

Impact of Sustainability Marketing: An Empirical Study on Consumers' Perception and Attitudes towards Bio Plastic Coffee Cups in Thailand

Chuenjit Changchenkit and Tanya Plangklang

Abstract—Sustainability marketing has recently been a prominent strategy in many industries and sectors worldwide, including Thailand. This study has been conducted through empirical study of bio plastic coffee cup usage in a coffee shop in Thailand, namely Café Amazon. The purpose of this research was to study (1) consumers' perception towards bio plastic coffee cups. (2) consumers' attitudes towards bio plastic coffee cups. (3) determinants on bio plastic coffee cup promotion . Data were collected inside the shops from 400 samples who were the customers of Café Amazon coffee shops in Bangkok. Conceptual framework were constructed from three key dimensions of perception process (stimulus, senses and response) and three keys factors of attitudes (affective, cognitive and behavioral factors) towards bio plastic coffee cups. Result showed that consumers expose to the bio plastic coffee cup's stimulus and sense the message of them in a moderate level, but response actively in a high level. For the attitudinal factors, it was noted that consumers had some certain knowledge about the bio plastic cups and their benefits to consumers and the environment, felt positively about it and showed a supportive behavior to bio plastic coffee cup usage. Different gender, occupation and income level factors affected consumers perception and attitudes differently. To promote bio plastic coffee cup usage, marketers should design the different theme of communication upon segments of different genders, occupation and income groups, but kept the central message on the benefit that each person could help the world.

Index Terms—Sustainability marketing, perception, attitudes, bio plastic coffee cups.

I. INTRODUCTION

Viewed as a macro marketing concept, sustainability marketing plays an important role in today's business practice. The concept aims to create long term benefit to customers, social and natural environment. The research has focused on bio plastic coffee cup usage, which has been originally launched by Café Amazon coffee shop, an affiliated company of the oil company in Thailand, namely PTT Public Company Limited. The company's bio plastic coffee cup plays an important role in boosting trust among consumers. The idea from sustainability marketing can represents consumers' perception and attitudes, thus making the effect on buying behavior [1]. Café Amazon coffee shops operated in Thailand more than 2,300 stores nationwide in the year of 2018. The company plans to open for 4,000 stores

in the year of 2022. PTT Plc. has innovated the “Amazon Bio Cup”, which is biodegradable and compostable. The cups are made of high quality papers, combined with PBS coating. Typical coffee cups are coated by LDPE which cannot be compostable in normal natural environment. The PBS coating materials are, therefore, the key component for bio plastic coffee cups. It is noted that bio plastic coffee cups can help reduce as much as 800 tons a month from 2.7 millions cup usage per month, saving the environment and the humankind at the end. The bio plastic coffee cup wastes, themselves, can help add the soil quality from the cornstarch components. The environment, society and economy would be better. After launching the bio plastic coffee cups in Café Amazon coffee shops, sales revenues climbed up steadily.

The research question has been pointed on how customers perceived and had the attitudes towards bio plastic coffee cups. What were the factors affecting their perception and attitudes. The scope of the study covered field survey in 8 Café Amazon coffee shops, located in Bangkok. The purpose of the research were to explore consumers' perception and attitudes towards bio plastic coffee cups and to propose the sustainability marketing model for bio plastic coffee cup promotion.

II. LITERATURE REVIEW

A. Sustainability Marketing

Sustainability marketing is a marketing process to build and maintain sustainable relationship with customers, the social environment and the natural environment [1]. Organizations that use the sustainability marketing as a strategic tool demand a change from both producers and consumers. Producers change their operation process, raw material sources, packaging, distribution method. While consumers change their mindset to help the environment, the society and the economy by selecting the eco products that are good to the world in the future. Both producers and consumers should coordinate together to push the sustainable products for success.

Sustainable marketing is different from green marketing since the green marketing focuses on environmental concern and making more environmentally friendly products to capture those green lovers' market. While sustainability marketing has a longer term and macro view to let the consumers be part of the mechanism to help the nature, to solve world's environmental problems and finally supporting

the idea for human’s quality of life. The producers, as another key part, initiate the innovative idea on ecological, social and economic issues and push the idea to commercialize the eco products that can help the world and people in the future [2].

Finally, business can enjoy the profit from production efficiency and waste utilization management. Besides, consumers will have a cheaper cost for buying, as the producers can save the money in their eco process of production.

Sustainability marketing model has five components, as follows [3].

1. Socio – Ecological problems: to analyze the situation that cause the problems for society and nature.
2. Consumer behavior: to analyze consumers’ perception, attitudes and responses to sustainable products.
3. Sustainability marketing values and objectives: to set the goal of corporate plan to create a value to nature and society.
4. Sustainability marketing strategies and marketing mix: to set the sustainable marketing mix, that is,
 - C-Customers Solution
 - C-Cost
 - C-Convenience
 - C-Communication
5. Sustainable marketing transformation: to create the change from inside to outside the organization

B. Perception Process

Consumers’ perception, as one of the psychological factors in consumers’ stimulus-response model, influence consumer response [4]. Perception process begins from stimulus, that is, the message consumers expose through channel of communication, either personal or non – personal communication channel. Next, consumers senses and interpret the meaning of the message they have received. Five sensory perception include sight, smelling, hearing, tasting and touching. Finally, consumers response to the concept of the message that they have remembered and reacted to the concept [5].

In this research, questions has been constructed upon the type of communication channel that consumers expose to the message about Amazon Bio Plastic coffee cups, such as advertising through printed media , viral clip on social media, sales person in Café Amazon coffee shops, and friends or colleagues who mention about the Amazon bio plastic coffee cups. Next, the questions have been made to measure whether consumers can see the INGEO Logo on the cup, signifying that the cups have been made from 100 % plant, namely PLA materials or not, consumers sense that the Café Amazon Coffee Shop is the first company to use the bio plastic cups in their coffee stores and the physical look of the cup is clear without any bio plastic smelling or not. Finally, the study aimed to measure how consumers response in the term of share of voices, willingness to pay if the bio plastic will increase the price of a cup of coffee, trust in Café Amazon’s sustainability image, corporate with the company to promote the sustainability concept of Amazon bio plastic

coffee cups.

C. Attitudes

Consumers’ attitude is a tendency to react to object or any circumstances due to the knowledge that consumers have, the feeling towards the objects. Attitudes have three components [6], [7];

1. Cognitive: Knowledge about any issues or topics.
2. Affective: Feeling about the issues or topics.
3. Behavior: Action from what’s consumers studied and felt about.

The research aimed to understand consumers’ attitudes towards bio plastic coffee cup and asked respondents about bio plastic cup knowledge such as main raw materials. Using bio plastic coffee cups, therefore, can save quality of life for generation in the near future. Besides, researcher wanted to know from the affective part whether consumers felt admire CaféAmazon from their sustainability marketing model, felt that they and producers can be responsible to environment, felt that CaféAmazon always push the innovative for saving the nature, CaféAmazon played an important role to reduce waste in nature, and felt pride each time they used Amazon bio plastic coffee cups or not [8]. Finally, researcher wanted to analyze consumers’ response to the sustainable products.

III. METHODOLOGY

The research approach was descriptive research. Data collection has been done through CaféAmazon coffee shops 8 branches in Bangkok, using quota sampling of 50 respondents for each branch. 400 samples were interviewed by using convenience sampling. Conceptual framework were described in figure 1. Data were analyzed by using frequency, percentage and mean. Hypothesis testing were conducted through t-test, F test and LSD. Hypothesis H1 and H2 were established as follows,

H1: Personal factors affect perception process towards bio plastic coffee cups.

H2: Personal factors affect attitudes towards bio plastic coffee cups.

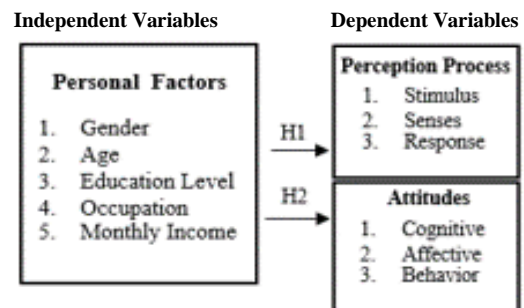


Fig. 1. Conceptual Framework.

IV. RESULTS

The result revealed that most of the respondents were female, with age between 31 - 40 years old, held a bachelor degree, worked as office workers, earned an income level more than 55,000 Baht per month. Result on perception

process and attitudes towards bio plastic coffee cups were noted as follows.

A. Perception Process

As for the perception process towards bio plastic coffee cups, result showed that consumers exposed to stimulus in a moderate level. Consumers exposed to personal media, that is salesperson of Café Amazon coffee shops, only in a low level. The most effective media that could stimulate consumers about bio plastic coffee cups was out of home media about Amazon bio plastic coffee cups.

When asked about the message that consumers perceived about Amazon bio plastic coffee cups, it was noted that in over all consumers sensed about the bio plastic coffee cups only in a moderate level. Respondents knew them well only that the bio plastic coffee cups had a clear color, with no bio plastic smelling, which were from personal experience.

However, consumers response to Amazon bio plastic coffee cups in a high level, especially belief that Café Amazon Coffee’s would always deliver the best products to consumers. Besides, consumers might pay at a higher cost for those sustainable products as shown in Table I.

TABLE I: CONSUMERS’ PERCEPTION PROCESS TOWARDS BIO PLASTIC COFFEE CUPS

Perception Process	Mean	S.D.	Perception Level
1. Stimulus	2.80	0.99	Moderate
1.1 Media exposure on out of home media.	3.11	1.21	Moderate
1.2 Media exposure on internet and website.	2.88	1.18	Moderate
1.3 Media exposure on viral clip of bio plastic coffee cups.	2.78	1.16	Moderate
1.3 Media exposure from personal selling in CaféAmazon.	2.57	1.18	Low
1.4 Media exposure from closed friends.	2.64	1.29	Moderate
2. Senses	3.10	1.12	Moderate
2.1 perceive the Ingeo Logo on Amazon bio plastic coffee cups.	3.03	1.21	Moderate
2.2 perceive that CaféAmazon was the first one that used bio plastic coffee cups.	2.99	1.30	Moderate
2.3 perceive that Bio plastic coffee cups that used in CaféAmazon are clear without bio plastic smelling.	3.27	1.21	Moderate
3. Response	3.62	0.90	High
3.1 Amazon bio plastic coffee cup were top of mind brand about sustainable products.	3.31	1.21	Moderate
3.2 Willingness to pay the higher price of sustainable products.	3.73	1.10	High
3.3 Belief that CaféAmazon Company would do the best for customers.	3.74	0.97	High
3.4 Actively attend workshop organized by CaféAmazon.	3.69	1.03	High

TABLE II: ATTITUDES COMPONENT: COGNITIVE OR KNOWLEDGE TOWARDS BIO PLASTIC COFFEE CUPS

Knowledge Factors	% of Correct Answers	Attitudes Level
1. Typical coffee cups are coated by LDPE which cannot be compostable in normal natural environment.	94.8	Highly Positive
2. Using plastic package and containers does not affect environment or global warming issues.	86.8	Positive
3. Biodegradable plastic are made of biobased or petrobase which can be compostable in the earth.	91.3	Highly Positive
4. Using bio plastic products can help sustain our world in the long term.	95.0	Highly Positive
Overall	91.9	Highly Positive

TABLE III: ATTITUDES COMPONENT: FEELINGS AND BEHAVIOR TOWARDS BIO PLASTIC COFFEE CUPS

Attitudes Components: feeling and behavior	Mean	S.D.	Attitudes Level
1. Affective Component	3.81	0.79	Positive
1.1 Feeling admire about good and modern sustainable image of CaféAmazon coffee shops.	3.59	0.93	Positive
1.2 Feeling that using bio plastic coffee cup could help the world.	3.95	0.86	Positive
1.3 Feeling that CaféAmazon always initiate innovation to help and save the environments.	3.83	0.93	Positive
1.4 Feeling that Amazon bio plastic coffee cups could help reduce wastes.	3.91	0.92	Positive
1.5 Feeling Pride of Amazon coffee cup usage.	3.77	0.87	Positive
2. Behavior Component	3.88	0.82	Positive
2.1 Making a decision to use amazon bio plastic coffee cups for top of mind to help solve global warming problems.	3.58	1.08	Positive
2.2 Willing to support if every branch of CaféAmazon would use bio plastic coffee cups.	4.23	0.83	Highly Positive
2.3 Always select sustainable products from Cafe Amazon.	3.82	0.95	Positive
2.4 Recommend others to be customers of CaféAmazon.	3.89	0.95	Positive

B. Attitudes

As for the attitudes towards bio plastic coffee cups, result showed that consumers had some certain knowledge about bio plastic coffee cups, feel positively to it and react in a positive way to promote bio plastic coffee cups as shown in Table II and Table III.

C. Results of Hypothesis Testing

For the hypothesis testing, t-test and F test were employed to test the effect of personal factors on perception process and

attitudes towards bio plastic coffee cups. Result showed in Table IV that different gender and income level had perception process towards bio plastic coffee cups differently in every part, that is, stimulus, senses and responses at a significance level of 0.05. Education level affected perception process only part of stimulus. For occupation factor, it affected perception process on the part of sense and responses. From Table V, it was noted that income level affected attitudes towards bio plastic coffee cups from every components of attitudes, that is, cognitive, affective and

behavior. While, gender and occupation affected attitudes towards bio plastic coffee cups from affective and behavior components. Hence, H1 and H2 were accepted.

TABLE IV: HYPOTHESIS TESTING RESULTS ON PERSONAL FACTORS AFFECTING PERCEPTION PROCESS TOWARDS BIO PLASTIC COFFEE CUPS

Personal Factors	Perception Process towards bio plastic coffee cups		
	Stimulus	Senses	Responses
1. Gender	*(Sig 0.001)	*(Sig 0.000)	*(Sig 0.009)
2. Age	X	X	X
3. Education Level	*(Sig 0.023)	X	X
4. Occupation	X	*(Sig 0.000)	*(Sig 0.006)
5. Income Level	*(Sig 0.022)	*(Sig 0.002)	*(Sig 0.002)

Remarks: *means different personal factors affected perception process differently at a significance level of 0.05
X means different personal factors did not affected perception process differently at a significance level of 0.05

TABLE V: HYPOTHESIS TESTING RESULTS ON PERSONAL FACTORS AFFECTING ATTITUDES TOWARDS BIO PLASTIC COFFEE CUPS

Personal Factors	Attitudes towards bio plastic coffee cups		
	Cognitive	Affective	Behavior
1. Gender	X	*(Sig 0.005)	*(Sig 0.001)
2. Age	X	X	X
3. Education Level	X	X	X
4. Occupation	X	*(Sig 0.015)	*(Sig 0.005)
5. Income Level	*(Sig 0.016)	*(Sig 0.000)	*(Sig 0.000)

Remarks: *means different personal factors affected attitudes differently at a significance level of 0.05
X means different personal factors did not affected perception process differently at a significance level of 0.05

D. Sustainable Marketing Model for Bio Plastic Coffee Cup Promotion

From the result of descriptive research of Impact of Sustainability Marketing: An Empirical Study on Consumers' Perception and Attitudes towards Bio Plastic Coffee Cups in Thailand, researcher had found some pain points that may hinder the success of bio plastic coffee cup promotion.

1. Low level of personal sales engagement in bioplastic plastic coffee cup presentation.
2. The Logo of bio plastic coffee cups identification was not distinctive enough to get attention from consumers.
3. Lack of proactive communication that Café Amazon was the first one in Thailand's market to use bio plastic coffee cups. Goal of such proactive communication is to push consumers to have name of "Amazon bio plastic coffee cup" as top of mind when they are thinking of sustainable products.
4. Consumers are willing to support if every branch of Café Amazon would use bio plastic coffee cups and willingness to pay the higher price of sustainable products. Therefore, Café Amazon should create the Café Amazon Eco Club to offer special benefits or privilege beyond typical members.

Researcher would like to propose the sustainable

marketing model for bio plastic coffee cups and other sustainable products as shown in Fig. 2.

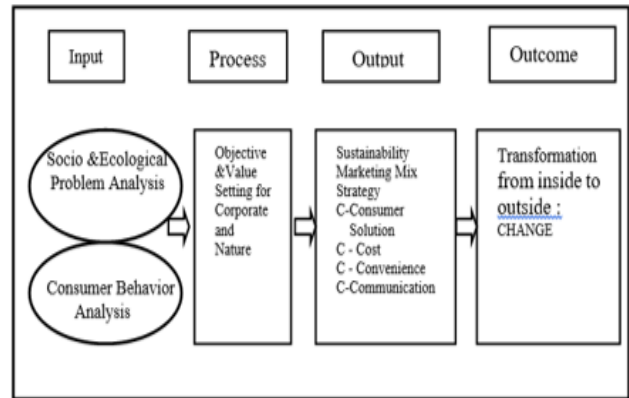


Fig. 2. Sustainable marketing model for bio plastic coffee cup promotion.

Step 1: Socio and Ecological Problems Analysis. Corporates should monitor the problems in society and environment that might be harmful to mankind. Then announce to consumers so that they would concern more for the problems.

Step 2: Consumer Behavior Analysis. Corporate should consistently make a survey on consumer behavior for example, perception process towards bio plastic coffee cups, attitudes, motives, learning, etc. Therefore, firm could fine tune planning their strategy.

Step 3: Objective and Value Setting: Corporate should set goal for value creation to the customers, together with for nature. The bigger cost saving that corporate have by using sustainable products to customers, the higher amount of money that corporate should pay back to customers. In the long run pricing for products will decrease.

Step 4: Sustainability Marketing Mix Strategy: Firm should change from 4Ps to 4Cs.

C-Consumer Solution: Corporate are making products that are not only good for consumers but for society and environment.

C-Cost: Cost of products are the combination of producers' cost and consumers' cost. If consumers have to put more efforts to buy sustainable products, consumers should pay for less.

C-Convenience: Corporate should provide multi - channel for consumers to buy or communicate with producers or their own communities, via online and/ or offline channels.

C-Communication: Corporate should contact consumers through various form of communications tools under a central message that corporates and consumers are doing and making something great for the world.

Step 5: Transformation from inside to outside. As mentioned in the result of the study, personal selling in Café Amazon played a minor role in bio plastic coffee cup's presentation. Therefore, all of the staffs there should change themselves to be part of sustainable products promoters.

V. CONCLUSIONS AND RECOMMENDATION

Sustainability Marketing is now vital to strategic business

planning. The strategy needs a change in organization and consumers' mind set in order to solve socio and eco problems. Understanding consumers perception process and attitudes toward bio plastic coffee cup usage could help firm adjust the marketing mix strategy to gain more success and competitive advantage. Amazon bio plastic coffee cup gained positive responses from market. However, consumers knew about the components and logo of bio plastic coffee cup only in a moderate level. Sales Persons in the coffee shops should present the benefit of bio plastic coffee cups. Various forms of communication were recommended to educate the necessity of using bio plastic coffee cup substituted to typical plastic cups.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

For this research, authors had their own responsibilities. Both constructed the research conceptual framework. While Tanya Plangklang had done the research field work survey, Chuenjit Changchenkit analyzed and synchronized the result with the marketing model of sustainability marketing strategy. Both of the authors wrote the paper finally.

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