PREDICTIVE ANALYTICAL STUDY OF GREEN PURCHASING INTENTION BEHAVIOUR OF MALAYSIAN CONSUMERS

Chinnasamy Agamudainambhi Malarvizhi, Multimedia University
Reza Mahavarpour, Multimedia University
Sreenivasan Jayashree, Multimedia University
Abdullah Al Mamun, University Kebangsaan Malaysia
Umasri, Pondicherry University

ABSTRACT

By addressing the environmental challenges through the proper plastic waste management, this study examined the purchase intention towards green food packaging among Malaysians. For the study, data were collected from 164 respondents who were mainly students and working people, living in the state of Selangor Malaysia. The study applied Theory of Planned Behavior (TPB) and the findings revealed significant positive influences of Environmental Attitude (EA) and Internal Perceived Behavioral Control (IPBC) on the Green Purchase Intention (GPI) towards Green Food Packaging. Furthermore, Subjective Norm (SN) and External Perceived Behavioral Control (EPBC) were found having no impact on purchase intention towards Green Food Packaging. The study outcomes imply that, the Malaysian government and policymakers should focus on improving EA and IPBC by developing and imposing rules and regulations on the usages of green food packaging. At the same time relevant government agencies should take proper initiatives to increase the social awareness of using green food packing among consumers. In addition, marketers can rely on these findings to increase the purchase intention by prompting their green food packaging practices which can benefit them gaining competitive advantage as well as can ensure their pro-environmental responsibilities. Finally, the study illustrated that a joint effort and cooperation from all the stakeholders (i.e. Government, Business Operators and Consumers) is essential to ensure the full execution of green food packaging practices in reducing the plastic waste generation from food products processing and consequently achieving the Sustainable Development Goals in Malaysia.

Keywords: Environmental attitude; Internal perceived behavioral control; Subjective norm; External perceived behavioral control; Green purchase intention.

INTRODUCTION

People all over the world are becoming increasingly concerned about the environmental impact of traditional methods of product processing and packaging techniques. The emergence of environmental problems in recent years has raised public awareness of the necessity of environmental sustainability among diverse stakeholders (Auliandri, 2018). Out of 242 million tons of solid waste produced globally in 2016, Plastic waste amounted almost 12% of all

Citation Information: Malarvizhi, C. A., Mahavarpour, R., Jayashree, S., Al Mamun, A., & Umasri. (2021). Predictive analytical study of green purchasing intention behaviour of Malaysian consumers. *Journal of Management Information and Decision Sciences, 24*(6), 1-19.

municipal which mostly came from three regions: East Asia and the Pacific (57 million tons), Europe and Central Asia (45 million tons), and North America (35 million tons) (World Bank report, 2018a, b). Plastic waste intolerably pollutes the land, rivers, and oceans, posing a threat to the environment and public health not just in developing Asian countries with ineffective garbage collection systems, but throughout developed countries with low recycling rates (Parker, 2019). To control this phenomenon, environmental friendly practices by all inhabitants can minimize the hostile impacts on the environment against the existing consumed and applied traditional products (Al Mamun et al., 2020a).

Simultaneously, it is no longer debatable that food consumption and production are key contributors to the planet's environmental effects (Santos, 2021). The growing demand for dependable and sustainable food products emphasizes the importance of environmental and ethical commitments that offer customers feelings of safety and sound health (Seegebarth et al., 2016). However, despite the fact that environmental concern is one of the foundations of organic food, food packaging receives little attention, ignoring the fact that it is one of the principal sources of pollution (Santos, 2021). Packaging has served numerous purposes since its inception, including protection of the product, ease and efficiency in transportation, and consumer appraisal, while the packaging is frequently discarded after using the product, which adds a toxic footprint to the environment (Moorthy, 2021). Nevertheless, many supermarkets across Europe sell organic fruits and vegetables in plastic packaging, which contradicts the food's ecological origins (Herpen et al., 2016). The situation is similar for freshly prepared food that is packaged for takeaway and home deliveries from restaurants and diners.

In the year 2016, packaging accounted for 47% of total plastic manufactured in Malaysia (Malaysian Plastics Manufacturers Association, 2017). According to a recent World Bank study, at the end of the year 2019, Malaysia used 1.4 million tons of plastic per year, worth USD 1.3 billion in recyclable plastic material. However, only 24% of these materials are recycled, resulting in an annual economic loss of roughly USD 1.1 billion, and the majority (64%) of non-recycled PET packaging comes from food and beverage applications (World Bank Report, 2021). As a result, unsustainable packaging options jeopardize the achievement of the Sustainable Development Goals (SDGs), which also foreshadow the advent of a negative impact on the circular sustainable economy (Meherishi et al., 2019). Climate change stifles global economic progress, whereas eco-friendly products and/or green practices can efficiently alleviate the deterioration of climate conditions (Al Mamun et al., 2020a).

Malaysia, the restaurant and eateries industry is a fast-expanding and emerging business sector. In the second quarter of 2019, the Statistics Department of Malaysia reported an increase in restaurants and mobile food services (+2.9%) and beverage serving activities (+1.0%), compared to the previous year's activities (DOSM, 2019). Besides that, COVID-19 and MCO have expanded the use of food delivery services like Dahmakan & GrabFood in Malaysia, reporting a 25% increase in online food delivery revenue (World Bank report, 2021). Undeniably, plastic waste generation in households from food deliveries has increased as a result of this rise in online food delivery services. To grip this situation, for Malaysia's environmentally conscious consumers, green food packaging would be a better new option. This research has focused on eco-friendly food packaging in the food delivery services of restaurants and eateries, which is described as packaging made up of biodegradable materials derived from the fibers of animals, plants, and other species that are easily decomposable, recyclable, and degradable.

Sustainability is becoming an increasingly important factor as all stakeholders pay sincere attention to resource utilization and mitigating environmental adverse impacts (Rajesh,

Citation Information: Malarvizhi, C. A., Mahavarpour, R., Jayashree, S., Al Mamun, A., & Umasri. (2021). Predictive analytical study of green purchasing intention behaviour of Malaysian consumers. *Journal of Management Information and Decision Sciences, 24*(6), 1-19.

2020). Consumers, as the key stakeholders, are critical to the market penetration of ecologically friendly food packaging since they are the ones who decide whether or not to buy a product (Ketelsen, 2020). Consumers are becoming more aware of their environmental responsibilities in recent times, and they are increasingly inclined to choose a green product over a conventional one.

Despite the fact that customers' perceptions of eco-friendliness are influenced by packaging (Rees et al., 2019; Prakash et. al, 2017), research interest in consumer behavior towards sustainable packaging is moderate (Meherishi et al., 2019; Santos, 2021). Previous studies in the field of sustainable packaging consumer behavior primarily focused on the perspective of product consumption, such as green packaged product purchase decisions and purchase intentions concerning eco-friendly packaging (Orzan et al., 2018; Steenis et al., 2017; Magnier et al., 2016; Martinho et al., 2015) and packaging recycling behavioral patterns (Tencati et al., 2016). The literature reviewed above does not address customer behavior toward producers or the use of sustainable packaging in the food delivery chain. Although many studies have been undertaken to analyze this tendency in developed regions such as Europe and North America (Beitzen et al., 2017), there is a scarcity of studies examining this topic in developing regions such as Asia and Africa (Meherishi et al., 2019). Sustainable packaging is a novel concept that has received a lot of attention in recent years (Wandosell, 2021). Although it is gaining traction, green packaging is a relatively new concept in Malaysia. As of now, there is a gap in the existing empirical research on Malaysians' opinions and purchasing intentions toward green food packaging. Realizing the gap, this study has been conducted on purchasing intentions toward sustainable packaging in the foodservice industry in developing countries, which will help to fill these research gaps in the literature.

Most importantly, as part of the sustainable future initiative by the Ministry of Energy, Science, Technology, Environment & Climate Change (MESTECC) Malaysia, a road map has been published to act on the sustainable development goals (SDG), where the second phase of the plan requires Malaysia to expand the scope of biodegradable and compostable products for all food packaging by the year 2022 (MESTECC, 2018). To reach the milestone, there is no alternative but to concentrate on green food packaging in the restaurant and café food delivery and takeaway services. As a result, a good model for evaluating customer intentions and behavior regarding green food packaging is essential.

Furthermore, Ketelsen (2020) reviewed 49 literature and reported many research gaps, including the fact that consumers' reactions to environmentally friendly packaging are still unknown, particularly in terms of purchasing intentions and behavior, as well as strategies for overcoming existing barriers. Employing the Theory of Planned Behavior (TPB), this study aimed to determine the elements that influence Malaysian consumers' intentions while choosing green food packaging at restaurants and eateries' food delivery and takeaway services.

LITERATURE REVIEW

Green Food Packaging

A precise definition of sustainable or green packaging was developed by Han et al. (2018) that spans three levels: raw materials, manufacturing processes, and waste management. Environmentally friendly packaging should indeed be made using the least amount of energy as feasible, and it should be as light and thin as possible (Ketelsen, 2020). According to Maziriri

Citation Information: Malarvizhi, C. A., Mahavarpour, R., Jayashree, S., Al Mamun, A., & Umasri. (2021). Predictive analytical study of green purchasing intention behaviour of Malaysian consumers. *Journal of Management Information and Decision Sciences, 24*(6), 1-19.

(2020), green packaging has three basic characteristics: minimizing the use of difficult-to-decompose packaging, employing energy-efficient packaging, and using ecologically friendly packaging. According to Koenig-Lewis et al. (2014), non-eco-friendly packing materials are the primary cause of current environmental damage. Consumers are changing their plastic packaging use and shopping habits as a result of the negative effects (Su, 2020). Green packaging, according to Auliandri et al. (2018), is anticipated to be environmentally friendly and improve packaging waste reduction in addition to preserving the core product. Packaging should be biodegradable, reused, or recycled at the end of its life cycle (Han et al., 2018).

Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) is the most influential theory that explains both behavioral intention and environmental product adoption behavior (Al Mamun et al., 2020, a). The TPB examines the numerous situation-specific cognitions that influence a person's original intention to behave in a certain way (Ajzen, 1991). TPB was an extension of the Theory of Reasoned Action developed by Martin Fishbein & Icek Ajzen (1967). The intention of a person about whether or not to conduct a given behavior was the major predictor in both TRA and TPB, with the exception that TPB included an additional factor, perceived behavioral control (Moorthy, 2021). TPB has five factors that explain human behavioral intention: (i) Attitude – the person's assessment of favoring (or not favoring) the actions; (ii) Subjective norm – the person's influence of social pressure to engage in (or not engage in) a particular behavior; (iii) Perceived control – the person's perception of performing the behavior; (iv) Intention; and (v) Behavior (Ajzen, 1991).

TPB has already been widely employed by academics in a variety of sustainable product purchase intention investigations (Moorthy, 2021). Numerous studies used the TPB to examine consumers' purchasing intentions of environmentally friendly products ((Chen et al, 2016); (Mostafa et al., 2016); (Al Mamun et al., 2020 a,b), the actual purchase behavior of organic personal care products (Cheung, 2015), the intention to buy organic food products (Santos, 2021), and the intention to use green vehicles (Mohiuddin et al., 2018); (Adnan, 2017).

TPB has also been employed to investigate the purchase intention of sustainable products considering different countries and cultural contexts. Boobalan et al. (2019) utilized TPB to investigate organic consumerism in India and the United States; Hamilton et al. (2018) used TPB to investigate the intention of purchasing environmentally friendly cars among South African residents; Askadilla et al. (2017) used TPB to investigate the intention of purchasing green cosmetic products among Indonesians; Olya et al. (2019) used TPB to investigate the intention of purchasing green cosmetic products among Cypriots; Qi et al. (2019) also implemented TPB to explain consumers' green food purchase intention in China. This study adopted the original predictors in TPB and integrated environmental concern and environmental knowledge to explain the green packaging product purchase intention and purchase behavior as the other studies applied them, particularly on the purchase intention of green packaging (Moorthy, 2021–in Malaysia context; Auliandri, 2018–in Indonesia context; Santos, 2021–in Portugal context).

Afterward, perceived behavioral control has been divided into two parts: Internal Perceived Behavioral Control and External Perceived Behavioral Control (Armitage et al., 1999). Ajzen (2002) has also clarified the scope of these two parts of Perceived Behavioral Control and mentioned that certain control components are internal to the consumer's behavioral control (i.e. self-efficacy, self-confidence, knowledge, skills, background, motivation, and determination),

Citation Information: Malarvizhi, C. A., Mahavarpour, R., Jayashree, S., Al Mamun, A., & Umasri. (2021). Predictive analytical study of green purchasing intention behaviour of Malaysian consumers. *Journal of Management Information and Decision Sciences, 24*(6), 1-19.

while some are external factors to the performer (i.e. staying near to the provider; the difficulty of assigning any task; availability of support, money, and time). This study has thus applied both the Internal Perceived Behavioral Control and External Perceived Behavioral Control factors to investigate the purchase intention of green food packaging among Malaysians.

Hypothesis Development

Environmental attitude (EA) and purchase intention of green food packaging (GPI)

An environmental attitude is a person's assessment of environmental activities such as safeguarding and conserving the environment (Ajzen, 1980). According to the TPB, the degree to which a person has a favorable or unfavorable opinion or appraisal of behavior is referred to as the attitude toward the behavioral intention (Moorthy, 2021). Participants are more likely to behave when they believe that involvement in a certain behavior would benefit them (Ajzen, 1985). The attitude toward the behavioral intention is thought to be a result of easily available views about the behavior's anticipated outcomes, referred to as behavioral beliefs (Ajzen, 2020). To some degree, pro-environmental engagement or attitude represents the sacrifice of self-interest for the betterment of society and the environment; as a result, judgments about the prospective outcomes of such an attitude may be unfavorable (Al Mamun, 2020b).

Researchers remarked that having a positive attitude towards green packaging is a key basis for adopting environmental product consumption (Moorthy, 2021). Several studies have looked at the EA and people's intentions when it comes to green automobiles (Afroz, 2015); Environmentally Friendly Business Practices among Malaysians (Al Mamun, 2020b). EA has also been shown to have a positive influence on the intention to purchase ecologically friendly products in previous studies (Afroz, 2015). Analogously, a study conducted in Kolkata, India, demonstrated that consumers' attitudes have a significant impact on purchase intentions for green packaged goods (Prakash & Pathak, 2017). In the study by Auliandri et al. (2018), which focused on undergraduate students in Indonesia, the intention to purchase products with green packaging was strongly influenced by the attitudes of those students. Specifically, Moorthy et al. (2021) investigated Green Packaging purchasing intentions among Malaysians, and the results demonstrated that attitude and environmental concern both have a substantial positive influence on purchase intention and purchase behavior. This study formulated the following hypothesis based on TPB's foundations and findings from previous studies:

H1: *There is a positive impact of environmental attitude (EA) towards green purchase intention of green food packaging (GPI).*

Subjective norm (SN) and purchase intention of green food packaging (GPI)

In most cases, the acts or reactions of family and friends, consultants, or other experts play a significant role in making one's own decision (Al Mamun, 2018). The subjective norm is described by Ajzen (1991) as an individual's perception of social pressure to manifest or not manifest a behavior. SN represents the perceived societal pressure to react to outside influences on an individual's behavior (Afroz, 2015). For determining subjective norms, both descriptive and injunctive values and beliefs are required (Ajzen, 2015). Social control can be defined as any sort of disapproving feedback provided towards someone who exceeds a subjective norm (Brauer & Chaurand, 2009). An injunctive subjective norm, according to Ajzen (2020), is the expectation

Citation Information: Malarvizhi, C. A., Mahavarpour, R., Jayashree, S., Al Mamun, A., & Umasri. (2021). Predictive analytical study of green purchasing intention behaviour of Malaysian consumers. *Journal of Management Information and Decision Sciences, 24*(6), 1-19.

or subjective probability that a certain relevant person or group (e.g., spouse, family, friends, and coworkers) supports or rejects a particular behavior. Descriptive social norms, one on either side, are beliefs about whether or not important people perform the behavior themselves.

Social influence is undeniably crucial for long-term green consumption (Sharaf et al., 2015). SN was found to be a better predictor of normative behavioral intentions by Ridha et al (2017). If individual believes that people who are important to them approve of their activity, he or she is more likely to engage in it (Hee, 2000). SN has been shown to have a positive influence on the intention to purchase ecologically friendly products in previous studies (Afroz, 2015; Al Mamun et. al, 2020a, b). Family, friends, and coworkers can all be influential in adopting green behavior (Kai, 2016), recycling behavior (Osman, 2014), and green product purchases (Mei, 2012). According to Ertz et al. (2017), subjective norms have a considerable impact on the intention to use reusable containers among Asians and Westerners. The cultural environment has a significant effect on young Indonesian consumers' purchase intentions for green packaging products (Auliandri et al., 2018). Martinho (2015), on the other hand, discovered that subjective norms did not influence purchase intentions to choose green packaging in the context of Portuguese consumers. In particular, Moorthy (2021) observed that among Malaysian consumers, there is a non-significant and even negative association between subjective norms and green packaging product purchase intention. The majority of studies have discovered a substantial favorable relationship and the below hypothesis is established for this study based on these studies:

H2: *There is a positive impact of subjective norm (SN) on green purchase intention towards green food packaging (GPI).*

Perceived behavioral controls (PBC) purchase intention of green food packaging (GPI)

Individuals might have had positive attitudes toward action and a positive subjective norm, but the TPB argued that in order to undertake an action, a person must also have perceived control (Al Mamun, 2020b). Perceived behavioral control was proposed by Ajzen (1991) as an individual's assessment, including the degree of difficulty in doing an activity. PBC acts as a trigger for behavioral intention (Yadav, 2017). These perceptions are concerned with the presence of elements that can support or hinder behavioral performance (Ajzen, 2020). A person's assessment of his or her capabilities and sense of control over a situation is referred to as PBC (Ajzen, 1991). When impediments or resources are present, PBC can prevent individuals from executing an activity or can make it easier for them to perform a behavior (Ajzen, 2015).

Internal perceived behavioral control and external perceived behavioral control are two types of perceived behavioral control. Internal PBC is a person's internal belief that he or she has control over personal resources such as necessary skills, confidence, appropriate planning, and the competence to conduct the behavior (Armitage et al., 1999). Self-efficacy and controllability items must be carefully selected to provide high internal consistency in measures of perceived behavioral control (Ajzen, 2002). External PBC is defined as an individual's belief that he or she has control over external circumstances and limitations, such as money, time, and easy availability, to undertake a specific behavior (Armitage et al., 1999). Based on these two parts of the perceived behavioral control, this study attempted to investigate Internal and External Perceived Behavioral Control separately.

Citation Information: Malarvizhi, C. A., Mahavarpour, R., Jayashree, S., Al Mamun, A., & Umasri. (2021). Predictive analytical study of green purchasing intention behaviour of Malaysian consumers. *Journal of Management Information and Decision Sciences, 24*(6), 1-19.

The availability of required opportunities and resources, which represent an individual's actual power over a certain behavior, influences behavioral performance to some level (Ajzen, 1991; Wang, 2018). PBC was identified as the most significant predictor of green product purchase intention by Yadav & Pathak (2017), and its positive and significant influence on the context of sustainable packaging was demonstrated by Auliandri et al. (2018). Green packaging purchase intention was previously found to be influenced by perceived behavioral control in studies by Van Birgelen et al. (2008), Martinho et al. (2015), Chaudhary & Bisai (2018). PBC has been shown to have a favorable influence on consumers' actual purchases as well in a number of studies (Afroz, 2015; Zhang, 2015; Al Mamun et. al, 2018). In a recent study, Santos (2021) observed that perceived behavioral control has a positive and strong influence on the purchase intention of organic food in sustainable packaging among Portuguese consumers. According to Moorthy (2021), among Malaysian consumers, there is a positive significant association between perceived behavioral control and green packaging goods purchase intention. In contrast, Choi and Johnson (2019) claimed that perceived behavioral control has little effect on the desire to buy products that support sustainable development because their availability has already increased. Therefore, the following hypothesis was created based on the major findings of previous studies:

H3: *There is a positive impact of internal perceived behavioral control (IPBC) on green purchase intention towards green food packaging (GPI).*

H4: *There is a positive impact of external perceived behavioral control (EPBC) on green purchase intention towards green food packaging (GPI).*

RESEARCH METHODOLOGY

Population and Sample

The population for this study was chosen considering the respondents who are concerned about environmental effects and green packaging when purchasing food on a regular basis. As a result, the study has concentrated on two groups of Malaysians: students and working people. Furthermore, a considerable percentage of people in these two groups live in hostels and rely on takeaway meal services from restaurants and cafeterias. According to the population distribution by state, Selangor is the most populated state (6.54 million), accounting for about 20.1% of the entire population of Malaysia (DOSM, 2020). Therefore, the state of Selangor was chosen to collect data from the respondents for this study. Because of the population density, it was also likely to access a considerably larger proportion of working people.

Convenience sampling has been applied to determine the sample size for this study. Convenience sampling a sampling technique that involves collecting data samples from persons who are easily accessible. Subjects for a study are readily available in the researchers' immediate vicinity. The survey can be completed in a short period that saves a significant amount of time. According to Krejcie & Morgan (1970), for most studies, a sample size of greater than 30 but less than 500 is suitable. According to Hair et al. (2010), earlier researchers used this figure as sensible for statistical analysis. Bagozzi & Yi (2012) also stated that the sample size for a study should be greater than 100, preferably greater than 200. Thus, a sample size of within the range of 100 to 200 respondents is considered to be fair for this study.

Data Collection

Citation Information: Malarvizhi, C. A., Mahavarpour, R., Jayashree, S., Al Mamun, A., & Umasri. (2021). Predictive analytical study of green purchasing intention behaviour of Malaysian consumers. *Journal of Management Information and Decision Sciences, 24*(6), 1-19.

The data from the respondents was gathered from eateries and cafeterias in malls and university regions across the state of Selangor. The researchers distributed a self-administered questionnaire to the respondents. Customers were primarily addressed for the responses at breakfast and lunch time. 250 questionnaires were delivered to the customers in restaurants and cafeterias in Selangor's several districts, including Gombak, Batu Caves, Petaling Jaya, Shah Alam, and Sepang. The validity of the acquired data was statistically verified, and the after checking all the completeness of the collected data, final sample then deemed to be adequate (i.e., 164 respondents, which is 65.6% response rate).

Measures of Construct

With fairly minor adjustments to address the needs of this study, the survey questionnaire was adapted from previously tested and validated surveys. It was important to use simple, understandable, and unbiased wordings during the questionnaire's design so that respondents would find it appealing and respond with full enjoyment and exposure of their own opinions. Four items from Tanner & Kast (2003) and McCarty & Shrum (1994) studies were used to operationalize environmental attitude (EA). These questions were created to find out how respondents felt about the necessity of environmental protection while buying packaged food and how food packaging contributes to environmental preservation. The items from Armitage et al. (1999) were used to measure subjective norms (SN), internal perceived behavioral control (IPBC), and external perceived behavioral control (EPBC). Questions developed by Paul et al. (2016) were adapted to measure Green Purchase Intention (GPI). This part of the questionnaire intended to measure respondents intentions of moving to environmentally friendly packaged food, spending more on eco sustainable packaged food products, and purchasing green packaging for food deliveries in the future, among other available options. All of the characteristics were measured using a 5-point Likert scale, with 1 indicating severe disagreement and 5 indicating strong agreement.

Method of data Analysis

Due to the obvious nature of the data collection, Statistical Processing for the Social Sciences (SPSS version 25.0) was used to analyze the acquired data from the respondents. The applicability of SPSS for performing regression and multi-regression analysis is widely applied in consumer behavior researches.

Internal consistency method with a cut-off criterion of Cronbach alpha value of 0.60 or above (Hair et al., 2010) was used to evaluate the reliability of the study instruments (i.e., environmental attitudes, subjective norms, internal perceived behavioral control, external perceived behavioral control, and green purchase intention).

Correlation Analysis is a statistical technique that is commonly used to explore the relationships strength among the variables of a study and shows the significance of the linkages between the variables (Pearson et al., 2013). Furthermore, since the Pearson correlation analysis also indicates the directions of the associations between independent and dependent variables (Pallant, 2001), this study performed Pearson correlation analysis. According to Hair et al.

Citation Information: Malarvizhi, C. A., Mahavarpour, R., Jayashree, S., Al Mamun, A., & Umasri. (2021). Predictive analytical study of green purchasing intention behaviour of Malaysian consumers. *Journal of Management Information and Decision Sciences, 24*(6), 1-19.

(2010), +1 implies a perfect positive association, 0 shows no relationship, and -1 points out a perfect negative or reverse relationship.

In addition, this study also conducted analysis to check the multicollinearity issue. To ensure no collliniatiry of the study data set, value of the variance inflation factor (VIF) should be less than 3.3 (Diamantopoulos & Siguaw, 2006) and the value of the tolerance level should be more than 0.1 (Kleinbaum et al., 1988).

Most researchers consider multiple regression to be a more advanced version of correlation, and it is used to investigate the predictive ability of a group of independent variables – on a single dependent variable (Pallant, 2001). The hypotheses of this study were tested using multiple regression analysis (standard regression), which was used to evaluate the extent of the interrelationships of the independent variables (EA, SN, IPBC, and EPBC) on the dependent variable (GPI). The crucial threshold of significance for making decisions on these hypotheses was set at p-value of 0.05, which related to the factor determinants in customers' purchase intentions of green food packaging for food deliveries in Selangor Malaysia**.**

RESULTS

Demographic Breakdown of Respondents

From the collected data, Table 1 gave a demographic breakdown of the sample of respondents in each of the locations. 56.71% of respondents were Female and 43.29% were Male. Majority percentage (71.30%) respondents are students. Nonetheless, 47% of consumers were Malay, followed by Chinese 20.7%. In terms of age majority of the respondents (34.80%) were of the age from 20 to 25 years, then 25% were between 16 to 20 years and rest were above 25 years. As the majority of the respondents were students, in a consequence the majority (45.10%) respondents had no monthly income followed by 15.90% had monthly income between RM 4000 to RM 6000, 15.20% had monthly income of less than RM 1000. In terms of marital status the majority of the respondents (79.88%) were Single and rest 20.12% were married.

TABLE 1
DEMOGRAPHIC BREAKDOWN OF THE RESPONDENTS

Variables	Categories	N	Percent (%)
	Male	71	43.29
Gender	Female	93	56.71
	Total	164	100.00
	student	117	71.30
Occupation	working people	47	28.70
	Total	164	100.00
	Malay	77	47.00
	Chinese	34	20.70
Ethnicity	Indian	19	11.60
	Others	34	20.70
	Total	164	100.00
	16-20 years	41	25.00
	20-25 years	57	34.80
Age	25-30 years	29	17.70
	Above 30 years	37	22.60

Citation Information: Malarvizhi, C. A., Mahavarpour, R., Jayashree, S., Al Mamun, A., & Umasri. (2021). Predictive analytical study of green purchasing intention behaviour of Malaysian consumers. *Journal of Management Information and Decision Sciences, 24*(6), 1-19.

	Total	164	100.00
	Less than RM1000	25	15.20
	RM1000-2000	14	8.50
Monthly Income	RM2000-4000	18	11.00
	RM4000-6000	26	15.90
	More than RM6000	7	4.30
	None	74	45.10
	Total	164	100.00
	Married	33	20.12
Marital Status	Single	131	79.88
	Total	164	100.00

Reliability and Validity

Analyzing the data set of this study, Table 2 was presented the results of the constructs' reliability and validity assessment. All of the constructs in this study was found to have Cornbach's Alpha reliability values between 0.738 and 0.898, which were higher than the threshold value of 0.6 (Hair et al., 2010), and implied that all of the variables were reliable. VIF was used in this study to assess the multicollinearity issue, and the analysis indicated that all of the determinants had VIF values ranging from 1.227 to 1.510, which were below the threshold value of 3.3 as indicated by Diamantopoulos & Siguaw (2006). Furthermore, the tolerance values of the all the constructs were also found to have values more than the threshold value of 0.1 (Kleinbaum et al., 1988) indicating that multicollinearity was not an issue for the dataset and further analysis can be performed.

TABLE 2
RELIABILITY AND VALIDITY

	Mean	Std. Deviation	Cronbach's Alpha	Cronbach's Alpha (Standardized Items)	Tolerance	VIF
EA	4.490	0.507	0.721	0.738	0.740	1.351
SN	3.910	0.739	0.801	0.801	0.706	1.416
IPBC	4.040	0.670	0.854	0.855	0.662	1.510
EPBC	3.780	0.734	0.770	0.769	0.815	1.227
GPI	4.300	0.593	0.874	0.879		

Note: Independent Variables: EA: Environmental Attitudes; SN: Subjective Norms; IPBC: Internal Perceived Behavioural Control; EPBC: External Perceived Behavioural Control; GPI: Green Purchasing Intention; GBB: Green Buying Behavior. Source: Author generated from data analysis.

Correlation Analysis

Pearson's correlation analysis was conducted to examine the strength and direction of the relationship between two variables. Table-3 demonstrated that all the independent variables were highly correlated with Green purchase intentions. The presence of significant and positive correlations between each pair of tested variables was implied by a positive sign of correlation values ranging from 0.535 to 0.23, ensured that all the associations are positive. The strength of the correlations between the variables was reported with correlation values ranging from 0.535 to 0.23, showing modest to weak correlations between the variables studied.

Citation Information: Malarvizhi, C. A., Mahavarpour, R., Jayashree, S., Al Mamun, A., & Umasri. (2021). Predictive analytical study of green purchasing intention behaviour of Malaysian consumers. *Journal of Management Information and Decision Sciences, 24*(6), 1-19.

TABLE 3
PEARSON'S CORRELATION ANALYSIS

	GPI	EA	SN	IPBC	EPBC
GPI	1.000				
EA	0.535**	1.000			
SN	0.388**	0.423**	1.000		
IPBC	0.442**	0.446**	0.458**	1.000	
EPBC	0.261**	0.230*	0.338**	0.391**	1.000

Notes: Significance (1-tailed) at: *p <0.01 and **p<0.001; ns: not significant; Dependent variable: GPI: Green Purchasing Intention; Independent Variables: EA: Environmental Attitudes; SN: Subjective Norms; IPBC: Internal Perceived Behavioral Control; EPBC: External Perceived Behavioral Control

Multiple Regression Analysis

The R2 Values have been represented in Table-4 for Green Purchase Intension as dependent variable. Results showed that the R-square value = .352 which indicated 35.2% of the variation in Green purchase intention can be explained by the independent variable (i.e. EA, SN, IPBC and EPBC).

TABLE 4
R SQUARE VALUE

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.593	0.352	0.336	0.483

Analysis the ANOVA test outcomes, indicated that the respective determinants (EA, SN, IPBC, EPBC) against the Green Purchase Intention (GPI), (presented in Table 5) had significant level of p<0.05, with F-test (F=21.607). Thereby signifying that the model along with all the determinants was indeed valid.

TABLE 5
ANALYSIS OF VARIANCE (ANOVA)

	Sum of Squares	df	Mean Square	F	Sig.
Regression	20.185	4.000	5.046	21.607	.000[b]
Residual	37.134	159.000	0.234		
Total	57.320	163.000			

a: Dependent variable: Green Purchase Intention; b: Independent Variables: EA; SN; IPBC; EPBC

Standardized beta Coefficients were used to determine the contribution of each of these determinants to the dependent variable of respondents, and the values of beta coefficient for the determinants are presented in Table 6.

Here, for every unit increase in environmental attitude, green purchase intention will increase by 0.452 units confirming a positive association among EA and GPI. The p-value which is less than 0.05 also indicated that EA has a significant positive impact on GPI. Hence, Hypothesis H_1 has been supported. The same association has been seen between Internal Perceived Behavioral Control and Green Purchase Intention with a positive beta value of 0.171 and a significant p-value of 0.015. Thus Hypothesis H_3 has also been supported.

Citation Information: Malarvizhi, C. A., Mahavarpour, R., Jayashree, S., Al Mamun, A., & Umasri. (2021). Predictive analytical study of green purchasing intention behaviour of Malaysian consumers. *Journal of Management Information and Decision Sciences, 24*(6), 1-19.

Analysis revealed that Green purchase intention will increase by 0.094 units for every single unit increase in subjective norms. Thus, SN has a positive association with GPI. On the other hand SN had a p-value of 0.127 which is not statistically significant and indicating that SN has no effect on GPI. Hence, Hypothesis H_2 was denied. Similar association has been observed between External Perceived Behavioral Control and Green Purchase Intension having a positive b value (0.046) along with a non-significant p-value (0.422). Therefore, Hypothesis H_4 has been rejected as well.

The analysis also revealed that Environmental Attitude (with a standardized beta of 0.386) had the strongest impact on green purchasing intention, followed by internal perceived behavioral control (with standardized beta of 0.193).

TABLE 6
PATH COEFFICIENTS

	Unstandardized Coefficients		**Standardized Coefficients**	**T**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	1.040	0.363		2.870	0.005
EA	0.452	0.087	0.386	5.205	0.000
SN	0.094	0.061	0.117	1.536	0.127
IPBC	0.171	0.069	0.193	2.466	0.015
EPBC	0.046	0.057	0.057	0.806	0.422

Notes: Dependent variable: GPI: Green Purchase Intention; Independent Variables: EA: Environmental Attitudes; SN: Subjective Norms; IPBC: Internal Perceived Behavioral Control; EPBC: External Perceived Behavioral Control

DISCUSSION

The results of the hypothesis testing of this study are further discussed respective compared with past studies to determine how likely the results of Green food packaging purchase intention support or rejects previous studies such as green packaging in Malaysia and also in other country context. The possible explanations of supporting and rejecting previous research results have also been discussed.

According to the findings of this study, environmental attitudes have a strong beneficial impact on green food packaging purchase intent. This result is consistent with the findings of Prakash & Pathak (2017), Auliandri et al. (2018), and all of those researches focused on green packaging items based in different countries other than Malaysia. In the context of Malaysia, the study conducted by Moorthy et al. (2021), reveled the same result as well. Thus it can be said that the association between Environmental Attitude and Green Purchase Intention is logical since people who have a positive attitude about food deliveries with green food packaging are more likely to buy them than people who have a negative attitude toward green food packaging (Moorthy et al., 2021).

The study analysis illustrated that, Subjective norm had no significant effect on purchasing intention towards green food packaging, which is in line with the observations of a previous study by Moorthy (2021) on Malaysian consumers' purchase intentions toward green packaging products. This result is also consistent with the few other study findings of Mohiuddin et al. (2018) & Tan et al. (2017) in Malaysia, but contradicted with the findings of Auliandri et

Citation Information: Malarvizhi, C. A., Mahavarpour, R., Jayashree, S., Al Mamun, A., & Umasri. (2021). Predictive analytical study of green purchasing intention behaviour of Malaysian consumers. *Journal of Management Information and Decision Sciences, 24*(6), 1-19.

al. (2018) & Ertz et al. (2017) in other countries. This result reflected two possibilities. Firstly, the fact that Malaysian customers are resistant to being persuaded by others to buy green packaging products. It can be said that, if individuals decide to purchase green food packaging, the opinions of other people surrounding them, may have a little influence on their purchase decision. Secondly, environmental knowledge in Malaysians is still weak in comparison to citizens of other nations (Moorthy et. al, 2021), which results in a lack of support from family, friends, and coworkers to consume products with green food packaging.

The results of the current study indicate that internal perceived behavioral control has significant positive impact on green purchase intention the result is in accordance with the studies focusing on green packaging product conducted by Moorthy (2021), Martinho et al. (2015), Chaudhary & Bisai (2018). Therefore, majority of the consumers in Malaysia display self-confidence in a purchase decision on products with green packaging.

Internal perceived behavioral control has a significant positive impact on purchase intention, of green food packaging according to the findings of this study. The result is in accordance with the outcomes of the studies conducted by Moorthy (2021), Martinho et al. (2015), Chaudhary & Bisai's (2018) based on overall perceived behavioral control towards purchase intention of green packaging products. Considering the internal Perceived Behavioral control out of whole PBC, it can be concluded that, majority of Malaysian customers are self-confident and strong in self-efficacy in their buying decisions for products with green food packaging.

The study result showed that External perceived behavioral control has no substantial impact on purchase intention towards green food packaging. This finding is analogous with that of Choi and Johnson's (2019) study of green packaging product purchasing intention among Americans. Thus it might be argued, customers believe that their resources and efforts are insufficient to purchase foods that delivered with green food packaging. In other words, the food delivered in green packaging might be higher in cost compare to the normal food deliveries which restricts customer to purchase that. Alternatively, the scarcity of the restaurants using green food packaging in the nearby areas to the respondents possibly be another reason to show low intention of purchasing food with green packaging.

IMPLICATIONS

Theoretical Implications

Through the use of Theory of Planned Behavior, this paper addresses a key gap in the analysis of customers' green purchase intention and green buying behavior towards green food packaging in Malaysia as part of consumers' adoption of sustainable practices. Aspects of attitudes and intention have been drawn from Theory of Reasoned Action in the enlarged TPB model. Furthermore, perceived behavioral control has been studied utilizing both internal and external perceived behavioral control (Armitage et al., 1999) to better understand the model including both green behavioral outcomes in a single study. Because there are few studies in Malaysia that focus on products with green packaging (Moorthy, 2021) and specifically in the green food packaging sector, this study added to the body of knowledge by offering new insights into this specific setting in Malaysia and other developing nations.

Practical Implications

Citation Information: Malarvizhi, C. A., Mahavarpour, R., Jayashree, S., Al Mamun, A., & Umasri. (2021). Predictive analytical study of green purchasing intention behaviour of Malaysian consumers. *Journal of Management Information and Decision Sciences, 24*(6), 1-19.

This study addressed gaps by examining Malaysian consumers' green purchase intentions in relation to green food packaging, as well as tried to assist Malaysia's government in developing and implementing policies aimed at reducing adverse impact on the environment through disposal of plastic waste from food delivery packaging. The study results contributed to the Malaysian government's environmental policymaking, which focuses to stimulate pro-environmental changes among citizens and business groups through promoting green purchase intention. To begin with, the government should consider implementing green food packaging certification to encourage eateries to be more environmentally conscious and responsible. Secondly, Malaysian restaurants and cafeterias who use green food packaging practices might consider being eligible for tax rebates. In third step, the Malaysian government must raise public awareness and concern about the adverse environmental impacts, as the findings of this study show that environmental views have a major impact on purchase intention of green food packaging. As forth strategy, government should prioritize offering incentives or subsidies to encourage or generate interest in green food packaging in restaurants and eateries. At a last step but not least, the government may consider imposing strict penalties on restaurants and cafeterias that have yet to adopt green food packaging strategies.

Considering the large market size of the restaurant business in Malaysia, the impact of green food packaging approaches can make a significant difference on the environmental sustainability. Restaurants and eateries who showed great interest in environmental concerns and participate actively in green food packaging standards, they are bringing a substantial competitive advantage for their brand. Furthermore, the use of green food packaging encourages customers to believe the restaurants' environmental promises as well as the quality of the food they offer, which ensures customers to be safe from the health hazards. It can empower green customer loyalty to keep their relationship with a brand to rebuy or be the patron regularly in the future (Asgharian et al., 2012). Therefore, restaurant operators are suggested to offer a combination of hard rewards (comprise discounts and gifts) and soft recognition rewards (special treatment) (Bridson, et al., 2007) to gauge customers' intention towards green food packaging. The findings of the study showed that subjective norm has no impact on purchase intention among consumers when it comes to the topic of green food packaging. Thus, marketing tactics should be planned so that consumers can get more knowledge and information regarding the benefits of the green food packaging that can increase their inclination to purchase. Restaurants and cafes can organize green packaging campaigns with celebrities, where customers can assemble and persuade one another to buy from food vendors who use green food packaging. Additionally, restaurants should also engage in social promotions and distribute flyers with beneficial importance of green food packaging that can differentiate their food brand from a traditional one. It would highlight how their environmental sustainability policies are helping to preserve natural resources. The study results showed that female respondents have a higher purchase intention of green food packaging than males, and also the majority respondents are between the ages of 16 and 30. From these findings restaurants and cafeterias can focus to these demographic groups not only to attract them, but also to establish more loyal consumers who can propagate positive word-of-mouth for their eatery brand.

Moreover, by highlighting the visibility of green packaging movement in Malaysia, this study opened opportunities for package supplying entrepreneurs in the restaurant industry. This created a good business prospect for the dining item manufacturers because restaurants operators who have already transformed to green food packaging products will continue searching for the alternative to go green such as recyclable/energy saving dining materials to convert them fully as

Citation Information: Malarvizhi, C. A., Mahavarpour, R., Jayashree, S., Al Mamun, A., & Umasri. (2021). Predictive analytical study of green purchasing intention behaviour of Malaysian consumers. *Journal of Management Information and Decision Sciences, 24*(6), 1-19.

green restaurants eventually. The restaurants' suppliers or packaging partners are recommended to diversify their existing traditional businesses to green food packaging products. Similar to the interest in the context of green purchase intention, the findings from this study can help manufacturers or marketers from other industries who want to go green to better segment, target, and position their green products and services.

CONCLUSION

The study was conducted to find the impacts of Environmental Attitude, Subjective Norm, Internal Perceived Behavioral Control and External Perceived Behavioral Control on green purchase intention and green buying behavior towards green food packaging among the customers of restaurant and eateries in various places in Selangor, Malaysia. The findings disclosed that 87% of the respondents exhibited their concern for food packaging. The study outcomes also revealed that Environmental Attitude and Internal Perceived Behavioral Control have significant influences on Green Purchase Intension while Subjective Norm and External Perceived Behavioral Control had no favorable impact. It indicated that if restaurants and cafeterias come up with some advance pricing and marketing strategies for the green food packaging, it can create positive waves among the customers in Malaysia. This study ultimately benefits environmentally conscious consumers in Malaysia by potentially providing them (through green food packaging) a distinctive participation in healthy food consumption. Joint efforts and cooperation from all parties (i.e. Government, Business Operators and Consumers) are vital to generate more practical and responsible consumption behavior in the country and thus ensure a sustainable environment. From the practical viewpoint, pro-environmental attitude among the customers need to be nurtured through societal awareness. Finally, the unsustainable practices triggered by wasteful runaway consumerism will be reduced if each individual makes small changes to his or her lifestyle and consumption habits by selecting green food packaging services provided by restaurants and cafeterias. Thus, each individual can make a worthy contribution to achieving smart environmental goals in Malaysia.

However, this research encountered some limitations. To begin with, this is a cross-sectional approach that restricts the controllability of unobserved heterogeneity. The cross-sectional technique has drawbacks in that it does not provide a solid foundation for proving causality. Longitudinal study in the future will allow variable patterns to be determined more effectively using data collected over a longer period of time. Secondly, the study has focused on the students and working people as the targeted segments to analyze the green purchase intention and green buying behavior in Malaysia towards green food packaging. However incorporating the other segments such as housewives, retired elderly people can bring more insights in the future. Thirdly, since the study adopted TPB with its core predictors for the investigation of Green Purchase Intention, there could have some other factors (i.e. knowledge, cost, quality, design and so on) that can influence the ultimate green buying behavior for the green food packaging. Thus, it has also broadened the pathway of implementing other variables and behavioral intension theories (i.e. Diffusion of Innovation, Social Cognitive Theory, and so on) to examine the innovation adoption of Green Food Packaging. Finally, the data collected and analyzed in this study are obtained from customers in restaurants and cafeterias in Selangor Areas only (i.e., Shah Alam, Petaling Jaya, Sepang, Klang, Gombak) in Malaysia. Thus, the validity of an instrument cannot be firmly established on the basis of a single study collected from a single country within a single service sector. This in fact limited the generalizability of

Citation Information: Malarvizhi, C. A., Mahavarpour, R., Jayashree, S., Al Mamun, A., & Umasri. (2021). Predictive analytical study of green purchasing intention behaviour of Malaysian consumers. *Journal of Management Information and Decision Sciences, 24*(6), 1-19.

the findings and future studies should examine the model focusing on various demographic populations and from a cross-cultural and cross-country perspective with diverse economic, environmental, and technological circumstances to explore the behavioral intention and purchase behavior of green food packaging.

REFERENCES

Adnan, N., Nordin, S. M., & bin Abu Bakar, Z. (2017). Understanding and facilitating sustainable agricultural practice: A comprehensive analysis of adoption behaviour among Malaysian paddy farmers. *Land Use Policy*, *68*, 372-382.

Afroz, R., Masud, M. M., Akhtar, R., Islam, M. A., & Duasa, J. B. (2015). Consumer purchase intention towards environmentally friendly vehicles: an empirical investigation in Kuala Lumpur, Malaysia. *Environmental Science and Pollution Research*, *22*(20), 16153-16163.

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In *Action control* (pp. 11-39). Springer, Berlin, Heidelberg.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes 50*(2), 179–211.

Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior 1. *Journal of applied social psychology*, *32*(4), 665-683.

Ajzen, I. (2015). Consumer attitudes and behavior: the theory of planned behavior applied to food consumption decisions. *Italian Review of Agricultural Economics*, *70*(2), 121-138.

Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies*, *2*(4), 314-324.

Ajzen, I. Fishbein, M. (1980). Understanding Attitudes and Predicting Social Behavior. *Prentice-Hall, Englewood Cliffs.*

Al Mamun, A., Hayat, N., Malarvizhi, C. A. N., & Zainol, N. R. B. (2020). Economic and environmental sustainability through green composting: a study among low-income households. *Sustainability*, *12*(16), 6488.

Al Mamun, A., Mohamad, M. R., Yaacob, M. R. B., & Mohiuddin, M. (2018). Intention and behavior towards green consumption among low-income households. *Journal of environmental management*, *227*, 73-86.

Al Mamun, A., Mohan, K. M., Nawi, N. C., Masud, M. M., Muniady, R., & Zainol, N. R. (2020). Environmentally Friendly Business Practices among Low-Income Households in Rural Peninsular Malaysia. *Sustainability*, *12*(18), 7338.

Armitage, C. J., & Conner, M. (1999). The theory of planned behaviour: Assessment of predictive validity and'perceived control. *British journal of social psychology*, *38*(1), 35-54.

Asgharian, R., Salehi, M., Saleki, Z. S., Hojabri, R., & Nikkheslat, M. (2012). Green product quality, green customer satisfaction, and green customer loyalty. *International Journal of Research in Management & Technology*, *2*(5), 499-503.

Askadilla, W. L., & Krisjanti, M. N. (2017). Understanding indonesian green consumer behavior on cosmetic products: Theory of planned behavior model. *Polish Journal of Management Studies*, *15*.

Auliandri, T. A., Thoyib, A., Rohman, F., & Rofiq, A. (2018). Does green packaging matter as a business strategy. *Exploring young consumers' consumption in an emerging market. Problems and Perspectives in Management*, *16*(2), 376-384.

Bagozzi, R. P., & Yi, Y. (2012). Specification, evaluation, and interpretation of structural equation models. *Journal of the academy of marketing science*, *40*(1), 8-34.

Beitzen-Heineke, E. F., Balta-Ozkan, N., & Reefke, H. (2017). The prospects of zero-packaging grocery stores to improve the social and environmental impacts of the food supply chain. *Journal of Cleaner Production*, *140*, 1528-1541.

Boobalan, K., & Nachimuthu, G. S. (2020). Organic consumerism: A comparison between India and the USA. *Journal of Retailing and Consumer Services*, *53*, 101988.

Brauer, M., & Chaurand, N. (2010). Descriptive norms, prescriptive norms, and social control: An intercultural comparison of people's reactions to uncivil behaviors. *European Journal of Social Psychology*, *40*(3), 490-499.

Citation Information: Malarvizhi, C. A., Mahavarpour, R., Jayashree, S., Al Mamun, A., & Umasri. (2021). Predictive analytical study of green purchasing intention behaviour of Malaysian consumers. *Journal of Management Information and Decision Sciences, 24*(6), 1-19.

Bridson, K., Evans, J., & Hickman, M. (2008). Assessing the relationship between loyalty program attributes, store satisfaction and store loyalty. *Journal of Retailing and consumer Services*, *15*(5), 364-374.

Chaudhary, R., & Bisai, S. (2018). Factors influencing green purchase behavior of millennials in India. *Management of Environmental Quality: An International Journal*.

Chen, K., & Deng, T. (2016). Research on the green purchase intentions from the perspective of product knowledge. *Sustainability*, *8*(9), 943.

Cheung, R., Lau, M. M., & Lam, A. Y. (2015). Factors affecting consumer attitude towards organic food: An empirical study in Hong Kong. *Journal of Global Scholars of Marketing Science*, *25*(3), 216-231.

Choi, D., & Johnson, K. K. (2019). Influences of environmental and hedonic motivations on intention to purchase green products: An extension of the theory of planned behavior. *Sustainable Production and Consumption*, *18*, 145-155.

Diamantopoulos, A., & Siguaw, J. A. (2006). Formative versus reflective indicators in organizational measure development: A comparison and empirical illustration. *British journal of management*, *17*(4), 263-282.

DOSM. (2019). Services Producer Price Index Second Quarter of 2019. *Department of Statistics Malaysia.*

DOSM. (2020). Population by age group. De*partment of Statistics Mal*aysia.

Ertz, M., Karakas, F., & Sarigöllü, E. (2016). Exploring pro-environmental behaviors of consumers: An analysis of contextual factors, attitude, and behaviors. *Journal of Business Research*, *69*(10), 3971-3980.

Fishbein, M., & Ajzen, I. (1977). Belief, attitude, intention, and behavior: An introduction to theory and research. *Philosophy and Rhetoric*, *10*(2).

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis (7th ed.) New Jersey: Prentice Hall.

Hamilton, B., & Terblanche-Smit, M. (2018). Consumer intention to purchase green vehicles in the South African market: A theory of planned behaviour perspective. *South African Journal of Business Management*, *49*(1), 1-7.

Han, J. W., Ruiz-Garcia, L., Qian, J. P., & Yang, X. T. (2018). Food packaging: a comprehensive review and future trends. Comprehensive Rev Food Sci Food Safety 17: 860–877.

Herpen, E., Immink, V., & van den Puttelaar, J. (2016). Organics unpacked: The influence of packaging on the choice for organic fruits and vegetables. *Food Quality and Preference*, *53*, 90-96.

Kai, C., & Haokai, L. (2016). Factors affecting consumers' green commuting. *Eurasia Journal of Mathematics, Science and Technology Education*, *12*(3), 527-538.

Kai, C., & Haokai, L. (2016). Factors affecting consumers' green commuting. *Eurasia Journal of Mathematics, Science and Technology Education*, *12*(3), 527-538.

Ketelsen, M., Janssen, M., & Hamm, U. (2020). Consumers' response to environmentally-friendly food packaging-A systematic review. *Journal of Cleaner Production*, *254*, 120123.

Kleinbaum, D. G. (1988). Selecting the best regression equation. *Applied regression analysis and other multivariate methods.*, 314-340.

Koenig-Lewis, N., Palmer, A., Dermody, J., & Urbye, A. (2014). Consumers' evaluations of ecological packaging–Rational and emotional approaches. *Journal of environmental psychology*, *37*, 94-105.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, *30*(3), 607-610.

Magnier, L., Schoormans, J., & Mugge, R. (2016). Judging a product by its cover: Packaging sustainability and perceptions of quality in food products. *Food quality and preference*, *53*, 132-142.

Martinho, G., Pires, A., Portela, G., & Fonseca, M. (2015). Factors affecting consumers' choices concerning sustainable packaging during product purchase and recycling. *Resources, Conservation and Recycling*, *103*, 58-68.

Maziriri, E. T. (2020). Green packaging and green advertising as precursors of competitive advantage and business performance among manufacturing small and medium enterprises in South Africa. *Cogent Business & Management*, *7*(1), 1719586.

McCarty, J. A., & Shrum, L. J. (1994). The recycling of solid wastes: Personal values, value orientations, and attitudes about recycling as antecedents of recycling behavior. *Journal of Business Research*, *30*(1), 53–62.

Meherishi, L., Narayana, S. A., & Ranjani, K. S. (2019). Sustainable packaging for supply chain management in the circular economy: A review. *Journal of cleaner production*, *237*, 117582.

Mei, O. J., Ling, K. C., & Piew, T. H. (2012). The antecedents of green purchase intention among Malaysian consumers. *Asian Social Science*, *8*(13), 248.

Citation Information: Malarvizhi, C. A., Mahavarpour, R., Jayashree, S., Al Mamun, A., & Umasri. (2021). Predictive analytical study of green purchasing intention behaviour of Malaysian consumers. *Journal of Management Information and Decision Sciences, 24*(6), 1-19.

MESTECC, (2018). Malaysia's roadmap towards zero single-use plastics 2018-2030: Towards a sustainable future. *Ministry of Energy, Science, Technology, Environment & Climate Change, Malaysia*.

Mohiuddin, M., Al Mamun, A., Syed, F. A., Mehedi Masud, M., & Su, Z. (2018). Environmental knowledge, awareness, and business school students' intentions to purchase green vehicles in emerging countries. *Sustainability*, *10*(5), 1534.

Moorthy, K., Kamarudin, A. A., Xin, L., Hui, L. M., Way, L. T., Fang, P. S., & Carmen, W. (2021). Green packaging purchase behaviour: a study on Malaysian consumers. *Environment, Development and Sustainability*, 1-22.

Moorthy, K., Kamarudin, A. A., Xin, L., Hui, L. M., Way, L. T., Fang, P. S., & Carmen, W. (2021). Green packaging purchase behaviour: a study on Malaysian consumers. *Environment, Development and Sustainability*, 1-22.

Mostafa, M. M. (2006). Antecedents of Egyptian consumers' green purchase intentions: A hierarchical multivariate regression model. *Journal of International Consumer Marketing*, *19*(2), 97-126.

Newcombe, M. A., McCarthy, M. B., Cronin, J. M., & McCarthy, S. N. (2012). "Eat like a man". A social constructionist analysis of the role of food in men's lives. *Appetite*, *59*(2), 391-398.

Olya, H. G. T., Bagheri, P., & Tümer, M. (2019). Decoding behavioural responses of green hotel guests. *International Journal of Contemporary Hospitality Management*.

Orzan, G., Cruceru, A. F., Bălăceanu, C. T., & Chivu, R. G. (2018). Consumers' behavior concerning sustainable packaging: An exploratory study on Romanian consumers. *Sustainability*, *10*(6), 1787.

Pallant, J. (2020). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS*. Routledge.

Parker, L. (2019). The world's plastic pollution crisis explained. *National Geographic*, *7*.

Paul, J., Modi, A., & Patel, J. (2016). Predicting green product consumption using theory of planned behavior and reasoned action. *Journal of retailing and consumer services*, *29*, 123-134.

Pearson, D., Henryks, J., Sultan, P., & Anisimova, T. (2013). Organic food: Exploring purchase frequency to explain consumer behavior. *Journal of Organic Systems*, *8*(2), 50-63.

Prakash, G., & Pathak, P. (2017). Determinants of counterfeit purchase: A study on young consumers of India. *Journal of Scientific and Industrial Research*, *76*, 208-211.

Rajesh, R. (2020). Exploring the sustainability performances of firms using environmental, social, and governance scores. *Journal of Cleaner Production*, *247*, 119600.

Rees, W., Tremma, O., & Manning, L. (2019). Sustainability cues on packaging: The influence of recognition on purchasing behavior. *Journal of Cleaner Production*, *235*, 841-853.

Ridha, R. N., & Wahyu, B. P. (2017). Entrepreneurship intention in agricultural sector of young generation in Indonesia. *Asia pacific journal of innovation and entrepreneurship*, *11*(1), 76-89.

Santos, V., Gomes, S., & Nogueira, M. (2021). Sustainable packaging: Does eating organic really make a difference on product-packaging interaction?. *Journal of Cleaner Production*, *304*, 127066.

Seegebarth, B., Behrens, S. H., Klarmann, C., Hennigs, N., & Scribner, L. L. (2016). Customer value perception of organic food: cultural differences and cross-national segments. *British Food Journal*.

Sharaf, M. A., Md Isa, F., & Al-Qasa, K. (2015). Factors affecting young Malaysians' intention to purchase green products. *Merit Research Journal of Business and Management*, *3*(3), 29-33.

Steenis, N. D., van Herpen, E., van der Lans, I. A., Ligthart, T. N., & van Trijp, H. C. (2017). Consumer response to packaging design: The role of packaging materials and graphics in sustainability perceptions and product evaluations. *Journal of Cleaner Production*, *162*, 286-298.

Su, D. N., Duong, T. H., Dinh, M. T. T., Nguyen-Phuoc, D. Q., & Johnson, L. W. (2021). Behavior towards shopping at retailers practicing sustainable grocery packaging: The influences of intra-personal and retailer-based contextual factors. *Journal of Cleaner Production*, *279*, 123683.

Tan, C. S., Ooi, H. Y., & Goh, Y. N. (2017). A moral extension of the theory of planned behavior to predict consumers' purchase intention for energy-efficient household appliances in Malaysia. *Energy Policy*, *107*, 459-471.

Tanner, C., & Wölfing Kast, S. (2003). Promoting sustainable consumption: Determinants of green purchases by Swiss consumers. *Psychology & Marketing*, *20*(10), 883-902.

Tencati, A., Pogutz, S., Moda, B., Brambilla, M., & Cacia, C. (2016). Prevention policies addressing packaging and packaging waste: Some emerging trends. *Waste Management*, *56*, 35-45.

Van Birgelen, M., Semeijn, J., & Keicher, M. (2009). Packaging and proenvironmental consumption behavior: Investigating purchase and disposal decisions for beverages. *Environment and Behavior*, *41*(1), 125-146.

Citation Information: Malarvizhi, C. A., Mahavarpour, R., Jayashree, S., Al Mamun, A., & Umasri. (2021). Predictive analytical study of green purchasing intention behaviour of Malaysian consumers. *Journal of Management Information and Decision Sciences, 24*(6), 1-19.

Wandosell, G., Parra-Meroño, M. C., Alcayde, A., & Baños, R. (2021). Green packaging from consumer and business perspectives. *Sustainability*, *13*(3), 1356.

World Bank Group. (2021). *Market Study for Malaysia: Plastics Circularity Opportunities and Barriers*. World Bank.

World Bank Report. (2018a). What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050 report", *World Bank publication*, Washington DC.

World Bank Report. (2018b). Tackling Increasing Plastic. *World Bank publication*, Washington DC.

Yadav, R., & Pathak, G. S. (2017). Determinants of consumers' green purchase behavior in a developing nation: Applying and extending the theory of planned behavior. *Ecological economics*, *134*, 114-122.

Zhang, D., Huang, G., Yin, X., & Gong, Q. (2015). Residents' waste separation behaviors at the source: Using SEM with the theory of planned behavior in Guangzhou, China. *International journal of environmental research and public health*, *12*(8), 9475-9491.

Citation Information: Malarvizhi, C. A., Mahavarpour, R., Jayashree, S., Al Mamun, A., & Umasri. (2021). Predictive analytical study of green purchasing intention behaviour of Malaysian consumers. *Journal of Management Information and Decision Sciences, 24*(6), 1-19.