Appraising the Buyers Approach Towards Sustainable Development with Special Reference to Buying Habits and Knowledge Source of Green Packaging: A Cross-Sectional Study

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Abstract: - Sustainable development is a global agenda that addresses the societal challenge of climate action, the environment, resource efficiency, and the use of proper raw materials. In this intellect, an important strategy and a focal point for the organization is to understand the consumer's behaviour towards the green product and their packaging aspects to sustain the business. Moreover, from the literature, it is found that more studies need to be done in this area. Hence, the study aims to understand the consumer's behaviour towards the green product and packaging to discuss the importance of green packaging, particularly concerning the shopper buying habits and sources of information on sustainable packaging of goods from the end user's points of view that will help in sustainable development for the green environment as consumers have the pivotal role and are the ultimate stakeholders for the success of any business organization. The current study is descriptive, using convenience sampling methods for primary data collection. For this study, 232 participants' responses were taken for analysis. The gathered information was analyzed using SPSS software. The chi-square values and phi and Cramer's V and contingency test were also explored to test the relationship wherever needed. Hence, the result has been interpreted. Finally, the buyer's approach to buying habits and knowledge sources of green packaging has been understood in the direction of a sustainable environment.

Keywords: - Sustainable Environment, Green Packaging, Knowledge Sources, Consumer Behavior

1 Introduction

There has been a growing attraction for environmental protection worldwide in recent years. In this sense, green packaging is important to reduce the impact of waste and pollution and promote sustainable development, [1]. Green packaging - also known as "eco-packaging", "green packaging", "sustainable packaging", or "recyclable packaging" - uses environmentally friendly materials for packaging purposes, always keeping in mind that products must be efficient and not harmful to human health and the environment, [2]. Green packaging or sustainable packaging has become a broader concept in recent years as it can contribute significantly to creating a sustainable environment. The use of materials and technologies in manufacturing vary in this context as they can reduce the dangerous impact of harmful chemicals. [3], believe green packaging is a powerful solution to reduce the harmful effects of plastics on the environment. It is a major issue that must be

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considered to achieve sustainable development goals (SDGs) with social and economic implications as well as marketing and consumer behaviour, [4], [5]. Indeed, the role of consumers is very important in green packaging, as modern lifestyles often demand longer product shelf life—packaging should also develop through appropriate development policies. The study of green packaging from consumers' perspective includes the analysis of consumers' opinions on the green product and their packaging and purchasing decisions.

Many research studies have analyzed green packaging issues from a business perspective. But they cover a wide range of dimensions, including how technological, organizational, and human capabilities contribute to implementing eco-design innovation in packaging and its benefits in terms of brand innovation and environmental protection, [6]. These days companies are working on new product lines for ethical, renewable, and sustainable packaging, which requires investing in new packaging lines to accommodate eco-friendly, reusable, recyclable, and sustainable packaging or establishing joint ventures with packaging suppliers, [7]. As a result, the need for green packaging is spreading rapidly among consumers and manufacturers. However, the success of implementing an eco-packaging strategy will depend on consumers' acceptance of the green product concept and sustainable packaging, as well as their purchasing habits, awareness, and knowledge source, [8]. However, according to our knowledge and review of the literature on green product packaging, different commercial and consumer dimensions have been covered, but focusing specifically on specific points regarding consumer behaviour through sustainable products packaging has been the subject of very few studies, particularly it is applied in the Saudi context and has proven essential part of the study. Therefore, this study aims to fill the current gap by answering the following research questions that will lead to sustainable development goals.

1.1 Research Questions of the Study
1. What are the buying frequencies of green packaging products
2. What are the sources of information for the green packaging products
3. Whether consumer attitude varies demographically towards green packaging products?

1.2 Research Aims and Objectives
The aim of the study is essential to be analyzed in the specific direction mentioned above. Therefore, the following objectives have been taken for the study:
1. RO1: To evaluate the buying frequencies of green packaging of products
2. RO2: To analyze the information sources for the products' green packaging.
3. RO3: To evaluate whether there is any association and variation in consumer's attitudes demographically regarding green packaging products

2 Literature Review

2.1 Importance of Product Packaging
Packaging plays a vital role in today's market. The European Union defines packaging as all products made from all materials of any kind intended to be used to contain, protect, deliver, and present goods, from raw materials to manufactured products. Traditionally, packaging has been designed to protect, preserve, handle, transport, and store goods, [9]. From the consumer's point of view, packaging plays a magician's role when purchasing products. The packaging is essential because it is the public's first choice before making a final purchase decision, [10]. The packaging has been called the "silent seller" because it tells us about the qualities and benefits, we will get if we consume a particular product, [10]. Currently, manufacturers are using plastic as their main packaging material without caring about the impact of plastic packaging on the global ecosystem. This situation has become the cause of many environmental problems. Therefore, a new direction appears as a solution to the above problem: the "green packaging concept", [8].

2.2 Packaging and Consumer Trends
Packaging can influence the consumer's mind toward the product through its exposure. The scholarly studies indicate that packaging helps attention to the customer to buy the product, and it is a powerful transmission of specific product information, as well as the product's placement in the consumer's mind that boosts the consumer to buy, [11]. Few studies have found that where the environmental packaging of a product applied at the purchase stage is a determinant of product choice by consumers has been noticed, [12]. [13], suggests that reasoned labeling is not likely

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in the choice of product packaging when environmental effects are considered important and no other significant feature (e.g., a high price) is presented in the packaging in a specific purchase situation. Most factors influence consumer attitudes toward green packaging, [8].

2.3 Buying Frequency for the Green Packaging Products

The other important factors influencing shopper purchase intent reported by participants include personal choice, habit, time available for shopping, and available or unavailable alternatives, [14]. As indicated in one study, sometimes consumers try to find products in more durable packaging, but they are not in stock, and because they need it all emergency, they buy everything they found. Moreover, it depends on how much time the buyer has; have enough time, the consumer will look for sustainably packaged products, but if they do not find useful things, they will put things in the basket without thinking about how they are packaged, [15], [14].

2.4 Knowledge Source Green Packaging Product

[16], examined the progression of consumers' attitudes, intentions, and behaviour towards green products and their knowledge source. Proper knowledge of organic packaging is predominant as it can save the world from further changes in its climate, as stated by [17], [18], [19]. Organic packaging comes with an additional cost for buyers, but providing the knowledge to the consumers can be decreased the costliness of green product thinking, and having potential knowledge of the materials used will provide value to consumers. The media has increased awareness of environmentally friendly packaging, and social media platforms have also influenced people toward green packaging usage, [20]. [21], suggest that a country's government should promote using a green package that is effective in banning non-biodegradable packaging. An important issue in green packaging is how to print information on containers, labels, and innovations to avoid using paper labels. Consumers also need information on the carbon footprint of packaging materials. Another study has also studied consumer awareness of the environmental impact of food packaging, [22], [23], [24]. A study in South Africa revealed that labels, images, and logos were the most important features in helping consumers identify environmentally friendly packaging.

In contrast, packaging material and colour were other features used to judge packaging sustainability. Consumers must be better informed and educated on the packaging production process to make informed decisions. Poor communication of disposal labels is a major theme, with many people finding it difficult to understand and not disposing of the packages correctly. [25], [26], highlighted the importance of communication in increasing consumer awareness and knowledge of the environmental aspects of a product and their influence on the consumer purchase decision. Additionally, better communication of the added benefit of a product may influence consumer expectations and future purchase intent positively.

2.5 Demographic Factors and Green Package

Demographic factors, age, gender, and income influence consumers' ecologically friendly buying behaviour. Moreover, green purchase intention correlates positively with every age and income except education, [27]. The studies have shown significant differences between men and women in environmental attitudes, [28], [29]. It revealed that men have more negative attitudes toward the environment than women, [29]. Women were more likely to buy a product with environmentally friendly packaging because they believed it was better for the atmosphere, [30]. In addition, a study shows that gender opinion varies with consumption; women and men do not have the same purchasing behaviour, [31]. Previous research has shown that consumption is more closely associated with women than men. Indeed, women represent the major group of consumers worldwide, according to [32].

2.6 Hypothesis

The following hypothesis has been revealed from the above literature, and finally, it will be tested to know the current opinion variation in the selected region.

1. (Ha): The buying frequencies of green packaging products varied among the consumer as well as varied gender wise
2. (Ho): There is no association in buying frequencies of green packaging products among the consumer with age

3. (Ho): There is no association in buying frequencies of green packaging products among the consumer with education wise
4. (Ho): There is no association in buying frequencies of green packaging products among the consumer with income wise
5. (Ha): There is a difference in opinion among the respondents regarding sources of information for green packaging products.

3 Methodology of Study

The selected study is based on a secondary and a primary approach. The researcher applies a qualitative and quantitative method using a descriptive research design in this study. Firstly, the researcher reviewed the related literature, and a questionnaire was created with close-ended questions because it can save respondents time and effort. The pilot test was taken among ten respondents; a few minor changes were involved in the questionnaire before the final survey. The information for this study was collected at a single point in time. The study is cross-sectional in time horizon as primary data collection is important for the betterment of the authenticity of results, [33].

Moreover, this is also considered a reliable data collection method, as all the information comes from direct sources and is faster, more flexible, and simple. Hence, the primary data collection was performed using convenience and snowball sampling. Finally, from the received responses, 232 responses were taken for the study because convenience sampling methods have proven to be time- and cost-saving, [33]. The sample size has also been justified as it has gathered a more comprehensive range of data with a variation, [8], [34], [35], [36]. The questionnaire was sent virtually to respondents; after receiving the questionnaire, the data were tabulated and analyzed using SPSS.

The formulated hypothesis mentioned in the literature review section has been analyzed and reported in the result section. The descriptive statistical tools were used for hypothesis testing; Pearson Chi-Square, Phi value, Cramer's V, and Contingency Coefficient value have also been explored, and the test was applied at Alpha significance <0.05 with 95% of confidence level to test the relationship wherever needed and finally the results were interpreted according to the outcome.

4 Results Analysis

4.1 Demographic Information

Most respondents were men (67.67%), while women were 32.33%. It should be noted that the respondents mainly belonged to the age groups 26-35 (59.3%), followed by the age group 36-45 (24.138%) and 46-55 (11.2%), and 56 and above years of age were (6.9%) respectively. Hence it supports the good number of representations as the maximum number of participants in this study were young. These young people tend to care more about the green environment and influence their individual decision. Most respondents were high school graduates or less educated (82.6%). From the responses received majority were more than 21000 SR monthly family income (41.8%), followed by less than 10000 SAR (39.6%) and between the 11000- 20000 SR monthly income category (18.5%).

4.2 Buying Frequency of Green Packaging Products

Table 1. Buying frequency green packaging products * Gender

Crosstab					
			Gender		Total
			Male	Female	
What is the purchase frequency of green packaging products?	Daily	Count	8	4	12
		% within raw	3.4%	1.7%	5.2%
	2–3 times a month	Count	24	21	45
		% within raw	10.3%	9.1%	19.4%
	Weekly	Count	28	14	42
		% within raw	12.1%	6.0%	18.1%
	Occasional	Count	88	28	116
		% within raw	37.9%	12.1%	50.0%
	Never	Count	9	8	17
		% within raw	3.9%	3.4%	7.3%
Total		Count	157	75	232
		% within raw	67.7%	32.3%	100.0%
		% within Column	100.0%	100.0%	100.0%

Source: By the Authors

Table 1 depicts the frequency of purchasing green packaging as per the gender of the selected participants. It is revealed that the majority of the shopper buy the green packaging product occasionally (50.0%) weekly and in a month two to three times, almost the similar 18.1 and 19.4 percent of the respondents. Among the respondents, most (37.9%) male members stated that they purchase the green packaging product occasionally, followed by 12.1% of the male respondents who said they prefer to purchase organic packaging weekly and two or three times a month (10.3%) of them respectively. Moreover, the female respondent's percentage (12.1%) is the highest who buy the green packaging product occasionally, followed by those buying two or three times a month, 9.1%, most similar to the male member pattern. The pattern shows that male consumers are more prone to buy green packaging products than their counterparts.

Table 2 presents data and information regarding the purchasing frequency based on the participants' age. It has come to be known that 23.30% of the respondents (aged 26–35 years) agreed to buy such packaged products occasionally, followed by 36-45 years of age (13.80%) were more prone to buy occasionally of such types of packaging products. Furthermore, for those in the 18-25 age group, 11.20% agreed they

accept that they purchase green packaged products two to three times a month. Hence it can be concluded that Occasional buying from the 26 to 45 age group members are in the majority, and the one who does not buy more could be targeted to motivate them to purchase such products.

Table 3 represents data regarding green package purchasing in terms of the education level of the respondents who participated in the study majority 40.1% were graduate and above degree holders who claimed that they occasionally buy, followed by 15.9%, 2-3 times in a month, 13. 8 % said they buy weekly and 4.3% daily. 8.2% of undergraduates also claimed that they usually buy occasionally such packaging products. It is interesting to note that the higher educated persons are the most frequent and highest number of buyers than high school and unschooled respondents.

Table 2. Buying frequency of purchase of green packaging products * Age (in Years) "Crosstab"

			Age (in Years)						Total
			18–25	26–35	36–45	46-55	56-65	>66	
What is the purchase frequency of green packaging products?	Daily	Count	0	4	2	2	2	2	12
		% raw	0.00%	1.70%	0.90%	0.90%	0.90%	0.90%	5.20%
	2–3 times a month	Count	5	26	8	6	0	0	45
		% raw	2.20%	11.20%	3.40%	2.60%	0.00%	0.00%	19.40%
	Weekly	Count	2	18	12	4	2	4	42
		% raw	0.90%	7.80%	5.20%	1.70%	0.90%	1.70%	18.10%
	Occasional	Count	12	54	32	12	4	2	116
		% raw	5.20%	23.30%	13.80%	5.20%	1.70%	0.90%	50.00%
	Never	Count	1	12	2	2	0	0	17
		% raw	0.40%	5.20%	0.90%	0.90%	0.00%	0.00%	7.30%
Total		Count	20	114	56	26	8	8	232
		% within raw	8.60%	49.10%	24.10%	11.20%	3.40%	3.40%	100%
		% Column	100.%	100%	100.00%	100%	100%	100%	100%

Source: By the Authors

Table 3. Buying frequency of purchase of green packaging products * Education 'Crosstab'

			Education				Total
			Unschooled	High school	Undergraduate	≥Graduate	
What is the purchase frequency of green packaging products?	Daily	Count	2	0	0	10	12
		% within raw	0.9%	0.0%	0.0%	4.3%	5.2%
	2–3 times a month	Count	0	2	6	37	45
		% within raw	0.0%	0.9%	2.6%	15.9%	19.4%
	Weekly	Count	2	0	8	32	42
		% within raw	0.9%	0.0%	3.4%	13.8%	18.1%
	Occasional	Count	0	4	19	93	116
		% within raw	0.0%	1.7%	8.2%	40.1%	50.0%
	Never	Count	0	0	1	16	17
		% of Total	0.0%	0.0%	0.4%	6.9%	7.3%
Total		Count	4	6	34	188	232
		% within raw	1.7%	2.6%	14.7%	81.0%	100.0%
		% Column	100.0%	100.0%	100.0%	100.0%	100.0%

Source: By the Authors

Table: 4. Frequency of purchase of green packaging product * Monthly income (In Riyal)

What is the purchase frequency of green packaging products?		Monthly income (in 1Riyal)						Total
		< 5000	5000-10000	11000-15000	16000-20000	21000-25000	≥26000	
Daily	Count	0	4	2	0	2	4	12
	% within raw	0.00%	1.70%	0.90%	0.00%	0.90%	1.70%	5.20%
2–3 times a month	Count	10	16	8	10	0	1	45
	% within raw	4.30%	6.90%	3.40%	4.30%	0.00%	0.40%	19.40%
Weekly	Count	4	12	10	4	6	6	42
	% within raw	1.70%	5.20%	4.30%	1.70%	2.60%	2.60%	18.10%
Occasional	Count	11	34	25	22	8	16	116
	% within raw	4.70%	14.70%	10.80%	9.50%	3.40%	6.90%	50.00%
Never	Count	2	4	4	7	0	0	17
	% within raw	0.90%	1.70%	1.70%	3.00%	0.00%	0.00%	7.30%
Total	Count	27	70	49	43	16	27	232
	% within raw	11.6%	30.20%	21.10%	18.50%	6.90%	11.60%	100.00%
	% Column	100.%	100%	100.%	100.%	100.%	100.%	100.%

Source: By the Authors

Table 4 indicates that the majority 14.70% of the green product buyers were from the income group of 5000 to 10000 SR, followed by 10.80% of the income group of 11000-15000SR who buy occasionally and 9.50% from the 16000-20000SR monthly income group. The table also revealed that a very small percentage of people buy green package products daily. More than 50% of the respondents who bought the green packaging product were between 5000-2000SR monthly income of the consumers.

Hypothesis Testing (No.1 to No.4)

➕ Hypothesis 1. (Ha): The buying frequencies of green packaging products varied among the consumer as well as varied gender wise.

Table 5 shows that the significance of Chi-Square is 0.05, and for the significance of symmetric measures such as Phi value, Cramer's V, and Contingency Coefficient value are 0.05, these all-tested significance values are less than < 0.05, which means that there is the difference in buying frequencies of green packaging products varied among the consumer as well as it varied gender-wise. Hence the current alternative hypothesis will be accepted, and it can be inferred that there is variation among the opinion in consumers towards green packaging products buying frequencies with the gender of consumers. The result is consistent with [37], while, [38], presented a weak relationship between gender and green consumer behaviour. In addition, the result does not support the opinion stated by [30].

➕ Hypothesis 2. (Ho): There is no association in buying frequencies of green packaging products among the consumer with age.

Table 5 shows that the significance of Chi-Square is 0.045, and the significance of symmetric measures such as Phi value, Cramer's V, and Contingency Coefficient value is 0.045, these all-tested significance values are less than < 0.05, which means that there is difference in buying frequencies of green packaging products varied among the consumer as well as it varied age-wise. Hence the current null hypothesis will be rejected, and it can be inferred that there is variation among the

opinion consumers towards green packaging products buying frequencies with the age of consumers.

➕ Hypothesis 3. (Ho): There is no association in buying frequencies of green packaging products among the consumer with education wise

Table 5 shows that the significance of Chi-Square is 0.006, and the significance of symmetric measures such as Phi value, Cramer's V, and Contingency Coefficient value is 0.006, these all-tested significance values are less than < 0.05, which means that there is difference in buying frequencies of green packaging products and varied among the consumer education wise. Hence the current null hypothesis will be rejected, and it can be inferred that there is variation among consumers' opinions towards green packaging product buying frequencies with the education of consumers.

➕ Hypothesis 4. (Ho): There is no association in buying frequencies of green packaging products among the consumer with income wise

Table 5 shows that the significance of Chi-Square is 0.012, and the significance of symmetric measures such as Phi value, Cramer's V, and Contingency Coefficient value are 0.012, these all-tested significance values are less than < 0.05, which means that there is the difference in buying frequencies of green packaging products varied among the consumer as well as it varied income wise, hence the current null hypothesis will be rejected, and it can be concluded that there is variation among the opinion in consumer's towards green packaging products buying frequencies with the income of consumers.

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Table 5. Result of hypothesis testing (H5 to H8)

Cross analysis	Chi-Square Tests			Symmetric Measures			
Hypothesis		Pearson Chi-Square	DF	Phi value	Cramer's V	Contingency Coefficient	N of Valid Cases
1. Ha: Buying frequency *gender	Value	9.497	4	0.202	0.202	0.202	232
	Approx. Sig.	0.05		0.05	0.05	0.05	
2. Ho: Buying frequency *Age	Value	31.867	20	0.371	0.185	0.348	232
	Approx. Sig.	0.045		0.045	0.045	0.045	
3. Ha: Buying frequency * Education	Value	27.628	12	0.345	0.199	0.326	232
	Approx. Sig.	0.006		0.006	0.006	0.006	
4. Ho: Buying frequency * Income	Value	37.035	20	0.4	0.2	0.371	232
	Approx. Sig.	0.012		0.012	0.012	0.012	

Source: By the Authors

4.3 Source of Information about the Green Packaging

Table 6. Sources of Information

	Freq.	%
Directly from the product label	118	39.464
From the information campaigns of producers and merchants	65	21.74
From the internet	110	36.789
Other:	6	2.007
Total	299	

Table 7. Sources of Information - Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.396	4	.022
N of Valid Cases	232		
Symmetric Measures			
		Value	Approx. Sig.
Nominal by Nominal — Phi		.222	.022
Nominal by Nominal — Cramer's V		.222	.022
N of Valid Cases		232	

Table 6 indicates that the information sources towards the green packaging product received directly from the product labels (39.46%); the result is consistent with [21], followed by the internet (36.79%) it has consistency with the study, [20]. Third, information sources are the campaign of producers and merchandisers (21.74%) and other sources (2%), respectively. The chi-square and phi values have been predicted through Table 7, along with observing the Cramer's V value. In this context, Pearson's chi value has come out to be 11.396, and it

is significantly high to create a firm reliance between the chosen components. Cross-tabulation has been used in this case as it makes the analytical result valid and easier to perform through preliminary study, [39].

Hypothesis 5. (Ha): There is a difference in opinion among the respondents in receiving the sources of information for the ecological/ green packaging products.

Table 7 shows that the significance of Chi-Square is .022, and the significance of symmetric measures such as Phi value, Cramer's V, and Contingency Coefficient value is .022; these all-tested significance values are less than < 0.05. Additionally, the test value has been mentioned to be 0.22 and shows a lower to moderate connection between these two elements. Hence, it is proved that there are variations in the sources of information the consumer receives regarding green packaging, and an alternative hypothesis has been accepted. Consumers' information regarding green packaging must come from a valuable source, [40]. The stakeholders must take care of the sources of information for the sustainable information "directly from the product label" followed by "internet source" and "from the information campaigns of producers and merchants" were the most acceptable sources, respectively, and it has a greater impact on the consumer regarding sustainable packaging information. As a result, the idea of generating a sustainable atmosphere can be promoted with better activities among residents using such an approach.

5 Discussion

The study has depicted an analytical dimension through descriptive statistics and data representation. The analysis has been conducted to observe the environmentally supported green packaging product buying habits and knowledge sources of customers. According to [3], green packaging has become a better option for having a sustainable development process regarding the environment of several different countries. Moreover, using natural resources has advantages and disadvantages, which must be discovered during the study. Education about consumer green packaging has also been evaluated to encourage more utilization, [41]. The statistical tests have proven the propositions in the study and

measured the relatedness of the variables. The result indicates that sustainability management in packaging helps protect the environment. According to [1], the customer prefers better packaging that shows better presentation and maintains the environmental assets. Contrastingly, [42], has argued that sustainability is important enough for maintaining customers buying behaviour along with a competitive position in the market. The occasional buying of green packaging products was a priority, followed by two to three times a month of a buying frequency were second place. It has come to be known that most respondents (aged 26–35 years) appealed that they buy such packages occasionally, followed by 36-45 years of age. It is good to note that green packaging product buying is associated with educational qualifications. More than 50% of the respondents who bought the green packaging product were between 5000-2000SR monthly income of the consumers. In the study, it is revealed that there is variation among the opinion in consumers towards green packaging products buying frequencies with the income of consumers. In addition, the result indicates that the information sources towards the green packaging product received directly from the product labels; the result is consistent with the study done by [21], the second highest reported information sources were through the internet, and third, the following information sources are the campaign of producers and merchandisers. The hypothesis test found variations in the sources of information and knowledge received regarding green packaging that is consistent with the previous study, [20].

6 Conclusion

The study has demonstrated the relationship between green packaging by analyzing the green packaging product buying habits and knowledge sources toward green packaging of consumers. A cross-sectional study has been performed using primary data by performing descriptive statistics based on the demographic profile of the respondents. In addition, the information and knowledge sources about the green packaging product; consumers received directly from the product labels has the first rank of the sources; the result shows consistency with the study done by [21]. The second highest knowledge and information source were through the internet, [20], and the third position was the campaign of

producers and merchandisers as green information sources. Regarding the hypothesis selected in the study, Pearson Chi-Square, phi value, Cramer's V, and Contingency Coefficient value have also been used to know the association cross-sectionally, which has generated additional knowledge regarding the factors corresponding with the study's findings. It is found that there is significant variation in the buying frequency of green packaging products among the consumer at cross-sectional levels demographically, such as with genders, ages, education, and income levels of consumers.

Moreover, it has been noticed that the low-income group is always price sensitive; in green packaging products buying due to their price sensitiveness, they have very low-frequency purchases among the respondent surveyed. Therefore, it is advised that to achieve sustainable goals; marketers must provide green packaging products that are approachable to all consumers. The government should monitor it and make sure to be available within the buying tactic to consumers. The test also indicates variations in the sources of information and knowledge received regarding green packaging that is consistent with the previous study, [20]. Therefore, all the stakeholders should consider priorities to take steps to achieve sustainable development goals. In addition, the consumer should be motivated through an awareness program and informing the benefit of using the green packaging product. To keep our environment sustainable by providing accurate information on product labels, using web technology such as social media and websites will keep consumers updated, driving green packaging product use in their normal life need. It is also suggested, especially for policymakers, that they should take a certain step to use green packaging for the product wherever it is applicable as this is one of the major attributes of the product that will help manage environment friendly and achieve the SDGs goals speedier.

References:

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

[2] Pauer, E.; Wohner, B.; Heinrich, V.; Tacker, M. (2019). Assessing the environmental sustainability of food packaging: A comprehensive life cycle assessment including packaging-related food losses and waste and circularity assessment. Sustainability 11, 925.

[3] Moustafa, H., Youssef, A.M., Darwish, N.A. & Abou-Kandil, A.I. (2019). Eco-friendly polymer composites for green packaging: Future vision and challenges. Composites Part B: Engineering, 172, pp.16-25

[4] Fonseca, L.M.; Domingues, J.P.; Dima, A.M. (2020)., Mapping the sustainable development goals relationships. Sustainability, 12, 3359

[5] Singh, J.; Ordoñez, I. (2016). Resource recovery from post-consumer waste: Important lessons for the upcoming circular economy. J. Clean. Prod. 134, 342–353.

[6] Sumrin, S.; Gupta, S.; Asaad, Y.; Wang, Y.; Bhattacharya, S. (2021). Eco-innovation for the environment and waste prevention. J. Bus. Res. 122, 627–639.

[7] Walmart Highlights Sustainability Efforts. Available online: https://www.packagingdigest.com/smart-packaging/walmart-highlights-sustainability-efforts (accessed on 30 December 2022).

[8] Madushanka, G., & Ragel, V. R. (2016). Consumer's attitude towards green packaging: a study on Trincomalee district.

[9] Hellström D. and Saghir M. (2006). Packaging and logistics interactions in retail supply chains. Packaging Technology and Science, 20(3) 197-216.

[10] *(text in Spanish)* Giovannetti, V. (1995). El mundo del envase Manual para el disen˜o y produccio´n de envases y embalajes. Mexico City.

[11] Mohammad, Z., & Amin, Z. (2012). Consumers' attitude and purchasing intention toward green packaged foods; A Malaysian perspective. International Conference on Economics Marketing and Management, pp. 1–2.

[12] Uusitalo, L. (1986). Environmental Impacts of Consumption Patterns. Aldershot: Gower Publishing Company Ltd.

[13] Thogersen, J. (1999). The ethical consumer. Moral norms and packaging choice. Journal of Consumer Psychology, 439–460.

[14] Oloyede, O. O., & Lignou, S. (2021). Sustainable paper-based packaging: A consumer's perspective. Foods, 10(5), 1035.

[15] Boztepe, A., (2012). Green marketing and its impact on consumer buying behaviour. European Journal of Economic and Political Studies, 5(1), 5–21.

[16] Biswas, A. and Roy, M. (2015). Green Products: An Exploratory Study on the Consumer Behaviour in Emerging Economies of the East. Journal of Cleaner Production, 87, 463-468. https://doi.org/10.1016/j.jclepro.2014.09.075

[17] Sheth, J. N., Newman, B. I., & Gross, B. L. (1991). Why we buy what we buy: A theory of consumption values. Journal of business research, 22(2), 159–170.

[18] Trivedi, R.H.; Patel, J.D.; (2018). Acharya, N. Causality analysis of media influence on environmental attitude, intention and behaviours leading to green purchasing. J. Clean. Prod. 196, 11–22.

[19] Gosselt, J.F.; van Rompay, T.; Haske, L. (2019). Will not get fooled again: The effects of internal and external CSR ECO-labeling. J. Bus. Ethics 155, 413–424.

[20] Suki, N. M. (2016). Consumer environmental concern and green product purchase in Malaysia: structural effects of consumption values. Journal of Cleaner Production, pp. 132, 204–214.

[21] Prakash, G., Choudhary, S., Kumar, A., Garza-Reyes, J.A., Khan, S.A.R. and Panda, T.K., (2019). Do altruistic and egoistic values influence consumers' attitudes and purchase intentions towards eco-friendly packaged products? An empirical investigation. Journal of Retailing and Consumer Services, 50, pp.163–169.

[22] 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.

[23] Scott, L., & Vigar- Ellis, D. (2014). Consumer understanding, perceptions and behaviours concerning environmentally friendly packaging in a developing nation. International journal of consumer studies, 38(6), 642-649.

[24] Zhang, G.; Zhao, Z. (2012). Green packaging management of logistics enterprises. Phys. Procedia 24, 900–905.

[25] Vermeir, I., Weijters, B., De Houwer, J., Geuens, M., Slabbinck, H., Spruyt, A., ... & Verbeke, W. (2020). Environmentally sustainable food consumption: A review and research agenda from a goal-directed perspective. Frontiers in Psychology, 11, 1603.

[26] Fernqvist, F., Olsson, A., & Spendrup, S. (2015). What is in it for me? Food packaging and consumer responses, a focus group study. British Food Journal.

[27] S. Abunar and M. Z. Alam. (2020). Sustainable/green product packaging from the shoppers perspective: a case of Saudi Arabia, Research in World Economy, vol. 11, no. 5, pp. 164-165

[28] Brown, G., & Haris, C. (1992). The U.S. forest service: Toward the new resource management paradigm? Society and Natural Resources, pp. 231–245.

[29] Tikka, P., Kuitunen, M., & Tynys, S. (2000). Effects of educational background on students' attitudes, activity levels, and environmental knowledge. Journal of Environmental Education, 12–19.

[30] Mainieri, T., Barnett, E., Valdero, T., & Unipan, J. (1997). Green buying: The influence of environmental concern on consumer behaviour. Journal of Social Psychology, 189-204.

[31] Horowitz Roger and Mohun Arwen (1998). His and Hers: Gender, Consumption, and Technology. Charlottesville: University Press of Virginia. Pp. vi, 240.

[32] Grunert-Beckmann, S. C. (1997). Values and Attitude Formation Towards Emerging Attitude Objects: From Recycling to General, Waste Minimizing Behavior. ACR North American Advances.

[33] Saunders, M.N. and Bezzina, F., (2015). Reflections on conceptions of research methodology among management academics. European management journal, 33(5), pp.297-304.

[34] Choy Johnn Yee & Ng Cheng San, (2011). Consumers' Perceived Quality, Perceived Value and Perceived Risk Towards Purchase decision on Automobile, American Journal of Economics and Business Administration, Science Publications, vol. 3(1), pages 47–57, January

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[35] Peterson, R. A., & Merunka, D. R. (2014). Convenience samples of college students and research reproducibility. Journal of Business Research, 67(5), 1035-1041.

[36] Kothari, C. (2017). research methodology methods and techniques by CR Kothari. Published by New Age International (P) Ltd, Publishers, p. 91.

[37] Chen, T. B., & Chai, L. T. (2010). Attitude towards the environment and green products: consumers' perspective. Management Science and Engineering, 4(2), 27–39.

[38] Sheikh, F. Z., Mirza, A. A., Aftab, A., & Asghar. (2014). Consumer green behaviour toward green products and green purchase decisions. International. Journal of Multidisciplinary Sciences and Engineering, 5(9), 1-9.

[39] Fukui, S., Inui, A., Saita, M., Kobayashi, D. and Naito, T., 2022. Clinical prediction rule for bacteremia with pyelonephritis and hospitalization judgment: chi-square automatic interaction detector (CHAID) decision tree analysis model. Journal of International Medical Research, 50(1), p.03000605211065658.

[40] Liu, F., Li, M., Wang, Q., Yan, J., Han, S., Ma, C., & McClements, D. J. (2022). Future foods: Alternative proteins, food architecture, sustainable packaging, and precision nutrition. Critical Reviews in Food Science and Nutrition, pp. 1–22.

[41] Auliandri, T.A., Thoyib, A., Rohman, F. and Rofiq, A., (2018). Does green packaging matter as a business strategy? Exploring young consumer's consumption in an emerging market. Problems and Perspectives in Management, 16(2), pp.376-384.

[42] Pieroni, M.P., McAloone, T.C. and Pigosso, D.C. (2019). Business model innovation for circular economy and sustainability; A review of approaches. Journal of cleaner production, 215, pp.198-216.

Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)
The authors equally contributed in the present research, at all stages from the formulation of the problem to the final findings and solution.

Conflict of Interest
The authors have no conflict of interest to declare.