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Green Logistic and Sustainable Electronic Products Packaging; Consumers Perspective

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ABSTRACT

The purpose of this study is to examine the customer perception and the impact of several on green logistics. More specifically, we looked at how customers' perceptions of green packaging, government assistance for recycling materials and trash management, eco-products, education on waste recycling, and waste management awareness affect green logistics. A quantitative approach using a questionnaire is employed. A total of 124 usable surveys is collected. Using the regression analysis, the findings reveal that green packaging, Eco-products & education are strongly and positively influenced by green logistics. However, Government support moderately and positively influences green logistics.

Keywords: **Green logistics, Supply Chain Management, Logistics, Packaging, Recycling.**

1. Introduction

There has been a surge of interest in global environmental conservation in recent years. In this regard, green packaging is critical for reducing waste and pollution while also promoting sustainable development. Green packaging, also known as 'eco-green packaging,' 'eco-friendly packaging, "sustainable packaging,' or 'recyclable packaging,' makes use of environmentally friendly materials for packaging while keeping in mind that goods must be both effective and safe for human health and the environment. The research papers on green packaging that have been published may be divided into two categories based on whether they are addressed from the consumer's or the company's viewpoint. Keep in mind that customers and legislation are two major reasons driving organizations to adopt innovative green packaging solutions. Governments are encouraging businesses to promote sustainable packaging not just because of the growing significance that customers put on the environment, but also because of new laws, regulations, taxes, and other policies aimed at making packaging more ecologically friendly. Directives adopted by the European Union, for example, require member nations to implement legislative actions on packaging waste management. Another example is Japan's Containers and Packing Recycling Law, which mandates that towns collect and store containers and packaging that have been separated from solid trash. (Gonzalo Wandosell, 2021)

In 2015, it was estimated that 55 percent of global plastic waste was discarded, 25% was burnt, and 20% was recycled. The most prevalent use of primary plastics was the packaging, which accounted for 42 percent of all plastics consumed.

Packaging, for example, has a relatively limited 'in-use' lifetime (typically around 6 months or less). This is in contrast to the 35-year average lifetime of plastic used in building and construction. As a consequence, the packaging is the most common source of plastic waste, accounting for over half of global totals. 407 million tonnes of primary plastics were manufactured, with around three-quarters (302 million tonnes) ending up in landfills. (Hannah Ritchie, 2018)

The study of how customers demand the adoption of green packaging solutions to lessen the negative effect of packaging on the environment is an important subject of research. Consumers play an essential role in green packaging since contemporary lifestyles sometimes need longer product shelf lives. This need is a major driver of firms' greater use of green packaging, which is forcing them to create official sustainability strategies as well. The investigation of customer views regarding green packaging and their buying choices is part of the consumer research on green packaging. (Gonzalo Wandosell, 2021)

Green Packaging, as the name implies, entails the use of environmentally friendly packaging that cause no (or very little) harm to the environment. Green packaging, also known as sustainable packaging, employs materials and production methods to minimize energy consumption and packaging's negative environmental effects.

Research question 1: Do consumers believe that green packaging of electronic products will reduce the plastic wastage impact on the environment?

Research question 2: Does the government is supporting green packaging so that people can tackle the problem of plastic waste?

Research question 3: Does the consumer care about electronic product packaging should be in ECO-packaging, so it reduces the co2 impact on the environment?

Research question 4: Is there is enough education around the society to help them to gain knowledge about green (sustainable) packaging so the consumer can use lesser plastic and recycle it properly?

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1.1 Plastic waste

1.1.1 Plastic disposal methods: What has changed in the worldwide plastic waste disposal technique throughout time? From 1980 to 2015, the percentage of worldwide plastic trash that is dumped, recycled, or burned is shown in the graph.

Before 1980, there was very no recycling and incineration of plastic, thus it was thrown entirely. Incineration rates rose by approximately 0.7 percent per year on average between 1980 and 1990, whereas recycling rates increased by around 0.7 percent each year. In 2015, it was projected that 55% of worldwide plastic trash was thrown, 25% was burned, and 20% was recycled. (Hannah Ritchie, 2018)

1.1.2 Plastic use by sector: Primary plastic manufacturing is assigned to which sectors and product use? The graph shows the distribution of plastic output by sector in 2015.

Packaging was the most common application of primary plastics, accounting for 42 percent of all plastics used. Building and construction was the second-largest industry, accounting for 19% of total output. Plastic waste creation is affected by the polymer type and lifespan of the final product; thus primary plastic manufacturing does not immediately represent plastic trash generation (as illustrated in the following section). (Hannah Ritchie, 2018)

1.1.3 Plastic waste by sector: This graph depicts the usage of main plastics by industry; the next graph depicts the production of plastic trash by the same industries. Primary plastic usage, as well as product lifespan, have a significant impact on plastic trash production.

For example, packaging has a relatively short 'in-use' lifespan (typically around 6 months or less). This contrasts with the usage of plastic in architecture and construction, which has a 35-year average lifespan.

As a result, the packaging is the leading source of plastic trash, accounting for almost half of the worldwide total. In 2015, 407 million tonnes of primary plastics were produced, with approximately three-quarters (302 million tonnes) ending up as trash. (Hannah Ritchie, 2018)

1.2 Green packaging

1.2.1 What Is Green Packaging?

Green Packaging, as the name implies, entails the use of environmentally friendly packaging materials that cause no (or very little) harm to the environment. Green packaging, also known as sustainable packaging, employs materials and production methods to minimize energy consumption and packaging's negative environmental effects. Biodegradable and recyclable materials, rather than plastic and Styrofoam, are often used in green packaging solutions. Green manufacturing processes, on the other hand, take efforts to reduce their power consumption and greenhouse gas emissions. Green packaging refers to product packaging that is made from biodegradable materials and uses energy-saving production techniques. It has a negligible effect on energy consumption and, as a result, the environment. Companies tend to become more ecologically friendly, minimizing their effect on the environment, as global green awareness develops and customers globally choose to purchase eco-friendly goods. (Gonzalo Wandosell, 2021)

Most of the time, the areas for impact reductions include reducing greenhouse gas emissions during the manufacturing and shipping of completed products, as well as utilizing renewable resources during the manufacturing stage. Many manufacturers, however, are concerned about eco-friendly packaging since their primary goal is to cut costs and increase profits, which isn't always feasible when it comes to updating package design and converting to eco-friendliness.

1.2.2 The advantages of Green Packaging

Green packaging provides many benefits to both customers and the environment.

Use of natural resources is being reduced: green packaging makers assist to reduce the use of natural resources by creating minimum packaging. This decrease helps to guarantee that resources are preserved for future generations.

Reliance on fossil fuels is dwindling: green packaging aims to utilize as little fossil fuel energy as possible to reduce package manufacturing's carbon impact. (Reclamation, 2019)

Increasing the usage of recycled materials: The more post-consumer items we recycle, the less energy and resources we spend on producing new packaging. Recycled goods consume less water and energy than their new counterparts. Green packaging often aspires to meet objectives such as utilizing 100 percent post-consumer recycled paper and recycled plastics. (Reclamation, 2019)

Methods of production that are more energy efficient: Rather than relying on fossil fuels, green packaging aims to utilize alternative energy sources such as wind or solar energy. (Reclamation, 2019)

Consumers tend to rely on renewable energy sources: Avoid using paper that has been produced by felling trees. Some green packaging companies, for example, employ paper produced from agricultural fibers instead. (Reclamation, 2019)

Cleaner and safer oceans: Plastic packaging, especially, is notoriously harmful to life in the sea. According to the non-profit group Plastic Oceans International, more than 8 million tons of plastic are throw into our oceans every year. As a result of this dumping, biologists have found one out of every three species of marine mammals entangled in ocean plastic, and they have found an astonishing 90% of all seabirds with plastic pieces stuck in their stomachs. Making use of alternative sources of packaging helps mitigate these unfortunate conditions. (Reclamation, 2019)

2. Literature review

Plastics have been a hot subject in academic circles due to their widespread use in the environment. Analytical techniques, abundance, transit, destiny, and degradation of plastics in the environment, as well as risks to natural environments, animals, and even human health, have all been the subject of much research. However, until recently, the properties of plastic pollution, which are essential for understanding this growing issue, have remained unclear. This article examines the main features of plastic pollution in the environment to improve current knowledge of the problem. This study critically summarizes these features, which include variety, persistence, global problems, combined pollution, and dangers to creatures and human health.

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This assessment also covers the "plastic cycle" in the environment, which includes the aquatic, atmospheric, and terrestrial systems. Finally, we discuss the present problems that plastic pollution poses to the public, as well as prospective research directions (Li, 2020; Afshar, Algamrh, Gharleghi, 2020; Kuppusamy and Gharleghi, 2015; Kuppusamy and Gharleghi, 2014).

Despite the critical role of logistics service providers (LSPs) in improving the environmental sustainability of supply chains, there is still uncertainty about how LSPs can turn environmental management into a competitive advantage. Based on a Finnish national logistics survey and financial reporting data from 266 LSPs, this article examines their competitive strategies and green supply chain management (GSCM) and tests their respective relationships with environmental and financial performance. Financial data are used to measure financial performance in a novel way. The findings indicate that leading LSPs with operational excellence and strong brands are more advanced in terms of GSCM than LSPs that do not excel in any competitive priority. GSCM practices are positively related to environmental performance, but not to financial performance. However, managers should not be discouraged by the apparent absence of short-term financial benefits of GSCM practices, which in any case could enhance future differentiation opportunities. (Laari S, 2018)

Sustainable development is a worldwide goal aimed at addressing the social challenges of climate change, environmental protection, resource efficiency, and raw material availability. In this regard, promoting green packaging, or the use of sustainable materials and designs for product packaging is an essential approach. Many research papers in the specialized field addressing the many viewpoints and aspects of green packaging have been published in recent years. To our knowledge, no prior studies have examined the research effort on green packaging from the viewpoints of businesses and consumers. The current research aims to close this gap by using visual analytic techniques like word clouds and Gephi network visualization software to analyze all the articles identified in the Scopus database. Our study examines the impact of green packaging from both a business and consumer perspective, focusing on issues such as green packaging design and materials, green packaging costs, marketing strategies, and corporate social responsibility related to green packaging, as well as the impact of green packaging on waste management, the circular economy, logistics, and supply chain management. The findings show that academics and researchers are becoming more interested in all these aspects, as shown by the increased number of journal articles in recent years. Given the increasing awareness among businesses and consumers about the need of promoting sustainable development via green packaging options, the study's practical implications are important. More precisely, the findings of this study may be very beneficial to any agents who are interested in knowing more about the major research lines being pursued in green packaging. (Gonzalo Wandosell, 2021)

Plastics are ubiquitous and long-lasting materials that can be broken down into micro- and nano plastics. They're lengthy polymer chains containing additives that may be harmful to different species when they come into touch with them.

Polymer matrix, additives, breakdown products, and adsorbed pollutants may all cause toxicity. Despite this, there is still a huge knowledge gap on the individual and combined effects of plastics. As a result, based on a literature review, we characterize the most common plastic materials widely used in our daily lives by their polymer type and compile the environmental and human health hazards of these polymers, including the effects of monomers, additives, degradation products, and adsorbed contaminants. In summary, polyvinyl chloride (monomer and additives) is the most hazardous polymer type used daily; additives are more harmful to animals and people than monomers; and the most toxic additives include benzene, phthalates, and lead stabilizers. (M.O. Rodrigues, 2019)

Firms have been forced to innovate to gain a competitive edge on the environment and waste management awareness. Firms are eager to embrace eco-innovation packaging to fulfill their environmental responsibilities and contribute to waste reduction. Despite creative technical advancements, the expansion of global supply networks for goods has resulted in the use of packaging and associated waste across the supply chain. As a result, packaging creates challenges while also providing possibilities for the environment. Packaging innovation has been researched as part of product eco-innovation, although mainly on a case-by-case basis. Studies are needed to investigate the elements that make eco-friendly packaging innovation more successful, research. This study will look at how management environmental awareness, technical capabilities, human capabilities, and organizational skills all play a role in the application of eco-design innovation in packaging and its effect on waste avoidance and brand. (Samina Sumrin, 2021), (Jabarzare, 2019).

3. Methodology

3.1 Research approach

Depending on the nature of the study subject, there are many types of research objectives. Exploratory, descriptive, and explanatory research are the three types of studies. Exploratory research is the collection of facts and information to generate ideas about the issue or environment being studied. The goal is to improve implicit understanding in a certain region or situation. The description of a problem, a scenario, or a setting is part of descriptive research. Because they rely on pre-existing techniques and ideas, these studies are more dependent than exploratory studies. Finally, explanatory research offers and assesses explanations for two or more phenomena. It's only a matter of figuring out what's causing these events or circumstances This thesis is a descriptive study since it attempts to explain an actual scenario using current facts. A focus group and a poll have also been established to validate current ideas and facts as well as to evaluate fresh data. As a result, a portion of the study is regarded as explanatory. (Saunders, 2007)

The quantitative method is employed by surveying a specified number of people. The survey's results are compared to previously collected data, yielding a quantifiable result. (Moakhar, 2018)

The goal is to find and evaluate a pattern or trend.

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3.2 Choice of data collection

3.2.1 Primary data

Data that has been gathered for a particular reason is referred to as primary data. These data must be gathered by the researcher. Interviews, observations, and questionnaires may all be used to collect information. Survey questionnaires were used to collect the main data for this research. Before distributing the questionnaires, a pilot study was conducted to identify any confusing questions. In addition, a focus group with a few participants was formed to explore the study's topic in more depth. The major disadvantages of utilizing primary data in research are that it is time intensive since seeing, for example, takes a long time. To generalize, the researcher must also gather a significant amount of data. Primary data, on the other hand, has the benefit of being collected by the researcher and coming directly from the community being studied. (Saunders, 2007)

An online survey was performed to assess consumer desire for more ecologically friendly packaging based on the information collected about the environmental effects and health hazards of conventional packaging materials. For individuals who wished to participate, the surveys were sent out through LinkedIn, a social networking website, as well as by email. The survey was created in Google Forms and disseminated through a link to the form.

As previously mentioned, approximately 500 people were asked to participate in the survey, which was disseminated through WhatsApp messenger. As a result, a diverse group of people of various ages, genders, continental, and life stages were invited to the survey event. At first, 70 individuals consented to participate in the event. Then I share the survey link on other social media platforms, such as LinkedIn, Facebook, and email. A total of 124 individuals consented to take part in this survey.

3.3 The survey

3.3.1 Survey Sampling

When doing research, it is critical to identify a particular target audience. When sampling a population, there are no precise guidelines to follow. All that is required of the sample is that it corresponds to the study's goals. In this situation, determining the usual profile of the Eco-buyer is difficult. At the start of the research, there was no population in mind. One of my goals is to define this specific demographic. The age group 19 to 45 is the population that impact the world mostly. So I made the age group 19-24, 25-35, and 36-45.

The individuals who were contacted and requested to participate in the survey were generally favorable, and the majority of those who were asked did so. The survey's findings may be useful to distribution firms in developing sustainable packaging marketing strategies in the future.

3.3.2 Questionnaire design

When I first started working on the survey questionnaire, I discovered that there was very little information available on the use of ecologically packaged goods. As a result, deciding which questions should be included in the questionnaire and how to organize it so that the research questions could be answered was challenging. I created a survey questionnaire and share it with many people online.

This survey asked for consumers' thoughts on green logistics, green packaging, government assistance, eco-products, and education. There are 33 questions in all. Respondents are asked to choose one of the options, which range from strongly agree to strongly disagree. Facts, views, attitudes, respondents' motivation, and degree of knowledge of the study subject should all be included in survey questions. There are five options for the questions that were asked. as Strongly agree = 1, Agree = 2, No idea = 3, Disagree = 4, Strongly disagree = 5. (QuestionPro, 2021)

The questionnaire is split into two sections:

Section A) General information: In general information, there are questions like gender, age, educational background, in which continent exactly is the consumer now, and is a consumer living in the urban area or rural area.

Section B) One dependent variable: 1) Green Logistics

Four independent variables:

1) Green Package
2)Government Support
3) Eco-Product
4) Education

3.3.3 Dependent variable (DV)

a) Green Logistics: Green logistics is the dependent variable in this study. The dependent variable is the element of the research that the researchers are trying to comprehend and predict. In the case of green logistics, I created a total of five questions for consumers to choose from, ranging from strongly agree to strongly disagree. There were comments in this dependent variable section that inquired about the relationship between logistics/packaging and CO2 emissions.

3.3.4 Independent variable (IV)

a) Green Package (IV1): The first independent variable in this study is green packaging. I need to figure out how this independent variable will affect the dependent variable from the viewpoint of the consumer. In this component of the survey, I asked a total of 7 questions to get a better understanding of what customers think about sustainable packaging.

b) Government Support (IV2): The government's support for sustainable packaging is the study's second independent variable. From the perspective of the consumers, I need to figure out how this independent variable will impact the dependent variable. I included a total of 5 questions in this section of the survey to better understand what consumers believe about government support for sustainable packaging and reducing plastic waste by recycling plastic.

c) Eco-Product (IV3): The study's third independent variable is the use of an eco-product rather than plastic packaging. I need to find out how this independent variable will affect the dependent variable from the standpoint of the customers. In this part of the survey, I asked a total of 6 questions to better understand what customers think about using Eco-products instead of plastic packaging to minimize plastic waste.

d) Education (IV4): Education on recycling waste and knowledge of sustainable materials is the fourth independent variable in this study. I need to find out how this independent variable will affect the dependent variable from the standpoint of the customers. In this part of the survey, I included a total of 5

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questions to better understand what consumers think about education programs that are available these days to teach youngsters about recycling materials and avoiding waste, as well as offices to adults.

3.4 Focus Group

3.4.1 Focus Group Sampling

The targeting of a focus group was the second step in the sampling process for this research. I selected a population that reflects, according to our findings, the profile of the customer who is affected by sustainable packaging by evaluating the data obtained from the pilot research.

The majority of participants are from the 25-35 age group. Maximum participants are from the age group of 25-35, followed by the age group 19-24 and 36-45. The age group 19-45 is the population that impact the world mostly.

3.5 Data analysis

Regression analysis is a method for determining the relationships between two or more variables (Dependent variable and independent variable). We have performed this data analysis on MS Excel 365.

The dependent variable is the aspect of the study that is attempting to understand and predict. Green Logistics is the dependent variable in this study. The elements that may impact (might affect) the dependent variable are known as independent variables. There are four independent variables in this study. These four independent variables are as follows:

(1) Green Package (2) Government Support (3) Eco-Product (4) Education.

In this research, I will use regression analysis to see how these four independent variables (1) Green Package (2) Government Support (3) Eco-Product (4) Education influence green logistics.

Regression analysis may help us comprehend how the dependent variable changes when one of the independent variables changes, as well as find out which of the independent variables has the greatest mathematical impact.

The sum of squares, which is a technique for calculating the dispersion of data points, is the mathematical foundation of a regression analysis model. The goal of a model is to obtain the smallest sum of squares possible and construct a line that closely matches the data.

We'll use basic linear regression analysis in this research to better understand and visualize the relationship between the dependent and independent variables.

3.6 Research framework

In this research, there are four independent variables: green packaging, Government support, Eco-product, and education.

One dependent variable: Green Logistics.

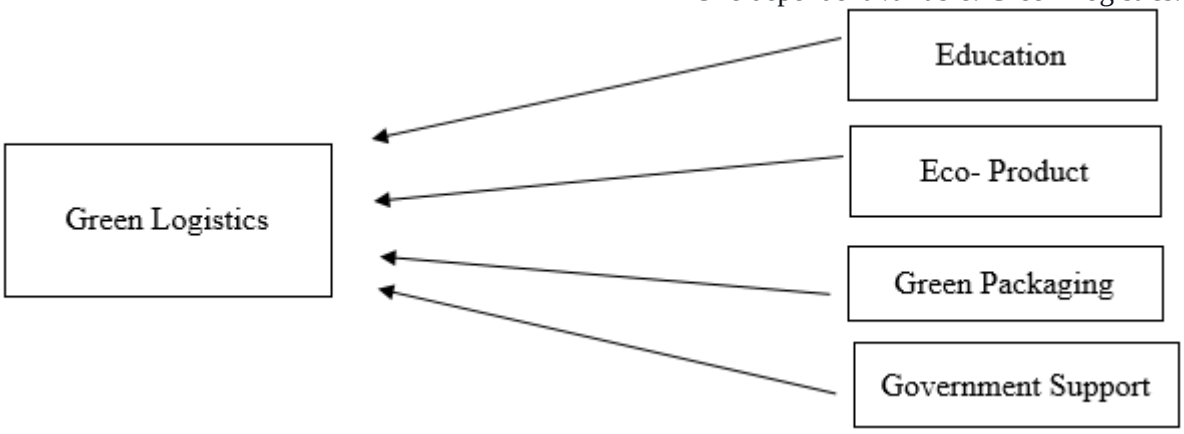

Figure1: Research framework (Author)

4. Data Analysis

4.1 Demographic analysis

A total of 124 consumers took part in this survey of which 43 were female and 81 were male. In terms of age, there were four age categories in this study. From 19 to 24, then 25 to 35, 36 to 45, and over 45. The survey had received no responses from those above the age of 45. The age group of 25-35 had the greatest response rate, with 89 people responding. Then came 26 from the 19-24 age group and 8 from the 36-45 age group.

4.1.1 Educational background: For this study, there were four categories of consumer education. A total of 64 participants hold a master's degree. Then there are 43 graduates, 15 undergraduates, and two doctorates.

4.1.2 Location: Since this survey was conducted online, participants were asked where they were from to get a better understanding of them. The continents including Asia, Europe, America, and Africa were all available in the survey. The majority of those who took part, 60 percent, were from Europe. Also, I received a positive response from individuals presently residing in Asia, with a total of 57 people participating. Only three people are from America, while four are from Africa.

4.1.3 Area: Some services are only accessible in urban areas, while others are only provided in rural areas. This is a common occurrence in Asian nations. People who live in rural areas have less access to the facility than those who live in metro cities. In this study, 114 people live in an urban area, whereas just 10 live in a rural area.

4.2 Section B: Regression analysis

Input data: Participants in the online survey were asked a total of 28 questions divided into five categories. There was a total of 5 questions in the dependent variable, and 5 to 7 questions in each independent variable. To do regression analysis, we must take the average of each variable's column and combine them into a single column.

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Multiple R values, R Square, the significance of F, the coefficient value, and the P- value are all included in the tables below. These are the values we need to pay attention to in our regression.

Table 1: Summary output of regression analysis.

Regression Statistics	
Multiple R	0.43480604
R Square	0.18905629
Adjusted R Square	0.16179768
Standard Error	0.40369123
Observations	124

The first table output of regression analysis is the 'summary output' table shown above. 'Multiple R', 'R Square', 'Adjusted R Square', 'Standard error', and 'observation' are the values. The term "observations" refers to the total number of data entries utilized in the regression analysis. We have a total of 124 observations in this study.

'Multiple R' is a measure that assesses the strength of a linear relationship between two variables. It's known as the correlation coefficient, and its value may range from -1 to 1. Where 1 denotes a strong positive connection and -1 denotes a strongly negative one. Multiple R '0.43480604' was obtained in this research.

With regards to the Coefficient of Determination (R Square), a greater coefficient indicates a higher degree of goodness of fit for the data. In this research, we have an R Square of '0.18905629'. It indicates that only 18% of deviations in the dependent variable are explained by the selected independent variables.

ANOVA:

Table 2: ANOVA analysis.

	df	SS	MS	F	Significance F
Regression	4	4.5211199	1.13027997	6.93565371	0.0000471
Residual	119	19.3930266	0.16296661		
Total	123	23.9141465			

The second table output of regression analysis is the 'ANOVA' table shown above. ANOVA stands for Analysis of Variance; it provides the analysis of the variance in the model. It shows the important parameters like 'Degrees of freedom (df)', 'sum of squares (ss)', 'Mean squared errors (MS)', and 'Significance F'.

The number of independent variables in a regression model is denoted by the regression df. In this study we have 4 independent variables, so df is 4. The value of 'Significance F' reflects how reliable (statistically significant) your results are. If the Significance F is less than 0.05, your model is acceptable (5 percent). You should use a different independent variable if it's greater than 0.05.

We have a Significant F of '0.0000471' in this study, which is less than 0.05. It demonstrates that the dependent and independent variable models are statistically significant.

Table 3: regression analysis

	Coefficients	Standard Error	t Stat	P-value
Intercept	0.85901467	0.214440211	4.00584697	0.00010804
Green package (IV1)	1.67572655	0.390485419	4.29139341	0.000036
Government support (IV2)	-0.4163842	0.114398278	-3.6397771	0.00040502
ECO-products (IV3)	-0.4210889	0.15403602	-2.7337042	0.00721908
Education (IV4)	-0.295303	0.140941771	-2.0952129	0.03827267
Dependent variable: green logistic				

A p-value of less than 0.05 shows 95 percent assurance that the slope of the regression line is not zero, indicating that the dependent and independent variables have a significant linear connection (Albarouni, 2021).

A p-value larger than 0.05 implies that the slope of the regression line may be zero and that there is insufficient evidence of a meaningful linear connection between the dependent and independent variables at the 95 percent confidence level.

Coefficients are one of the most useful components in this area. It allows you to construct a linear regression equation.

Table 4: regression analysis-continued

	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.43440163	1.283627706	0.43440163	1.28362771
Green package (IV1)	0.90252642	2.448926683	0.90252642	2.44892668
Government support (IV2)	-0.6429042	-0.189864213	-0.6429042	-0.1898642
ECO-products (IV3)	-0.7260956	-0.116082206	-0.7260956	-0.1160822
Education (IV4)	-0.5743818	-0.01622424	-0.5743818	-0.0162242

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We can readily observe that as the independent variable rises, so does the dependant variable. In this research, we have values from 'strongly agree = 1' to 'strongly disagree = 5'. All four independent variables have a direct and positive influence on the dependent variable.

4.3 Analysis of research questions: To have a better understanding of the link between each independent variable and dependent variable, we'll look at the graph for each independent variable and dependant variable separately. As a result, we can discover the solutions to research questions.

4.3.1 Research question 1: Do consumers believe that green packaging of electronic products will reduce the plastic wastage impact on the environment?

-*Answer:* The graph below depicts the relationship between green packaging (Independent variable) and green logistics (Dependent variable). Green packaging has a direct and beneficial impact on green logistics, as seen in the graph.

The line begins below number two, indicating that most consumers feel that green packaging has a direct influence on green logistics.

-*Conclusion of research question 1*: Consumers are strongly agreeing that green packaging has a strong impact on green logistics. A maximum number of consumers think recycling will be beneficial in reducing waste from plastic packaging.

From the survey, consumers agree that electronic products' packaging is one of the most environmentally dangerous and needs reconsideration regarding the packaging materials used. Electronic products' packaging should be 100% green.

4.3.2 Research question 2: Does the government is supporting green packaging so that people can tackle the problem of plastic waste?

-*Answer:* The graph below depicts the relationship between Government support (Independent variable) and green logistics (Dependent variable). Government support has a direct and moderate impact on green logistics, as seen in the graph.

The line begins at 2.5, indicating that most consumers feel that Government support has a direct influence on green logistics. However, this impact isn't strong as per consumer behavior.

-*Conclusion of research question 2:* Consumers are agreeing that Government support has a moderate impact on green logistics. From Survey, maximum consumers think the government is most responsible for tackling the problem of plastic packaging waste, but the government is not doing enough to tackle plastic pollution.

Consumers are ready to recycle the waste if they get a recycling facility but maximum consumers said they don't have access to the recycling facility. Hence consumers have mixed reactions about how strongly they agree and disagree about Government support for green logistics.

4.3.3 Research question 3: Does the consumer care about electronic product packaging should be in ECO-packaging, so it reduces the co2 impact on the environment?

-*Answer:* The graph below depicts the relationship between ECO-products (Independent variable) and green logistics (Dependent variable). ECO - products have a direct and strong impact on green logistics, as seen in the graph.

The line begins between 1.5 and 2, indicating that most consumers feel that ECO packaging has a direct positive influence on green logistics. This impact is strong as per consumer behavior.

-*Conclusion of research question 3:* Most consumers feel that eco-packaging has a significant influence on green logistics. According to a survey, 95.8% of individuals are interested in new eco-friendly packaging. If given the option, consumers would choose to adopt biodegradable (compostable) electronic product packaging over traditional plastic packaging. However, nearly half of consumers are unwilling to pay extra for biodegradable packaging if it is more expensive.

4.3.4 Research question 4: Is there enough education around the society to help them to gain knowledge about green (sustainable) packaging so the consumer can use lesser plastic and recycle it properly?

-*Answer:* The graph below depicts the relationship between education (Independent variable) and green logistics (Dependent variable). Education has a direct and strong impact on green logistics, as seen in the graph.

The line begins between 1.5 and 2, indicating that most consumers feel that Education has a direct positive influence on green logistics. This impact is strong as per consumer behavior.

-*Conclusion of research question 4:* Maximum number of consumers believe that education about recycling materials has a significant impact on green logistics. According to the survey, 92.7% of consumers believe that lack of education restricts most people from recycling. Consumers are strongly agreeing that there should be more education in school about plastic packaging waste and recycling. Most consumers agree that their school/ university/ offices have recycling bins. However, some people are complaining about they don't have access to different kind of recycling bins for different materials.

5. Conclusion

Plastic trash has become a major issue in recent years. Consumers are becoming more aware of this. For various types of garbage, most customers currently use recycling containers. Green packaging has a significant influence on green logistics, according to consumers. Most customers believe that recycling will help to reduce waste from plastic packaging.

According to the survey, consumers think that electronic product packaging is one of the most ecologically hazardous and that the packaging materials used should be reconsidered. The packaging for electronic devices should be entirely made of recycled materials.

Consumers agree that government assistance for green logistics has a moderate influence. According to the survey, most consumers believe the government is the most accountable for addressing the problem of plastic packaging waste, yet the government is not doing enough to combat the problem.

Consumers are willing to recycle garbage if they have access to a recycling center, however, most consumers say they do not. As a result, customers have mixed feelings about how strongly they approve or disagree with the government's support for green logistics.

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Eco-packaging has a considerable impact on green logistics, according to most consumers. According to a survey, 95.8% of individuals are interested in new environmentally friendly packaging. Consumers would prefer biodegradable (compostable) electronic product packaging over regular plastic packaging if given the choice. However, over half of the consumers are hesitant to pay a higher price for biodegradable packaging.

Most consumers feel that recycling material education has a big influence on green logistics. According to the survey, 92.7 percent of consumers feel that most individuals are unable to recycle due to a lack of information. Consumers overwhelmingly believe that greater information about plastic packaging waste and recycling should be provided in schools. Most customers say that recycling containers are available at their school, institution, or workplace. Some people, however, are claiming that they do not have access to various types of recycling containers for various things. (Digvijay, 2021)

5.1 Managerial implication: The managerial implication can be implemented in manufacturing industries. Managers from manufacturing industries should consider these suggestions for a better consumer experience and environment.

If available, most consumers express an interest in using biodegradable electronic device packaging. However, almost half of consumers are unwilling to pay extra if biodegradable packaging is more expensive. Manufacturing companies in such instances must have some cost-cutting alternatives for biodegradable electronic device packaging. Manufacturers should take responsibility and invest in developing biodegradable packaging that is not more expensive for customers.

5.2 Recommendations for government and education system: Every country's government should take recycling more seriously across the world. Many consumers continue to complain that they do not have enough space in their residential areas to recycle different products. The government might also assist manufacturers by giving subsidies so that they can produce biodegradable product packaging at a reasonable cost.

The educational system must take certain steps to educate children about the importance of recycling items. Almost the majority of consumers feel that greater information on plastic waste and recycling materials should be provided in schools. Children are the planet's future. Our earth will be in better shape if they receive adequate trash management and recycling instruction.

5.3 Future scope of the research: This study is useful for anyone doing consumer demand research for environmental goods. While it was designed for the electronics sector and the packaging used for electronic products, it may also be utilized in other fields. This survey has shown that most people are in favor of sustainability, regardless of whether they choose specific ecologically safe items over other health-enriching materials.

Even though sustainability has been a hot subject in recent years, there is still a lot of room for fresh study and analysis. A new study might concentrate on how manufacturers can simply make 100 percent environmentally friendly packaging materials without raising consumer prices.

New researchers must figure out how to persuade the government to make it easier for consumers, particularly those who live in rural regions, to recycle their garbage. In the educational system, there is also room for research. More knowledge about recycling and trash management should be provided through the educational system.

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