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INFLUENCE OF PACKAGING COLOUR, PACKAGING MATERIAL, AND ATTRACTIVENESS OF WRAPPING ON CONSUMER PURCHASING DECISIONS FOR MADE-IN-NIGERIA CONSUMABLE PRODUCTS IN NASARAWA STATE

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ABSTRACT

This study examined the influence of packaging attributes on consumer purchasing decisions for made-in-Nigeria consumable products in Nasarawa State, with particular emphasis on packaging colour, packaging material, and the attractiveness of wrapping. Adopting a causal research design, the study sought to establish cause-and-effect relationships between packaging attributes and consumer purchasing decisions. Data were collected from consumers of locally manufactured consumable products across the three senatorial districts of Nasarawa State using a structured questionnaire. A sample size of 450 respondents was determined using Cochran's formula and selected through a multistage sampling technique. Partial Least Squares Structural Equation Modelling (PLS-SEM) was employed for data analysis. The findings revealed that all three packaging attributes exerted positive and statistically significant effects on consumer purchasing decisions, with the attractiveness of wrapping emerging as the most influential determinant, followed by packaging colour and packaging material. The study concludes that effective packaging design plays a critical role in shaping consumer perceptions and influencing purchase behaviour in a competitive consumable goods market. Based on the findings, the study recommends that manufacturers adopt strategic and culturally appealing colour schemes, invest in high-quality and protective packaging materials, and prioritise innovative and aesthetically attractive wrapping designs to enhance product appeal and improve consumer purchasing decisions.

Keywords: Packaging Attributes, Colour Packaging, Packaging Material, Attractiveness, Wrapping, Consumer Purchasing Decision



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Introduction

Consumer purchasing decision refers to the process through which individuals recognized a need, search for information, evaluate alternatives, make a purchase choice, and assess post-purchase outcomes, and it has been widely acknowledged as the central outcome variable in consumer behaviour research (Dibie & Olannye, 2022; Ndulue, 2020). In highly competitive consumable goods markets, purchasing decisions are rarely based solely on functional product attributes but are significantly influenced by marketing stimuli that shape consumer perception and preference. Recent studies emphasized that point-of-sale cues such as packaging play a crucial role in simplifying consumer decision-making, particularly in low-involvement purchases where consumers rely on heuristics rather than extensive information processing (Klimchuk & Krasovec, 2021; Underwood & Klein, 2020). Thus, understanding the determinants of consumer purchasing decisions is essential for improving market performance and brand competitiveness.

Packaging has emerged as one of the most influential extrinsic product cues affecting consumer purchasing decisions, especially in self-service retail environments where direct interaction with sales personnel is minimal (Silayoi & Speece, 2019). Packaging communicates product identity, quality signals, and brand values through visual and structural elements that capture consumer attention at the point of purchase. In emerging markets such as Nigeria, where many consumable products offer similar functional benefits, packaging becomes a strategic differentiation tool that shapes consumer choice and influences purchase intentions (Adeola & Ezenwafor, 2021; Omamuzo & Okeke, 2023). For Made-in-Nigeria consumables in Nasarawa State, effective packaging is therefore critical for influencing consumer purchasing decisions and enhancing local brand acceptance.

Furthermore, packaging colour is a key visual element that significantly influences consumer purchasing decisions by evoking emotional responses and conveying symbolic meanings related to product quality and brand personality (Aslam et al., 2022; Singh & Srivastava, 2021). Colour enhances brand recognition and recall, enabling consumers to identify products quickly in cluttered



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retail environments. Empirical evidence suggests that colour influences consumer perception of freshness, safety, and reliability, particularly in consumable goods where quality evaluation prior to purchase is limited (Saha & Dutta, 2020; Adeola et al., 2023). In culturally diverse contexts such as Nigeria, colour preferences are shaped by cultural norms, social values, and individual experiences, making colour selection a critical determinant of consumer purchasing decisions.

Nevertheless, packaging material and attractiveness of wrapping further influence consumer purchasing decisions by shaping perceptions of product durability, hygiene, environmental responsibility, and aesthetic appeal (Magnier & Crié, 2020; Ketelsen et al., 2020). Packaging materials signal product safety and quality, while visually attractive wrapping designs enhance shelf visibility and stimulate impulse buying through emotional and sensory appeal (Silayoi & Speece, 2019; Mazhar et al., 2021). Recent studies indicate that consumers often associate attractive packaging with superior product quality and brand credibility, which positively influences their willingness to purchase (Oyeniya & Adeniji, 2022). For Made-in-Nigeria consumables in Nasarawa State, these packaging attributes play a crucial role in shaping consumer purchasing decisions in a highly competitive market environment.

Consumer purchasing decisions for consumable products in Nigeria are increasingly influenced by extrinsic product cues due to market saturation and the growing similarity of product offerings across competing brands (Ndulue, 2020; Dibia & Olannye, 2022). In Nasarawa State, Made-in-Nigeria consumable products frequently compete with imported alternatives that are perceived to possess superior packaging quality and visual appeal. Despite offering comparable functional benefits, many local products struggle to attract consumer preference and achieve sustained patronage, raising concerns about the effectiveness of packaging strategies adopted by indigenous manufacturers (Omamuzo & Okeke, 2023; Adeola et al., 2023).

Empirical studies on packaging and consumer behaviour present mixed findings regarding the relative importance of specific packaging attributes such as colour, material, and attractiveness of wrapping. While some studies report significant positive effects of these attributes on purchasing decisions, others suggest that their influence may vary depending on cultural, economic, and geographical contexts (Saha & Dutta, 2020; Mazhar et al., 2021). Moreover, most existing studies



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were conducted outside Nasarawa State, creating a contextual gap in understanding how packaging attributes influence consumer purchasing decisions for Made-in-Nigeria consumables within the state. The main objective of this study is to examine the influence of selected packaging attributes on consumer purchasing decisions for Made-in-Nigeria consumable products in Nasarawa State. The specific objectives of the study seek to:

- i. examine the effect of packaging colour on consumer purchasing decision for Made-in-Nigeria consumable products in Nasarawa State;
- ii. assess the extent to which packaging material influences consumer purchasing decision for Made-in-Nigeria consumable products in Nasarawa State;
- iii. evaluate the influence of attractiveness of wrapping on consumer purchasing decision for Made-in-Nigeria consumable products in Nasarawa State.

Statement of Hypotheses

The following hypotheses were raised:

H₀₁: Packaging colour has no significant effect on consumer purchasing decision for Made-in-Nigeria consumable products in Nasarawa State.

H₀₂: Packaging material has no significant effect on consumer purchasing decision for Made-in-Nigeria consumable products in Nasarawa State.

H₀₃: Attractiveness of wrapping has no significant effect on consumer purchasing decision for Made-in-Nigeria consumable products in Nasarawa State.

Literature Review

Faraghian et al. (2020) defined packaging as one of the most important factors affecting consumer purchase decisions and plays an important role in marketing communications, especially at the point of sale, that nowadays due to market saturation and increased competition as well as changes in taste consumers have strategic value for the company. Dibia and Olannye (2022) defined packaging as the comprehensive practice encompassing the art, science, and technology employed in safeguarding and containing goods for various purposes such as utilization, preservation,



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transportation, and commercial transactions. It involves the intricate processes of design, analysis, and fabrication of packages. Packaging itself plays an important part in marketing mix as it differentiates company's product from its competitors and is also the way to communicate with its consumers (Emmanuel, 2017).

The colour of packaging plays a pivotal role in packaging design, exerting a profound influence on consumer perceptions and expectations (Bao, 2022; Azman, 2020). It functions as a critical factor in capturing consumer attention, fostering sensory expectations, and imparting product-related information (Tassawa & Khumhome, 2023). The selection of colours in packaging design can wield significant influence over consumer decisions, as evidenced by studies indicating that colour forms the initial impression for consumers when engaging with a product. Furthermore, packaging colour serves as a valuable brand asset, communicating brand identity and values, and directing consumer attention both offline and online (Sant'Anna et al., 2022).

Packaging material plays a pivotal role in safeguarding products against loss or damage, as emphasized by Benjamin et al. (2019). High-quality materials are more likely to attract customers compared to inferior ones. Khuong and Tran (2018) highlighted the significance of the material chosen for packaging in preventing product losses. Furthermore, it serves to protect the product from various environmental factors such as heat, moisture, and dust, as noted by Singh (2016). Research by Chandra Lal et al. (2015) indicated that products encased in glass, perceived as environmentally friendly, convey a sense of high quality, while those in folding boxes may suggest inferiority.

The appeal of wrapping as a component of packaging lies in its capacity to elevate the visual allure and perceived excellence of the enclosed item, thereby exerting a significant influence on consumer choices and brand image (Soulhol & Vigner, 2020). Wrappings can be meticulously crafted with elements such as transparent windows, tear-guiding strips, and inventive structures, all aimed at enhancing both functionality and aesthetics (Hawkins-Garcia, 2010). A well-executed packaging not only safeguards the product but also doubles as a potent marketing instrument, drawing in customers and augmenting the product's value (Linh, 2017). Take, for instance, the



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utilization of materials like fabric sleeves or sustainable cardboard, which not only contribute to a more visually captivating presentation but also align with eco-conscious sensibilities.

Empirical Review

Naik and Lavuri (2019) researched on the effect colour of packaging on the purchase behaviour of consumers. The study adopted a descriptive survey design, the target population comprised of Fast-moving consumer goods (FMCG) firms in Hyderabad city of India. A sample size of 825 was obtained using the Cochran's formula and data were collected using structure questionnaire and personal interview. Data collected were analysed using ANOVAs, Correlation and Multiple Regression. The result indicates that colour of packing has a statistically significant effect on the purchase notion of consumers. However, a notable shortcoming is the absence of a theoretical framework to underpin its findings. Moreover, the study's applicability is primarily limited to Fast-moving consumer goods (FMCG) firms in Hyderabad, India. Consequently, there is a pressing need for further research encompassing diverse regions within India and across the globe.

Using PZ Cussons Nigeria, PLC as a case study, Jatto et al. (2023) assessed the effect of packaging colour on consumer purchase intention, the study employed a survey research design, the study target population comprised of buyers of PZ Cussons Nigeria, PLC in Ilorin, Kwara State. Kerjice and Morgan's formula was used for to obtain a sample size of 384. Survey questionnaire was employed as instrument for data collection. Out of 384 copies of questionnaire administered, 344 were completely filled and analysed using Partial Least Square Path Modelling (PLS-PM). The study established that packaging colour has a positive and significant effect on purchasing intention among consumers of PZ Cussons Nigeria, PLC in Ilorin, Kwara State. However, it could be enriched by conducting comparable studies that incorporate other locally manufactured products in Nigeria. Considering that PZ Cussons Nigeria, PLC operates as a subsidiary of PZ Cussons PLC, a British multinational consumer goods company, a broader scope may reveal diverse outcomes.

The study conducted by Dibia and Olannye (2022) examined the effect of packaging materials on consumer buying decision of cosmetics brands in Asaba, Delta State Supermarkets. A cross-sectional survey research approach was adopted and the target population is made up of a total of



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485 frequent female buyers of cosmetics brands that often visit the supermarkets in Asaba, Delta State, on Fridays and Saturdays. The study sample size of 214 was determined using the formula developed by Krejcie and Morgan (1970) and stratified random sampling technique was adopted to select respondents. Survey questionnaire was employed as instrument for data collection with response graded on a five-point Likert scale. Content validity and test-retest reliability approach was used to evaluate the instrument's reliability. Out of the 214 copies of questionnaire administered, 210 were completely filled and analysed using simple percentages and multinomial logistic regression. The study's finding established that, packaging materials has positive effect on consumer buying decision. This implies that the dimensions of product packaging materials explained the variability of consumer buying decision of cosmetic brands in supermarkets. Thus, it was concluded that that product packaging has positive effect on consumer buying decision of cosmetic brands in Asaba, Delta State Supermarkets. This narrow scope hinders the ability to arrive at a definitive conclusion. Therefore, conducting additional studies encompassing a broader demographic spectrum would be beneficial, particularly for locally made products in Nigeria.

The research by Adebisi and Akinruwa (2019) examined the effect of packaging material of product packaging on customer patronage. Survey method was adopted, and the population comprised the customers that are consuming Bournvita in Ado-Ekiti. Purposive sampling was used to select 350 respondents. Data were collected using structured questionnaire and out of 350 copies of questionnaire administered, 322 were completely filled and analysed using simple percentages and Hierarchical Multiple Regression Model. The study revealed that packaging material has significant positive effects on customer patronage of Bournvita. However, the findings are primarily applicable to customers consuming Bournvita in Ado-Ekiti. Therefore, there is a need for further studies that consider other packaged products within Ekiti State, as well as in other states in Nigeria, such as Nasarawa State.

The research conducted by Manickam (2019) examined the impact of wrapping design on consumers buying behaviour, survey research was adopted and target population comprised of consumers of package products in Salem District of Tamil Nadu state in southern India. Convenience sampling was used and a size of 100 respondents has been collected and tested the



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reliability of the model. Data collected were analysed using simple percentages and Pearson correlation and the study's findings found a moderate relationship between buying behaviour and design of wrapper which is significant. The study demonstrated effort by thoroughly exploring its subject matter. However, it lacked clarity in its methodological presentation, particularly in the absence of tables and figures to substantiate its findings.

Chukwu and Enudu (2018) investigated the impact of attractive product packaging on consumer buying behaviour. A survey research design was adopted and the target population consisted of all consumers in Benin metropolis, Edo State. Accidental sampling technique was used to sample 400 customers/consumers in Benin metropolis who came to the markets/shops for shopping, using questionnaire as instrument for data collection. Out of the 400 copies of questionnaire administered, 300 copies were completely filled and analysed using simple percentages and multiple regression. The study established that attractive product packaging has a significant effect on packaging on consumer buying behaviour as customers dislike shabbily packaged products but good and attractive product packaging influence consumers buying behaviour by making them to buy product and always patronize product. Nevertheless, it's important to note that the study findings are most applicable to consumers in Benin metropolis, Edo State. This underscores the necessity for conducting parallel studies in other regions of Edo State, as well as in states like Nasarawa.

The Theory of Reasoned Action (TRA) is a general framework of human behaviour that explains how beliefs shape attitudes, which in turn influence behavioural intentions and actual behaviour (Ajzen & Fishbein, 1980). Developed by Fishbein and Ajzen in 1975, the theory posits that individuals act rationally by systematically evaluating the expected outcomes of a behaviour before forming an intention to act. When a behaviour is perceived to yield favourable outcomes, a positive attitude is formed, which increases the likelihood of behavioural intention and subsequent action. Within the context of consumer behaviour, TRA provides a useful explanation of how consumers' evaluations of product attributes, such as packaging, can translate into intentions and actual purchasing behaviour.



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The applicability of TRA to consumer purchasing behaviour has been widely supported in marketing and social psychology literature (Ajzen, 1991). Empirical studies demonstrate that behavioural intention, as conceptualised in TRA, is influenced by two key components: attitude toward the behaviour and subjective norms, which reflect perceived social pressure (Towler & Shepherd, 1992). While both components contribute to behavioural prediction, evidence suggests that attitude often exerts a stronger influence on behaviour than subjective norms, particularly in consumption-related decisions (Sheppard et al., 1988; Hassandoust & Perumal, 2010). In this study, TRA provides a relevant theoretical foundation for analysing how consumers' attitudes toward packaging attributes influence their purchasing decisions, thereby offering a structured framework for understanding the link between packaging evaluation and consumer buying behaviour.

Methodology

This study employed a causal research design to explore the impact of packaging attributes on consumer purchase decisions. This methodological approach is essential for identifying and elucidating cause-and-effect relationships among clearly defined variables, allowing researchers to understand how specific packaging characteristics influence consumer behavior in a measurable way. In this context, the key variables examined include various packaging attributes such as innovation, and labeling and their direct effects on consumers' purchasing choices, providing perceptions that can inform marketing strategies in the fast-evolving consumer goods market. The target population for this research comprised consumers who engage in purchasing made-in-Nigeria consumable products within Nasarawa State. Ascertaining the precise size of this population was challenging due to its variability and the lack of comprehensive records.

The study sample size was determined using Cochran's (1977) formula, which is a well-established statistical method for calculating sample sizes in finite populations. The parameters used in the calculations included:



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$$SS = \frac{Z^2 (P) \times (1 - P)}{C^2}$$

Where: SS - Necessary Sample Size
Z - Z score at 5% level of significance (1.96)
P - Population Proportion (0.5 for the study)
C - Margin of Error (0.05)
The sample size was, thus, computed as

$$\begin{aligned} &= \frac{1.96^2 (0.5) \times (1 - 0.5)}{0.05^2} \\ &= \frac{3.8416 (0.5) \times (0.5)}{0.0025} \\ &= \frac{1.9208 (0.5)}{0.0025} \\ &= \frac{0.9604}{0.0025} \\ SS &= 384.16 \\ SS &\approx 385 \end{aligned}$$

Nevertheless, in order to accommodate possible non-responses or analogous scenarios, and to guarantee an adequate response count to fulfil the desired sample size, a 17% rate of oversampling was done. Consequently, an additional 65 participants were factored in. This augmentation elevated the overall sample size to 450 participants. The oversampling carried out had substantial importance in guaranteeing the research attained the stipulated minimum sample size and procured a resilient data set for thorough analysis. Thus, the definitive sample size for the study was firmly set at 450 participants.

A multistage sampling technique was employed to ensure a representative sample across various communities within Nasarawa State. The process included a random Selection of Local Government Areas (LGAs): One LGA was randomly selected from each of the three senatorial districts Lafia (Southern), Akwanga (Northern), and Keffi (Western). Furthermore, within each selected LGA, cluster sampling was used to randomly choose respondents, facilitating the collection of data from diverse population segments while minimizing logistical challenges.



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Table 1: Distribution of Sample Across Selected Areas

Area (LGA)	Senatorial District	Questionnaires Distributed
Lafia	Southern	150
Akwanga	Northern	150
Keffi	Western	150
Total		450

This structured approach provides a balanced representation, allowing for a comprehensive understanding of consumer preferences across the state. Data collection was executed using a structured questionnaire, developed to capture relevant insights into consumer behavior. The instrument was carefully adapted from validated scales utilized in previous consumer behavior and packaging studies, with particular reference to work by Silayoi and Speece (2007) and Ampuero and Vila (2006). Modifications were applied to ensure the items were contextually relevant to the Nigerian market. The questionnaires were administered using a drop-off and pick-up method, facilitated by trained research assistants who provided guidance and support to respondents, ensuring a higher response rate and improved quality of data collection.

Validity and Reliability

Content validity was achieved through a thorough expert review, ensuring that the items accurately represented the constructs being measured and were aligned with established literature in consumer behavior and marketing research. This process involved consultations with subject matter experts to confirm the relevance and comprehensiveness of the questionnaire. Reliability was assessed using Cronbach's Alpha, a widely recognized statistic for measuring the internal consistency of scales. A Cronbach's Alpha value above 0.70 is generally considered acceptable, indicating that the items within each construct consistently measure the intended variable.

Table 2: Reliability Test Results

Construct	Number of Items	Cronbach's Alpha
Colour of packaging	6	0.86
Packaging material	6	0.80

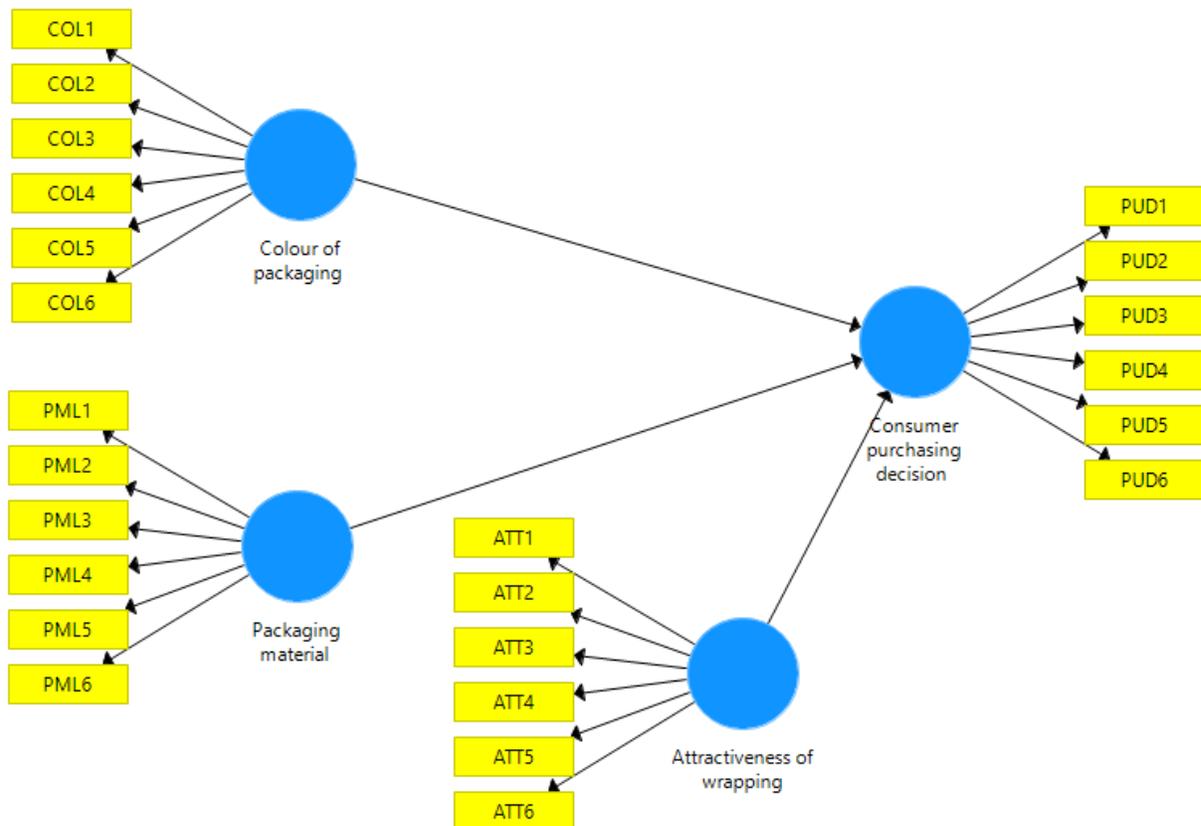


Construct	Number of Items	Cronbach's Alpha
Attractiveness of wrapping	6	0.81
Purchase Decision	6	0.88

The Cronbach's Alpha results confirmed that all constructs exceeded the acceptable reliability threshold, indicating that the measurement scales were consistent and suitable for analysis.

Data analysis was conducted utilizing Partial Least Squares Structural Equation Modelling (PLS-SEM), a statistical technique well-suited for examining complex relationships between multiple variables. This method was selected for its ability to handle various constructs and facilitate predictive analysis.

Figure 1: Graphical Model





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Data Analysis and Discussion

The survey conducted in the study involved the administration of a total of 450 copies of the research instrument in a field survey for the purpose of obtaining needed data. 418 copies out of these were retrieved and put through preliminary analysis, including data cleaning, coding and missing value evaluation. Consequently, 391 were determined to be valid and retained for the study. This therefore, reflected the sample size relied upon by the study. A summary of information concerning the administration of the research instrument is presented in table 1.

Table 1: Questionnaire Administration and Retention Information

Description	Number
Administered	450
Retrieved	418
Retained	391
Discarded	27

Source: Researcher's Compilation.

Retained questionnaire copies viz-a-viz administered, provided a response rate of 87%, providing more than adequate sources of needed primary data, especially, as the sample requirement of the study was satisfactorily met.

In line with best practices in PLS-SEM, the measurement model was assessed prior to the evaluation of the structural model. The measurement model specifies the relationships between latent constructs—namely packaging material, colour of packaging, attractiveness of wrapping, and consumer purchasing decision—and their observed indicators. This stage of the analysis is critical because it establishes the reliability and validity of the constructs used in the study. The indicators employed in this research were specified as reflective, implying that changes in the latent constructs are expected to be reflected in the observed variables. The adequacy of the measurement model was evaluated using factor loadings, internal consistency reliability, and convergent validity measures.

The estimation of the measurement model using SmartPLS revealed that all indicators demonstrated strong relationships with their respective latent constructs. Specifically, factor loadings for all items exceeded the widely accepted threshold of 0.70, indicating that the indicators



were reliable measures of their underlying constructs. High factor loadings suggest that each observed variable shared substantial variance with its construct, thereby confirming the appropriateness of the measurement items. In addition to factor loadings, the indicators were found to be statistically significant and met the Average Variance Extracted (AVE) criteria, further reinforcing the robustness of the measurement model. These results are consistent with established methodological recommendations in PLS-SEM literature, which emphasise the importance of ensuring strong measurement properties before proceeding to structural analysis (Collier, 2020; Hair et al., 2014). The result is shown in Figure 2 and Table 4.

Figure 2: Measurement Model

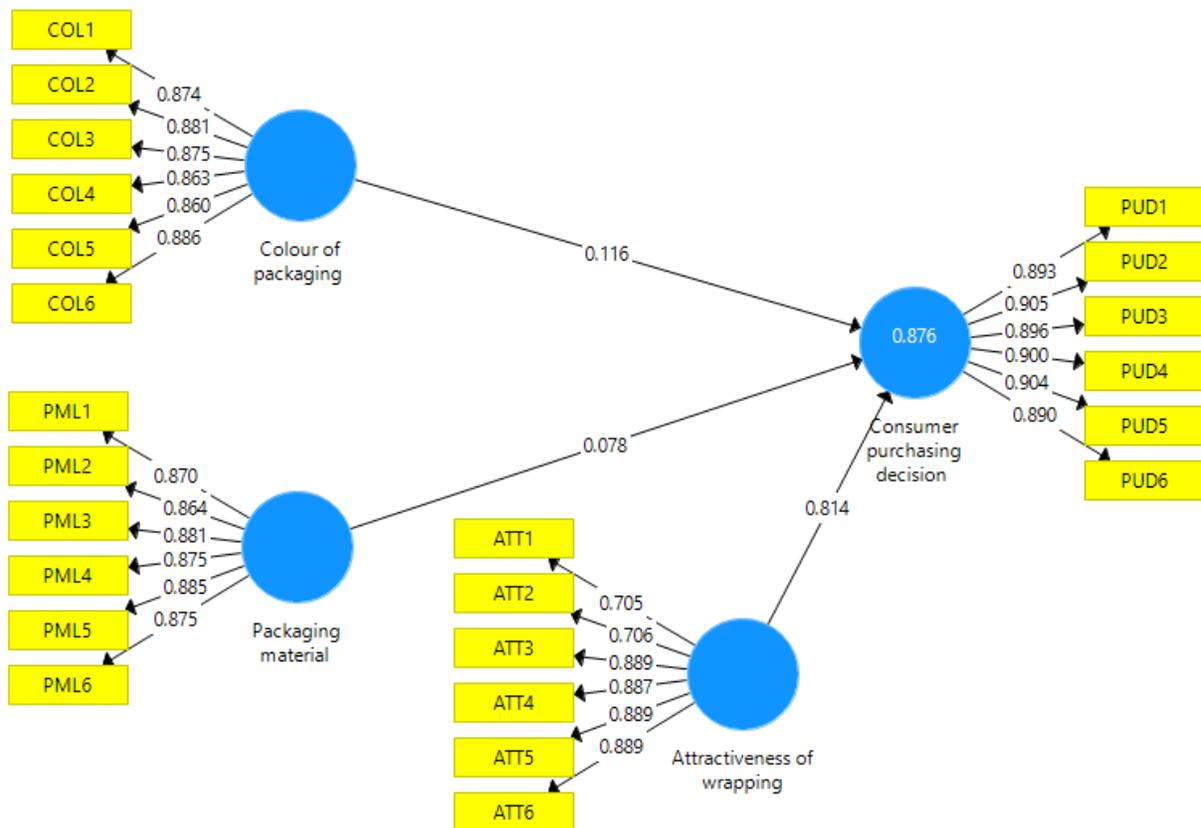




Table 4: Convergent Validity and Reliability of the Constructs and Indicators

Items	Loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
	Consumer purchasing decision	0.847	0.810	0.671
PUD1	0.893			
PUD2	0.905			
PUD3	0.896			
PUD4	0.900			
PUD5	0.904			
PUD6	0.890			
	Packaging material	0.818	0.881	0.672
PML1	0.870			
PML2	0.864			
PML3	0.881			
PML4	0.875			
PML5	0.885			
PML6	0.875			
	Colour of packaging	0.889	0.819	0.584
COL1	0.874			
COL2	0.881			
COL3	0.875			
COL4	0.863			
COL5	0.860			
COL6	0.886			
	Attractiveness of wrapping	0.859	0.879	0.584
ATT1	0.705			
ATT2	0.706			
ATT3	0.889			
ATT4	0.887			
ATT5	0.889			
ATT6	0.889			

Source: *SmartPLS Output*

Table 4 presents the convergent validity and reliability results for study variables. All indicator loadings exceeded the minimum threshold of 0.70, indicating strong item reliability and showing that each item adequately measured its respective construct. The Cronbach's Alpha values for were all above the recommended benchmark of 0.70, confirming satisfactory internal consistency among the measurement items. Composite Reliability values also surpassed the acceptable level



of 0.70, further confirming construct reliability in line with established PLS-SEM standards. The Average Variance Extracted (AVE) values for all constructs were above 0.50, indicating that each construct explained more than half of the variance in its indicators. These results confirm adequate convergent validity and suggest that the measurement model was reliable and suitable for further structural analysis.

Table 5: Heterotrait-Monotrait (HTMT) Ratio

	Attractiveness of wrapping	Colour of packaging	Consumer purchasing decision	Packaging material
Attractiveness of wrapping				
Colour of packaging	0.594			
Consumer purchasing decision	0.601	0.635		
Packaging material	0.652	0.428	0.659	

Source: *SmartPLS Output*

Table 5 reports the Heterotrait-Monotrait (HTMT) ratio, which assesses discriminant validity. An HTMT value below 0.85 is considered acceptable, while values above 0.90 indicate a lack of discriminant validity (Henseler et al., 2015).

Table 6: Coefficient of Determination

	R Square	R Square Adjusted
Consumer purchasing decision	0.876	0.875

Source: *SmartPLS Output*

Table 6 presents the coefficient of determination (R^2) for the dependent variable, consumer purchasing decision. The R Square value of 0.876 indicates that 87.6% of the variation in consumer purchasing decision is jointly explained by the packaging attributes included in the model, namely colour of packaging, packaging material, and attractiveness of wrapping. This value reflects a very strong explanatory power, suggesting that packaging-related factors play a dominant role in influencing consumers' purchasing decisions.



The adjusted R Square value of 0.875 further confirms the stability and reliability of the model after adjusting for the number of predictors and sample size. The marginal difference between the R Square and adjusted R Square values indicates that the model is not overfitted and that the explanatory strength is not artificially inflated. This result implies that improvements in packaging design particularly in terms of material quality, colour appeal, and wrapping attractiveness can significantly enhance consumer purchasing decisions for made-in-Nigeria consumable products in Nasarawa State.

Figure 3: Structural model

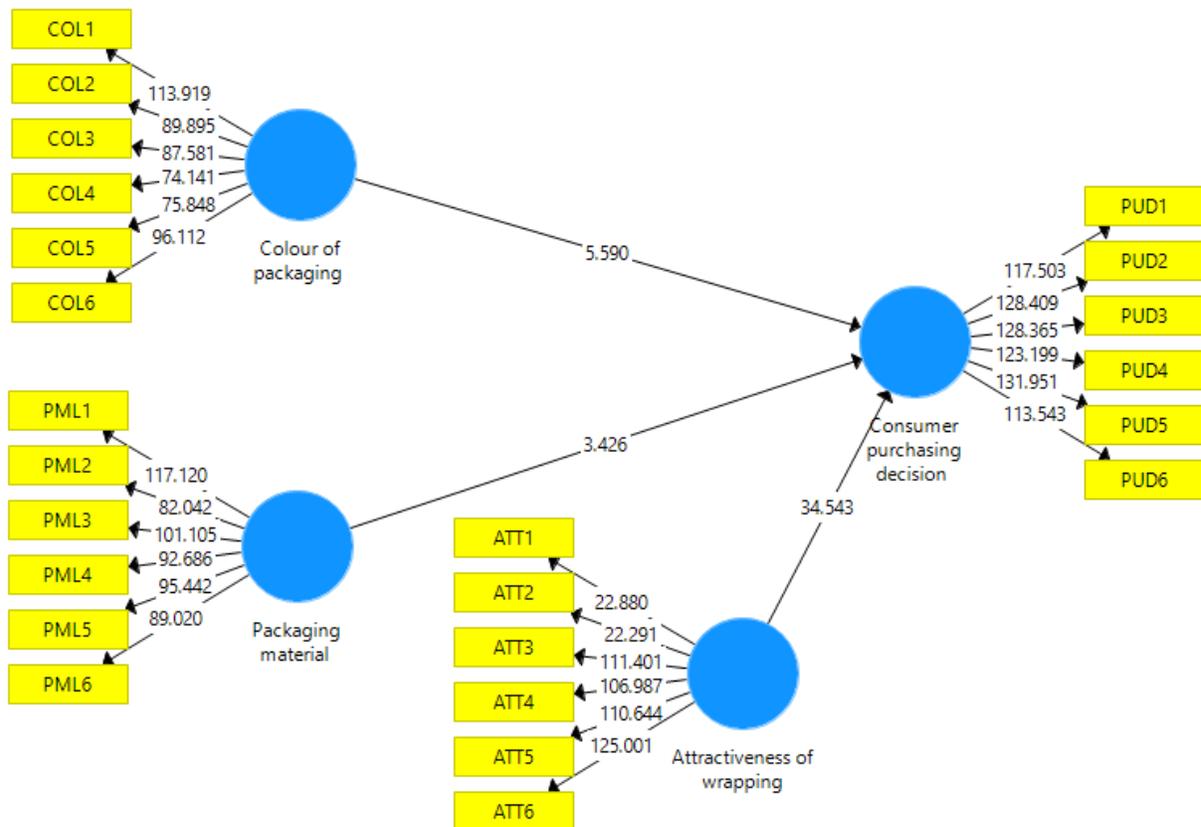


Table 7: Path Coefficient

Hypotheses	Beta	Sample Mean	Standard Deviation	T Statistics	P Values
Colour of packaging -> Consumer purchasing decision	0.116	0.115	0.021	5.590	0.0000



Packaging material -> Consumer purchasing decision	0.078	0.076	0.023	3.426	0.0010
Attractiveness of wrapping -> Consumer purchasing decision	0.814	0.815	0.024	34.543	0.0000

Source: *SmartPLS Output*

The path coefficient between colour of packaging and consumer purchasing decision ($\beta = 0.116$, $t = 5.590$, $p < 0.001$) indicates a positive and statistically significant relationship. This implies that improvements in packaging colour lead to an increase in consumers' likelihood of making purchase decisions, although the magnitude of the effect is relatively modest when compared to other packaging attributes. This finding aligns with the results of Naik and Lavuri (2019), who established that packaging colour significantly influences consumers' purchase behaviour within the fast-moving consumer goods sector in India. Similarly, Jatto et al. (2023) found that packaging colour exerted a positive and significant effect on consumer purchase intention among buyers of PZ Cussons Nigeria, PLC in Kwara State. The present study extends these findings by providing evidence from Nasarawa State and by incorporating colour of packaging within a broader structural model, thereby addressing contextual and methodological gaps identified in earlier studies.

The relationship between packaging material and consumer purchasing decision was also found to be positive and statistically significant ($\beta = 0.078$, $t = 3.426$, $p = 0.001$). Although the beta coefficient indicates a relatively weaker effect compared to colour and wrapping attractiveness, the result confirms that packaging material plays a meaningful role in shaping consumer decisions. This finding corroborates the empirical evidence provided by Dibia and Olannye (2022), who reported that packaging materials significantly influenced consumer buying decisions of cosmetic brands in Delta State supermarkets. It also supports the conclusions of Adebisi and Akinruwa (2019), whose study revealed that packaging material had a significant positive effect on customer patronage of Bournvita in Ado-Ekiti. By validating these earlier findings within the context of made-in-Nigeria consumable products in Nasarawa State, the present study strengthens the generalisability of the relationship between packaging material quality and consumer purchasing behaviour.



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The strongest relationship observed in the structural model was between attractiveness of wrapping and consumer purchasing decision ($\beta = 0.814$, $t = 34.543$, $p < 0.001$). This exceptionally high beta coefficient indicates that attractiveness of wrapping is the most influential packaging attribute affecting consumer purchasing decisions. The result suggests that visually appealing, innovative, and well-designed wrapping substantially increases the likelihood of consumers choosing a product. This finding is strongly supported by Manickam (2019), who found a significant relationship between wrapper design and consumer buying behaviour in India, as well as by Chukwu and Enudu (2018), who established that attractive product packaging significantly influenced consumer buying behaviour in Benin metropolis. The dominance of wrapping attractiveness in this study highlights the growing importance of visual appeal and aesthetic differentiation in competitive consumer markets, particularly for locally manufactured products.

Conclusion and Recommendations

In conclusion, this study established that packaging significantly influences consumer purchasing decision for made-in-Nigeria consumable products in Nasarawa State, confirming the strategic role of packaging as a marketing and communication tool in a competitive consumer goods market. Empirical evidence from the PLS-SEM analysis revealed that colour of packaging, packaging material, and attractiveness of wrapping all exerted positive and statistically significant effects on consumer purchasing decision, with attractiveness of wrapping emerging as the most influential determinant. This finding indicates that consumers are highly responsive to visually appealing and creatively designed packaging, which shapes their perceptions of product quality and value, while colour and material further reinforce brand appeal and product credibility.

Base on the findings, the following recommendations were raised:

- i. Manufacturers of made-in-Nigeria consumable products should adopt vibrant and culturally appropriate colour schemes that align with consumer preferences and product positioning. Colour combinations should be carefully selected to convey quality, freshness, and brand identity, thereby improving shelf appeal and attracting consumer attention.
- ii. Local producers should invest in high-quality, durable, and hygienic packaging materials that adequately protect products from contamination and damage. The use of materials that



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signal product safety and value will enhance consumer confidence and positively influence purchasing decisions.

- iii. Firms should prioritise innovative and aesthetically pleasing wrapping designs, as attractiveness of wrapping was found to be the most influential factor affecting consumer purchasing decision. Emphasis should be placed on creative designs, neat finishing, and functional features that improve both visual appeal and ease of use.

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