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# Examining the effects of green attitude on the purchase intention of sustainable packaging.

# Examinando los efectos de la actitud verde en la intención de compra de envases sostenibles.

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ABSTRACT

Environmental deterioration over the few decades has hugely increased awareness among consumers on environmental problems. Understanding the deterioration, consumers are motivated to make a contribution to the sustainable development. The growing environmental awareness is reflected in every component of modern marketing and more specifically on packaging, as packaging (plastics) causes nearly one-third of the environmental impacts. Green packaging has emerged to be the substitute for polymeric packaging. The study examined the purchase intention of green packed products under three different constructs; environment concern, health hazards, and perceived green values of consumers. Both direct effects of the constructs and effect of the constructs mediated through green attitude was measured using structural equation modelling. SEM was used in the study to analyse the data of 468 respondents and to test the proposed model. The findings of the study confirmed that the purchase intention towards green packaging is significantly influenced by environment concern, health consciousness and perceived values of consumers about green packaging.

Keywords: Environment concern, attitude, Perceived green values, Health hazards, Green packaging.

RESUMEN

El deterioro ambiental durante las pocas décadas ha aumentado enormemente la conciencia entre los consumidores sobre los problemas ambientales. Entendiendo el deterioro, los consumidores están motivados para hacer una contribución al desarrollo

sostenible. La creciente conciencia medioambiental se refleja en todos los componentes del marketing moderno y, más concretamente, en los envases, ya que los envases (plásticos) provocan casi un tercio de los impactos medioambientales. Los envases verdes se han convertido en el sustituto de los envases poliméricos. El estudio examinó la intención de compra de productos envasados en verde bajo tres constructos diferentes; preocupación por el medio ambiente, peligros para la salud y valores ecológicos percibidos por los consumidores. Tanto los efectos directos de los constructos como el efecto de los constructos mediados a través de la actitud verde se midieron utilizando modelos de ecuaciones estructurales. SEM se utilizó en el estudio para analizar los datos de 468 encuestados y probar el modelo propuesto. Los hallazgos del estudio confirmaron que la intención de compra de envases ecológicos está significativamente influenciada por la preocupación por el medio ambiente, la conciencia de la salud y los valores percibidos de los consumidores sobre los envases ecológicos.

Palabras clave: preocupación por el medio ambiente, actitud, valores ecológicos percibidos, peligros para la salud, envases ecológicos.

## INTRODUCTION

In the recent times, the issue of environmental protection has gained popularity as awareness towards the destruction of natural resources has become important (Pino et al., 2012). Now consumers are motivated to make a contribution to sustainable development, especially environmental protection (Moser, 2015). The recent researches on environment have confirmed that consumers are environmentally sensitive (Tan, 2011; Kaufmann et al., 2012; Azizan and Suki 2014; Wang et al., 2014; Braimah, 2015; Paul et al., 2016; Moser 2016). The growing environmental awareness is reflected in every component of modern marketing and more specifically on packaging (Suki et al, 2016).

Packaging has several functional benefits related to protection, transport efficiency, and brand identification (Orth and Malkewitz, 2008). It is further an important tool for value creation (Srinath and Wen, 2014) and it has emerged as a powerful promotional tool where competitors seek to gain distinctive edge (Ramaswamy and Namakumari, 2009). A serious downside of packaging is that, it is discarded directly after use and causes environmental damage (Adane and Muleta, 2011). It causes unprecedented threat to the environment due to its single-use feature (Zhang and Zhao, 2012; Emily and Rolf, 2013). Mudgel et al, (2011) have found that 63 per cent of plastic wastes are packaging materials. The household consumption causes up to one-third of the environmental impact is mainly due to packaging materials (Koenig-Lewis et al., 2014). As a result, seemingly every multinational company has developed advertising or public relations to highlight its

initiatives in this arena (Min and Galle 1997; Scott, 2008). It has had a major impact in the packaging world as packaging is often cited as a source of waste. In all markets a clear majority of shoppers cited 'made from recyclable materials' as the primary factor they used to determine if a package was environmentally friendly (Scott, 2008). Moreover, many research efforts made to suggest the Bio-composites, Bio-polymers, and Biodegradable materials (Petersen et al., 1999; Ezeoha and Ezenwanne, 2013; Othman, 2014) as plastics and polymers cannot be degraded by natural processes in short period of time.

Hence, the term 'Sustainable packaging' or 'Green packaging' is being emphasised in all levels of value chain as plastics and polymeric packaging have many detrimental effects on the environment (Lavelle et al., 2015). Green packaging presents the pattern of reduced consumption of natural resources, changing lifestyle and consumption of environmental-friendly products to meet the current needs and aspirations of the future generations (Biswas and Roy, 2015). The researches abound on the cognisance on green packaging (Min and Galle, 1997; Bergen, 2009; Srinath and Wen, 2014;Paraschos, 2015; Suki et al, 2016) express a positive corollary that consumers are aware of it. Most studies have been done in the developed countries and have analysed the antecedents of consumers' purchase of ecologically packaged goods (Koenig-Lewis et al., 2014). However, an academic contribution on green packaging is still not much in Asian region. Therefore, the present study aims to understand the determinants of consumers' purchasing intention towards green packaging. Further the paper explores the effects of determinants on purchase intention mediated through green attitude.

## REVIEW OF LITERATURE

Green purchasing behaviour is one of the pro-environmental behaviours (Mostafa, 2007). It refers to the behaviour of buying and consuming products that have minimal impacts on environment (Mainieri et al., 1997). Analysing the main determinants that directly and indirectly influence the green purchase intention, many researches have been done. Lee (2008) found the four influential factors of green purchasing behaviour, namely;social influence, self-image, perceived environmental responsibility, and environmental concern. Among these four elements, environmental concern (Koenig-Lewis et al., 2014; Tan, 2011; Boztepe, 2012; Suki et al., 2016; Prakash and Pathak, 2017) has been taken as a key determinant in deciding purchasing intention. Moreover the factors; health consciousness (Ritter et al., 2015; Azizan and Suki, 2014), perceived values towards green (Dodds et al., 1991; Zhuang et al., 2010), attitude to purchase green packaged products (Chen and Chang, 2012; Hartmann and Ibanaz, 2012; Prakash and Pathak, 2017), Social norms (Liobikienė et al. 2017; Suki et al., 2016; Coleman et al., 2011) have been identified as the major determinants of green purchasing behaviour.

Since, these influential factors have not been measured with the indirect effect mediated through the green attitude, an effort is made to test the constructs mediated through green attitude. Fig.1 outlines the framework of hypothesised relationships, which are discussed below:

Environmental Concern (EC): Consumers' attitude towards sustainability is often referred as 'environmental concern' (Bickart & Ruth, 2012). The recent researches on environmental studies have confirmed that there is a high degree of environmental concern among consumers and it has an influence on the purchase decision of the consumers (Tan, 2011; Kaufmann et al., 2012; Azizan and Suki 2014; Wang et al., 2014; Paul et al., 2016). Straughan& Roberts (1999) found that there is a positive association between environmental concern and environmentally-friendly behaviour. However, Sergio et al., (2015) found that environmental concern has no impact on the declared purchase for green products. In terms of green packaging, research efforts by Lavelle et al., (2015), Limbu et al., (2012) and Golnaz et al., (2012) confirmed that the environmental knowledge and environmental concern of consumers have an impact on the purchase decision positively. In sum, the environmental concern seems to have overall positive effects on purchasing intention. Therefore hypotheses, H1a and H1b are formulated as follows:

H1a: The environmental concern influences the intention to purchase green packaged products

H1b: The attitude towards green partially mediates the effect of environmental concern on purchase intention

Health Consciousness (HC): Consumers behave in an environmentally friendly way if any threats perceived in their existing consumption either with the product or with any attributes of the product (McCarty and Shrum, 2000). If consumers feel any threat with the existing, they seek to solve such problems by adapting the alternatives available (Bickart & Ruth, 2012). In this relevance, the existing packaging consumption (specifically plastics and polymeric packaging) has a great amount of negative impact on the environment and damaging human health (Albino et al., 2009). This health cautiousness motivates the consumers to move to the alternative packaging – green packaging. Witte (1992) found that the degree to which one feels at risk for experiencing the threat, and the severity of harm expected from the threat could cause for a behavioural change. The higher the perceived threat, the greater the fear experienced, the greater it motivates the behavioural change. Understanding this, Jeyaraman et al, (2011) extensively analysed the behavioural shift due to the health hazards of using plastic bags and found consciousness on the health of the consumers positively influences the purchasing behaviour. An extent to which a customer believes that his or her efforts can be effective in improving the individual's health or well-being, motivates one's behavioural change to engage in pro-environmental behaviours. Thus, understanding the reviewed literatures, this study aims to contribute to the studies to measure the influence of health consciousness in combination with green attitude. Hence, hypotheses H2a and H2b are proposed as follows:

H2a: The health cautiousness influences the intention to purchase green packaged products

H2b: The attitude towards green partially mediates the effect of health consciousness on purchase intention

Perceived Green Values (PGV): Zeithaml, (1988) defined perceived value as 'an overall assessment of the utility of the product based on the perception of what is received and what is given'. Maibach et al. (2008) stated that perceived values on the benefits of a product can influence the purchase behaviour positively. Consumers opt for a particular product with high perceived values (Dodds et al., 1991). Zhuang et al., (2010) identified 'the perceived values of green' is a significant factor influencing the purchase decision as the consumers expressed a positive perception towards performance of green products. On the other hand, consumers' perceptions of possible negative individual consequences of purchasing green could make them negatively motivated towards green. Some of the consequences are; paying more for adopting green lifestyle, wasting time to go to the specialized markets or to recognize the green packaging on the shelf (Barbarossa and Pelsmacker, 2014). Therefore it is evidenced that the consumers with green values, seem to have purchase intention towards green packaging.

H3a: The perceived values about green influence the intention to purchase green packaged products

H3b: The attitude towards green partially mediates the effect of perceived green values on purchase intention

Green Attitude (GATT): Attitude is a good prediction of a person's intention to act in environmentally-concerned ways (Straughan & Roberts, 1999). There is a common notion among researchers that most of the behaviours are dominated by attitudes (Chaubey et al., 2011). Though, individuals' attitude play an important role in deciding the purchasing behaviour in terms of green packaging (Limbu et al., 2012), it differs from person to person by being positive or negative, and sometimes persons could have a mixed attitude with respect to a place, thing, event or person. In the packaging arena, (Cheah & Phau, 2011) the consumers with the positive attitude towards the green packaging have a high amount of intention to purchase them. Milfont (2012) found that consumers' attitude concerning the optimistic effect on the environment has a great influence on their voluntary purchase intention aligning with their personal norms. Moreover, if the purchase behaviour is not controlled by being expensive or hard to accomplish, attitudes have a massive influence on the purchasing behaviour (Stern, 2000). The higher the environmental concern individuals have, the higher the willingness to purchase green packaging (Cheah & Phau, 2011). Accordingly it is hypothesised that:

H4: The green attitude of the consumers positively influences the intention to purchase green packaged products.

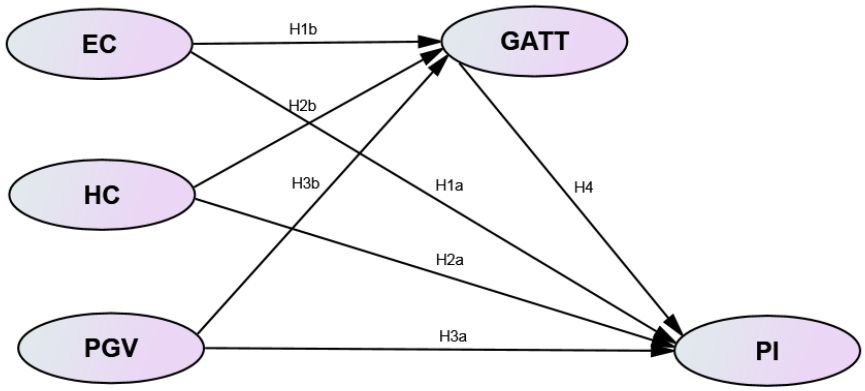


Fig.1: Conceptual Model

## MATERIAL AND METHODS

Questionnaire Development for Data Collection: The questionnaire was designed in three sections. The first section confined to general demographic questions, such as gender, age, level of education, occupation, and income level, while the second section of questionnaire encompassed the questions related to testing parameters. There were six demographic questions and 24 items for measuring variables; five items for Environmental Concern (EC), four items for Health Consciousness (HC), five items for Perceived Green Values (PGV), five items for Green Attitude (GATT), and five items for Purchase Intention (PI). However, four items have been removed while performing model fit; two items from PGV, an item from GATT, and another from PI. The items were measured by adopting five point Likert scale. It included: 1) Strongly Disagree, 2) Disagree, 3) Neither Agree nor Disagree, 4) Agree, and 5) Strongly Agree.

Data and Sample: In order to verify the developed hypotheses, a structured questionnaire as stated above was used to collect data in Thoothukudi, district of Tamilnadu. Convenience sampling method was employed. Though many researchers question about the generalizability of results of convenient sampling method, there are substantiations that suggest the usage of this method in studies concentrate on understanding the consumer purchasing behaviour studies (Cheah&Phau, 2011; Prakash&Pathak, 2017). Primarily, a pilot study was conducted among 24 respondents around Thoothukudi district and some jargons and idiomatic words were removed. Moreover, some revisions were made in the questionnaire. Further, a total of 480 questionnaires were issued and collected. Out of which 12 questionnaires were found incomplete. After the scrutiny of the completeness of the collected questionnaires, the sample size finally comes to 468.

Sample Characteristics: The demographic characteristics composition of the sample is shown in Table 1. The gender distribution was 53.2 per cent of female and 46.8 male. In terms of area of residence, the distribution was 46.2 per cent of urban and 53.8 per cent of rural respondents. Out of 468 respondents, the largest group of respondents (69.4 per cent) completed school education. The respondents who are illiterate account to only 6.4 per cent. Regarding the educational attainment the sample reflects a decent literacy. In terms of the occupation, 31.6 per cent of the respondents are working with in private entities, while 21 per cent of them are in business. Regarding the household monthly income breakdown, 28 per cent of the respondents earn more than Rs.30000.

Table 1: Demographic Profile of the Respondents

| Profile | Category | Frequency | Percentage |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Gender | Male | 219 | 46.8 |
| | Female | 249 | 53.2 |
| Age | Upto 27 Years | 116 | 24.8 |
| | 28 to 36 Years | 131 | 28.0 |
| | 37 to 45 Years | 94 | 20.1 |
| | Above 45 Years | 127 | 27.1 |
| Area of Residence | Urban | 216 | 46.2 |
| | Rural | 252 | 53.8 |
| Education | Up to HSC | 325 | 69.4 |
| | Graduate | 54 | 11.5 |
| | Post-Graduate | 17 | 3.6 |
| | Illiterates | 30 | 6.4 |
| | Others | 42 | 9.0 |
| Occupation | Government Sector | 91 | 19.4 |
| | Private | 148 | 31.6 |
| | Business | 103 | 22.0 |
| | Farmers | 89 | 19.0 |
| | Others | 37 | 7.9 |
| Monthly Income | Up to 15,000 | 85 | 18.2 |
| | 15,001 – 20,000 | 118 | 25.2 |
| | 20,001 – 25,000 | 43 | 9.2 |
| | 25,001 – 30,000 | 90 | 19.2 |
| | Above 30,001 | 132 | 28.2 |

Note: Monthly income is mentioned in INR (Indian Rupee) Rs.65 = $1

Statistical Analysis: The data were analysed using the Structural Equation Modelling (SEM) technique with the help of AMOS. The interrelationship between the constructs of the conceived model was tested using the Statistical Package for Social Science (SPSS), computer program version 21. Analysis comprises of two steps. The first step, a confirmatory factor analysis (CFA) was performed to validate the reliability, convergent, and divergent validity of the measurement model. In the final step, full structural model was estimated to assess the overall model fit and the hypothesized association with the help of standardized regression coefficients (β) and p-values.

## RESULTS

Measurement Model Analysis: The measurement model was assessed through confirmatory factor analysis (CFA) in order to check the psychometric properties of the

measured items, reliability, convergent validity, and the discriminant validity of the construct measures. Netemeyer et al., (2003) stated that confirmatory factor analysis is a commonly accepted method to test dimensionality. The measured items for the constructs are given below in table 2.

Table 2: Measurement Items

| Construct | | Measures |
|---|---|---|
| Environmental Concern | EC1 | Excess of packaging is the major cause of waste and that leads to |
| | EC2 | Plastics consume considerable time to recycle |
| | EC3 | Too much of plastic consumption leads to global warming and climate |
| | EC4 | Plastic packaging pollutes the environment as it is non-degradable |
| | EC5 | Too many layers in packing consume more natural resources |
| Health Consciousness | HCI | Plastic bags have threatened the health and survival of humans and |
| | HC2 | I deliberately avoid products that are harmful to health |
| | HC3 | Food items packed with plastics and polymeric bags pose health hazards |
| | HC4 | Food Items served hot in plastic packaging cause cancer |
| Perceived Green Values | PGV | Green Packaging avoids landfill and environmental filthiness |
| | PGV | Green Packaging is made up of biodegradable materials |
| | PGV | Green Packaging is non-toxic and it ensures food safety |
| Attitude | ATT1 | I prefer to choose the products which are less harmful to the environment |
| | ATT2 | I feel that I am contributing to make a better environment by purchasing |
| | ATT3 | I feel my pro-environmental behaviour can bring about the positive |
| | ATT4 | I would be willing to sacrifice my personal comforts and standard of living, if the packaging of the products help to protect the environment |
| Purchase Intention | PI1 | I would buy in bulk to avoid too many packaging |
| | PI2 | When I have a choice between two equal products, I would prefer to buy |
| | PI3 | I would prefer to buy products with a recyclable, and reusable packaging |
| | PI4 | I would carry cloth bags to carry things that I buy |

Reliability Analysis: The Cronbachs' alpha coefficient values were calculated to observe the reliability of each construct. The constructs are mainly considered to be valid if the Cronbachs' alpha exceeds a level of 0.70 (Yoon, 2009). All the calculated alphas in this research meet the guidelines (table 3). The alphas range from 0.784 to 0.983 which expresses a high reliability of the items. The constructs have met the accepted range of reliability of dropping some items from the construct.

Convergent Validity: In addition to the Cronbachs' alpha test, Composite Reliability (CR), and Average Variance Extracted (AVE) have been calculated and results are shown in table 3. The analysis shows that the CR values of all the constructs are greater than the threshold value of 0.60 (Bagozzi and Yi, 1988). The average variance extracted ranged from 0.571 to 0.936, above the minimum acceptable limit of 0.50 (Fornell and Larcker, 1981) and it ensures the convergent validity.

Table 3: Descriptive analysis and assessment of the measurement model

| Description | Mean | Factor Loadings | Cronbach's Alpha | CR[a] | AVE[b] |
|---|---|---|---|---|---|
| EC1 | 4.23 | .905 | 0.932 | 0.922 | 0.708 |
| EC2 | | .899 | | | |
| EC3 | | .873 | | | |
| EC4 | | .831 | | | |
| EC5 | | .708 | | | |
| HC1 | 4.29 | .953 | 0.983 | 0.983 | 0.936 |
| HC2 | | .945 | | | |
| HC3 | | .945 | | | |
| HC4 | | .926 | | | |
| PGV1 | 4.05 | .819 | 0.784 | 0.799 | 0.571 |
| PGV2 | | .800 | | | |
| PGV3 | | .789 | | | |
| GATT1 | 3.15 | .865 | 0.843 | 0.850 | 0.604 |
| GATT2 | | .839 | | | |
| GATT3 | | .776 | | | |
| GATT4 | | .719 | | | |
| PI1 | 4.16 | .917 | 0.918 | 0.925 | 0.756 |
| PI2 | | .908 | | | |
| PI3 | | .817 | | | |
| PI4 | | .798 | | | |

[a] Composite Reliability (CR) = (square of the summation of the factor loadings) / [(square of the summation of the factor loadings) + (square of the summation of the error variance)]

[b] Average Variance Extracted (AVE) = (summation of the factor loadings) / [summation of the square of the factor loadings) + (summation of the error variance)]

The mean scores of all the constructs have been given in table 3. Out of the maximum score of 5, most statements have a mean level more than 4. This implies considerably high level of agreement have been given to the measurement items by the respondents. The respondents seemed to express high degree of health consciousness (4.29 per cent). The mean value of endogenous variables GATT and PI have the mean values of 3.15 and 4.16 respectively.

Divergent or Discriminant Validity: The divergent or discriminant validity of the constructs has been analysed in table 4. In the table off-diagonal values refer to the correlation between the constructs while the diagonal values represent the square root of average variance extracted. All the constructs unanimously have the p value of 0.001 which is highly significant. The square root of AVE of each construct was larger than the correlation between the constructs which ensured the adequate discriminant validity (Chin et al., 1997). According to the results, the measurement model is completely satisfactory (table 4).

Table 4: Discriminant Validity (inter-correlations) of constructs

| Latent Variables | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 1. EC | 0.842 | | | | |
| 2. HC | .340** | 0.968 | | | |
| 3. PGV | .378** | .320** | 0.755 | | |
| 4. ATT | .330** | .311** | .280** | 0.777 | |
| 5. PI | .419** | .297** | .264** | .301** | 0.870 |

**. Correlation is significant at the 0.01 level (2-tailed).
Note: Diagonals (in bold) represent square roots of average variance extracted (AVE) while off-diagonals represent correlations

Model fitness of CFA: The model (i.e. CFA) is constructed to examine the validity of the constructs. The constructs exhibit a good model fit (x2= 542.112, x2/d.f. = 3.543, Comparative Fit index (CFI) = 0.96, Goodness of Fit Index (GFI) = 0.902, Adjusted Goodness of Fit Index (AGFI) = 0.865, Normated Fit Index (NFI) =0.947, Incremental Fit Index (IFI) = 0.962, Tucker Lewis Index (TLI) = 0.952, Root mean square error of approximation (RMSEA) = 0.074). The observed data for the CFA, fit into the recommended model fit indices (table 5).

Structural Model Analysis: In order to determine model fitness, the following indices are examined: Chi-Squared ($x^2$), degrees of freedom (df), Chi-Squared/degrees of freedom ($X^2$/df), the goodness of fit index (GFI), the average goodness of fit index (AGFI), the root mean square error of approximation (REMSEA), the comparative fit index (CFI), the Tucker Lewis index (TLI) as well as the parsimony normed fit index (PNFI) and the parsimony goodness of fit index (PGFI). The goodness of fit model indicators demonstrated an acceptable for the structural model without any mediators as the hypotheses also measure the direct influence on the dependent construct ($x^2$ = 534.48, $x^2$/d.f. = 3.471, CFI = 0.962, GFI = 0.901, AGFI = 0.863, NFI = 0.948, IFI = 0.963, TLI = 0.953, RMSEA = 0.069). These indicators meet the required fit indices and express a satisfactory model. The following table highlights the model fit indices for the conceptual model.

Table 6: goodness of fit indices for structural model

| Fit Indices | Results | Suggested values |
|---|---|---|
| Chi-square ($x^2$) | 455.821 | P-value >0.05 |

| | | |
|---|---|---|
| Chi-square/degree of freedom ($x^2$/d.f.) | 3.019 | ≤ 5.00 ( Hair et al., 1998) |
| Comparative Fit index (CFI) | 0.970 | >0.90 (Hu and Bentler, 1999) |
| Goodness of Fit Index (GFI) | 0.914 | >0.90 ( Hair et al. 2006) |
| Adjusted Goodness of Fit Index (AGFI) | 0.881 | > 0.80 (Chau and Hu, 2001) |
| Normated Fit Index ( NFI) | 0.956 | ≥ 0.90 (Hu and Bentler, 1999) |
| Incremental Fit Index (IFI) | 0.970 | Approaches 1 |
| Tucker Lewis Index (TLI) | 0.962 | ≥ 0.90 ( Hair et al., 1998) |
| Root mean square error of approximation (RMSEA) | 0.066 | < 0.08 ( Hair et al., 2006) |

After evaluating the sufficiency of the measurement model through CFA, the structural equation modelling was formed to assess the proposed hypotheses, by examining the overall model fit and the significant effects among the factors at p> 0.05. The results have been presented in table 6 and the results specify that the x2 (discrepancy) of the model was 455.821 with the degrees of freedom 151 and for the default model the discrepancy divided by degrees of freedom is 455.821 / 151 = 3.019. All the fit indices indicate an adequate fit. As a result, the hypothesised model is a good fit and satisfactory.

Hypotheses testing: All the constructs developed in the study have significant impact on the purchase intention. The influence of exogenous variables on purchase intention is exhibited in table 6. The values are; standardized regression coefficients (β), standard error (SE), and p-value. Analysing the direct and indirect influence of EC on PI is hypothesised in H1a and H1b. These hypotheses supported with the p-value of 0.001 ( p<0.01) that the environment concern positively affects the purchasing behaviour of products with green packaging. Moreover, the effect of EC on PI mediated through GATT is also supported with the p-value 0.001 (p<0.01). Hence, it could be agreed with the previous researches (Koenig-Lewis et al., 2014; Limbu et al., 2012) that the concern over environment forms green attitude which ultimately leads to the purchasing intention of the respondents. In terms of health consciousness, it has been inferred that HC significantly influences PI directly (p value >.01). It also has a significant influence on PI mediated through GATT. Hence, the hypotheses H2a and H2b,is supported with the p-value that HC of individuals affects the green purchase intention. Hypotheses H3a and H3b are formulated to identify the influence of PGV on PI, and the influence of PGV on PI mediated through GATT. The results confirm that there is a significant impact of PGV on

PI (.203, p-value < .01), and the PGV on PI (.067, p-value<0.01) mediated through GATT.Simply, all the developed constructs have the positive impact on the green purchasing intention.

Table 6: Evaluation of direct and indirect effects

| Path | Direct effect with Mediation | Direct effect without Mediation | Indirect Effect |
|---|---|---|---|
| EC→ GATT → PI (H1a & H1b) | .363, .044, .001 | .302, .059, .001 | .061, .021** |
| HC→ GATT → PI(H2a & H2b) | .203, .041, 0.001 | .144, .036, .002 | .067, .018** |
| PGV→ GATT → PI(H3a & H3b) | .191, .044, .001 | .106, .059, .031 | .068, 0.21* |
| GATT → PI(H4) | - | .241, 0.58, .001 | - |

The values given in the table (β, SE, p-value),
**p value is <0.01, *p value is 0.01 to 0.05

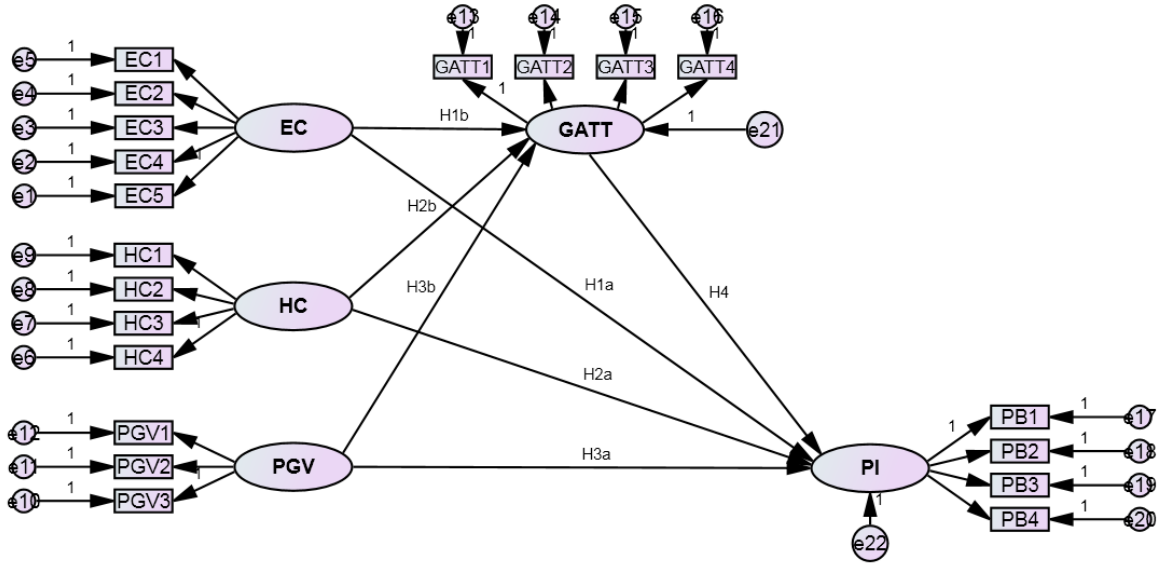


Fig.2: Standardized path estimates

## DISCUSSIONS AND CONCLUSION

The present study aims to understand the three different independent variables on purchasing intention. It further confirms the results of previous researches that have been done in this field.The researches that analysed environmental concern (Bamberg, 2003;

Koenig-Lewis et al., 2014; Tan, 2011; Aman et al., 2012; Han et al., 2009), awareness of health hazards plastic packaging (Malibach et al, 2008; Azizan and Suki, 2014), and the impact of perceived green values (Dodds et al., 1991; Zhuang et al., 2010) on purchase intention have confirmed that there is a significant influence of these factors on purchase intention. However, the effects of these factors were not analysed through the mediating effects of green attitude. Though the term 'attitude' is termed to be the most dominant factor in deciding the purchase intention of consumers (Kim and Choi, 2005; Straughan and Roberts, 1999), it becomes important to differentiate 'general environmental attitude' and the specific type of environment behaviour' (Bamberg, 2003). The specific type of environment behaviour differs according to the nature of the measurable items under a construct, and the interest of the researchers (Laroche et al., 2001). Hence, the term green attitude is named by the researches as the factor is constructed to measure the term attitude specifically to green packaging. On the other hand, Hu (2007) identified the specific attitudes in two dimensions; the degree of confidence, and the degree of compromise. These two attitudes are the most prominent factors of deciding the green purchasing behaviour of consumers. The degree of confidence affects the purchasing decision positively while the other one affects it the other way around. People who have higher degree of compromise with the existing products have lesser attention towards green purchasing (Hu, 2007). Hence, the study aimed to measure the influences of the three factors (EC, HC and PGV) on purchase intention mediated through the specific environmental attitude - green attitude.

Out of the three constructs, environmental concern has more influence on purchase intention. Environmental concern is often conceptualized as a direct predictor of purchase intentions, and this conceptualization indirectly assumes that becoming environmentally concerned will result in the adoption of an automatic set of environmental purchasing behaviours (Tan, 2011). Current findings of the study support the findings of Tan (2001) that there is a significant influence of environmental concern on the purchasing behaviour. Moreover, the results exhibit a positive influence of environmental concern on green purchase intention when the environmental concern is mediated through green attitude.

In respect of health consciousness, the awareness over the health hazard is the main reason for avoiding plastics. The term health consciousness is referred to a positive belief on health. Consumers who deliberately avoid plastics possess enough knowledge about health issues caused by plastics (Jayaraman et al, 2011). Majority of the researches (Ritter et al., 2015; Azizanand Suki, 2014) analysed consumer purchase behaviour related to food items directly related with human health. This study considered the health consciousness of consumers with reference to food items. The respondents have expressed

opinions that food items packed with plastic packaging cause dangerous diseases like cancer, the packaging causes health issues to human and other living stocks.

An overall assessment of the utility of the product or any specific attribute of the product based on the perception is termed as perceived values. Wu et al., (2015) supported the argument that image, risk, value, and perceivedusefulness are the major factors influence the purchasing behaviour. The present study measured the perception of consumers over green packaged products. The consumer perceptions on green packaging are; green packaging avoids landfill and environmental filthiness, green packaging is made up of biodegradable materials, and green packaging is non-toxic and it ensures food safety. Consumers expressed their positive belief over green packaging. The perceived green values significantly influence the purchase intention of the consumers.

The present study has proved that environmental concern of the consumers, the awareness of the health issues caused by plastic packaging, and the perceived values of consumers about green packaging significantly influence the purchase decision of the consumers. These three attributes have both direct effects and indirect effects (mediated through green attitude) on the purchase intention. Out of the three constructs, the environment concern of consumers has more influence on the purchase intention than the other constructs.

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