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GREEN PACKAGING STRATEGIES AND REPEAT PATRONAGE OF MANUFACTURING FIRMS IN ASABA, DELTA STATE

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ABSTRACT

This study ascertained the relationship between green packaging adoption and repeat patronage of manufacturing firms in Asaba, Delta State, of Nigeria. The specific objectives were to determine the relationship between biodegradable packaging, packaging optimization, recyclable packaging, and repeat patronage of manufacturing firms in Asaba, Delta State of Nigeria. Data for the study was obtained through a structured questionnaire. The data was analyzed using descriptive statistics while the hypotheses were tested through the use of the Spearman Rank Order Correlation Coefficient (rho). The findings revealed that biodegradable packaging has a positive and significant relationship with repeat patronage of manufacturing firms in Asaba, Delta State of Nigeria. Packaging optimization has a positive and significant relationship with repeat patronage of manufacturing firms in Asaba, Delta State of Nigeria. The study also found a moderate and significant relationship between recyclable packaging and repeat patronage of manufacturing firms. Based on these findings, it was concluded that green packaging adoption has a positive and significant relationship with repeat patronage of manufacturing firms in Asaba, Delta State of Nigeria. The study thus recommends that manufacturing firms in Nigeria particularly those that are still practicing conventional packaging should switch from conventional packaging to green packaging as it would enhance repeat patronage. Manufacturing firms in Nigeria should package their products using biodegradable, recyclable, and optimized materials as this would not only reduce the amount of waste brought into the environment but would also enhance repeat patronage.

Keywords: Green Packaging Strategies, Repeat Patronage, Biodegradable Packaging, Packaging Optimization and Recyclable Packaging

INTRODUCTION

The main goals of every business, whether it is manufacturing-based or not, are to maximize profit and meet consumer needs. Every business firm's top goal should be to satisfy its clients, but many manufacturing companies in Asaba, Delta State, Nigeria, are having trouble doing just that. Consumer preferences and tastes are shifting quickly, thus manufacturing companies must keep up with these changes to meet the needs of their customers and earn their continued business (Folasayo, 2019). Customers' purchasing habits have shifted in favor of goods that can meet their needs while preventing further environmental degradation due to issues with climate change, global warming, excessive waste disposal, pollution, and degradation (Nwadike et al., 2020). Even if a lot of consumers have changed the way they buy and reoriented their needs to be satisfied with more environmentally friendly options, a lot of manufacturing companies still struggle to meet the demands of their customers.

Certain manufacturing companies have experienced a decline in sales and profit margin due to their incapacity to meet client demands, hence impeding their business expansion. A number of Asaba, Delta, and manufacturing companies have shut down because they were unable to produce superior value that would encourage repeat business. Asaba Delta State's manufacturing companies must figure out how to better please their clients in order to boost sales and profit margins. By incorporating environmental friendliness into their packaging system, they must embrace green packaging (Siddaiah, et al, 2016).

Adoption of green packaging is thought to be able to boost manufacturing companies' repeat business. Nevertheless, there isn't any empirical data from the Nigerian environment to support this assertion, as the few and ambiguous empirical research that looked at the connection between green packaging practices and manufacturing companies' recurring business in Asaba, Delta State, demonstrate. There is a knowledge gap that needs to be closed as a result of this. What inspired the researchers to start this study was the desire to close this gap in the literature and advance our understanding of green packaging techniques.

LITERATURE REVIEW

Theoretical Foundation

The foundation of this study was Wowling and Pfeffer's Legitimacy Theory, which they developed in 1975. The relationship between green packaging tactics and repeat business is best explained by the legitimacy theory. According to legitimacy theory, businesses and the society in which they operate share a social compact. There is a social compact in place between society and businesses. Although businesses are free to operate in society and make the most profit possible, society expects them to safeguard the environment from pollution and degradation and to take into account the social welfare of the general public when conducting business. The social norms are dynamic and subject to periodic modification (Islam & Craig, 2008). Every corporate entity needs to live up to the standards set by society's members. A business is seen as legitimate when it can live up to societal expectations, and vice versa (Deegan & Jeffry, 2006). Customers and stakeholders will buy the company's product or brands, stick with it, spread the word about it, and suggest it to friends and family on social media and other channels as a way of returning the legitimacy this business has demonstrated.

Conceptual Framework

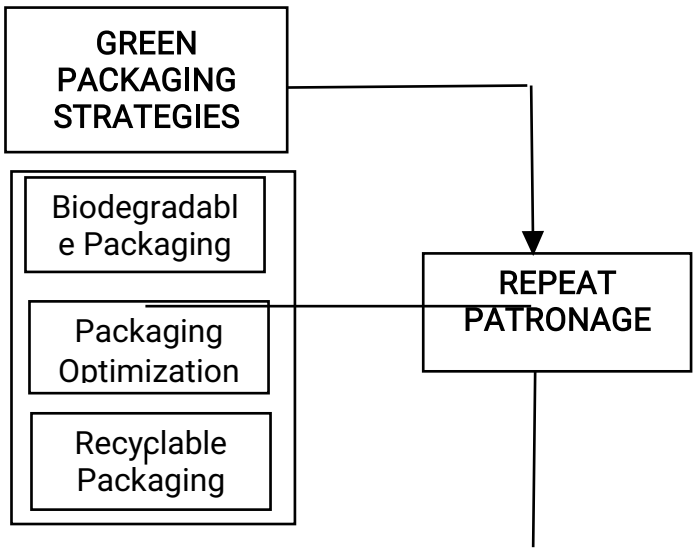

Figure 1. **Green Packaging Strategies and Repeat Patronage**
Source: Desk Review, 2024.

Conceptual Review

Concept of Green Packaging

According to Merton (2016), green packaging refers to the use of materials and production techniques that minimize their impact on the environment and energy consumption while packing goods. According to Goncalves (2013), "green packaging" is defined as packaging that is recyclable or composed of recycled materials. Green packaging, according to Ramme and

Heimann (2015), is well-designed packaging that satisfies product requirements while reducing the negative effects that the product and its package have on the environment and the economy. In van den Elzen (2016), the Sustainable Packaging Coalition (SPC) provided a comprehensive description of green packaging. SPC defines green packaging as follows: it is made of materials that are safe, healthy, and beneficial to people and communities throughout their life cycle; it is physically designed to optimize materials and energy; it meets market criteria for performance and cost; it is sourced, manufactured, transported, and recycled using renewable energy; it maximizes the use of renewable or recycled source materials; it is manufactured using clean production technologies and best practices; and it is made using materials that are beneficial, safe, and healthy for people and communities throughout their life cycle (SPC, in van den Elzen, 2016 p23).
According to the European Organization for Packaging and the Environment in Goncalves (2013), environmentally friendly packaging is designed to have as little of a negative impact on the environment as possible and is constructed using materials that are sourced ethically, such as recyclable and sustainable renewable resources. It went on to say that eco-friendly packaging is easily recovered from usage and is made with sustainable energy sources like solar and biofuel. According to the Sustainable Packaging Alliance (SPA) in Verghese et al. (2014), a packaging system must fulfill four fundamental requirements in order to be referred to as sustainable or green. These requirements are as follows:
1. The packaging needs to have both social and commercial value in order to be effective.
2. The packaging needs to be efficient, meaning that over its lifecycle, it should use the least amount of materials, energy, and water.
3. The packaging needs to be recycled, which means that components need to be cycled through industrial or natural metabolisms in order to maximize recovery and eliminate waste.
4. The packaging ought to be safe, meaning that it shouldn't produce wastes or greenhouse gas emissions that endanger the health of people or other living things. Stated differently, this kind of packing cannot exacerbate the state of environmental deterioration in our regions.
According to Ramme and Heimann (2015), using green packaging is essential to preserving and shielding the environment from deterioration and global warming. For producers, it is a financially viable option that also makes environmental sense. Additionally, it supports the development of a safer and cleaner environment for both current and future generations. Lindh (2016) listed the advantages of eco-friendly packaging. He pointed out that environmentally friendly packaging usually uses less materials because all of the paper used in printing fits into the content and takes up the least amount of space. According to Merton (2016), utilizing 100% paper and obtaining recycled plastic tubing boosts the amount of recycled content in green packaging. Packaging that is recycled, optimized, and biodegradable can be considered green packaging. These are covered in the section that follows.

Biodegradable Packaging

One of the most important green tactics for attaining environmental sustainability is biodegradable packaging. This approach to green packaging design is the most recent. Biodegradable packaging was seen by many consumer goods manufacturers as the best way to reduce the massive amount of waste that traditional packaging causes. Polylactic acid, which is produced from plants, is used to make biodegradable packaging (PLA). According to Szaky (2008), biodegradable packaging is a collection of polymers made from renewable raw materials such as cellulose, soy protein, starch (such as corn, potato, tapioca, etc.), and lactic acid. These materials are not harmful during production and, when disposed of appropriately, decompose back into carbon dioxide, water, and biomass. Demand for this biodegradable packaging is rising.
According to Davis (2006), the biodegradable packaging market is expanding at a 20% yearly pace. Aside from the current rising cost of crude oil, he pointed out that environmentalists, the government, and green customers are the main drivers of this rise. According to Wisler (2012),

Harald Kaeb, the chairman of Germany's International Biodegradable Polymers Association and Working Group, the increased demand for new biodegradable packaging is driven by the enhanced quality of bio-plastics, the products' expanding market share, their cost-competitiveness, and increased competition as more bio-plastic businesses open up shop around the globe. Szaky (2008) noted that because biodegradable packaging can lower greenhouse gas emissions and promote environmental sustainability, businesses are embracing it. This viewpoint was reinforced by Pullen (2014), who said that because biodegradable packaging lowers waste and greenhouse gas emissions, it can achieve environmental sustainability.

Packaging Optimization

Packaging optimization is the process of using fewer materials to package a product without sacrificing quality (Ramme & Heimann, 2015). According to Rokka and Uusitalo (2008), optimizing packaging throughout the supply chain will significantly reduce the amount of environmental footprint. Many businesses have realized that optimizing packaging benefits both the company and the environment because it lowers costs while simultaneously protecting the environment from degradation and hazards. Packaging optimization is a crucial tool for achieving environmental sustainability by lowering waste and the environmental footprint of transportation. According to Blanck (2009), utilizing less packaging foam lowers the amount of petroleum used, as well as the expenses and concerns associated with disposal. He went on to say that cutting back on trucks and containers will save money on transportation while also consuming less diesel and emitting less greenhouse gases. Environmental sustainability has greatly improved as a result of these cost-cutting measures. According to Barber's (2010) theory, packaging optimization can lower greenhouse gas emissions, waste, transportation costs, and environmental impact.

Recyclable Packaging

One environmentally friendly tactic to reduce waste and promote environmental sustainability is to use recyclable packaging. According to Giorgos (2016), recyclable packaging is a method of packaging in which the wrapper or container that a product was originally included in is repurposed. To create a new product, this packaging is made using recycled materials (Hartman et al, 2005). Waste is typically eliminated and greenhouse gas emissions are avoided with this packing solution. Reusable packaging benefits businesses and the environment, according to Collins (2008). It continues to be a tenet of the green packaging idea. Reusable packaging, according to Cekanavicius et al. (2014), tends to save expenses, cut waste, and protect the environment.

A definite step toward environmental sustainability is the use of recyclable packaging. Environmental sustainability will be attained and there will be no trash in our lands and waters if all businesses utilize recyclable packaging, according to Pullen (2014). He went on to say that to reduce the environmental impact of packing, businesses have to be required to encapsulate their products in recyclable containers. According to Szaky (2008), food waste on the streets and in the ocean will decrease if it is contained in recyclable containers. If all manufacturers adopt this type of packaging, recyclable packaging may be able to assist in addressing the environmental issues we currently have. According to Barber (2010), recyclable packaging will stop waste from being carelessly dumped on the streets and save the environment from pollution, deterioration, and littering. According to Gonçalves (2013), the best approach to achieving environmental sustainability is through recyclable packaging.

Concept of Repeat Patronage

The readiness and desire of a customer to return the business to a specific establishment in the future is known as repeat patronage (Jere, et al, 2014). According to Panda (2013), repeat patronage is the practice of a customer consistently buying their necessities from a specific

business, even when numerous businesses are offering the same services. According to Kumar (2016), repeat patronage is the practice of a customer regularly using a specific company's goods and services without taking into account those provided by other businesses.
One important component that improves organizational competitiveness is repeat patronage. Repeat patronage gives a business an advantage over rivals, claims Amelia (2017). Both the profit margin and sales growth are sustained by it. According to Garga and Bambale (2016), every business wants to see repeat patronage because it keeps its clientele base strong. Recurring business from satisfied consumers increases an organization's chances of success (Idenedo & Goodie-Okio, 2022; Nwadike et al., 2020). According to Panda (2013), boosting repeat patronage is the top goal for managers of businesses because it keeps the company's clientele loyal and boosts profit margins.

Green Packaging Strategies and Repeat Patronage

In the literature, it has been discussed how green packaging strategies relate to repeat patronage. According to The Media and Nguyen (2017), green packaging is a type of packaging that uses less material, leaves a smaller carbon footprint, and prevents overflowing landfills and global warming. It includes recycling and biodegradable materials, as well as packaging optimization—the use of fewer packaging materials (Nguyen, 2017). Because it uses fewer layers of packaging, uses smaller-sized materials, and recycles its old packaging to cut down on unnecessary waste, green packaging is less damaging to the environment. Green packaging enhances customer satisfaction and supports environmental conservation by reducing packaging size or material requirements, which lowers manufacturing costs (Kong et al, 2014).
A well-designed green package informs customers about the product's environmental advantages, which promotes recurring business. Customers who care about the environment will be able to enjoy the product and grow interested in buying it with the help of this information. According to Carlson, Grove, and Kangun in Hakansson et al. (2014), buyers who care about the environment favor buying goods whose packaging materials can be recycled in order to cut down on unnecessary trash entering the environment. They contend that as soon as these customers learn about a product's benefits to the environment (such as its biodegradability or recyclable nature), they will be inclined to buy it and disregard competitor companies whose packaging cannot be recycled.
Green product packaging can boost repeat patronage, particularly in this day where consumers are more aware of environmental issues. This was corroborated by Dellis (2016), who said that modern consumers are more conscious of environmental issues and demand that businesses use eco-friendly packaging that considers their safety. This suggests that consumers' increased patronage will only benefit businesses that implement green packaging techniques. According to Van Dam and Van Trijps in Kong et al. (2014), green customers' propensity to make purchases will increase if they are aware of the packaging system's environmental features.

RESEARCH METHODOLOGY

In this study, the positivist research philosophy was adopted. The positivist research philosophy was considered appropriate because the researcher intended to systematically observe, survey, and collect data on green packaging strategies and repeat patronage, and explore the relationship that exists between the two variables in the manufacturing industry in Asaba, Delta State, Nigeria. The study adopted the correlational survey research design. The correlational survey research design is considered appropriate for this study because the study has two variables (green packaging strategies and repeat patronage) and the researcher tends to assess the relationship between the two without manipulating the extraneous variable.
The population of this study comprised thirteen (13) registered manufacturing firms in Asaba Delta State based on information obtained from Finelib.com (Nigeria Directory and Search Engine).

These manufacturing firms were used for the study based on the criteria that they have a green packaging policy and as such measuring the relationship between green packaging strategies and repeat patronage is quite meaningful for these firms. The population consisted of top-level managers and customers of the manufacturing firms in Asaba, Delta State. The researchers purposively selected five (5) top managers of each of the manufacturing firms to make up sixty-five (65) and randomly picked a hundred and seventy (170) customers of the manufacturing firms to make two-hundred and thirty-six (236) respondents that participated for the study. The data for this study were collected through the administration of questionnaires to the respondents (managers and customers) of the manufacturing firms. The hypotheses were tested with the Spearman Rank Order Correlation Coefficient (rho).

ANALYSIS AND RESULT

The data collected in the questionnaire were presented in this section. A total copy of two hundred and thirty-six (236) questionnaires was administered to the respondents (top-level managers and customers) of the manufacturing firms in Asaba, Delta State. Out of the 236 questionnaires administered to the respondents, two hundred and four (204) copies were collected which represents an 86% collection rate. The order in which the questionnaires were administered and the collection rate is shown in table 4.1 below:

Table 1.: Questionnaire Administration and Collection

Respondents	Questionnaires		Percentage
	No. Administered	No. Collected	
Top Level Managers	89	71	80%
Customers	147	133	90%
Total	236	204	86%

Source: Field Survey, 2024

Demographic Analysis

The demographic variables of the respondents were analyzed in this section. The demographic analysis covers the respondents' sex, marital status, age, working experience, status, and educational qualification. These demographic variables of the respondents were analyzed using percentage and frequency tables.

Table 2: Sex of the Respondents

Sex	Frequency	Percentage
Male	116	57%
Female	88	43%
Total	204	100%

Source: Field survey, 2024.

Table 2 shows the sex of the respondents who completed the administered questionnaires. From the table, it is observed that out of the 204 top-level managers and customers who responded to the questionnaire, 116 (57%) of them were male while 88 (43%) were female.

Univariate Analysis

Table 3: Mean responses and standard deviation of male and female top-level managers on the extent of adopting green packaging

S/No	Green Packaging Items	Male Managers		Female Managers		Mean Set	SD Set
		$\overline{X}_1$	SD_1	$\overline{X}_2$	SD_2	$\overline{X}_1\overline{X}_2$	SD_1SD_2
1.	Our company has switched from conventional packaging to green packaging for environmental	2.86	0.94	2.81	0.90	2.83	0.92

	reasons.						
2.	We have decided to optimize our packaging materials to reduce the amount of waste brought into the environment.	2.80	0.91	2.73	0.85	2.77	0.88
3.	Our products are packaged using biodegradable materials that can quickly decompose into the soil.	2.77	0.89	2.64	0.75	2.70	0.82
4.	We now package our products in reusable containers to reduce the amount of waste in the environment.	2.61	0.73	2.68	0.79	2.64	0.76
5.	We also package our products in recyclable containers to reduce excessive waste in the environment.	2.95	1.06	2.76	0.83	2.85	0.94
	Grand Mean/SD	**2.80**	**0.91**	**2.72**	**0.82**	**2.76**	**0.86**

Source: Field survey, 2024.

Table 3. presents the mean responses and standard deviation of male and female top-level managers on the extent of adopting green packaging in their organization. The table indicates that both male and female top-level managers of the manufacturing firms in Asaba, Delta State agreed with the items listed in the table with their mean responses greater than the criterion mean of 2.50. The grand mean score of 2.80 and 2.72 for male and female top-level managers respectively is greater than the criterion means of 2.50. Consequently, it is accepted that manufacturing firms in Asaba Delta State are now switching from conventional packaging to green packaging, optimizing their packaging materials and using biodegradable, and recyclable containers to enclose their products.

Table 4: Mean responses and standard deviation of male and female customers on repeat patronage of green-packaged product

S/No	Repeat Patronage Items	Male Customers $\overline{X}_1$	SD_1	Female Customers $\overline{X}_2$	SD_2	Mean Set $\overline{X}_1\overline{X}_2$	SD Set SD_1SD_2
11.	I intend to buy green-packaged products because of their environmental benefits.	2.59	0.71	2.52	0.60	2.56	0.67
12.	I intend to repurchase green-packaged products in the future.	2.65	0.86	2.56	0.67	2.61	0.76
13.	I have made repeat purchases of green products.	2.57	0.68	2.51	0.59	2.54	0.64
14.	I repeatedly purchase green-packaged products despite their high price.	2.53	0.64	2.57	0.69	2.55	0.67
15.	I repeatedly patronize those companies that produce green-packaged products.	2.56	0.67	2.61	0.72	2.58	0.70
	Grand Mean/SD	**2.58**	**0.71**	**2.55**	**0.65**	**2.56**	**0.68**

Source: Field survey, 2024.

Table 4 depicts the mean responses and standard deviation of male and female customers on

their repeat patronage based on green packaging. The table shows that the mean responses of male and female customers are greater than the criterion mean of 2.50 which implies that the respondents agreed with the items listed in the table. The grand mean of 2.58 and 2.55 for male and female customers respectively is greater than the criterion means of 2.50. Therefore, it is accepted that customers make repeat patronage based on green packaging.

Bivariate Analysis

The bivariate analysis shows the relationship between the predictor and criterion variables of the study. The predictor variables are the dimensions of green packaging strategies (biodegradable packaging, packaging optimization and recyclable packaging) while the criterion variable is repeat patronage. The bivariate analysis was carried out using the Spearman Rank Order Correlation Coefficient (rho). Here, the Spearman Rank Order Correlation Coefficient (rho) was used to correlate the two variables in each of the hypotheses. This was done with the aid of the SPSS software program version 23.0. The result of the bivariate analysis concerning each hypothesis is shown below:

Hypothesis 1

Ho_1: There is no significant relationship between biodegradable packaging and repeat patronage of manufacturing firms.

Table 5: Result of correlation analysis between biodegradable packaging and repeat patronage

			Biodegradable Packaging	Repeat Patronage
Spearman Rank (rho)	Biodegradable Packaging	Correlation Coefficient Sig. (2 tailed) N	1.000 . 204	.841** .003 204
	Repeat Patronage	Correlation Coefficient Sig. (2 tailed) N	841** .003 204	1.000 . 204

**Correlation is significant at 0.01 levels (2 tailed)
*Correlation is significant at 0.05 levels (2 tailed)

Source: SPSS-generated Output

Table 5 depicts the result of the correlation analysis carried out between biodegradable packaging and repeat patronage of manufacturing firms in Asaba, Delta State. The result shows a strong positive correlation between biodegradable packaging and repeat patronage (rho = .841**) and this correlation is significant at 0.01 level as indicated by the symbol **. Based on this result, the null hypothesis (Ho_1) is rejected and the alternate hypothesis is accepted. This means that we then accept that there is a strong positive and significant relationship between biodegradable packaging and repeat patronage of manufacturing firms in Asaba, Delta State.

Hypothesis 2

Ho_2: There is no significant relationship between packaging optimization and repeat patronage of manufacturing firms.

Table 6: Result of correlation analysis between packaging optimization and repeat patronage

			Packaging Optimization	Repeat Patronage
Spearman Rank (rho)	Packaging Optimization	Correlation Coefficient Sig. (2 tailed) N	1.000 . 204	.713** .003 204

	Repeat Patronage	Correlation Coefficient Sig. (2 tailed) N	713** .003 204	1.000 . 204

**Correlation is significant at 0.01 levels (2 tailed)
*Correlation is significant at 0.05 levels (2 tailed)

Source: SPSS-generated Output

Table 6 shows the result of the correlation analysis carried out between packaging optimization and repeat patronage of manufacturing firms in Asaba, Delta State. The result indicates that packaging optimization is strongly and positively correlated to repeat patronage of manufacturing firms (rho = .713**) and the symbol ** signifies that this correlation is significant at 0.01 level. Based on this result, we reject the null hypothesis (Ho_2) and accept the alternate hypothesis which states that there is a strong positive and significant relationship between packaging optimization and repeat patronage of manufacturing firms in Asaba, Delta State.

Hypothesis 3

Ho_3: There is no significant relationship between recyclable packaging and repeat patronage of manufacturing firms.

Table 7: Result of correlation analysis between recyclable packaging and repeat patronage

			Recyclable Packaging	Repeat Patronage
Spearman Rank (rho)	Recyclable Packaging	Correlation Coefficient Sig. (2 tailed) N	1.000 . 204	.443** .003 204
	Repeat Patronage	Correlation Coefficient Sig. (2 tailed) N	443** .003 204	1.000 . 204

**Correlation is significant at 0.01 levels (2 tailed)
*Correlation is significant at 0.05 levels (2 tailed)

Source: SPSS-generated Output

Table 7 presents the result of a correlation analysis carried out between recyclable packaging and repeat patronage of manufacturing firms in Asaba, Delta State. The result reveals that recyclable packaging has a moderate positive correlation with repeat patronage (rho = .443**) and this correlation is significant at 0.01 level as indicated by the symbol **. Consequently, the null hypothesis (Ho_3) is rejected and the alternate hypothesis is accepted. This means that we then accept that there is a moderate positive and significant relationship between recyclable packaging and repeat patronage manufacturing firms in Asaba, Delta State.

Discussion of Findings

Based on the analysis's findings, manufacturing companies in Asaba, Delta State, Nigeria, have seen a strong, favorable, and statistically significant increase in repeat patronage when using biodegradable packaging. The outcome of the bivariate analysis that was done on the two variables led to this conclusion. The findings demonstrated a substantial and favorable association (rho =.841**) between biodegradable packaging and repeat patronage with manufacturing companies at the 0.01 significance level. The alternate hypothesis, which contends that there is a strong positive and substantial association between biodegradable packaging and repeat patronage with manufacturing enterprises in Asaba, Delta State, Nigeria, was adopted

based on this result, rejecting the null hypothesis (Ho1).
This finding is in line with research by Kong et al. (2014), which found that many consumers would rather purchase goods packaged in recyclable and reusable containers; Hakansson et al. (2014) corroborated this finding by reporting that consumers who care about the environment would rather purchase goods packaged in recyclable and biodegradable materials.
As a result of the bivariate analysis conducted on the two variables, the study's findings indicate that there is a strong positive and significant relationship between packaging optimization and repeat patronage of manufacturing firms in Asaba, Delta State, Nigeria (rho =.713**). This correlation is significant at the 0.01 level, and as a result, the alternate hypothesis was accepted and the null hypothesis (Ho2) was rejected. Dellis (2016) corroborates this fact by pointing out that a large number of consumers consistently purchase goods using recyclable containers and efficient packaging. Nguyen (2017) provided more evidence for this conclusion by stating that businesses would experience a rise in consumer loyalty if they packaged their goods in recyclable, biodegradable, and reusable materials or with optimal packaging.
Ultimately, it was found that there is a moderate correlation between manufacturing companies in Asaba, Delta State, Nigeria, and their repeat patronage when it comes to recyclable packaging. The outcome of the bivariate analysis performed on the two variables led to this conclusion. The findings showed a moderately favorable association (rho =.443**) between recyclable packaging and repeat patronage, which is significant at the 0.01 level. As a result, the alternative hypothesis was accepted and the null hypothesis (Ho3) was rejected. This indicates that there is a moderately strong and statistically significant correlation between recyclable packaging and manufacturing companies' repeat patronage in Asaba, Delta State. This result is in line with studies by Nguyen (2017) and Hakansson et al. (2014), which found that recyclable packaging significantly and favorably affects repeat patronage.

CONCLUSIONS AND RECOMMENDATIONS

From the foregoing analysis, it is evident that biodegradable packaging has a positive and significant relationship with repeat patronage of manufacturing firms in Asaba, Delta State of Nigeria. The empirical results of this study confirmed this as a positive and significant relationship was found between packaging optimization and repeat patronage of manufacturing firms in Asaba, Delta State of Nigeria. The study found a moderate and significant relationship between recyclable packaging and repeat patronage of manufacturing firms. Based on these findings, it was concluded that green packaging has a positive and significant relationship with repeat patronage of manufacturing firms in Asaba, Delta State of Nigeria.
Based on the findings and conclusions, the following recommendations are made:

1. Manufacturing firms in Nigeria particularly those that are still practicing conventional packaging should switch from conventional packaging to green packaging as it would enhance repeat patronage
2. Manufacturing firms in Nigeria especially those in Asaba, Delta State should improve on recyclable packaging that would increase repeat patronage.
3. Manufacturing firms in Nigeria should package their products using biodegradable, recyclable and optimize materials as this would not only reduce the amount of waste brought into the environment but would also enhance repeat patronage.

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