

The Environmental Attitudes Influence Sustainable Development and Green Consumption

แนวความคิดด้านสิ่งแวดล้อมที่มีอิทธิพลต่อการพัฒนาอย่างยั่งยืนและการบริโภคสีเขียว

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พนิตา ภัคดี

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มหาวิทยาลัยเทคโนโลยีพระจอมเกล้าพระนครเหนือ

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Abstract

Being green is a vital concept at the present to encourage environmental consciousness. Therefore, this study will clarify what are truly important in creating green consumption and sustainability in order to suggest proposals or policies on environmental management. The objective of the study investigates the relationship between environmental attitudes and sustainability and green consumption of consumer. This research is considered a quantitative based research. Finally, samples are 500 consumers in department store in Bangkok. This research employs purposive sampling to collect the data. The research tool is a survey questionnaire, asking the respondents about the environmental attitudes and sustainable development and green consumption. The reliability of the survey was determined to be Cronbach's $\alpha = 0.782$. The Pearson's correlation coefficients are processed to analyze the collected data. The significant result of this research shows that techno-centric attitude has a positive impact on green-consumption and sustainability.

Keywords : Techno-Centric, Eco-Centric, Green-Consumption, Sustainable Development

บทคัดย่อ

การไปสู่สังคมสีเขียวเป็นแนวคิดที่สำคัญในปัจจุบันเพื่อส่งเสริมจิตสำนึกด้านสิ่งแวดล้อม ดังนั้นการศึกษาครั้งนี้จะชี้แจงสิ่งที่สำคัญในการสร้างการบริโภคสีเขียวและความยั่งยืนเพื่อแนะนำข้อเสนอหรือนโยบาย

เกี่ยวกับการจัดการสิ่งแวดล้อม การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อศึกษาความสัมพันธ์ระหว่างทัศนคติด้านสิ่งแวดล้อมกับความยั่งยืนและการบริโภคสีเขียวของผู้บริโภค การวิจัยครั้งนี้เป็นการวิจัยเชิงปริมาณ กลุ่มตัวอย่างคือ ผู้บริโภคในห้างสรรพสินค้าในกรุงเทพฯ จำนวน 500 คน งานวิจัยนี้ใช้การสุ่มตัวอย่างแบบเฉพาะเจาะจงเพื่อรวบรวมข้อมูล เครื่องมือวิจัยคือแบบสอบถามเชิงสำรวจโดยถามผู้ตอบเกี่ยวกับทัศนคติด้านสิ่งแวดล้อมและการพัฒนาอย่างยั่งยืนและการบริโภคสีเขียว ความน่าเชื่อถือ (Cronbach's alpha, α) ของแบบสอบถามเชิงสำรวจเท่ากับ 0.782 การวิเคราะห์ข้อมูลของการวิจัยโดยใช้สัมประสิทธิ์สหสัมพันธ์ของเพียร์สันเพื่อวิเคราะห์ข้อมูลที่เก็บรวบรวม ผลลัพธ์ที่สำคัญของการวิจัยนี้แสดงให้เห็นว่าทัศนคติของผู้บริโภคที่มีเทคโนโลยีเป็นศูนย์กลางมีผลกระทบเชิงบวกต่อการบริโภคสีเขียวและความยั่งยืน

คำสำคัญ : เทคโนโลยีเป็นศูนย์กลาง สิ่งแวดล้อมเป็นศูนย์กลาง การบริโภคสีเขียว และการพัฒนาอย่างยั่งยืน

Introduction

Today people around the world focus on the campaign to preserve natural resources and environmental factors that affect the environment. Not only business factors that impact the environment, but also consumption in both businesses and individuals have contributed the problems of resources and environment as well. At present, there is global warming which realized people to consume more environmentally friendly. Suyong (2012) reported that many companies start switching over to sustainable packaging due to environmental considerations. Even Thailand also concerns about global warming and shortage of natural resource that it made number of eco-friendly products appeared increasingly (Euromonitor International, 2013).

Therefore, concept of “being green” has been happened in society. Ann-Charlotte & Christine (2006) pointed that green idea can be constructed in the different social boundaries, believes, and attitude. The battle of green idea was also conducted continuous and intense. Some people support the concept of green of economic growth in the current capitalism that can lead to green thinking for the environmental preservation. At present, many companies have started the trend of making green to promote their products and make business growth. Some offered technology to help and protect the environment but not everyone agrees with this attitude. In contrast, some believed that technology could create significant structural problems that caused the ecological crisis because they did not take into account biocapacity limit.

The official government policy was the most significant factor of leading to green, environmental consciousness and awareness (Tan & Lau, 2010). In addition, governmental

policies are conducive to growth and invest of capital, regardless of social fairness. Therefore, it must be linked the environmental dimension with social justice. Besides the benefits of economic growth have not reach to the poor and the poor often bear the burden on the environment than any other group in society.

Culture is a link between human being and their environment (Kay, 1996). Environmental attitudes derive from the culture of the society which also affects the social environment. Some believed that people should live with nature because it is the best way to preserve environment. Others pointed out that environmental problem can be solve by new technologies. For instance, Reducing CO2 emission need to be addressed, the new technologies which exploit renewable resource, solar power, wind power, and nuclear power have been introduced (Luke, 1994). Being green argued that the main problem of environment should not be solve by technology only. However, the major of environmental problems cause of consumption and production of the society's attitude (Luke, 1994). Thus, it is an environmental attitude to find a way to preserve and conserve the environment as the best as society has ideas in any way. The attitude and sensitivities of people can charge environmental issue gradually (Philip, 2007). People have started realizing of pollution, then , they have tried to find the way to prevent (Philip, 2007). Some believed "the earth is alive and human being should be encouraged to recognize their essential connection with the rest of nature" (Philip, 2007, p.92).

If everyone understands the attitude towards the environment correctly and people have equal to access resources, solving environmental problems will easily be able to perform correctly. Green consumer behavior will lead to integrate development and changing consumption habits more environmentally friendly. According to Kay (1996) stated that "how human society should be organized, as well as on how environmental issues should be addressed" (p.35). Thus, environmental attitude is a concern to protect and preserve the environment by human responsibility. First, it should be identified how environmental attitudes protect and preserve the environment that will affect the environmental changes and sustainability.

Objective

Finally, the findings of the empirical research are present with the aim of demonstrating whether the person attaches to nature influences their environmental attitudes toward

sustainability and green consumption. Therefore, the objective of the study investigates the relationship between environmental attitudes and sustainability and green consumption.

Literature Review

Ideological environment is about protecting and preserving the nature. The nature and environment involved with the political authority into participation. If the environmental ideology was raised to a political level, it will be political goals that are sometimes conflict. Moreover, Economic and social problems have not be resolved and the amendment has been not yet satisfied for most people, then it has become a political issue. Thus, environmental issues in political way have been controversy over the years. There should be some studies of the causes and various factors that cause those problems in order to achieve understanding and finding solutions properly.

Nowadays, environmentalism has referred broadly to concern that environment should be protect from the human's activities and preserve for the future. Therefore, eco-centric, and techno-centric was said in aspect of environmental attitude. It is possible that these attitudes will be existence of human's life (Kay, 1996).

Eco-centric

Timothy (1976) quoted "eco-centric is modern environmentalism of mid-nineteenth century" (p.3). Eco-centric is an environmental attitude that focus on the relationship between nature and society by meeting with nature for economic development and quality of life, reducing the impact on the environment. The natural world is holistic by considering the interaction of all elements. Eco-centric has been believed that the nature relates with all things, therefore, the system is a unified holistic one. (Timothy, 1976). Alexander (2005) believed that eco-centric should be promoted actively in order to build sustainable community development at all level.

In conclusion, eco-centric indicated that ecological constraints, solving problems can be seek for patterns of existence that are in harmony with ecological law. The sustainable development approach is the balance of ecosystems. This attitude believed that the humans and all beings in the world live together in the form of a natural and ecological community. If something was destroyed, the whole system will be destroyed gradually. Human beings are a part of nature, have no right to destroy but humans should treat with respect.

Techno-centric

Nowadays, it is practical term of integration involves from sustainable goal to technical and planning strategies, and technology-driven lifestyle finally (Chi, 2004). It is possible that techno-centric also support environment by using technology to build, plan, and provide benefit to environmental sustainability (Chi, 2004). According to Timothy (1976) techno-centric pay close attention to technology, man and nature are separate. Even in international market, they require advanced and high technology and innovation to enhance the standard of products and compete in an international environment (Euromonitor International, 2013, p.1).

Some believe that techno-centric involved with conservation, prevention and control the earth for man (Timothy, 1976). Green technology is introduced as cleaner non-pollution technology, for example, nuclear power is friendly environment because it does not emit CO₂ (Luke, 1994). Mostly, government and public encouraged to use science and technology to solve environmental problem (Philip, 2007).

Some companies have to invest in machine, research and development about eco-technology. For instance, Coca-Cola (Thailand) Ltd cooperated with Thai Namthip Co Ltd to introduced new technology to reduces the usage of plastic by 13-20% in the production, thus, the new packaging used less plastic than the previous design (Euromonitor International, 2013). Moreover, Euromonitor International (2013) reported that Thai Namthip Co Ltd invested up to 700 million baht in new machinery with new “Eco-Crush” technology to produce lightweight PET bottles for bottled water. The new packaging used 35% less plastic than the previous design; it is also 100% recyclable and can also be crushed after use to save space.

SCG has technology for carton that it is the eco-friendly container. For Idea paper, boxes and wrapping paper made from special packaging paper that uses less chemicals in pulp bleaching. Ideal paper is also printed with environmentally-friendly ink; the wrapping paper is printed with water-based ink and the box with soy ink (Euromonitor International, 2013). Furthermore, some retailers such as, Tops Market, Tops Super, Central Food Hall, Gourmet Market and Lemon Farm are more active in terms of promoting biodegradable plastics to consumers. (Euromonitor International, 2013). Also in China and Taiwan, Many firms tend to be eco-friendly by using their own innovation. They invested in technology for environment, the one of strategy alternative management (Terence Tsai, 2002).

Michael (2008) mentioned that technology is a way to create the world’s wealth. Technology leads to three of environmental strategy, pollution prevention, product

stewardship, and clean technology that all move a firm toward sustainability (Michael, 2008). However, technology is not only thing to move toward sustainability but also to change in individual consumption pattern can heal the world better (Michael, 2008).

Sustainable development in the concept of techno-centric have confidence in the ability of science and technology to solve environmental problem. Humans have the ability to control nature and meet the needs of humans. However, techno-centric is contrary to the economic, social and political in taking advantage from the underprivileged people, poor, or farmers. Furthermore, this may cause damage to biodiversity and ecosystems.

Sustainable development

Technological advancement and marketing mechanisms contributes to growth, production, consumption that negatively affects the environment, human life, animals and plants. Sustainable development is an idea to prevent the world from reaching the end. It is the use of natural resources and the environment to improve the quality of human life in order to have a good standard of living with natural resources or the environment effectively for the next generations.

Sustainable development is “Our Common Future” published by the World Commission on Environment and Development (WCED, 1987 cited in Neil, 2007, p.208). Sustainable development principle has been accepted widely from many institute or organization. Moreover, this the world realize that should pay more attention to environment (Neil, 2007). Sustainable development principle also involves with the concept of sustainable consumption which concern about equity issue (Neil, 2007). When everyone has equal access to resources, it does not load the rich. Equal access to resources could reduce resource price bump and exploitation because resources are the cost of production. If everyone is equally accessible, there are no resources will be used by specific people or resource price cheating.

Technology has been talked about leading sustainability of environment. However, technological development is not only thing for sustainability but social life, attitude, and value also appropriate to preserve environment (Luke Martell, 1994). Environmental attitude is fundamental to sustainability. Thus, it should start with ideas of both human and natural interest live together in a balanced way and use technology to actually come up.

Conceptual Framework

The general framework for this study is grounded in environmental attitudes. According to environmental attitudes are believed that lead to sustainable development and green consumption. Individuals with environmental attitudes tend to engage in sustainable development and green consumption. Thus, this study explores the relationship between environmental attitudes and sustainable development and green consumption as illustrates in figure 1

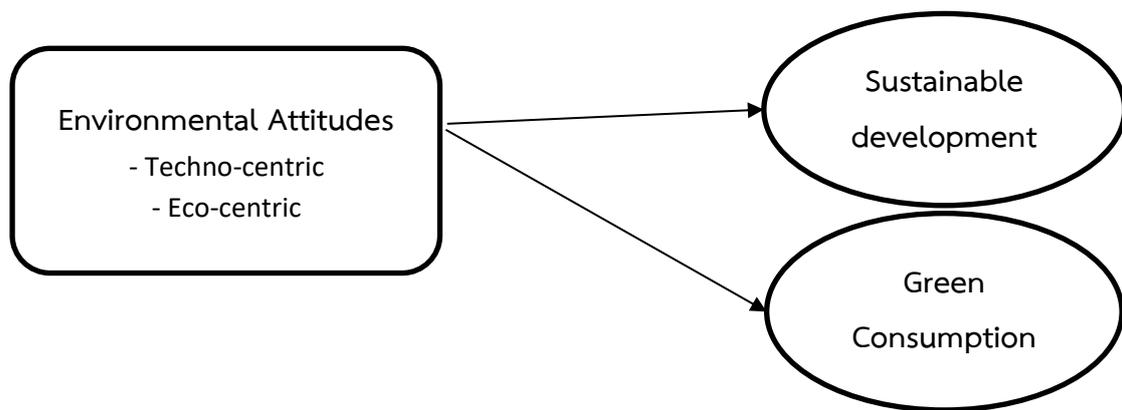


Figure 1: Conceptual framework

According to the relevant literature review's discussion, inference and definitions, and assumptions of each facet of the association through the literature's relevant empirical proof, this study develops a specific research hypothesis as follows:

H1: Techno-centric attitude has positive impact on green-consumption.

H2: Techno-centric attitude has positive impact on sustainability.

H3: Eco-centric attitude has positive impact on green-consumption.

H4: Eco-centric attitude has positive impact on sustainability.

Research Method

The program study on the daily lives' green consumer attitude as a whole, through questionnaires and related statistical analysis to better understand consumers' critical influencing factors on consumer behavioral intention and behavior, and to make recommendations based on findings, hoping to provide green consumers with an important reference for implementation planning through this empirical research.

Data collection

The same question was used in each survey. The first part of questionnaire which included question to assess eco-centric and techno-centric were developed based on theory.

The second part of the questionnaire contained question of green consumption and sustainable development.

The implementation of green consumption is based on the daily individual life-oriented consideration and containing a variety of necessary demands of material life and spiritual life. the UNESCO framework was important in order to determine the basis of the items of sustainable development. The definition of sustainable development is based on the theoretical foundation of the three-pillar model of sustainable development, society, economic, and environment that is recognized and used worldwide policy documents, educational curricula and organizational guidelines (e.g. UN, 2014, 2015; UNEP, 2015).

The questionnaire also includes closed question on demographic variable, such as gender and age. The questions were designed in English and then translated into Thai that a back translation was used for clarity. Rating for each statement was based on a Likert scale ranging from (1) strongly disagrees to (5) strongly agrees.

A pilot test was conducted on a convenience sample of 30 to clarify the wording. Based on feedback, a few statements were reworded to improve understanding of the question. Surveys were subjected to reliability analysis as a priority. Accordingly, the reliability of the survey was determined to be Cronbach's $\alpha = 0.782$. The questionnaires were administered using a direct face to face survey method because of the relatively high response rate of this method. Once the targeted sampling passes the criteria, the researcher collects the data. The researcher collects the data of 500 sets of consumers in department store in Bangkok, using a purposive sampling technique in order to understand literally the attitudes of green buyers while they were consuming green product and, in the purchasing green environment.

Data Analysis

Descriptive statistics is used to evaluate demographics of respondents. The result is presented the correlation between environmental attitudes, green-consumption, and sustainability in using Pearson's correlation coefficient.

Result

Table 1: Summary results of the correlation between environmental attitudes, green-consumption, and sustainability by the Pearson Correlation Analysis

		eco-centric	techno-centric	green-consumption	sustainability
eco-centric	Pearson Correlation	1	.182**	.076	.024
	Sig. (2-tailed)		.000	.086	.600
	N	507	507	507	480
techno-centric	Pearson Correlation	.182**	1	.347**	.268**
	Sig. (2-tailed)	.000		.000	.000
	N	507	507	507	480
green-consumption	Pearson Correlation	.076	.347**	1	.533**
	Sig. (2-tailed)	.086	.000		.000
	N	507	507	507	480
sustainability	Pearson Correlation	.024	.268**	.533**	1
	Sig. (2-tailed)	.600	.000	.000	
	N	480	480	480	480

** . Correlation is significant at the 0.01 level (2-tailed).

From table 1, techno-centric attitude has positive impact on green-consumption and sustainability significantly (R=.347, .268) respectively. While, eco-centric attitude has no positive impact on green-consumption and sustainability.

Table 2: Summary results of the correlation between techno-centric, environment, society, and economic by the Pearson Correlation Analysis

		techno-centric	environment	society	economic
techno-centric	Pearson Correlation	1	.319**	.233**	.069
	Sig. (2-tailed)		.000	.000	.130
	N	507	507	480	480
environment	Pearson Correlation	.319**	1	.425**	.208**
	Sig. (2-tailed)	.000		.000	.000
	N	507	507	480	480
society	Pearson Correlation	.233**	.425**	1	.331**
	Sig. (2-tailed)	.000	.000		.000
	N	480	480	480	480
economic	Pearson Correlation	.069	.208**	.331**	1
	Sig. (2-tailed)	.130	.000	.000	
	N	480	480	480	480

** . Correlation is significant at the 0.01 level (2-tailed).

From table 2, techno-centric attitude has positive impact on sustainability in aspect of environment and society significantly ($R=.319, .233$). On the contrary, Techno-centric attitude has no positive impact on sustainability in aspect of economic.

The path coefficient and hypothesis verification of conceptual research framework are shown in table 3.

Table 3: The Results of Hypothetical Paths

Hypothetical path	Expected effect	Results
H1: Techno-centric attitude → green-consumption	Positive	Support
H2: Techno-centric attitude → sustainability	Positive	Support
H3: Eco-centric attitude → green-consumption	non	Not Support
H4: Eco-centric attitude → sustainability	non	Not Support

Discussion

Research framework of this study includes “Techno-centric attitude”, “Eco-centric attitude”, “green-consumption”, and “sustainability” Conclusively, Techno-centric attitude have a positive impact on green-consumption and sustainability, such phenomenon shows that the environmental consciousness is important beginning to lead to create sustainability. According to previous attitudinal research with environmental attitude includes Feifei. X., & Dorothy. F. (2014) whose study suggested their result that anthropocentric or eco-centric values significantly influence people’s attitude to sustainable development.

For instance, the study of Sundip, Michael, Gary and Gary (2011) found that companies can save packaging and transportation costs by using green packaging initiative (reduce, reuse, recycle), improved technology, the availability of alternative packaging material, and supplier collaboration. Even in international market, they require advanced and high technology and innovation to enhance the standard of products and packaging and compete in an international environment (Euromonitor International, 2013, p.1).

Moreover, Support from government by policies, tax reductions, investment and technology in environmentally friendly issues will lead to the emergence of green-consumption and sustainability. If the industrial sector of state is an example of action and success, it can be defined as a national policy. According to Suyong (2012) suggested that if companies have eco-friendly product, government should reduce any tax duties for eco-

friendly packaging materials. Government should establish a government agency to manage eco-label for product that meet specific environmental criteria in order to improve trust and green consumption behavior from consumer about reliable eco-label standard.

Thus, environmental conscious it will cause action to preserve the environment without requiring rules, regulation, and enforcement from government. From result, it seemed techno-centric attitude plays a vital role to create sustainability. However, technologies always come with huge investment, funding from government for research or technological education is also important to contribute. “The green management can be directly and indirectly promoted by laws, regulations, taxation, institutional and other measures” (Guirong & Zongjian, 2012, p 900). Government can promote new investment to develop green environment and establish specialized institutions for research the new material for sustainable environment. The financial support and environmental consciousness will help firms achieve being green faster.

Entrepreneurs need to be conscious of the environment starting from the clean manufacturing process, policy of disposal of waste is not environmental degradation, and research and development do not harm to the environment and ecology. For enterprises, development of green packaging can use material of lightweight, thin, fluorine-free, biodegradable, and environmentally friendly (Guirong& Zongjian, 2012). For business owners or executives, have good environmental consciousness to society and want to do businesses that do not pollute or increase intense of global warming, there will be competition in ‘being green’. Manufacturers use packaging materials that degrade faster, they will be more advantageous than other competitors in green marketing. Thus, the environmental consciousness causes green packaging happen faster.

Summarize

Techno-centric attitude will support environment when it was considered the benefit for people, while eco-centric will also tend to preserve environment thought nature first. Moreover, these attitudes can determine environmental resource using (Bruun & Kalland, 1995). Eco-centric and techno-centric can express positive attitude towards natural resource and environment which concern about protection, preserve, or conservation.

Recommendation

An interesting study would be to determine whether sight the attitudes have the ability to act as an identifying factor which enables consumers to recognize environmental friendly for sustainable development by considering green consumption.

Future research could also profitably explore how the success or failure in achieving green. Which is the best driver for sustainable environment. Thus, conclusions and advanced on the basis of this research are perhaps best viewed as tentative, and useful in formulating future research hypotheses.

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