The Causal Relationship between Consumer Attitude, Personal Traits, and Buying Behavior for Food or Beverage in Green Package

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Abstract

The aim of this research is to examine the relationship between several elements of green packaging, consumers' attitudes, and personal elementary traits with customer purchasing behavior for food or beverages. Based on a quantitative and exploratory approach, the authors have collected data from 1,003 respondents through an online survey based on social media platform and 35 interviews for result confirmation in Bangkok. Confirmative factor analysis and structural equation model are used to trace this relationship among these factors. It is argued that the relationship between the elements of green packaging and consumers' attitudes has influenced the customers' decision to buy a particular food or beverage product, while it has not directly influenced elementary traits with buying. However elementary traits and attitudes have positively influenced buying. Especially innovation and sustainability domains, both of which have strongly influenced consumer buying behavior in the food or beverage market. In addition, the composition of green packaging has influenced consumers' attitude in unusual ways. With practical implications, consumers have unusual backgrounds, lifestyles and food cultures, and contextual society is determinate factor in each nation. Therefore, marketing practices are sensitive to implementation.

Keywords: Attitude, Consumer Behavior, Elementary Trait, Green Packaging, Sustainability

Introduction

Nowadays, the polluted environment is a global crisis problem that all people must be concerned with our circumstances such as greenhouse effect, global warming, raining out of season, dangerous flooding, dust PM 2.5, forest firing, including toxic chemicals in the surrounding impacts the living things in this world. The terrestrial, marine and air ecosystems are out of balance from human behaviors. It leads to an unbalanced

good life of human beings with other infected diseases such as COVID 19, respiratory disease, and others.

This toxic environment is the main factor that awaked every sector, both government and enterprising collaborated in action taking and accelerating for solutions with better living. It is considerable concerning issues today. Not only are entrepreneurs concerned, but also all people should cooperate in organic products with green packaging consuming. It is the obligations in social responsibility altogether. According to the 17 UN sustainable development goals (SGD) is the blueprint of civilized peace, people, and plant (3Ps), herewith, goal number 12 regards in responsible consumption and production and goal number 3 regards in good health and well – being (United Nations, 2024) namely, healthy environment for all.

Moreover, entrepreneurs can decrease the cost of production, strategic marketing, and operation process through bio economy, circular economy and green economy with modern technology and creative innovation. Many companies support campaigns to care for the environment, therefore awaken consciousness in consumers' attitudes, purchasing behavior (Peattie, 1995). Bazoche et al. (2008) have recommended that data, knowledge, and attitude are cored factors to adjust peoples' behavior in consuming and life living in society.

Objectives

The aim of this study is to focus on the several components of package, attitude, and the big 5 personal traits and their roles in shaping attitude toward sustainable consumption that leads to buying consumers in food or drink bundle with green packaging.
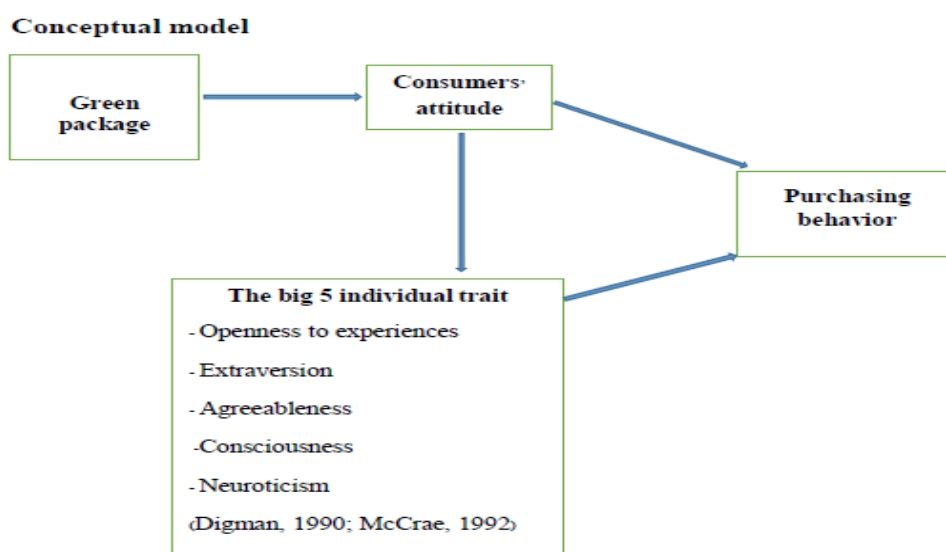
Concept theory framework

Figure 1: Concept theory framework

Materials and Methods

Respondents and Data collection

This research was surveyed in Bangkok province with non – probability convenience sampling techniques by used conveniences sampling. This studied started from June - Sept 2023 by distributed in 1,200 questionnaires and screened out in uncompleted questionnaires, it's collected 1,003 questionnaires for data analysis which respondents' age between 18 – 59 years old.

These respondents' data are female (57.7%), male (42.3%), age are 18-19 years old (46.9), 20-38 (40%), and 39-59 years old (13.2%). Table 1 shows details of the demographic data as the following:

Table 1: Demographic data

Details		Number of respondents	Number of respondents (%)
Gender	Female	579	57.7%
	Male	424	42.3 %
Ages (years old)	Gen Z 18-19	470	46.9%
Details		Number of respondents	Number of respondents (%)
	Gen Y 20-38	401	40%
	Gen X 39-59	132	3.2%
Educational level	Below bachelor	147	14.7%
	Bachelor	731	72.9%
	Master	99	9.9%
	Ph.D.	26	2.6%

This surveyed questionnaire was depicted into 8 elements about package are brand image, product protection, quality, sustainability, innovation, product storage, product information, and economic aspect. It was designed into 6 parts are.

1). Demographic details

2-3). Consumers' attitudes to green packaging

4). Personal traits with green packaging

5). Purchasing experiences with green packaging

6). Alternatives with green packaging in the future

The structural measured questionnaire by using Likert scale was classified through 5 points; 1 stands for strongly disagreement, 5 stands for strongly agree.

Methodology

A conducting of mixed methods by using quantitative and qualitative (Schoonenboom & Johnson, 2017) Surveyed with 1,200 population, respondents are 1,003 sampling through online survey based on social media platform and 35 interviewing for result confirmation. Descriptive analysis and confirm factor analysis (CFA) were taken with this model by using a two-stage structural equation and examined construct validity and discriminant validity of each aspect with structural equation model (SEM) in secondly (Chaudhuri & Holbrook, 2001).

Data analysis

This research analyses data into 4 parts as the following are.

1). Consumes' attitude in 8 elements of package such as storage, innovation, sustainability, product information, protection, beauty, economy, and branding.

2). Consumers' attitude with green packaging

3). Elementary traits with green packaging

4). Buying behavior with green packaging

Finally, it provides information about green consumer, herewith alternatives recommendations about green packaging design and green marketing.

Results

The aim of this study is to focus on the several components of package, attitude, and the big 5 personal traits. This conceptual model is examined in the reliability and validity in studied constructs are indicated in table2, figure 2 and 3. Herewith the key reliability and validity index in term of Cronbach's alpha, composite reliability (CR), average variance explained (AVE) values and factor loading are studied. (Hair et al., 2010)

Confirm factor analysis (CFA)

4.1 Consumers' perception in 8 elements of green package

Table 2: Elements of green package

Elements of green package		X	SD	Skewness.	Knr.
Protection	Product protection	4.40	0.69	-0.84	0.13
	Nutrient reserved	4.43	0.73	-0.94	-0.23
	Feature maintaining	4.22	0.76	-0.61	-0.38
	X	4.35	0.73	-0.67	-0.22
Convenience	Light weight	4.09	0.82	-0.30	-1.12
	Easily for consumption	4.32	0.73	-0.75	-0.10
	Convenient portability	4.14	0.82	-0.59	-0.32
	X	4.18	0.79	-0.29	-0.78
Product storage	Food or beverage containing	4.30	0.75	-0.66	-0.51
	Shelf-life expansion	4.26	0.83	-1.03	1.02
	Space arrangement decreasing	4.02	0.90	-0.70	0.16
	X	4.19	0.83	-0.63	0.29
Information	Logo, trademark, brand name	4.08	0.88	-0.64	-0.34
	Nutrition description	4.30	0.79	-0.81	-0.05
	Expiry/ manufacture date	4.56	0.67	-1.26	0.39
	Price / barcode	4.28	0.74	-0.64	-0.41
	X	4.31	0.77	-0.54	-0.49
Sustainability	Nontoxic environment	4.29	0.79	-0.76	-0.27

Elements of green package		X	SD	Skewness.	Knr.
	Recycle package	4.10	0.88	-0.56	-0.65
	Redeem package	4.02	0.91	-0.54	-0.41
	X	4.14	0.86	-0.37	-0.78
Economy	Cost of production saving	4.15	0.91	-0.95	0.60
	Cost of marketing saving	4.02	0.90	-0.68	0.10
	Valued added	4.18	0.79	-0.72	0.18
	X	4.12	0.86	-0.76	0.66
Branding	Brand image adding	4.16	0.80	-0.66	0.07
	Brand loyalty	4.14	0.85	-0.73	0.17
	Beauty	4.16	0.80	-0.54	-0.37
	X	4.15	0.82	-0.41	-0.58
Innovation	Different from others	4.18	0.81	-0.60	-0.46
	Modern design	4.17	0.85	-0.71	-0.24
	Creative idea	4.23	0.83	-0.79	-0.19
	X	4.19	0.83	-0.58	-0.41

From table 2 it is revealed that packaging is the powerful thing that has the substantial impact toward purchasing, not only beauty, but cover in many different valuable constructs as well. Expired and manufactured data have the highest significance with x= 4.56, product protection has the high significance x= 4.35, product information has the second highest significance x= 4.31, product storage and product innovation are x= 4.19, whiles convenience is x= 4.18, sustainability construct is x= 4.14, and economy aspect is x= 4.12 respectively.

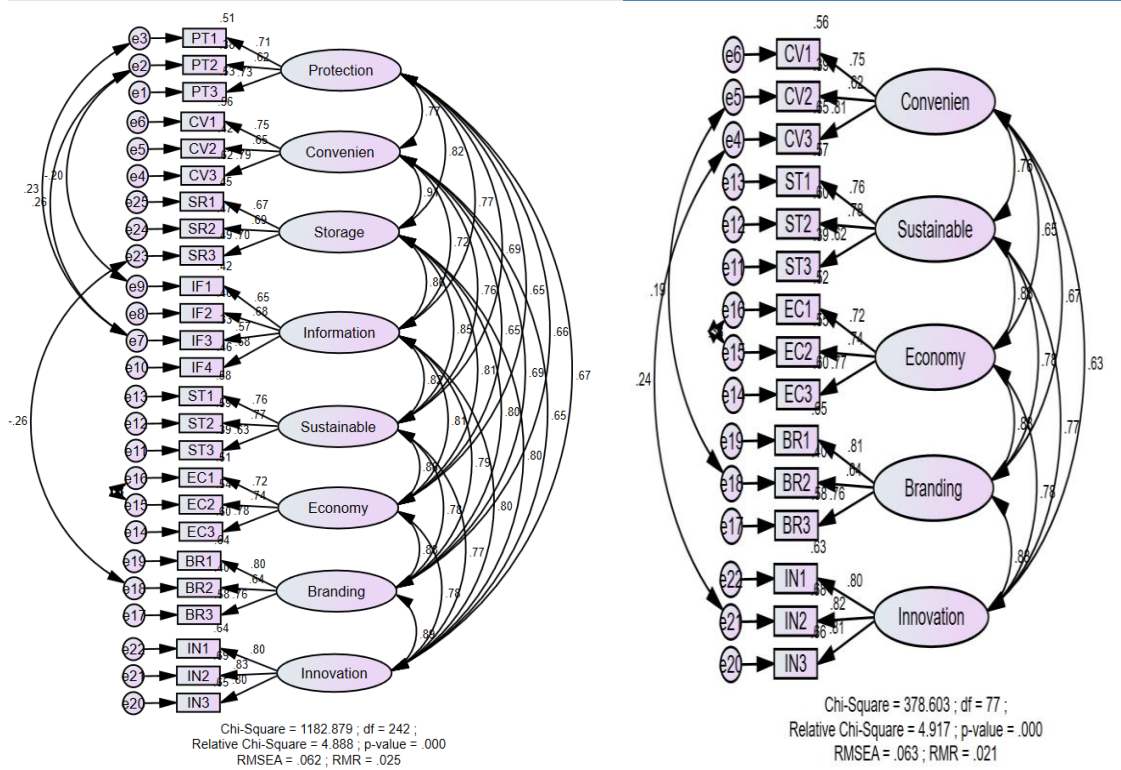**Figure 2**: Origin CFA elements of package   **Figure 3**: Revised CFA of element of package

Table 3: Results of factor loading and composition reliability of Green Package

Construct Validity	Initial	Revised	SMC	AVE	CR	Cronbach's Alpha
PT1	0.711	-	-	-	-	0.943
PT2	0.620	-	-	-	-	0.944
PT3	0.730	-	-	-	-	0.942
CV1	**0.750**	**0.749**	**0.672**	**0.533**	**0.772**	**0.942**
CV2	0.647	0.620	0.535	-	-	0.943
CV3	0.788	0.808	0.668	-	-	0.941
SR1	0.667	-	-	-	-	0.942
SR2	0.688	-	-	-	-	0.941
SR3	0.703	-	-	-	-	0.942
IF1	0.651	-	-	-	-	0.943
IF2	0.679	-	-	-	-	0.942
IF3	0.570	-	-	-	-	0.942
IF4	0.677	-	-	-	-	0.942

Construct Validity	Initial	Revised	SMC	AVE	CR	Cronbach's Alpha
ST1	0.759	0.756	0.624	0.555	0.789	0.941
ST2	0.767	0.775	0.768	-	-	0.941
ST3	0.628	0.622	0.825	-	-	0.943
EC1	0.717	0.722	0.818	0.555	0.789	0.942
EC2	0.737	0.739	0.803	-	-	0.941
EC3	0.777	0.774	0.626	-	-	0.941
BR1	0.802	0.808	0.633	0.545	0.781	0.941
BR2	0.636	0.635	0.730	-	-	0.942
BR3	0.760	0.761	0.636	-	-	0.941
IN1	0.797	0.796	0.654	0.657	0.852	0.941
IN2	0.829	0.822	0.726	-	-	0.941
IN3	0.804	0.813	0.685	-	-	0.941

Figures 4 and 5 and Table 3 show that AVE is more than 0.5, CR is more than 0.7. Fornell and Larcker (1981) and Diamantopoulos and Siguaw (2000) indicated that latent variable can explain valid and reliable observable variable of green package in terms of the convenience, sustainability, economy, branding, including innovation.

Consumers' attitude with green package

From table 4 (AT1 - AT6) consumers' attitudes are shown about consumers' attitudes have influenced toward green package that include healthy, environment caring, innovative, conservative, frugal, and brand loyalty, respectively.

Table 4: Results of factor loading and composition reliability of Attitude.

	Initial	Revised	SMC	AVE	CR	Cronbach's Alpha
AT1	0.593	0.564	0.561	0.552	0.880	0.880
AT2	0.777	0.776	0.802	-	-	0.855
AT3	0.736	0.718	0.649	-	-	0.860
AT4	0.779	0.787	0.941	-	-	0.857
AT5	0.756	0.758	0.603	-	-	0.859
AT6	0.821	0.827	0.829	-	-	0.850
PS1	0.795	0.799	0.559	0.571	0.869	0.832

	Initial	Revised	SMC	AVE	CR	Cronbach's Alpha
PS2	0.759	0.757	0.602	-	-	0.839
PS3	0.787	0.792	0.646	-	-	0.831
PS4	0.752	0.749	0.723	-	-	0.840
PS5	0.677	0.676	0.568	-	-	0.855

It shows that AVE is more than 0.5, CR is more than 0.7. Fornell and Larcker (1981) and Diamantopoulos and Siguaw (2000) indicated that latent variable can explain valid and reliable observable variable of consumers' attitude and elementary traits have toward the green package.

Personal traits with green package

From table 4 (PS 1 – PS 5) as personal traits are shown about five personal traits has influenced toward green package that included neuroticism, openness to experience, extroversion, consciousness, and agreeableness, respectively.

In addition, this research studied validity and reliability index of each construct as factors loading, Cronbach's alpha, CFI, and average variance extracted (AVE) in figure 4 and 5.
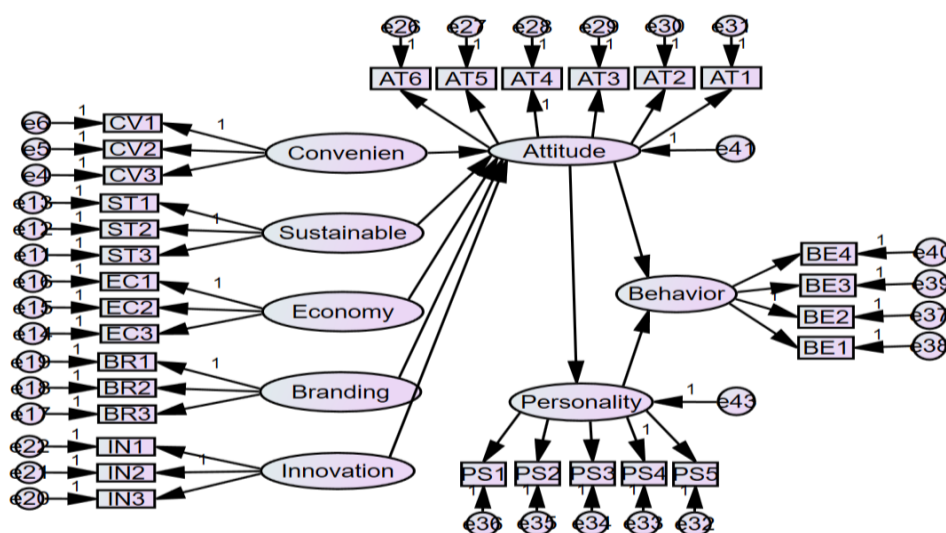

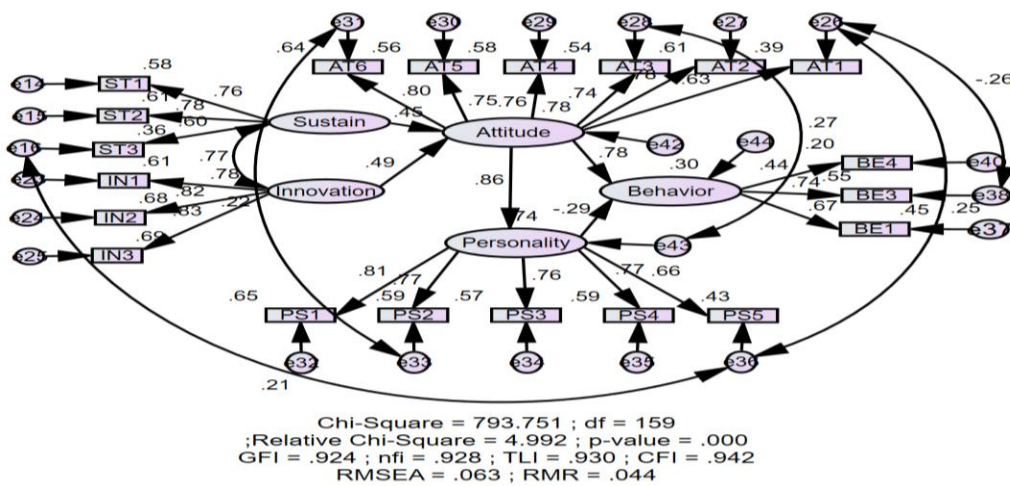**Figure 4.** CFA of elements of package, consumer's attitude, and traits

Figure 5. SEM of consumer's attitude, and purchasing in green package

The innovation and sustainability aspect are higher than the critical level of 7 that indicates that innovation and suitability aspect of green packaging have strongly influenced with attitude and purchasing. However, personal traits are not directly influenced by food or drink in green packaging.

Table 5: Regression weights

	P	Result
Sustainability ⟶ consumers' attitude	***	Accepted
Innovation of consumers' attitude	***	Accepted
Attitude ⟶ personality	***	Accepted
Attitude ⟶ purchasing	***	Accepted
Personal trait ⟶ purchasing	.149	Rejected

From table 5 it shows that p - value are sustainability and innovation aspect, these two aspects less than .01 are significant that have strongly and directly influenced with consumers purchased decision making, whiles big five personal traits do not have impact with purchasing directly.

Conclusions and Discussion

Marketing and managerial implications

As previously mentioned, the 17 UN sustainable development goals (SGD) convey the importance of environment caring, well – being of human and civilization. This research studied segments of green package in several aspects that influenced with purchasing of food or beverage, and these results are focused on package designing in terms of innovation and sustainability. Both are the core elements that marketers ought to consider about these concepts in package investment. Now with marketing planning at 7 Ps, package is one of the essential factors of marketing mix. Not only beauty appealing but also value adding in environmental context can increase consumer awareness and brand equity.

Furthermore, companies should focus on sustainability – driven innovations. In packaging to enhance consumer trust and brand loyalty. Green packaging strategies should align with consumer attitudes toward sustainability to improve market competitiveness.

Referring to research results is indicated that the big five personal traits are openness to experiences, extraversion, agreeableness, consciousness, and, neuroticism do not have directly influenced with purchasing, although it does not have strongly impact with decision making, but personal traits have direct influenced with personal attitudes in environment consciousness and friendly consumption with their healthy (Digman, 1990; McCrae, 1992).

Research Limitations and Future Recommendations

Specifically, this research has surveyed in Thailand, the results about attitude, traits, and trends in society are dynamics and different from other community, thus we can't concluded that the big five personal traits are not directly with their purchasing behavior about food or beverage in green packaging such as extraverted person who want to express with others his own lifestyle in his society, or even agreeable people who want to show off their fashionable trend about friendly eco system with their shopping rather than their real attitude or concerning.

Culture context is the principal factor to change human personality and daily life spending, exactly it covers their money spending and social status expression. Therefore, this paper provides realistic recommendations to entrepreneurs in their brand building.

Consumers' attitude, perception, personality, and behavior are the criteria in business doing. Lastly, innovation and sustainability should be driven in any marketing activities for implementation today. Advanced technology can grow in a good environment that enterprising sector and government sector should integrated in policy controlling in production, distribution and selling healthy products or friendly service providing to all people.

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