



## A QUEST FOR GREEN CONSUMERISM IN SRI LANKAN CONTEXT: AN APPLICATION OF COMPREHENSIVE MODEL

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### Abstract

Study is directed towards green consumerism in the Sri Lankan context. Topic is new and considered as an emerging one in the marketing paradigm. Meanwhile, this study focuses on green consumerism among young consumers in Sri Lankan stand point. Proposed model in this study was designed as the extension of Theory of Planned Behavior (TPB). Exploratory Factor Analysis, Confirmatory Factor Analysis and Structural Equation Modeling were utilized as advanced statistical techniques to approach the research questions in this study frame. In this context, results revealed that, green purchase intention was significantly influenced by environment attitude, perceived consumer effectiveness and health consciousness. In contrast, green purchase intention was not significantly influenced by media influence, environmental concern, social influence and perceived government initiatives. In addition, Young consumers in Sri Lankan perspective have favorable mindset towards green purchase. In practice, marketers of the green products might focus on marketing communication to enhance the environmental attitude, effectiveness in green consumerism and health consciousness among young consumers, which might tap the consumers' mindset to prefer the green products.

**Keywords:** Green consumerism, green purchase intention and theory of planned behavior

### 1. INTRODUCTION

Consumers believe that, green marketing only focus on promotion and adverting related to eco-friendly products with the message contents like healthy, recycle, reusable, ozone friendly etc. In practice, green marketing reflects wider scope applied in consumer marketing and industrial marketing (Chen, 1998; Charter & Polonsky, 1999; Chan, 2001; Peattie & Cane, 2005; Lee, 2008). In line with above facts, products feature with ecofriendly way, eco-labeling, eco-packing, eco-production process, eco-promotion activities, eco-distribution system are systematically incorporated in to the green marketing. Due to that, green marketing is viewed as discipline with broad scope in the marketing filed (Aker, 2012). In this scenario, environmental problems such as global warming and pollutions are identified and rationalized as most important global issues and make both individuals and organizations take measures for the preservation of the environment (Shirsavar & Fashkhamy, 2013).

These problems initiated the environmental issues with marketing, in which environmental management and marketing are integrated to focus on value creation in terms of product, image,

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services and personal especially in the hyper competitive environment. Moreover, Green marketing is focalized by researchers and practitioners as one of the newly-emerged and extensive concepts in marketing, which encompasses all marketing activities that are done to motivate and strengthen favorable environmental attitudes, intention and behaviors (Chen, 2010).

Sociology, Environmental studies and Human behavior are combined to give the new insights to the marketing paradigm in the stand point of green purchase intention and behavior. Further, the concepts as the green purchase intention and behavior have been discussing among scholars and researches in the globalized level since 1975 (Samarasinghe, 2012 b). In this view, Green purchase intention is denoted as the probability and willingness of a person to give preference to products that having eco-friendly features over other traditional products in their purchase considerations (Nik, 2009). Further, Contemporary marketing literature provides the term “*societal marketing concept*” to cover social and environmental responsibilities (Kotler, 2011) and therefore environment is one of the social responsible marketing issues that have become key role to minimize natural environmental damage. Scholars in the pro environmental behavior document that, studies are necessary to explore the new insights in the developing countries since the studies in this regions seem to be the complicated one. Meantime, cultural values orientations in developing countries are different from those of developed countries (Diekmann & Franzen, 1999).

In line with above facts, especially in Sri Lanka like developing country (Study area), Wanninayake and Randiwela (2008) reveal that the green products have substantial awareness among Sri Lankan consumers and they are willing to pay something more for green products. In the supportive view, Samarasinghe (2012a) mentions that, studies in green purchase intention and behavior are necessarily needed to give the cues among environmentalists, government authorities and marketing planners/strategists in the Sri Lankan context to frame the effective green marketing strategies. In this context, the main objective of the study is to develop and test the comprehensive model to predict the green purchase intention among young consumers in Sri Lankan stand point.

## 2. LITERATURE REVIEW

### 2.1. Green marketing

When we review the literatures in the green marketing and sustainable development critically, three important stages are identified and discussed. Based on the literature, we frame the green marketing approaches.

Initially, the decade of the late 1980s was keyed and marked as the first stage of green marketing, during the first stage; the concept of green marketing was integrated and discussed with industrial marketing by the scholars in the ecological stream (Peattie & Crane, 2005). At the initial stage, different forms of green marketing practices were focalized and practiced by the marketers. In this context, marketers in the globalized level emphasized the green marketing as the strategy to get the market share, reputation or goodwill among customers. The decade of the 1990s was marked as second stage, in which, marketers commenced to experience the backlash and realize that actual green purchase is not induced by environmental concern and desire (Shrum *et al.*, 1995 and Wong *et al.*, 1996). In the second stage, consumer cynicism about green products, green claims and companies' intention as well as practices were identified as the major obstacles to induce the customers' behavior toward green issues.

In the late – 1990s, the term sustainability marketing was upraised among researchers; Sustainability marketing mostly incorporates relationships with suppliers, customers, competitors, social forces, government bodies, non-government bodies etc. (Charter & Polonsky, 1999). Further than, Ottman (2007) points that, since 2000, third stage has been evolved, in which, implementation of more advanced technology, legislation for green issues and governmental regulation and incentives were greatly improved and practiced among marketers to regain the consumer confidence. To this end, Cronin *et al.* (2011) advocate the scholars in the field of marketing to investigate the studies on green performance, green strategies and green purchase behavior or green consumerism. In line with

this, it is fruitful to carry out the research on the green consumerism with culture, personality, motivation and also socio- demographic characteristics, which will give the new cues to the multinational companies in the international context to enhance the customer value (Mostafa, 2007 and Tanner & Kast, 2003).

## 2.2. Underpinning theory

### 2.2.1. Theory of planned behavior and green purchase behavioral intention

Theory of Planned Behavior has been used in numerous studies in the consumer behavior towards green issues (Aertsens *et al.*, 2009 and Arvola *et al.*, 2008). In this way, based on the theory of planned behavior, Moe (2007) focuses the study on sustainability; study defines the green purchase intention as “selectively choosing products with less environmental impact when purchasing goods”. Further, Beckford *et al.* (2010) explore that green purchase intention is a considerable predictor of purchase behavior towards green consumerism; it denotes that green purchase intention is highly correlated with the actual purchase of green products. In the supportive way, Chan (2001) points that environmental concern is highly associated with intention which will lead to behavior towards green aspects finally.

In contrast, study findings of Ohtomo and Hirose (2007) reveal some interesting aspects that green consumer behavior is not influenced by the intention, in other words, green purchase intention doesn't provide the path for behavior. A person hold the environmental concern and knowledge doesn't put the effort to purchase green products, which issues are called or named as value – action gap. It means that, although the customers show the intention to purchase the green product, but they are not in the position to perform the actual performance.

As a result of Value – action Gap, consumers who are generally environmentally – conscious are not directed to purchase the eco-friendly products. This “value-action gap” refers to the discrepancy between consumer knowledge about the environment and taking action to adopt behaviors that would lessen one's individual environmental impact. The concept of Value – action gap is addressed by various studies. And these studies attempt to explain why this gap occur by reviewing additional factors that influence the space between environmental knowledge and behavior change (Blake, 1999). In line with above arguments, researchers in this study attempted to develop the comprehensive model to predict the green purchase intention by incorporating the unique factors. Integrating those unique dimensions might predict the green purchase intention strongly, which in turn lead behavior. In this way, gap between green purchase intention and behavior might be resolved by incorporating the unique factors as the potential determinates of green purchase intention.

### 2.3. The proposed conceptual model: Comprehensive model of green purchase intention

Conceptual Model regarding green purchase intention is constructed to assess the level of intention towards green purchase among young consumers in this study frame. Previous theories, models and approaches on the subject of ecological marketing and green consumerisms are used, which enrich the knowledge concerning green consumerism with respect to purchase behavioral intention. In line with above arguments, Theory of Planned Behavior (Ajzen, 1991) and “Value-Beliefs-Norm Theory - VBN Theory (Stern, 2000) are used in this study as the main underpinning theories to construct this model as integrated one to predict the green purchase intention in a strong way, which in turn will lead to purchase behavior. Well known theory as TPB explaining the human behavior and recent theory as VBN theory elucidating the norm as valuable predictor to influence the intention are exploited. In this context, new variable as perceived consumer effectiveness is constructed with the focus on items measuring “perceived behavioral control” in the TPB and items determining “norms” in the VBN Theory to validate the variable further resilient to predict the green purchase intention sturdily.

Furth than, most valuable predictor variables or antecedents of green purchase intention as

Environmental concern (EC), Social Influence (SI), Environmental Attitude (EA), Perceived Consumer Effectiveness (PCE), Health Consciousness (HC), Media Influence (MI) and Perceived Government Initiatives (PGI) are identified with previous empirical evidences (Kollmuss and Agyeman, 2002; Kim & Choi, 2005; Jobber, 2007; Lee, 2008; Pickett-Baker and Ozaki, 2008; Mei *et al.*, 2012; Kaufmann *et al.*, 2012 and Wong *et al.*, 2012). To this end, model constructed for this study is distinctive. Suggested and constructed model in this study is based on the exiting and well-known theories and approaches in the green consumerism.

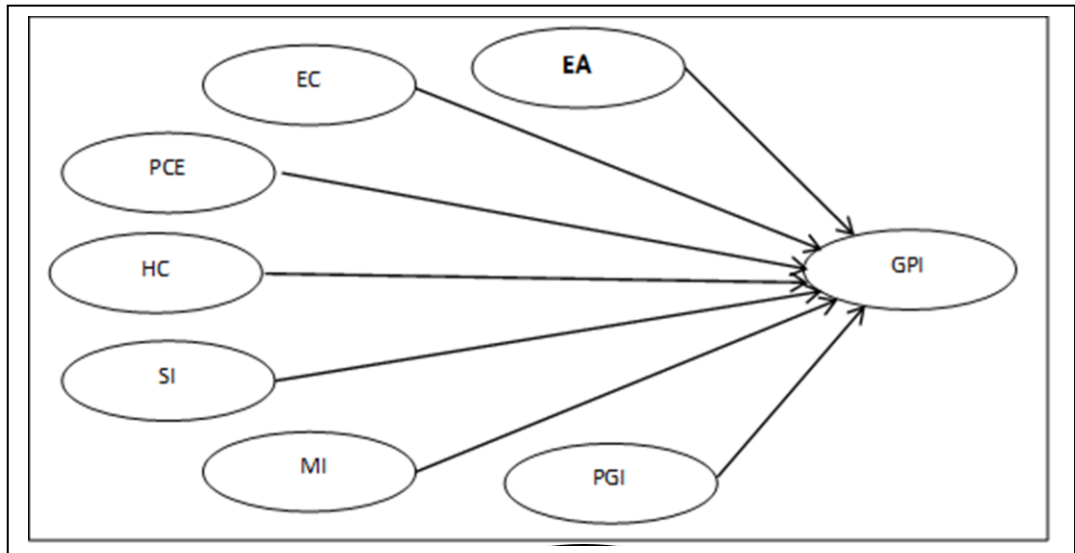


Figure 1: Conceptual model of the study

## 2.4. Antecedents of green purchase intention

### 2.4.1. Environmental attitude

Attitude is a person’s consistently favorable or unfavorable evaluations, feelings and tendencies toward an object or idea (Kotler, 2009). In line with, environmental attitude is defined as “Individuals value judgment of environmental protection which taps the individuals’ cognitive assessment of the value of environmental protection” (Lee, 2008). Environmental attitude is identified as determinant of the purchase intention and behavior towards green products in Western and Asian literature (Crosby *et al.*, 1981; Jobber, 2007; Mostafa, 2007; Lee, 2008; Mei *et al.*, 2012; Wong *et al.*, 2012 and Arttachariya, 2012). With regard to above empirical facts and evidences, we hypothesize that;

H1: Environmental Attitude positively influences on Green Purchase Intention

### 2.5. Environmental concern

Environmental Concern refers to beliefs, stance and degree of concern an individual holds toward environment (Said *et al.*, 2003). In supportive view, Lee (2008) points that, environmental concern as the degree of emotional involvement in environmental issues. Previous empirical works document that environmental concern is positively associated with green purchase attitude and its outcomes as intention and behavior (Antil, 1984; Roberts & Bacon, 1997; Kim & Choi, 2005; Lee, 2008 and Kaufmann *et al.*, 2012). Based on environmental concern and its influence in prior literatures, Hypothesis is developed as;

H2: Environmental Concern positively influences on Green Purchase Intention

## 2.6. Perceived consumer effectiveness

Perceived consumer effectiveness is denoted as the individual judgment in relation to the way and the extent of the environmental effects of his or her behavior. It might be differ from person to person due to the discrepancies among people in terms of knowledge, perception, awareness, life experience etc. In line with this, the relationship and influence between perceived consumer effectiveness and green purchase behavioral intention is documented and supported by previous Western and Asian empirical works (Ellen *et al.*, 1991; Lee & Holden, 1999; Kim & Choi, 2005; Chen, 2007; Lee, 2008 and Wong *et al.*, 2012).

Therefore, Hypothesis is developed as;

H3: Perceived Consumer Effectiveness positively influences on Green Purchase Intention

## 2.7. Health consciousness

Health Consciousness considers the promptness to undertake health actions. Health conscious people are aware and concerned about their wellness and motivated to improve and maintain their health to prevent illness by engaging in health behaviors (Newsom *et al.* 2005). In nutshell, people who are health conscious prefer the eco products for their healthy and balanced life. Furthermore, relationship between health consciousness and green purchase behavioral intention is documented positively (Rozin *et al.*, 1999; Sacker *et al.*, 2001; Tarkiainen & Sundqvist, 2005 and Wong *et al.*, 2012). Thus, we hypothesize that;

H4: Health Consciousness positively influences on Green Purchase Intention

## 2.8. Social influence and media influence

Social influence is derived from the concept as subjective norm in the Theory of planned behavior. It denotes to the perceived social pressure (pressure from parents, relatives, friends, teachers etc) to perform or not to perform the behavior. In addition, mass media and social networks also influence the consumer behavior. Several studies have been conducted on the theme that social influence is the significant predictor variable of green behavioral intention. And, the relationship between those variable are proved and documented in the Western and South Asian literature (De Leon & Fuqua, 1995; Lee, 2008; Baker & Ozaki, 2008 and Wong *et al.*, 2012). In line with this, we hypothesize that;

H5: Social Influence positively effects on Green Purchase Intention

H6: Media Influence positively effects on Green Purchase Intention

## 2.9. Perceived government initiatives

People's perception towards initiative action taken by the national government or the support given by the national government towards sustainable development and environmental protection is referred as perceived government initiatives in the light of green issues (Diekmeyer, 2008). Governments should initiate and promote sustainable events to the community to bring about sustainability awareness to the people (Mei *et al.*, 2012). In line with this, Punitha & Rahman (2011) document that government's role is another predictor of green purchasing behavior. Therefore, Hypothesis is developed as;

H7: Perceived government initiatives positively influences on Green Purchase Intention

## 3. METHOD

### 3.1. Sample method

The sample for this study covered 1325 Management undergraduates in twelve Sri Lankan State Universities (Jayapura, Peradeniya, Colombo, Kelaniya, Ruhuna, Eastern, South Eastern, Rajarata Sabara, Wayamba, Uva Wellasa and Jaffna). Green consumerism in developing countries in the light of preference, usage and dispose of the products and services differs from consumers in developed

countries (Lee, 2008). Generally, business and management graduates and undergraduates are considered as the valuable and potential customers with regards to purchasing capacity and long life span (Lee, 2008; Lee, 2009; Tan & Yeap 2012; Kumar, 2012).

Probability sampling method has been used in this study. Under the probability method, Proportionate stratified random sampling was applied to select the respondents from the population. It involves a process of stratification or segregation, followed by random selection of subjects from each stratum. The population is first divided into mutually exclusive groups that are relevant, appropriate, and meaningful in the context of the study (Sekaran & Bougie, 2012). In line with this, population is stratified in terms of state universities in nine provinces of Sri Lanka. In addition, proportionate (15%) was also used in the technique to select the respondents. Proportionate (15%) is statistically enough in the human behavioral studies under the Proportionate stratified random sampling method to come to the generalization (Hair *et al.* 2011; Sekaran & Bougie, 2012).

2170 respondents were approached in this study frame. Out of 2170 respondents, 1661 respondents retorted to the survey and returned them. Further, 336 respondents missed some questions and so were rejected for final survey. Table 01, presents the demographic profiles of the respondents.

**Table 1: Demographic profiles of the respondents**

Description	Frequency	Percent
<b>Gender</b>		
Male	412	31.1
Female	913	68.9
Total	1325	100
<b>Ethnicity</b>		
Sinhalese	1188	89.6
Tamil	66	5
Muslim	71	5.4
Total	1325	100
<b>Religion</b>		
Buddhism	1128	85.1
Hindu	57	4.3
Islam	71	5.4
Christianity	69	5.2
Total	1325	100
<b>Monthly Income of Family</b>		
Less than Rs. 10 000	215	16.2
Rs. 10 000 - Rs.30 000	636	48
Rs. 30 000 - Rs. 50 000	307	23.2
Over 50 000	167	12.6
Total	1325	100
<b>Family Size</b>		
1-3	206	15.5
4-6	1065	80.4
7 and above	54	4.1
Total	1325	100

### 3.2. Measures and instrument development

A paper – based survey instrument was designed from previously validated scales, however, these scales were modified to suit the Sri Lankan context, where appropriate. The scale of the antecedents of green purchase intention included 30 items under the seven dimensions as environmental concern, social influence, environmental attitude, perceived consumer effectiveness, health consciousness, media influence and perceived government initiatives. The scale of environmental attitude included five items adapted from Lee (2008), Wong *et al.* (2012) and Kumar (2012). Environmental concern was operationalized using four items from Kim and choi (2005) and Lee (2008). Six items

measuring perceived consumer effectiveness were adopted from Lee (2008), Kim and Choi (2005) and Chen (2007). The scale of health consciousness included five items adapted from Newsom *et al.* (2005), Michaelidou and Hassan (2008) and Suki (2013). Six items measuring social influence and media influence were extracted from Lee (2008), Kumar (2012), Aman *et al.* (2012) and Arttachariya (2012). Perceived government initiatives were operationalized using five items from Diekmeyer (2008), Chen and Chai (2010) and Mei *et al.* (2012).

Green Purchase intention was measured using the Scales developed by Follows and Jabber (1999), Kim and Choi (2005), Lee (2008) and Rehman and Bin Dost (2013). Furthermore, green purchase intention was viewed in the light of general and specific measures. General measures included three items adopted from Kim and Choi (2005), Lee (2008) and Rehman and Bin Dost (2013). Specific measures using five items were developed with the suggestion from Follows and Jabber (1999) and Kim and Choi (2005). Follows and Jabber (1999) and Kim and Choi (2005) recommended the future researchers to enhance the measures of green purchase intention by incorporating specific measures. It means that, rather depending on one specific green product, researchers test the green purchase intention in the light of number of specific green products based on the usage and it's important to the human beings. In this context, researchers in this study selected the five important green products as natural food and beverage, herbal cosmetics, detergent powder with less toxic, green electronic and green auto mobiles. By using those five specific green products, researchers in this study developed the five items under the specific measures of green purchase intention. To this end, integrating those five green products in to the scales of green purchase intention under the specific aspects provide the clear prediction about the concept green purchase intention broadly rather than single product measure. Five – point Likert type scale ranging from 1 for “Strongly disagree” to 5 for “Strongly agree” were used in this study.

Content validity was validated with the five academics expertise in the field of marketing and eco business management. In the final data survey, English version questionnaire was utilized among the respondents of the study as the young consumers, who are following the management degree programs in the medium of instruction as English in the Sri Lankan state universities. Due to that, they have enough academic background in the field of marketing and better level of English language proficiency. In addition to that, Business English course unit was taught parallel with the degree program to ensure the proficiency in English as the medium of instruction. Further, simple English terminology with synonyms aided the respondents to fill the research instruments without having difficulties in terms of subjective aspects. Further, the survey instrument was pretested using one focus group, comprising six Management undergraduates.

## **4. RESULTS AND ANALYSIS**

### **4.1. Exploratory factor analysis**

Exploratory Factor Analysis is used in this study to identify a new, smaller set of uncorrelated variables to replace the original set of correlated variables in subsequent multivariate analysis as Structural Equation Modeling. In this context, the study used exploratory factor analysis to identify the component factors from 38 items related to the antecedents of green purchase intention (30 items) and green purchase intention (8 items) by using Principal Component Analysis (PCA) with Varimax rotation. According to the factor loading and cross loading criteria, four items (04) were excluded in this study. Meanwhile, those excluded items don't make any effect on the content validity of the scale (Pal, 1986; Pal & Bagi, 1987).

### **4.2. Construct reliability and validity**

Prior to developing the structural equation modeling for hypotheses testing, the reliability and validity of the study constructs need to be tested (Bagozzi & Yi, 1988). Reliability is a measure of how consistently a scale would give the same responses if data was collected at different points in time (Hair & Anderson, 2010). Cronbach's alpha coefficients were tested for each study construct to examine internal consistency and establish the reliability of the items in the constructs (Cooper & Schindler, 2013; Hair *et al.* 2011).

EFA results enable researchers to ascertain the construct validity of items. Hair and Anderson (2010) define construct validity as “the extent to which a set of measured items actually reflects the theoretical latent construct which those items are designed to measure” (p 708). Construct validity is established by assessing the convergent validity and discriminant validity of the items amongst study constructs (Hair *et al.*, 2006). These two forms of construct validity can be tested through EFA, a discussion of which follows.

#### 4.3. Convergent validity

Hair *et al.* (2006) define convergent validity as the “degree to which the measures of the same construct are correlated” (p 137). They suggest the main rule of thumb to infer convergent validity of a dataset is that, the standardized factor loading values of items need to be above 0.5. As per the EFA, factor loading values of items were beyond the value 0.5. Hence, convergent validity is the validated one in this study frame. Simply it implies that, the items within a single factor are highly correlated.

#### 4.4. Discriminant validity

Two primary methods exist for determining discriminant validity during an EFA. The first method is to examine the pattern matrix. Variables should load significantly only on one factor. In line with this, Items that demonstrated cross-loadings greater than 0.5 on more than one factor were dropped, assuming that no pure measures of a specific construct are provided. It further entails that; discriminant validity is fulfilled based on cross loading criteria. The second method is to examine the factor correlation matrix, as shown below. Correlations between factors should not exceed 0.7. Correlation value, which is greater than 0.7 indicates a majority of shared variance. Followed by EFA of model constructs, Pearson correlation analysis was examined to verify discriminant validity among all the variables in the conceptual model. Correlation values between antecedents of green purchase intention were perfectly below the value 0.7. Hence, second method is also validated one. See Table 2 for findings.

**Table 2: Correlation matrix among each constructs**

Constructs	EA	EC	PCE	HC	SI	MI	PGI	GPI	Mean	SD
EA	1								4.64	.401
EC	0.263**	1							3.90	.636
PCE	0.305**	0.348**	1						4.11	.499
HC	0.373**	0.182**	0.401**	1					4.39	.452
SI	0.059*	0.143**	0.338**	0.214**	1				3.79	.749
MI	0.042	0.131**	0.231**	0.190**	0.440**	1			3.77	.733
PGI	-0.014	0.118**	0.223**	0.170**	0.297**	0.371**	1		3.64	.728
GPI	0.340**	0.240**	0.418**	0.447**	0.203**	0.161**	0.140**	1	4.36	.512

**Notes:** \*\*. Correlation is significant at the 0.01 level

\*. Correlation is significant at the 0.05 level

GPI: Green Purchase Intention, PCE: Perceived Consumer Effectiveness, PGI: Perceived Government Initiatives, HC: Health Consciousness, SI: Social Influence, EA: Environmental Attitude, MI: Media Influence, and EC: Environmental Concern

#### 4.5. CFA results: Measurement model

The conceptual model of this study proposes that environmental concern, social influence, environmental attitude, perceived consumer effectiveness, health consciousness, media influence and perceived government initiatives influence on green purchase intention. Hence, a CFA was run for these constructs to evaluate the model fitness and confirm the model for the subsequent analysis as structural equation model.

The CFA of the antecedents of green purchase intention had a CMIN/df value ( $X^2/\text{Degree of freedom ratio}$ ) of 3.062. Value of 3.062 is below the cutoff point. Hence, model is fitted in line with Chi-Square value to degrees of freedom. Also, fit indices, i.e. CFI, GFI and AGFI, were above 0.9,



with TLI was close to the value 0.90. Additionally, RMSEA and SRMR values were below the cut-off points. These indices suggest a good model approximation to the sample data (Table 3).

**Table 3: Summary results of model fit: Measurement model**

Fit Index	Explanation	Cut of values	Values
CMIN/df	$\chi^2$ /Degree of freedom ratio	below 5.0	3.062
CFI	Comparative fit index	>0.90	0.905
GFI	Goodness-of-fit index	>0.90	0.934
AGFI	adjusted goodness-of-fit index		0.922
SRMR	Standardized root-mean-square residual	<0.05	0.026
RMSEA	Root-mean-square error of approximation	<0.08	0.039
TLI	Tucker and Lewis Index	>0.90	0.893

Notes: Cut of values were Compiled from the contributions of Jebarajakirthy *et al.* (2014); Jebarajakirthy and Thaichon (2015); Quach *et al.* (2016); Thaichon and Jebarajakirthy (2016).

#### 4.6. Factor loading of measurement model

**Table 4: Factor loading of measurement model**

Items	Item No	Factor Loading	Composite Reliability
Environmental Attitude			0.702
It is essential to use the natural resources effectively without having harmful effect on environment	GP1	0.46	
More environmental protection (Safety) works are needed in my country	GP2	0.562	
It is important to raise environmental awareness among the people in my country	GP3	0.61	
I think environmental protection (Safety) is meaningful	GP4	0.591	
Environmental Concern			0.685
It is essential for my country to spend a vast amount of money on promoting environmental protection (Safety)	GP5	0.557	
I am worried about the environmental condition of the Sri Lanka	GP6	0.513	
Sri Lankan environment is my major concern (Fear)	GP7	0.578	
Perceived Consumer Effectiveness			0.724
I often think about how the environmental quality in Sri Lanka can be improved	GP9	0.447	
I feel I could help to solve natural resource problem by conserving (Using economically) water and energy	GP10	0.469	
I could protect the environment by buying products that are friendly to the environment	GP11	0.514	
I think, if I carry out some pro – environmental activities as recycling and reusing things in my everyday life, I would contribute a lot to our environment	GP12	0.577	
I think my participation in environmental protection would influence my family / friends to participate too	GP13	0.688	
I think my participation in environmental protection would influence general public to participate too	GP14	0.602	
Social Influence			0.743
My friend(s) advise me to protect environment	GP16	0.659	
My family member(s) advise me to protect environment	GP17	0.752	
My teacher(s) and lecturer(s) advise me to protect environment	GP18	0.689	
Media Influence			0.747
Daily Newspaper(s) influence me to protect environment	GP19	0.697	
Mass Media(s) like television / radio channels influence me to protect environment	GP20	0.788	

Social Network(s) like face book / twitter / you tube influence me to protect environment	GP21	0.624
<b>Health Consciousness</b>		<b>0.707</b>
I am usually aware of my health condition	GP22	0.567
I like to enjoy the healthy life	GP23	0.569
I generally take preventive actions to secure my health from the diseases / injury / other physical impairments	GP24	0.637
Health issues play an important role for me when I consume food / beverage (drink) items	GP25	0.523
I think, environmental changes through the polluting activities affect my health condition	GP26	0.554
<b>Perceived Government Initiation</b>		<b>0.767</b>
Environmental awareness programs are conducted to protect the Sri Lankan environment by governmental bodies	GP27	0.674
Governmental policies with regards to environmental protection are practiced to protect the environment in Sri Lankan context	GP28	0.795
Social advertisements on environmental protection and its benefits to the society are promoted via newspapers / mass medias / social networks by governmental bodies in Sri Lanka	GP29	0.672
Sri Lankan Government provides incentives (Tax relief and Concession) to the manufacturers to produce the eco-friendly products	GP30	0.536
<b>Green Purchase Intention</b>		<b>0.781</b>
I would like to purchase the natural food / beverage (Drink) item(s)	GP31	0.553
I would like to buy the cosmetic item(s), that are made from natural / herbal ingredients	GP32	0.583
In near future, I would like to buy automobile(s), that are made with energy saving techniques and recycled materials	GP35	0.614
When I have a choice between two equal products in terms of quality, I would like to purchase the one less harmful to other people and the environment	GP36	0.574
I would like to buy the environmental friendly products even if they are more expensive than non - environmental friendly products	GP37	0.63
I would like to recommend the environmental friendly products to others	GP38	0.706

**Note:** Factor Loadings were significant at 0.001 and Factor loadings were in the standardized regressions weights

In short, as per the table 3, the measurement model in this study had model fitness in terms of fit measures as CFI, GFI, AGFI, TLI, RMSEA and SRMR. Further, as per the table 4, the factor loadings and composite reliability measure are documented.

Factor loadings in the CFA especially in the measurement model were perfectly adequate one for the subsequent analysis as structural equation modeling (SEM). In addition to that, all the factor loadings were significant at 0.001 levels. It implies that, items were loaded in the correct measure significantly. Almost, factor loadings were above 0.5 except some factors. Even though, those factors were loaded significantly with 4.0 or above value in the specific construct. In the supportive view, results of EFA also ensure the convergent validity through the factor loading values beyond 0.50. In line with above discussions, significant factor loadings in CFA with factor loading values above 0.50 in EFA ensure the convergent validity (Hair & Anderson 2010; Malhotra & Dash, 2010).

Out there, one important and potential measure as composite reliability for all the constructs was above 0.6. Value of Composite reliability should be more than 0.7, value between 0.6 and 0.7 might be considered as acceptable, if the model is fitted with good fit measures (Malhotra & Dash, 2010). Finally, on the basis of CR alone, the researcher may conclude that convergent validity of the

construct is adequate (Malhotra & Dash, 2010). With regards to above arguments, convergent validity of the constructs in this study were perfectly adequate. It entails that, scale in the specific construct positively correlates with other measures of the same construct.

Moreover, Discriminant validity was also validated in the EFA process via cross loading criteria. It infers that, cross-loadings greater than 0.5 on more than one factor were dropped in EFA. Discriminant validity is a type of construct validity that assesses the extent to which a measure does not correlate with other constructs from which it is supposed to differ. EFA is the best tool to verify the discriminant validity through the cross loading condition (Malhotra & Dash, 2010).

**4.7. Developing structural equation model: Covariance relationship among antecedents**

In the green consumerism, green purchase intention was examined in the light of environmental concern, social influence, environmental attitude, perceived consumer effectiveness, health consciousness, media influence and perceived government initiatives. Those antecedents of green purchase intention are related to the values, attitudes and perception in nature. Due to its nature, antecedents are related to each other. Even though, antecedents of green purchase intention are distinctive and considered as unique factors. Distinctive nature of the antecedents or determinants of green purchase intention was verified with discriminant validity (Cross loading criteria) in EFA process and correlation matrix.

Moreover, the conceptual model of the study was developed in line with the Theory of Planned Behavior and its constructs. TPB reflects that, attitude, perceived behavioral control and subjective norm together influence the intention, which in turn lead behavior eventually. In addition, antecedents of intention are correlated with each other. It implies that, attitude, perceived behavioral control and subjective norm are correlated but it is not assumed that one construct is dependent upon another. In line with above evidences, the antecedents of green purchase intention as environmental concern, social influence, environmental attitude, perceived consumer effectiveness, health consciousness, media influence and perceived government initiatives are correlated with each other. Because, those constructs are basically based on attitude and perceptual related facts. In nutshell, it is assumed that, antecedents of green purchase intention are correlated with each other, but not dependent on another.

**4.7. Summary results of model fit: Structural model with covariance**

**Table 5: Summary results of model fit: Structural model with covariance**

Fit Index	Explanation	Cut of values	Values
CMIN/df	X <sup>2</sup> /Degree of freedom ratio	below 5.0	3.060
CFI	Comparative fit index	>0.90	0.905
GFI	Goodness-of-fit index	>0.90	0.934
AGFI	Adjusted goodness-of-fit index		0.922
SRMR	Standardized root-mean-square residual	<0.05	0.026
RMSEA	Root-mean-square error of approximation	<0.08	0.039
TLI	Tucker and Lewis Index	>0.90	0.893

A structural equation model was used to verify the research model with covariance relationship among antecedents. The results revealed the following fit indices: CMIN/df value (X<sup>2</sup>/Degree of freedom ratio) of 3.06. Value of 3.06 is below the cutoff point. Hence, model is fitted in line with Chi-Square value to degrees of freedom. Also, fit indices, i.e. CFI, GFI and AGFI, were above 0.9, with TLI was close to the value 0.90. Additionally, RMSEA and SRMR values were below the cut-off points. These indices suggest a good model approximation to the sample data.

This is the right time to check the hypotheses. Because, results of the structural model of the green purchase intention with covariance relationship among antecedents revealed that, the structural model is fitted and recognized as valuable model based on advanced statistical measures as CFI, GFI and AGFI in the Structural equation modeling.

#### 4.8. Hypotheses testing

The SEM solution reveals standardized regression weights (beta coefficients) and statistical significance ( $p$ -value) of beta weights for each path relationship, both of which determine acceptance or rejection of a hypothesis. The  $P$ -value indicates statistical significance at levels of 0.001, 0.01 and 0.05, respectively. The results of hypotheses testing were summarized in table 6.

**Table 6: Hypotheses testing relating to the determinants of green purchase intentions**

Direct Effect	Standardized Regression Weights	Un Standardized Regression Weights	Significant Level	Conclusion
Environmental Attitude - Green Purchase intention	0.131	0.150	0.019	H <sub>1</sub> . Accepted
Environmental concern - Green Purchase intention	0.061	0.048	0.241	H <sub>2</sub> . Rejected
Perceived Consumer Effectiveness - Green Purchase intention	0.254	0.198	0.001	H <sub>3</sub> . Accepted
Health Consciousness - Green Purchase intention	0.333	0.360	0.001	H <sub>4</sub> . Accepted
Social Influence - Green Purchase intention	0.032	0.022	0.480	H <sub>5</sub> . Rejected
Media Influence - Green Purchase intention	- 0.008	- 0.006	0.855	H <sub>6</sub> . Rejected
Perceived Government Initiatives - Green Purchase intention	0.009	0.007	0.811	H <sub>7</sub> . Rejected

The results in Table 6 demonstrate the influences of the determinants or antecedents on green purchase intentions. The standardized regression coefficient of the path relationship between environmental attitude and green purchase intentions was 0.131. This prediction was significant at  $p < .05$  (0.019), hence H<sub>1</sub> was accepted. This indicates that environmental attitude positively and significantly influenced green purchase intention.

The association between environmental concern and green purchase intention obtained a standardized regression coefficient of 0.061. The  $p$ -value of this path relationship was above 0.05, which indicates that this relationship was not significant. Hence, H<sub>2</sub> was not accepted. This suggests that environmental concern did not significantly influence green purchase intention.

Perceived consumer effectiveness had a positive influence ( $\beta=0.254$ ) on green purchase intention. This influence was significant at  $p < 0.001$ , thus, H<sub>3</sub> was accepted. This shows that the stronger the perceived consumer effectiveness of management undergraduates in preferring eco-friendly activities, the greater their green purchase intention.

The association between health consciousness and green purchase intentions had a standardized regression coefficient of 0.333, which was significant at  $p < 0.001$ . Hence, H<sub>4</sub> was accepted. This finding suggests that the stronger the management undergraduates' health consciousness, the higher their green purchase intention.

Social influence had a regression coefficient ( $\beta$ ) of 0.032, which was not significant ( $p > 0.05$ ). Hence, H<sub>5</sub> was not accepted. Thus, management undergraduates' social influence towards eco-friendly activities had insignificant influence on their green purchase intention.

The media influence had a negative influence ( $\beta= -0.008$ ) on green purchase intention, however the influence was insignificant ( $p > 0.05$ ). Hence, H<sub>6</sub> was not accepted. This finding suggests that media

influence towards eco-friendly activities did not significantly predict their green purchase intention. Perceived government initiatives had a regression coefficient ( $\beta$ ) of 0.009, which was not significant ( $p > 0.05$ ). Hence,  $H_7$  was not accepted. Thus, management undergraduates' perceived government initiatives had insignificant influence on their green purchase intention. This finding suggests that perceived government initiatives did not significantly predict their green purchase intention.

In summing up the results of hypotheses relating to the determinants of green purchase intention, environmental attitude, perceived consumer effectiveness and health consciousness had a significant positive influence on green purchase intention. Environmental concern, perceived government initiatives, media influence and social influence had insignificant effects on green purchase intention.

### 5. DISCUSSION

As per the previous research model as Structural Equation Model with covariance among antecedents, three important and potential constructs as environmental attitude, health consciousness and perceived consumer effectiveness were identified as the significant antecedents of green purchase intention. In line with above facts, the final model was developed with those three factors as the valuable determinants of green purchase intention. Moreover, those three antecedents are correlated with each other due to its nature. It entails that, environmental attitude, perceived consumer effectiveness and health consciousness are generally related to the value, attitude and perception of the individuals. Even though, environmental attitude, perceived consumer effectiveness and health consciousness are not dependent on each other. It means that, those are unique in nature.

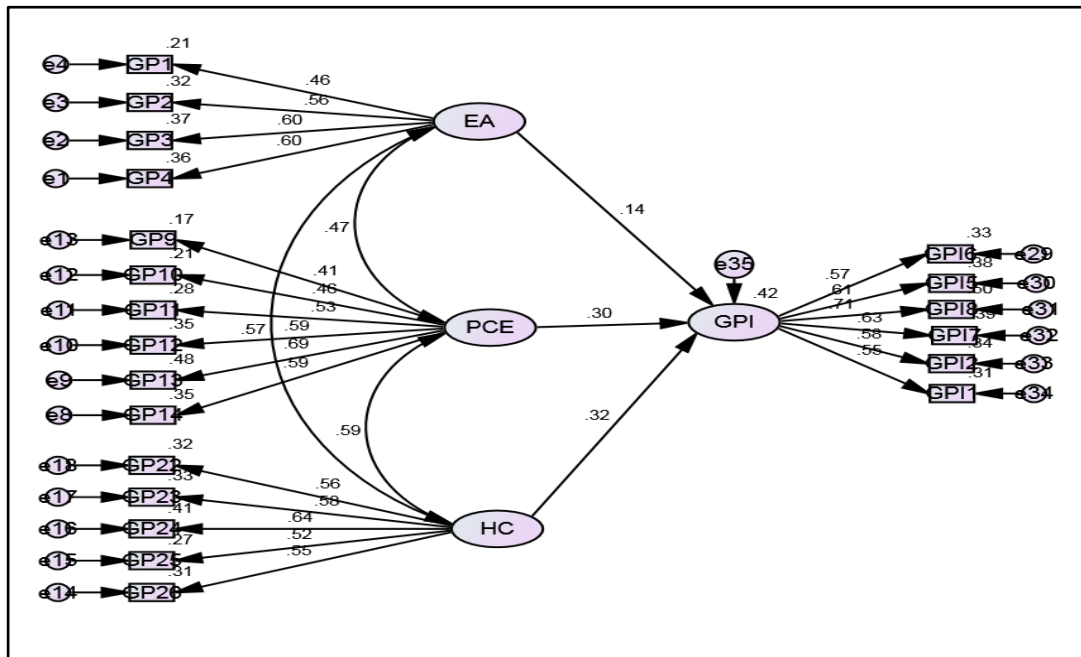


Figure 2: Structural equation model: Final model

**Note:** Factor Loadings were significant at 0.001 and Factor loadings and antecedents' direct effects were in the standardized regressions weights

A structural equation model was used to verify the final research model with covariance relationship among antecedents. The results revealed the following fit indices: CMIN/df value ( $X^2/\text{Degree of freedom ratio}$ ) of 4.186. Value of 4.186 is below the cutoff point. Hence, model is fitted in line with Chi-Square value to degrees of freedom. Also, fit indices, i.e. CFI, GFI and AGFI, were above 0.9,

with TLI was close to the value 0.90. Additionally, RMSEA and SRMR values were below the cut-off points. These indices suggest a good model approximation to the sample data.

### 5.1. Implication for theory and practice

Researchers have modified the TPB to explore green purchase intention in this study frame. The proposed integrated model of green purchase intention encompassed seven factors as antecedents of green purchase intention. Those are Environmental concern, social influence, environmental attitude, perceived consumer effectiveness, health consciousness, media influence and perceived government initiatives. Out of seven antecedents, two antecedents as environmental attitude and social influence were conceptualized with the aid of two dimensions in the TPB as attitude and subjective norm respectively. In addition to that, the important antecedent as “perceived consumer effectiveness” was constructed with help of the dimensions as “perceived behavioral control” in TPB and “Personal Norms” in the Value – Beliefs - Norm Theory. In which, perceived behavioral control denotes the individual’s perceived ability to do the action, while personal norms indicates the feelings of a moral responsible to act. It implies that, consumer’s perceived ability to protect the environment and feelings of a moral responsible to act as environmental friendly person tap the consumer mind to act as the effective consumer in green purchasing (Ellen *et al.*, 1991; Kim & Choi, 2005). In addition to the three determinants as environmental attitude, social influence and perceived behavior control extracted from TPB, remaining four antecedents as environmental concern, media influence, health consciousness and perceived government initiatives were incorporated in the model (Kim & Choi, 2005; Newsom *et al.*, 2005; Lee, 2008; Diekmeyer, 2008; Wong *et al.*, 2012; Samarasinghe, 2012; Mei *et al.*, 2012). Hence, this model seems like integrated model to predict green purchase intention among consumers in globalized level.

In practice, Marketers of green products have potential opportunity to capture the market from young consumers in Sri Lanka. Young consumers in Sri Lankan perspective have favorable mindset towards green purchase. Research findings also revealed that, green purchase intention is influenced by environmental attitude, perceived consumer effectiveness and health consciousness. In this way, Marketers of the green products might focus on marketing communication by using the themes like environmental attitude, feelings of a moral responsible and health consciousness to induce the young consumers to purchase green products. Furthermore, Marketers should focalize with specific strategy on integrated marketing communication to attract the young consumers in Sri Lankan Stand point towards green products by using above themes. Finally, governmental bodies and policy makers should draft the specific policy to induce the green consumerism in Sri Lankan Stand point. This might be the green signal to the sustainable development and it’s prosperous.

### 5.2. Limitation and further research direction

This study focalized on young consumers in Sri Lankan platform. Proposed conceptual model also might be applied among general consumers to predict the green purchase intention. This study investigated the antecedents of green purchase intention among young consumers in Sri Lankan stand point. In this aspect, seven antecedents were incorporated in to the research conceptual model. But, postecedents of green purchase intention were not combined in the model. Therefore, researchers in the field of green consumerism might incorporate the postecedents of green purchase intention as green customer satisfaction, green purchase behavior, green customer loyalty, green customer retention and green brand equity. This might give some cues to the exiting literature in the green marketing paradigm.

Longitudinal study should be taken place to examine the discrepancies between environmental attitude and behavioral intention. In this context, deep qualitative approach should be applied to ground the theory to bridge the value – action gap.

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