy, 2015). Marketers should produce the products with the green credential by improving the knowledge value of green products via marketing campaigns, hence, this should be promoted for precise understanding of the environmental knowledge thereby fostering sustainable consumption values. Specifically, manufactures should pay attention to offer products with sufficient product information on its environmental consequences, amenabilities as well as life disposal. Eco-labelling on the products is also crucial thing to raise knowledge awareness value for green consumption values, for instance. In these cases, the results proposed that green marketing mix (4ps) actually leads to gradual increasing of awareness of the environment as well as environmental protection, people have now been generally taken an imperative part to support the environmental protection as well as to further enhance environmental rule to prevent stable damage of the environment over green consumption behavior adoption (Abzari et al., 2013).

Third, environmental attitude is an alternative antecedent tend to become an affirmative related to consumption values. The current results are in compliance with previous researches Franzen and Meyer (2010); Malhotra and Maheshwari, (2011); Milfont, (2012); Lin and Huang (2012). The environmental attitude actually served as a main factor to increase the positive attitude of each consumer towards environmental crisis which leads to considering the optimistic perception

of their green consumption values. The results suggested that the favorable attitude towards environment is a critical variable. To evidence more, once consumers have promising environmental attitude; they will find their own ways to figure out the related values of their green consumption to improve and reduce any possible impact on environment via their daily usage (Gadenen et al., 2011). As strong environmental attitude enriches the courage to search more for new green products with better environmental regulations and belief in the economic values of environmental products. This can be described as the impact of crucial variables related with green marketing products strategies as though promotional incentive on consumption values. Thus, marketers supposed to increase their campaigns and more participating education approach that would be strengthen consumers understanding of environmental knowledge and consequence. The efficacious communication approaches in the eyes of environmental concern to tackle with any ecological issues essentially can promote the environmental attitude among green consumers. Accordingly, it adds more values in prognosticating their consumption to fully adopt green products innovation.

Fourth, the study used the theory of consumption values as a mediator of explaining and predicting the behavioral intention on green products innovation. The results similarly with Zhuang et al. (2010); Shaharudin et al. (2010); Truel et al. (2010); Lin and Huang (2012); Inderst et al. (2012); Chen (2014); Wang et al. (2014) Biswas and Roy (2015); Suki (2016). The results proposed that the green products innovation adoption is explained by consumption values. Since the perceived higher consumption values are the major predictors of green products adoption behavior. Change in consumers' green products adoption owing to an extreme consumption values which may lead to alter to ecofriendly lifestyle. This is to say that the green products adoption behavior are strongly impact by

significant attribution of consumption values as a major result of green marketing mix and positive environmental attitude. Thus, marketers or manufactures should give special importance to not only creating campaigns in education approach to strengthen consumers understanding of environmental knowledge and consequence, but also establish more relevant values for consumers such as value-for-money, social value, conditional value, and epistemic value to consider when making green consumption. A further possible explanation for this is that once consumers find out the related values when making consumption of green products, they will have confidence in paying at any price as well as environmental knowledge value as important variable on their adoption intention.

Fifth, the study suggested that both customer demographic characteristics such as age and education are moderator variables. The results indicated that customers' age and education is significantly moderating effect on the perception of green marketing strategy and environmental attitude on consumption values. The results are in line with Evanschitzky and Wunderlinch (2006); Han et al. (2011); Candan and Yidlirm (2013). Specifically, the findings reveal that demographic characteristics, age, help explain the relationship between perception of green marketing strategy, environmental attitude and consumption values; the relationship is stronger for consumers those who are younger than older. The results proposed that perception of younger consumers on green marketing strategy and environmental attitude are probably enhancing the intellectual capability to process information of products. Thus, the ability to evaluate and think of consumption values more effectively. Moreover, the demographic characteristic, education, can moderating the relationship between perception of green marketing strategy, environmental attitude and consumption values, the relationship is stronger when the degree of education of consumers are higher than

lower. The findings similarly with Zhao et al. (2014), the results shown that the higher level of education on both perception of green marketing strategy and environmental attitude are possibly improving the consumers' consumption values. The results proposed that the impact of perception of green marketing strategy and environmental attitude on consumption values is moderated by individuals with a high education. Consumers with high level of education are always educated with better environmental knowledge and be aware of their possible footprint behavior. Therefore, the above findings are critical because it empathizes the necessity to carefully consider the marketing strategy in order to market their products to consumers in the right path. To illustrate, marketing managers should treat their target customers with a low education and elderly differently from the way they do with those who have high education and younger. As younger with highly educated customers are known to have better intellectual capability rate, it is imperative to have specific strategy into how this group of customers will continues tie to a particular company' products. Whereas marketing managers also need to pay more attention to the group of older and low educated customers with the detailed information. They might need to specify their marketing activities, make every piece of information and contribution of green products into detailed insights to guarantee that they will perceived them correctly.

Six, the study also proposed that either perceived innovation characteristics or market potential are moderator variables. The results generally consistent with some previous evidences (Fu and Elliott, 2013) and specifically researchers' expectation from that event. The results proposed that when consumers perceived new and unique attributes and features, namely relative advantage, compatibility, trialability and observability compared to other products from consumer's

perspective to commit on consumption values, they are possibly enhancing and motivating his/her intention to adopt and invest in green products innovation. Additionally, Lee and Kang (2013) also suggested that perceived innovation characteristics should theoretically be the major predictor for green products innovation adoption which can be expressed through purchase and investment behavior. Hence, some consumers who have perceived innovation characteristics, they are more likely to perform a greater behavioral intention to purchase and invest in green products. Additionally, the results of market potential toward consumption values was statistically significant moderating the impact on green products innovation adoption. The findings are consistent with Leonidas et al., (2013) and researcher's expectation. The results also proposed that when consumers observe the market potential of particular products to evaluate consumption values, eventually they are possibly increasing their behavioral intention to purchase and invest in green products. One possible explanation, in some case consumers observe market potential by evaluating on the utility of green products to satisfy their need and want, therefore, it will bring additional consumption values; thus, this will continue to influence the green products innovation adoption intention. Furthermore, the notion of "market potential" can be considered as one of vital variables to have an influence on green products innovation adoption.

5.2 Academic Implications

The findings of this research offer a number of significant implications for academicians who are interesting in understanding the green products innovation adoption. First, our findings extend previous researches (e.g., Change et al., 2013;

Biawas and Roy, 2015; Kapoor et al., 2014; Pomering, 2017) by investigating the effect of perception of green marketing strategy and consumption values on green products innovation adoption. In our study, we explore the relationship between these constructs by using one main dimension to measure at the same time, while in the prior researches use each sub-dimension to measure the relationship. Besides, the study also introduced some critical questionnaire design based on researchers best understanding on theoretical concepts and current trend of market potential and green products innovation investment behaviors variables. The empirical results also confirmed the significance of those questionnaire to be measured and related to the variables. Additionally, this study also tried to bridge the gaps from prior literature of the moderating role of perceived innovation characteristics and market potential that being overlooked in green marketing field. The findings have confirmed the significant role of perceived innovation characteristics and market potential as the moderator variables. This can imply that the variables of perceived innovation characteristics and market potential not only positively predict the green products innovation adoption, but also completely moderate the effects of consumption values and green products innovation adoption. Consumers with strong perceived innovation characteristics and observed market potential to commit on consumption values are more likely to adopt the green products innovation.

Our study also used the integrated model that is grounded on the S-O-R theory, where S stands for perception of green marketing strategy and environmental attitude, O for consumption values, and R for green products innovation adoption. The findings show that perception of green marketing strategy and environmental attitude was appeared as remarkable predictor of green products innovation

adoption. Taking into consideration from the holistic point of view, the study embraces consumption values as an outcome variable of perception of green marketing strategy as well as environmental attitude and an intervening variable in explaining the impact of perception of green marketing strategy and environmental attitude on Gen Y consumers toward green products innovation adoption. Since in our study is focused on Gen Y consumers' behavioral intention, it is expected that consumers are somehow perceived consumption values from green products and positive attitude toward environment welfare for their green lifestyle. Hence, consumption values as output of perception of green marketing strategy and environmental attitude in our research context is confirmed. Therefore, the theoretical contribution of this study is threefold. Firstly, this research introduces the consumption values as an outcome variable of two main predictors such as perception of green marketing strategy and environmental attitude which is somehow limited in the context of green marketing strategy and rare from Cambodian perspective. Secondly, investigation of integrated two theories of diffusion of innovation theory and consumption values theory by adopting the perceived innovation characteristics as the moderator between consumption values and green products innovation adoption. The results underscore the significance of perceived innovation characteristics was positively moderated the proposed relationship. Interestingly, perceived innovation characteristics did moderate the relationship between consumption values and green products innovation adoption due to the better level of new unique feature of green products that will ultimately shorten the relationship. Thirdly, investigation of consumption values as the role of intervene in the relationship between perception of green marketing strategy, environmental attitude and green products innovation adoption in the context of green marketing and behavioral

intention allied with the S-O-R theory is rare one; thus, this research is assumed to amplify the domain of S-O-R theory.

5.3 Managerial Implications

There are several managerial implications can be drawn from this research findings. This research identifies the emerging marketing strategy mix that are influencing green products innovation adoption behavioral. First, the four traditional green marketing mix elements are evidently measure the green products. The green marketing mix elements (i.e., price, promotion, product and place) clearly can foster the products design and development. Specifically, the business managers should be conscious of green marketing strategy towards green products adoption. They should consistently maintain levels of their green product innovation by regularly undertaking surveys via any social media platforms and take the feedback into consideration while producing, designing green marketing strategies, and communicating green advertisements and green asserts. Second, environmental attitude or the positive environmentally conscious consumers are generally notifying the company's reputation, looking for product labels and clues on product packaging to disclose whether that product is environmentally friendly preferable. Plus, consumers are looking beyond the false appearance of products; they desire specific information on how the company or product is facilitating the environmental welfare. To the extent possible, for business managers or entrepreneurs should take effort in building company's reputation and advertising in relation to perceptions of going green. To create more favorable brand/company's reputation and green brand associations, green marketers should design and deliver products provide values to consumer's consumption. The

consumption values elements comprising of values-for-money, social value, conditional value, and epistemic value. By doing so, this can have a major influence on the green products innovation adoption behavioral. The results also shed light that younger with highly educated consumers among Gen Y are more influenced by green marketing strategy and positive environmental attitude than elderly with low educated. Consumer who are young with high education are more aggressive in interpreting and seeking information regarding green products. This imply that marketers should exclusively target those type of consumers who have already educated with green products and indicated their own personally held ecologically concern. Third, company now is facing with endless growing pressure to be "greener" and more eco-friendly. Due to this phenomenon, company should take advantage of either sorts of green technology innovation in order to enhance their market potential. Additionally, as green process innovation be able to foster green products innovation, company also supposed to prioritize green process innovation; specifically, when the resources are limited. Thus, it is important that company should attach more significance to cultivating market size, which will increase consumers' intention toward green products; in so doing, company can improve their market potential. One possible explanation is that to build a better market potential, company should advertise their environmental practices and messages that can increase the credibility of green claims. Hence, business managers can enlist the support that clarify environmental claim and certificates eco-labels. Moreover, managers should notify how consumer make green products innovation adoption decisions. Consumer who observes high market potential have more positive influence on their adoption decisions. Hence, it is crucial that consumer have favorable feeling and belief about market of green products should become popular trend products in the future to alter the

consumers' adoption behavioral. Practically, managers and entrepreneurs can benefit of utilizing green marketing mix strategy. Also, they should disclose all information relevant to environmental benefits of their green products (e.g., product packaging and labeling, promotional materials etc.) and extended life-span of environmental-friendly durables in order to meet green positioning for their products. By giving adequate information regarding eco-friendly asserts, company not only achieve in educating consumers, but also accomplish their green market potential. In short, managers and entrepreneur should be active in establishing green product through marketing mix 4Ps and develop strategies to add more value in order to have an effectively way to tackle with rivals. In addition, this research further disclosed that perceived innovation characteristics and market potential can test as the moderator variables to strengthen the green products innovation adoption behavioral.

5.4 Limitations and Further Research Directions

Despite some richness of this theoretical framework for green marketing strategy management and its findings, there are some limitations that need to be tackled. First, the measurements of perception of green marketing strategy, consumption values, perceived innovation characteristics and green products innovation adoption are based solely on some vital variables under the limit of our study context. Further research should seek more relevant measurements to measure these main variables to better explore the dynamic relationship between green marketing strategy and green products innovation adoption. Second, we used Cambodia Gen Y consumers as the subjects. It is possible that their perception, attitude and behavior react to green products or marketing strategy

may differ from other developing countries. Further research could extent the study to other countries. Third, due to time constraints, data collection was conducted through cross-sectional technique. Hence, future research should be conducted in other techniques such as longitudinal in order to better evaluate the actual behavioral once they have usage experience. Finally, further research should continue to examine the other potential moderating effects.

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APPENDIX QUESTIONNAIRE

南華大學

NANHUA UNIVERSITY
COLLEGE OF MANAGEMENT
Master Program in Management Science

Dear Valued Respondents,

I, LEAV PHICHLORNG, a master of business administration student in the Department of Business Administration at Nanhua University, Taiwan, now conducting research to explore the perception of green marketing strategy on green innovation product adoption of customer. This research proposes a theoretical framework integrating green innovation product adoption which uses essentially based on Stimulus-Organism-Response, and this study also analyzes perception of green marketing strategy as a stimulus to the organism.

You are selected as one of the respondents for research. Your information is very important since we deliberately want you to express your perspective regarding these issues. We assure that your information and identity will be confidentially kept and use only in the current research. No identifying information will be provided to the public, individuals or organizations. The survey data will be reported for the purpose of this study only. Therefore, we hope you to honestly answer all questions. We greatly appreciate you for your prized contributions.

Your sincerely,

Wann-Yinh Wu, Ph.D	Ying-Kai Liao, Ph.D	LEAV PHICHLORNG
Chair Professor	Assistant Professor	Master student,
Dep. Business Administration	Program of International Business	Dep. Business Administration
Nanhua University	Nanhua University	Nanhua University

Section 1. Perception of Green Marketing

ផ្នែកទី១. ការយល់ឃើញអំពីយុទ្ធសាស្ត្រទីផ្សារបៃតង

Please indicate your level of your agreement or disagreement by circling the number next to each statement below based on your opinion based on the general green products that you have used. សុំបង្ហាញនៃការយល់ស្របរបស់សំណួរនីមួយៗខាងក្រោមដោយផ្នែកលើមតិយោបល់របស់អ្នកដោយផ្នែកទៅលើចំណេះដឹងទូទៅទាក់ទង់ជាមួយនឹងផលិតផលបៃតងដែលអ្នកធ្លាប់បានប្រើប្រាស់។		Strongly Disagree មិនយល់ស្របទាំងស្រុង	Disagree មិនយល់ស្រប	Somewhat Disagree មិនយល់ស្របបន្តិចបន្តួច	Neutral អព្យាក្រឹត	Somewhat Agree យល់ស្របបន្តិចបន្តួច	Agree យល់ស្រប	Strongly Agree យល់ស្របទាំងស្រុង
Green Price តម្លៃបៃតង								
1	Company that produces green products usually charges more price. ក្រុមហ៊ុនដែលផលិតផលិតផលបៃតងតែងតែមានតម្លៃខ្ពស់។	1	2	3	4	5	6	7
2	Green products that are made by this company are more expensive than non-green alternatives. ផលិតផលដែលផលិតដោយក្រុមហ៊ុននេះគឺមានតម្លៃខ្ពស់ជាងផលិតិផលធម្មតា។	1	2	3	4	5	6	7
3	I must pay more to purchase the green products that are made by this company. ខ្ញុំត្រូវតែងចំណាយច្រើនដើម្បីទិញផលិតិផលពីក្រុមហ៊ុនមួយនេះ។	1	2	3	4	5	6	7
4	Customer prefers to shop in this company store because of the price offered. អតិថិជនចូលចិត្តទិញផលិតិផលពីក្រុមហ៊ុននេះដោយសារការផ្តល់ជូនន្ូវតម្លៃ។	1	2	3	4	5	6	7
Green Product ផលិតិផលបៃតង								

1	This company has been a pioneer in introducing green products to the market. ក្រុមហ៊ុននេះគឺជាក្រុមហ៊ុនដំបូងគេដែលបាននាំយកនូវផលិតិផលបៃតងចូលក្នុងទីផ្សារ។	1	2	3	4	5	6	7
2	This company offers high quality of green products. ក្រុមហ៊ុននេះបានផ្តល់ជូននូវផលិតិផលបៃតងដែលមានគុណភាពខ្ពស់។	1	2	3	4	5	6	7
3	This company provides several green brand. ក្រុមហ៊ុននេះមានផ្តល់ជូននូវផលិតផលបៃបតងជាច្រើនប្រភេទ។	1	2	3	4	5	6	7
4	This company has good condition of green products. ក្រុមហ៊ុននេះមានលក្ខខណ្ឌល្អសម្រាបផលិតិផលបៃតង។	1	2	3	4	5	6	7
Green Promotion ការបញ្ចុះតម្លៃបៃតង								
1	Advertisement of green products provides a lot of information. ការផ្សព្វផ្សាយផលិតិផលបៃតងផ្តល់ពត៌មានគ្រប់គ្រាន់។	1	2	3	4	5	6	7
2	The green products offer special promotions and deals (price discounts, coupons, etc.) to people who purchase its green products. ផលិតិផលបៃតងផ្តល់នូវការបញ្ចុះតម្លៃពិសេសទៅកាន់អតិថិជនដែលបានទិញនូវផលិតផលបៃតង។	1	2	3	4	5	6	7
3	The green products companies give some coupons or discount when consumers use or bring their own container to shop to be changed with merchandise. ក្រុមហ៊ុនដែលលក់ផលិតិផលបៃតងតែងតែផ្តល់ការបញ្ចុះតម្លៃនៅពេលដែលអតិថិជនយក់របស់ផ្ទាល់ខ្លួនទៅដាក់ឬបណ្ដាំដើម្បីទទួលបានការបញ្ចុះតម្លៃ។	1	2	3	4	5	6	7
Green Place ផលិតិផលបៃតង								

1	The green products can be found in stores which themselves are known for supporting environmental and green causes. ផលិតផលអាចស្វែងរកបាននៅគ្រប់ហាងដែលបានស្គាល់ថាមានការគាំទ្រនៅការការពារបរិស្ថាន។	1	2	3	4	5	6	7
2	The store sell green products are usually the one who support go-green. ហាងដែលមានលក់ផលិតផលបៃតងគឺតែងតែមានគំនិតវិជ្ជមានក្នុងការគាំទ្របរិស្ថាន។	1	2	3	4	5	6	7
3	The green products companies use plants to decorate to make consumers feel eco-friendly environment. ក្រុមហ៊ុនផលិតផលបៃតងតែងតែមានការតុបតែងហាងដែលអាចធ្វើអោយអតិថិជនទទួលយកបាននូវធម្មជាតិ។	1	2	3	4	5	6	7
4	The green products companies usually use green facility in the store as solar power for electricity, for example. ក្រុមហ៊ុនផលិតផលបៃតងតែងតែប្រើប្រាស់នូវសម្ភារៈនៅក្នុងហាងដូចជាការប្រើប្រាស់អគ្គីសនីថាមពលព្រះអាទិត្យ។	1	2	3	4	5	6	7

Section 2. Environmental Attitude

ផ្នែកទី២. អាកប្បកិរិយាចំពោះបរិស្ថាន

Please indicate your level of your agreement or disagreement by circling the number next to each statement below based on your opinions. សុំបង្ហាញនៃការយល់ស្របឬមិនយល់ស្របរបស់សំណួរនីមួយៗខាងក្រោម ដោយផ្អែកលើមតិយោបល់របស់អ្នកដោយផ្អែកលើកការគំនិតរបស់អ្នក។		Strongly Disagree មិនយល់ស្របចំាស្រួង,	Disagree មិនយល់ស្រប	Somewhat Disagree មិនយល់ស្របបន្តិចបន្តួច	Neutral អព្យាក្រឹត	Somewhat Agree យល់ស្របបន្តិចបន្តួច	Agree យល់ស្រប	Strongly Agree យល់ស្របចំាស្រួង,
1	I consider the potential environmental impact of my actions when making many of my consumption decisions. ខ្ញុំតែងតែគិតអំពីផលប៉ះពាល់ដែលអាចកើតមាននៅពេលធ្វើការសម្រេចចិត្តទិញផលិតផលអ្វីមួយ។	1	2	3	4	5	6	7
2	I am concerned about wasting the resources of our planet. ខ្ញុំតែងតែបារម្ភអំពីការខ្ជះខ្ជាយនូវធនធានធម្មជាតិ។	1	2	3	4	5	6	7
3	I would describe myself as environmentally responsible. ខ្ញុំតែងតែចាត់ទុករូបខ្ញុំជាមនុស្សដែលមានទំនួលខុសត្រូវចំពោះបរិស្ថាន។	1	2	3	4	5	6	7

Section 3. Consumption Values

ផ្នែកទី៣. មតិផ្ដែនៃការប្រើប្រាស់

Please indicate your level of your agreement or disagreement by circling the number next to each statement below based on your opinions. សុំបង្ហាញនៃការយល់ស្របឬមិនយល់ស្របរបស់សំណួរនីមួយៗខាងក្រោម ដោយផ្អែកលើមតិយោបល់របស់អ្នកដោយផ្អែកលើកការគំនិតរបស់អ្នក។		Strongly Disagree មិនយល់ស្របទាំងស្រុង,	Disagree មិនយល់ស្រប	Somewhat Disagree មិនយល់ស្របបន្តិចបន្តួច	Neutral អព្យាក្រឹត	Somewhat Agree យល់ស្របបន្តិចបន្តួច	Agree យល់ស្រប	Strongly Agree យល់ស្របទាំងស្រុង,
Value-for-money តម្លៃនៃលុយ								
1	Green products are worth for price. ផលិតិផលបៃតងគឺសាកសម្បទៅនឹងតម្លៃ។	1	2	3	4	5	6	7
2	Green products are reasonably priced. ផលិតផលបៃតងគឺមានតម្លៃសមរម្យ។	1	2	3	4	5	6	7
3	Green products offer value for money. ផលិតិផលបៃតងគឺផ្តល់នូវតម្លៃនៃលុយដែលបានចាយវាយ។	1	2	3	4	5	6	7
Social Value តម្លៃសង្គម								
1	Purchase of green products will help me against social approval. ការទិញផលិតិផលបៃតងនឹងជួយផ្តល់អោយខ្ញុំមានឥទ្ធិពលនៅក្នុងការវាយតម្លៃពីសង្គម។	1	2	3	4	5	6	7
2	Purchase of green product will make a positive impression on peer groups.	1	2	3	4	5	6	7

	ការទិញផលិតផលបៃតងនឹងជួយផ្តល់អោយខ្ញុំមានចំណាប់អារម្មណ៍ល្អនៅក្នុងចំណោមក្រុមមនុស្សនៅក្នុងសង្គម។							
3	Consumption of green products will improve the way I perceived. អតិថិជនរបស់ផលិតផលបៃតងនឹងជួយពង្រឹងការទទួលយកផលប្រយោជន៍ពីផលិតផល។	1	2	3	4	5	6	7
4	Consumption of green product will help me feel socially acceptable. ការទិញនូវផលិតផលបៃតងនឹងជួយអោយខ្ញុំទទួលបាននូវការទទួលស្គាល់ពីសង្គម។	1	2	3	4	5	6	7
Conditional Value លក្ខខណ្ឌនៃតម្លៃ								
1	I would purchase green products over conventional substitutes if they are offered at subsidized rate. ខ្ញុំនឹងធ្វើការទិញផលិតផលបៃតងនៅក្នុងលក្ខខណ្ឌមួយដែលផ្តល់ប្រយោជន៍អោយខ្ញុំច្រើនជាងផលិតផលដទៃ។	1	2	3	4	5	6	7
2	I would purchase green products over conventional substitutes if they are offered at a discount or with other promotional incentives. ខ្ញុំមានចំណាប់អារម្មណ៍ចងទិញផលិតផលបៃតងច្រើនជាងផលិតផលជំនួសនៅក្រោមលក្ខខណ្ឌដែលផ្តល់ការបញ្ចុះតម្លៃផ្សេងៗ។	1	2	3	4	5	6	7
3	I would choose green products over traditional substitutes under extreme environmentally deteriorating conditions. ខ្ញុំជ្រើសរើសផលិតផលបៃតងជៀសជាងផលិតផលជំនួសធម្មតានៅក្រោមការគំរាមគំហែងទៅលើសុខភាពបរិស្ថាន។	1	2	3	4	5	6	7

Section 4. Perceived Innovation Characteristics

ផ្នែកទី៤. ការទទួលយកបានន្ទូវភាពច្នៃប្រឌិត

Please indicate your level of your agreement or disagreement by circling the number next to each statement below based on your opinions. សុំបង្ហាញនៃការយល់ស្របឬមិនយល់ស្របរបស់សំណួរនីមួយៗខាងក្រោម ដោយផ្អែកលើមតិយោបល់របស់អ្នកដោយផ្អែកលើកការគំនិតរបស់អ្នក។		Strongly Disagree មិនយល់ស្របទាំងស្រុង	Disagree មិនយល់ស្រប	Somewhat Disagree មិនយល់ស្របបន្តិចបន្តួច	Neutral អព្យាក្រឹត	Somewhat Agree យល់ស្របបន្តិចបន្តួច	Agree យល់ស្រប	Strongly Agree យល់ស្របទាំងស្រុង
Relative Advantage គុណប្រយោជន៏ដែលទាក់ទង់								
1	There are financial advantages for me if I purchase green products. វាមានអត្ថប្រយោជន៏ផ្នែកហិរញ្ញវត្ថុនៅពេលដែលខ្ញុំធ្វើការទិញផលិតផលបៃតង។	1	2	3	4	5	6	7
2	These green products are more comfortable to use than other products that meet similar needs. ផលិតិផលបៃតងទាំងនេះមានភាពងាយស្រួលនៅក្នុងការប្រើប្រាស់ជៀសជាងផលិតិផលជំនួសធម្មតា។	1	2	3	4	5	6	7
3	These green products are more reliable than other products that meet similar needs. ផលិតិផលបៃតងទាំងនេះអាចជឿទុកចិត្តបានច្រើនជាងផលិតិផលជំនួសដទៃទៀត។	1	2	3	4	5	6	7
4	These green products are more durable than others. ផលិតិផលបៃតងទាំងនេះមានអាយុកាលក្នុងការប្រើប្រាស់ជាងផលិតិផលដទៃ។	1	2	3	4	5	6	7

5	These green products are more efficient than others. ផលិតិផលបៃតងទាំងនេះប្រសិទ្ធភាពច្រើនជាងផលិតិផលដទៃ។	1	2	3	4	5	6	7
Compatibility ភាពស្របគ្នា								
1	To purchase green products is in line with my everyday life. ការប្រើប្រាស់ផលិតិផលបៃតងគឺស្របគ្នាជាមួយនឹងជីវិតប្រចាំថ្ងៃរបស់ខ្ញុំ។	1	2	3	4	5	6	7
2	The green product is in keeping with my self-image. ផលិតិផលបៃតងគឺត្រូវគ្នាជាមួយនឹងរូបភាពនៃជីវិតខ្ញុំ។	1	2	3	4	5	6	7
3	Green products currently owned by many consumer. ឥឡូវនេះផលិតិផលបៃតងគឺត្រូវបានប្រើសប្រាស់ច្រើនពីសំណាក់អតិថិជន។	1	2	3	4	5	6	7
4	Green products fit into my existing lifestyle or social class. ផលិតិផលបៃតងគឺស្របគ្នាជាមួយនឹងជីវិតប្រចាំថ្ងៃឬវណ្ណៈសង្គម។	1	2	3	4	5	6	7
Trialability ភាពងាយស្រួល								
1	To use green products is in line with my value. ការប្រើប្រាស់ផលិតិផលបៃតងគឺស្របគ្នាជាមួយនឹងតម្លៃរបស់ខ្ញុំ។	1	2	3	4	5	6	7
2	I would be willing to use green products on a trial basis long enough to see what I could do. ខ្ញុំនឹងប្រើប្រាស់ផលិតិផលបៃតងនៅលើកការសាកល្បងក្នុងរយៈពេលយូរដើម្បីអោយនឹងថាខ្ញុំអាចប្រើប្រាស់អ្វីបានខ្លះ។	1	2	3	4	5	6	7
3	Before deciding to use green products, I would be able to properly try it out.	1	2	3	4	5	6	7

	មុនពេលដែលខ្ញុំសម្រេចចិត្តថាប្រើប្រាស់ផលិតិផលបៃតងខ្ញុំចងមានការសាកល្បងជាមុនសិន។							
Obervability ការសង្កេតមើល								
1	By purchasing green products, I show that I care about the environment. កាលទិញផលិតិផលបៃតងខ្ញុំអាចបង្ហាញអោយឃើញថាខ្ញុំមានការព្រួយបារម្ភអំពីបរិស្ថាន។	1	2	3	4	5	6	7
2	If I bought green products, it would be noticed by people close to me. ប្រសិនបើខ្ញុំមានការទិញផលិតិផលបៃតងខ្ញុំអាចនឹងមានការចាប់អារម្មណ៏ពីសំណាក់មនុស្សខាងក្រៅ។	1	2	3	4	5	6	7
3	Green products stick out visibly. ផលិតិផលបៃតងគឺលេចចេញយ៉ាងច្បាស់។	1	2	3	4	5	6	7

Section 5. Market Potential

ផ្នែកទី៥. សក្តានុពលទ្បូវទីផ្សារ

Please indicate your level of your agreement or disagreement by circling the number next to each statement below based on your opinions. សុំបង្ហាញនៃការយល់ស្របឬមិនយល់ស្របរបស់សំណួរនីមួយៗខាងក្រោម ដោយផ្នែកលើមតិយោបល់របស់អ្នកដោយផ្នែកលើកការគំនិតរបស់អ្នក។		Strongly Disagree មិនយល់ស្របទាំងស្រុង,	Disagree មិនយល់ស្រប	Somewhat Disagree មិនយល់ស្របបន្តិចបន្តួច	Neutral អព្យាក្រឹត	Somewhat Agree យល់ស្របបន្តិចបន្តួច	Agree យល់ស្រប	Strongly Agree យល់ស្របទាំងស្រុង,
1	I believe this product will gain lots of income due to its environmental performance.	1	2	3	4	5	6	7

	ខ្ញុំជឿជាក់ថាផលិតផលនេះនឹងទទួលបានចំណូលច្រើនដោយផ្អែកទៅលើការអនុវត្តបៃតង។							
2	I believe this product will has a very better sale growth due to its environmental performance. ខ្ញុំជឿជាក់ថាផលិតផលនេះនឹងមានការរីកចម្រើនក្នុងការលក់ដោយផ្អែកទៅលើការអនុវត្តបៃតង។	1	2	3	4	5	6	7
3	I believe this product will has lots of investment due to its environmental performance. ខ្ញុំជឿជាក់ថាផលិតផលនេះនឹងមានការចូលរួមច្រើនក្នុងការវិនិយោគដោយផ្អែកទៅលើការអនុវត្តបៃតង។	1	2	3	4	5	6	7
4	I believe this product will satisfy very environmental consumer with a large purchasing. ខ្ញុំជឿជាក់ថាផលិតផលនេះនឹងអាចបំពេញចិត្តអតិថិជនបៃតងជាមួយនឹងអត្រាការទិញខ្ពស់។	1	2	3	4	5	6	7
5	I believe this product will has lots of cost saving due to its environmentally friendly practices. ខ្ញុំជឿជាក់ថាផលិតផលនេះនឹងអាចមានការសន្សំសំចៃច្រើនដោយផ្អែកទៅលើការអនុវត្តបៃតង។	1	2	3	4	5	6	7
6	I believe this product will has lots of substantial cost advantage due to its environmentally conscious. ខ្ញុំជឿជាក់ថាផលិតផលនេះនឹងអាចអត្ថប្រយោជន៍ច្រើនក្នុងការចំណាយដោយផ្អែកទៅលើការអនុវត្តបៃតង។	1	2	3	4	5	6	7
7	By regularly investing in new eco-friendly technologies and products, I believe these products will be a leader in the market. ដោយផ្អែកទៅលើការវិនិយោគថ្មីៗដែលទាក់ទង់ជាមួយនឹងបច្ចេកវិទ្យាបៃតងក្នុងការផលិតផលខ្ញុំជឿជាក់ថាផលិតផលនេះនឹងមានការនាំមុនគេនៅក្នុងទីផ្សារ។	1	2	3	4	5	6	7

Section 6. Green Products Innovation Adoption

ផ្នែកទី៦. ការទទួលយកនូវភាពច្នៃប្រឌិតនៃផលិតិផលបៃតង

Please indicate your level of your agreement or disagreement by circling the number next to each statement below based on your opinions. សុំបង្ហាញនៃការយល់ស្របឬមិនយល់ស្របរបស់សំណួរនីមួយៗខាងក្រោម ដោយផ្អែកលើមតិយោបល់របស់អ្នកដោយផ្អែកលើកការគំនិតរបស់អ្នក។		Strongly Disagree មិនយល់ស្របទាំងស្រុង	Disagree មិនយល់ស្រប	Somewhat Disagree មិនយល់ស្របបន្តិចបន្តួច	Neutral អព្យាក្រឹត	Somewhat Agree យល់ស្របបន្តិចបន្តួច	Agree យល់ស្រប	Strongly Agree យល់ស្របទាំងស្រុង
Green Products Innovation Purchase Intention Behavior ឥរិយាបទចំពោះការទិញផលិតិផលច្នៃប្រឌិតបៃតង								
1	In the near future, I am willing to purchase products made from recyclable materials. នៅថ្ងៃខាងមុនខ្ញុំនឹងជ្រើសរើសទិញផលិតិផលដែលផលិតចេញពីវត្ថុធាតុដើមដែលអាចកែច្នៃប្រើប្រាស់ឡើងវិញបាន។	1	2	3	4	5	6	7
2	I will make an effort to purchase this product because of its environmental concerns. ខ្ញុំនឹងមានការចងទិញផលិតផលបៃតងពីព្រោះការព្រួយបារម្ភអំពីបរិស្ថាន។	1	2	3	4	5	6	7
3	I have changed my principal products for ecological reasons. ខ្ញុំនឹងមានការផ្លាស់ប្តូរចំបងក្នុងការទិញផលិតិផលដោយហេតុផលបៃតង។	1	2	3	4	5	6	7
Innovative Green Products Investment Intention Behavior ឥរិយាបទចំពោះការវិនិយោគក្នុងផលិតិផលច្នៃប្រឌិតបៃតង								
1	I intend to invest in eco-friendly products in the future because of its environmental concern.	1	2	3	4	5	6	7

	ខ្ញុំមានបំណងក្នុងការវិនិយោគក្នុងផលិតផលបៃតងនៅថ្ងៃអនាគតដោយផ្អែកទៅលើការបារម្ភអំពីបរិស្ថាន។							
2	I expect to invest in eco-friendly products in the future because of its environmental performance. ខ្ញុំរំពឹងនៅក្នុងការវិនិយោគក្នុងផលិតផលបៃតងនៅថ្ងៃអនាគតដោយផ្អែកទៅលើការអនុវត្តបៃតង។	1	2	3	4	5	6	7
3	I am glad to invest in green products in the future because it is environmental friendly. ខ្ញុំមានភាពសប្បាយរីករាយនៅក្នុងការវិនិយោគផលិតផលបៃតងនៅថ្ងៃអនាគតដោយផ្អែកទៅលើការអនុវត្តបៃតងរបស់ផលិតផលនោះ។	1	2	3	4	5	6	7
4	I plan to invest in green products in the future because of its performance. ខ្ញុំមានគម្រោងក្នុងការវិនិយោគក្នុងផលិតផលបៃតងនាថ្ងៃអនាគតដោយផ្អែកលើការអនុវត្តបៃតង។	1	2	3	4	5	6	7
5	I intend to invest in alternative green project or job in the future because of its essential contribution to the environment. ខ្ញុំមានបំណងក្នុងការវិនិយោគនៅក្នុងគម្រោងបៃតងឬចូលរួមក្នុងវិស័យការងារផ្សេងៗនៅថ្ងៃអនាគតដោយផ្អែកលើការនាំមកនូវអត្ថប្រយោជន៍ចំពោះបរិស្ថាន។	1	2	3	4	5	6	7
6	I intend to invest in any green asset (building, infrastructure) in the future because of its harmless to the environment. ខ្ញុំមានបំណងក្នុងការវិនិយោគគ្រប់វិស័យបៃតងដូចជាអាគារជាដើមនៅថ្ងៃអនាគតដើម្បីកាត់បន្ថយការប៉ះពាល់ទៅលើបរិស្ថាន។	1	2	3	4	5	6	7

Section 7. Demographic

ផ្នែកទី៧. ប្រជាសាស្ត្រ

1. Gender: ☐ Female ☐ Male
   ភេទ ស្រី ប្រុស

2. How old are you? ☐ 20-25 ☐ 26-30 ☐ 31-35 ☐ 36-40
   តើអ្នកមានអាយុប៉ុន្មាន? ២០-២៥ ២៦-៣០ ៣១-៣៥ ៣៦-៤០

3. Your educational status:
   កម្រិតនៃការអប់រំ

   ☐ Primary school ☐ High School ☐ Bachelor's degree
   បឋមសិក្សា វិទ្យាល័យ បរិញ្ញាបត្រ

   ☐ Master's degree ☐ Doctorate's degree ☐ Others (Please specify……)
   អនុបណ្ឌិត បណ្ឌិត ផ្សេងៗ

4. Your profession:
   មុខរបរ

   ☐ Student ☐ Professor/lecturer/teacher ☐ Consultant/advisor
   សិស្សនិស្សិត សាស្ត្រាចារ្យ/គ្រូបង្រៀន អ្នកប្រឹក្សាយោគបល់

   ☐ Entrepreneur/self-employment ☐ Unemployed
   សហគ្រិន/អជីវកម្មផ្ទាល់ខ្លួន គ្មានការងារធ្វើ

   ☐ Government official ☐ Private Sector Employee ☐ Others (Please specify……)
   មន្ត្រីរាជការ បុគ្គលិកក្រុមហ៊ុនឯកជន ផ្សេងៗ

5. Monthly income ($USD):
   ប្រាក់ចំណូលប្រចាំខែ (ដុល្លាអាមេរិច)

   ☐ No income ☐ less than 200 ☐ 200-500 ☐ 500-800
   គ្មានចំណូល តិចជាង ២០០ ២០០-៥០០ ៥០០-៨០០

   ☐ 800-1000 ☐ Above 1000
   ៨០០-១០០០ ច្រើនជាង ១០០០

6. Have you ever purchased or used eco-friendly products?

តើអ្នកធ្លាប់បានទិញឬប្រើប្រាស់ផលិតផលបៃតងដែលរឺទេ?

☐ Yes ចាស/បាទ ☐ No ទេ

7. What kind of eco-friendly products that you have purchased or used (Please specify)?

តើមានផលិតផលបៃតងប្រភេទណាខ្លះដែលអ្នកធ្លាប់បានប្រើប្រាស់កន្លងមក?

☐ Recycle products/ផលិតផលអាចកែច្នៃឡើងវិញបាន ☐ Tissue with green label/ក្រដាស់អនាម័យជាមួយឈ្មោះបៃតង

☐ Recycle bags/កាបូបដែលអាចកែច្នៃឡើងវិញបាន ☐ Toiletries with green label/សំភារះប្រើប្រាស់ក្នុងបន្ទប់ទឹក

☐ Refilling bottled water or tumbler/ដបទឹក ☐ Paper sheets with green certificate/ក្រដាសជាមួយនឹងវិញ្ញាបនបត្របៃតង

☐ LED lightning/អំពូលភ្លើងអេឡិចត្រូនិចទឹក ☐ Straw (bamboo or stainless steel)/បំពង

☐ Green services/សេវាកម្មបៃតង ☐ Others …….. ផ្សេងៗ

8. What kind of factors that encourage you to purchase or use eco-friendly products?

តើមានកត្តាអ្វីខ្លះដែលធ្វើអោយអ្នកទិញឬប្រើប្រាស់ផលិតផលបៃតង?

☐ Health Safety/សុវត្ថភាពសុខភាព ☐ Environmental concern/ការព្រួយបារម្ភពីបរស្ថាន☐ Global Warming/ការឡើកកម្តៅផែនដី ☐ Social Status/ឋនៈសង្គម

☐ Social influence (I purchase or use eco-friendly products because of people surrounding me using it.)/ការជះឥទ្ធិពលពីសង្គម ☐ Others…..ផ្សេងៗ

9. If you have chance, in the future, do you want to invest in this eco-friendly product or not?

ប្រសិនបើអ្នកមានឧកាសនៅថ្ងៃអនាគតតើអ្នកនឹងមានបំងចងចូលរួមក្នុងការវិនិយោគទៅលើផលិតផលបៃតងដែរឬទេ?

☐ Yes ចាស/បាទ ☐ No ទេ

10. Do you prefer to purchase or use eco-friendly products?

តើអ្នកមានបំណងចង់ទិញឬប្រើប្រាស់ផលិតផលបៃតងដែរឬទេ?

☐ Yes
ចាស/បាទ

☐ No
ទេ