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Influence of Packaging Colour on Consumer Preference for Packaged Foods in Thika Municipality

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Abstract:
In competitive fast-moving consumer goods (FMCG) markets, purchase decisions are increasingly shaped at the point of sale by extrinsic packaging cues rather than by intrinsic attributes such as price, taste and brand reputation alone. This study examined the influence of packaging colour on consumer preference for packaged foods in retail outlets within Thika Municipality, Kiambu County, Kenya. The study was anchored in the Stimulus–Response (S–R) Theory and supported by the Theory of External and Internal Influences on Consumer Behaviour and the Product Attributes Theory. A mixed-method research design integrating quantitative and qualitative approaches was adopted. The target population comprised consumers and retail staff drawn from supermarkets, mini-marts and open-air markets in Thika Municipality. A sample of 385 consumers was determined using Cochran's formula, complemented by 20–25 purposively selected retail staff for qualitative insight. Data were collected using structured questionnaires, interview guides and in-store observation checklists, and 378 questionnaires (98.2%) were retained for analysis. Quantitative data were analysed using SPSS through descriptive statistics, Pearson correlation and simple linear regression, while qualitative data were analysed thematically. The findings revealed that packaging colour had a positive and significant influence on consumer preference, with a composite mean of 3.68 (SD = 1.15). Colour contrast, brightness and appealing colour combinations were found to enhance shelf visibility and attract impulse attention. Regression results showed that packaging colour explained 9.2% of the variation in consumer preference ($R^2 = 0.092$) and was a significant predictor of consumer preference ($\beta = 0.255$, $t = 6.156$, $p < 0.001$), with a moderately positive correlation ($r = 0.400$, $p < 0.001$). The null hypothesis that packaging colour has no significant influence on consumer preference was therefore rejected. The study concludes that packaging colour is a critical determinant of consumer preference in semi-urban FMCG retail environments such as Thika Municipality, where purchase decisions are frequently made at the shelf. The study recommends that food manufacturers and marketers invest in attractive, well-contrasted and context-appropriate colour schemes to enhance product visibility, strengthen brand recognition and improve competitiveness in the packaged foods market.

Keywords: *Packaging colour, colour contrast, consumer preference, packaged foods*

1. Introduction

Packaging has moved beyond its traditional function of containment and protection to become a strategic marketing and communication instrument in competitive consumer markets. Contemporary businesses increasingly regard packaging as a silent salesperson that draws attention, communicates brand identity, signals product quality, and shapes consumer decisions at the point of sale without direct human contact (Morris, 2024). Among the visual elements of packaging, colour is widely regarded as the most immediate stimulus, capable of directing consumer attention within seconds of shelf exposure. With consumers routinely confronted by thousands of competing products, the colour of a package plays a decisive role in forming first impressions and steering purchasing behaviour, particularly for fast-moving consumer goods (FMCG) such as packaged foods.

Globally, the value of the packaging industry has grown substantially, driven by rising demand for packaged and convenience foods, urbanisation, e-commerce penetration and continual innovation in packaging design (Statista, 2023). The food and beverage sector alone accounts for a large share of overall packaging demand, underscoring how central visual packaging cues, especially colour, have become to product differentiation. Empirical evidence supports this observation: Silayoi and Speece (2007) found that consumers rely heavily on visual packaging information, particularly colour, when making low-commitment purchases such as packaged meals, using it as a rapid decision heuristic under time pressure. Da Rosa et al. (2018) similarly established that packaging colour shapes consumer expectations of taste, quality and healthiness even before the product is consumed, while Nickel et al. (2020) found that warm, well-matched colour schemes enhanced perceived product quality, brand credibility and emotional attachment.

Within Africa, rapid urbanisation and middle-class growth have driven a shift toward packaged and branded food products, positioning packaging colour as an important interface between manufacturers and consumers at the point of sale. Studies in South Africa and Nigeria found that visually attractive, clearly branded packaging strengthened consumer trust and repeat-purchase behaviour, particularly where product quality could not be assessed prior to consumption (Boateng et al., 2022). Even so, empirical evidence from East Africa on the specific role of packaging colour remains scarce, limiting the extent to which findings from Southern and West African markets can be generalised to the region.

In Kenya, the packaged food retailing sector has expanded rapidly amid urbanisation, rising incomes and increasing demand for convenience foods. Chen et al. (2021) found that visual packaging elements, particularly colour, strongly influence consumers' first impressions of product quality and freshness, especially for low-involvement food items, where colour often serves as the primary basis for distinguishing between competing brands on the shelf. Despite this, brand performance in Kenya's packaged food sector remains inconsistent, even among products with comparable price and quality, raising questions about the specific contribution of packaging colour to this variation.

Thika Municipality, located in Kiambu County approximately 40 kilometres northeast of Nairobi, provides an especially relevant context for this inquiry. The municipality is a leading industrial and food-manufacturing hub, hosting major producers such as Bidco Africa, Capwell Industries, and Kenblest Group, whose products compete intensely on retail shelves carrying near-identical product categories (Chen et al., 2021). With a population exceeding 279,000 and a retail landscape spanning supermarkets, mini-marts, convenience stores, and open-air markets, Thika offers a heterogeneous consumer base and a mixed-format retail environment in which packaging colour is likely to play a decisive yet empirically under-examined role in shaping consumer preference.

1.1. Statement of the Problem

Consumers are conventionally expected to base purchasing decisions on intrinsic product attributes such as price, taste, quality and brand reputation. However, in FMCG markets where products often display minimal differences in these intrinsic attributes, more than 60% of purchase decisions are made in-store and are strongly shaped by visual packaging cues such as colour (Riswanto et al., 2025). Kenya's packaged food sector recorded retail sales of approximately KSh 246 billion in 2023, yet many manufacturers continue to face slow stock turnover and weak brand differentiation despite this growth (Kosgei & Wanjira, 2018; Mushili & Mwanza, 2024). Products with visually appealing packaging have been shown to achieve up to 35% higher turnover than comparable products with less attractive designs (Euromonitor International, 2022), suggesting that packaging colour may be a decisive but insufficiently understood driver of this performance gap.

This problem is particularly evident in Thika Municipality, where leading food manufacturers operate within similar product categories and retail environments, yet noticeable variation in product performance persists (Kosgei & Wanjira, 2018). While prior studies have examined packaging as a general construct, few have isolated packaging colour as an independent variable, and almost none have done so within mixed retail environments comprising supermarkets, mini-marts and open-air markets that characterise semi-urban towns such as Thika. This gap constrains the ability of manufacturers and retailers to make evidence-based decisions on colour strategy. This study therefore sought to address this gap by examining the influence of packaging colour on consumer preference for packaged foods in Thika Municipality.

1.2. Purpose of the Study

The purpose of this study was to determine the influence of packaging colour on consumer preference for packaged foods in retail outlets within Thika Municipality, Kiambu County.

1.3. Research Hypothesis

The study was guided by the following null hypothesis:

H01: Packaging colour has no statistically significant influence on consumer preference for packaged foods in Thika Municipality.

2. Literature Review

2.1. Theoretical Literature Review

2.1.1. The Stimulus–Response (S–R) Theory

This study is anchored on the Stimulus–Response (S–R) Theory, originally advanced by John B. Watson, which holds that consumer behaviour is an immediate response to stimuli encountered in the external environment. In a marketing context, packaging colour serves as a potent external stimulus that captures attention, triggers interest, and shapes product preference before a consumer engages with any other packaging element (Mohamed et al., 2024). This is particularly relevant in FMCG retail settings, where decisions are often made quickly and impulsively on the basis of visual cues alone. The theory provides a direct conceptual link between packaging colour, as the stimulus, and consumer preference, as the behavioural response, thereby underpinning the central relationship examined in this study. While useful for explaining observed behavioural reactions, the S–R Theory offers limited insight into the internal cognitive processes through which colour is interpreted, a limitation addressed by the complementary theories discussed below.

2.1.2. Theory of External and Internal Influences on Consumer Behaviour

Developed by John A. Howard, this theory posits that consumer decision-making results from the interaction between external marketing stimuli, such as packaging colour, and internal psychological processes including perception,

learning, attitude and motivation. Packaging colour interacts with consumers' internal cognitive and emotional frameworks to shape categorisation and evaluation of product attributes such as freshness and quality (Riswanto et al., 2025). This theory complements the S–R Theory by explaining that consumers do not merely react automatically to colour but actively interpret it through psychological processing before forming a preference.

2.1.3. Product Attributes Theory

The Product Attributes Theory, developed by Kelvin J. Lancaster, holds that consumers evaluate and choose products based on functional and symbolic attributes. Packaging colour is conceptualised in this study as a largely symbolic attribute that enhances aesthetic appeal, evokes emotion and reinforces brand recognition (Antonides & Hovestadt, 2021). This theory provides an analytical basis for operationalising packaging colour as a measurable, quantifiable predictor of consumer preference, distinct from other packaging attributes such as typography, labelling or material.

2.1.4. Conceptual Framework

The conceptual framework depicts packaging colour, encompassing hue, brightness, contrast and colour combinations, as the independent variable influencing consumer preference for packaged foods, the dependent variable. Consumer preference in this study was operationalised using indicators such as product choice among similar items, brand liking, repurchase intention, and perceived product quality (Chirilli et al., 2022).

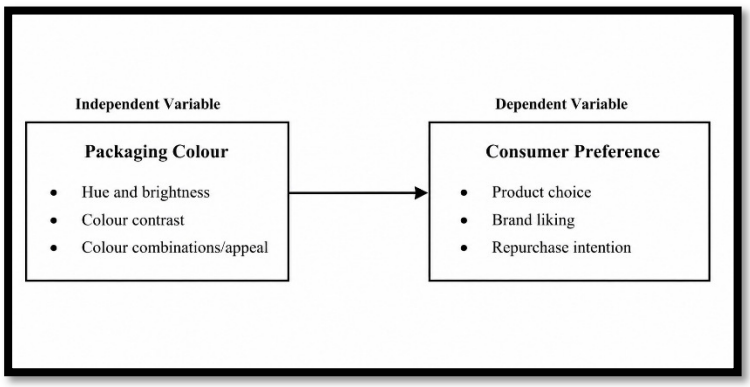


Figure 1: Empirical Literature Review

Globally, several empirical studies have examined the effect of packaging colour on consumer evaluation of packaged food products. Steiner and Florack (2023), in a systematic review of experimental studies from Europe and North America, found that packaging colour is a key variable shaping consumer attention, perceived product attributes and purchase intention, with green and blue commonly associated with healthiness and naturalness, and red and yellow with arousal and indulgence. They attributed these effects to processing fluency, whereby colours matching consumer expectations are processed more easily and evaluated more favourably. Da Rosa et al. (2018), through an experimental colour-manipulation study in Brazil, similarly found that packaging colour influences perceptions of taste and healthiness, with context-dependent effects: mismatched colour-category combinations reduced product evaluations.

Within the African context, Mushili and Mwanza (2024), in a survey of milk consumers in Lusaka, Zambia, found that packaging colour was a significant predictor of purchase intention, functioning as a rapid visual cue in time-pressured retail settings. Cramer et al. (2023), applying conjoint analysis and eye-tracking techniques to infant food packaging in Kenya, found that culturally familiar colour schemes attracted greater visual attention and product selection in urban supermarket settings. Kirui et al. (2024) similarly demonstrated that colour-coded front-of-pack labels were more readily recalled and better understood by Kenyan consumers in terms of health and safety messaging.

Despite this evidence, notable gaps remain. Much of the global literature relies on controlled experimental designs that may not fully capture real-world purchasing behaviour, while African and Kenyan studies have concentrated on large urban supermarkets in cities such as Nairobi, limiting generalisability to semi-urban, mixed-format retail environments (Cramer et al., 2023; Kirui et al., 2024). Very little empirical work has examined the influence of packaging colour on consumer preference across the supermarket, mini-mart and open-air market formats that coexist in semi-urban towns such as Thika Municipality. This study addresses that gap by examining packaging colour as an independent predictor of consumer preference across these diverse retail formats.

2.1.5. Critique of the Reviewed Literature

While the reviewed literature consistently affirms that packaging colour shapes consumer attention, product evaluation and purchase intention, several limitations temper these findings. Many global studies rely on controlled experimental designs that, while useful for establishing causal relationships, may not capture the complexity of real-world retail decision-making, where multiple stimuli compete for attention simultaneously. Regional and local studies, meanwhile, remain concentrated in major urban centres and in narrow product categories such as dairy or infant foods, limiting their applicability to the mixed, semi-urban retail environments typical of towns such as Thika Municipality. These

gaps justify the need for a context-specific, methodologically triangulated study of packaging colour within Thika's retail landscape.

3. Methodology

The study adopted a mixed-method research design, integrating quantitative and qualitative approaches to provide a comprehensive understanding of how packaging colour shapes consumer behaviour in real retail contexts. The target population comprised consumers and retail staff transacting in supermarkets, mini-marts and open-air markets within Thika Municipality, with daily consumer footfall across major outlets estimated at over 15,000. A sample of 385 consumers was determined using Cochran's (1977) formula at a 95% confidence level and a 5% margin of error, proportionally distributed across the three retail strata based on customer traffic. In addition, 20–25 retail staff, including managers and frontline employees, were purposively selected to support qualitative data collection and triangulation.

Sampling was conducted in stages: retail outlets were first stratified into large supermarkets, mini-marts and open-air kiosks based on scale and customer traffic; outlets within each stratum were then purposively selected based on accessibility and management consent; and consumer respondents were subsequently selected through systematic intercept sampling, whereby every third eligible customer (aged 18 years and above) exiting an outlet with a packaged food item was approached.

Data were collected using a structured questionnaire administered to consumers, a structured interview guide administered to retail staff, and an in-store observation checklist. The consumer questionnaire measured packaging colour, encompassing colour contrast, brightness, colour combinations and hue, using a five-point Likert scale. Content and construct validity were established through expert review and a pilot study of 38 respondents conducted in Juja Town. Reliability was assessed using Cronbach's Alpha, with the packaging colour construct recording a coefficient of 0.781, exceeding the 0.70 threshold for satisfactory internal consistency.

Quantitative data were analysed using the Statistical Package for the Social Sciences (SPSS) with descriptive statistics (means and standard deviations) and inferential statistics, namely Pearson correlation and simple linear regression. Diagnostic tests for normality, multicollinearity and homoscedasticity were conducted prior to regression analysis to confirm that the data satisfied the underlying statistical assumptions. Qualitative data obtained from retail staff interviews and in-store observations were analysed thematically to complement and enrich the quantitative findings. The regression model was specified as: $Y = \beta 0 + \beta 1X1 + \varepsilon$

Where Y represents consumer preference for packaged foods, X1 represents packaging colour, β0 is the constant, β1 is the regression coefficient, and ε is the error term. The hypothesis was tested at a 95% confidence level ($\alpha = 0.05$), with a p-value below 0.05 leading to rejection of the null hypothesis.

4. Findings

4.1. Response Rate

Of the 385 questionnaires administered to consumers across the selected retail outlets, 378 were fully completed and found suitable for analysis, yielding a response rate of 98.2%. This exceeds the 70% threshold recommended by Mugenda and Mugenda (2019) for data analysis and generalisation of findings, confirming that the sample was adequate for the study.

4.2. Descriptive Statistical Analysis

Respondents were asked to indicate their level of agreement with statements relating to the influence of packaging colour on their preference for packaged foods, using a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The findings are presented in Table 1.

Statement	Mean	Std. Dev.
Good colour contrast between text and background improves product visibility	3.76	1.10
Bright packaging colours make packaged food products more noticeable on shelves	3.68	1.14
I am more likely to choose a product whose colour combination appeals to me	3.67	1.17
The colour shades (hue) used on packaged food products attract my attention	3.59	1.18
Composite Mean / Standard Deviation	3.68	1.15

Table 1: Influence of Packaging Colour on Consumer Preference

The findings in Table 1 indicate that packaging colour positively influences consumer preference for packaged foods in Thika Municipality, with a composite mean of 3.68 and a standard deviation of 1.15, exceeding the 3.5 threshold for agreement. Colour contrast between text and background recorded the highest mean (M = 3.76, SD = 1.10), with 28.0% of respondents strongly agreeing and 42.9% agreeing, suggesting that consumers are drawn to packaging with clear, easily distinguishable visual elements that facilitate rapid product identification. Bright packaging colours that enhance shelf noticeability recorded the second-highest mean (M = 3.68, SD = 1.14), affirming colour's role as a visual cue that helps

products stand out amid competing brands. Appealing colour combinations (M = 3.67, SD = 1.17) and colour hue (M = 3.59, SD = 1.18) also recorded means above the agreement threshold. However, colour hue registered the lowest mean, indicating that while important, the specific shade used is a comparatively weaker driver of attention than contrast and brightness.

4.3. Inferential Statistical Analysis

4.3.1. Correlation Analysis

Pearson correlation analysis was conducted to determine the strength and direction of the relationship between packaging colour and consumer preference for packaged foods. The analysis, based on responses from 378 participants, established a moderately positive and statistically significant relationship between packaging colour and consumer preference ($r = 0.400$, $p < 0.001$), indicating that improvements in packaging colour attributes were associated with a corresponding increase in consumer preference for packaged foods.

4.3.2. Regression Analysis

Model	R	R-Square	Adjusted R-Square	Std. Error of Estimate
1	.303	.092	.090	.612

Table 2: Model Summary for Packaging Colour and Consumer Preference

	Df	SS	MS	F	Sig.
Regression	1	14.198	14.198	37.896	.000
Residual	376	140.891	.375		
Total	377	155.089			

Table 3: ANOVA for Packaging Colour and Consumer Preference

	B	Std. Error	Beta	t	Sig.
(Constant)	.109	.172		0.634	.527
Packaging Colour	.255	.041	.303	6.156	.000

Table 4: Regression Coefficients for Packaging Colour and Consumer Preference

The model summary in Table 2 indicates an R value of .303, confirming a positive relationship between packaging colour and consumer preference. The R Square value of .092 shows that packaging colour explains 9.2% of the variation in consumer preference for packaged foods in Thika Municipality, with the remaining 90.8% attributable to other factors outside the model. The ANOVA results in Table 3 confirm that the regression model was statistically significant ($F(1, 376) = 37.896$, $p = .000$), indicating that packaging colour significantly predicts consumer preference.

The regression coefficient in Table 4 shows that a one-unit increase in packaging colour is associated with a 0.255-unit improvement in consumer preference for packaged foods ($\beta = .255$, $t = 6.156$, $p < .001$). Since the p-value is below the 0.05 significance threshold, Hypothesis H01, which posited that packaging colour, has no statistically significant influence on consumer preference for packaged foods in Thika Municipality, failed to be accepted. It is therefore concluded that packaging colour exerts a statistically significant and positive influence on consumer preference for packaged foods. The fitted regression model is expressed as: $Y = .109 + .255X1$

Where Y represents consumer preference for packaged foods, and X1 represents packaging colour.

4.3.3. Qualitative Findings

Thematic analysis of interviews with 20 retail staff corroborated the quantitative findings. A significant majority of respondents (80%, n = 16) observed that packaging colour plays a primary role in capturing customer attention and enabling rapid product identification at the point of purchase, with 65% (n = 13) explicitly identifying bright colours such as red and yellow as the most dominant visual triggers drawing shoppers to display shelves. One outlet manager remarked that customers are drawn to bright colours above all else, while a supervisor noted that colour alone can make a shopper stop at a product without reading the label. In addition, 70% (n = 14) of respondents reported that consumers routinely use packaging colour for product differentiation and brand recall, with 45% (n = 9) noting that customers frequently request products by colour, for example asking for "the green packet" rather than the brand name, underscoring how colour coding simplifies decision-making at the shelf.

In-store observations conducted across 25 retail outlets in Thika Municipality between 10.00 a.m. and 5.00 p.m. reinforced these findings. Brightly coloured products, particularly those with red and yellow tones, consistently attracted more customer attention than dull-coloured packaging across supermarkets, mini-marts and kiosks, with customers frequently observed selecting products based on visual appeal before examining other packaging details. Colour contrast was also observed to improve shelf visibility, making certain brands considerably more noticeable than their competitors.

4.3.4. Discussion of Findings

The descriptive findings showed that respondents generally agreed that packaging colour significantly influences their preference for packaged foods, with bright, high-contrast colours enhancing shelf visibility, attracting attention, and

improving product recognition. This finding is consistent with Mushili and Mwanza (2024), who found that attractive colours improve product visibility and buying behaviour among milk consumers in Zambia. However, Cramer et al. (2023) argued that the influence of colour may decline where sustainability information and brand familiarity become more dominant purchase considerations, a divergence that may reflect differences in retail context and consumer characteristics across studies.

The observation findings reinforced the descriptive results, with brightly coloured products consistently attracting consumer attention ahead of labels or other packaging attributes. This aligns with Riswanto et al. (2025), who similarly reported that colour attracts immediate consumer attention in dairy packaging. The inferential findings further established that packaging colour has a positive and statistically significant influence on consumer preference ($\beta = 0.255$, $t = 6.156$, $p < 0.001$), with a moderately positive correlation ($r = 0.400$, $p < 0.001$), leading to rejection of the null hypothesis. These findings are consistent with Riswanto et al. (2025) but contrast with Cramer et al. (2023), who found colour to be less influential where brand loyalty dominates, a difference likely attributable to variation in methodological approach, product category and geographical setting.

These results are well explained by the Stimulus–Response (S–R) Theory, which frames packaging colour as an external stimulus that triggers an immediate behavioural response during product selection, and by the Theory of External and Internal Influences on Consumer Behaviour, which explains that consumers cognitively interpret this external stimulus before arriving at a purchasing decision. Taken together, the evidence suggests that attractive, high-contrast packaging colours generate favourable perceptions of product quality and appeal, thereby strengthening consumer preference for packaged foods within Thika Municipality's competitive retail environment.

5. Conclusion and Recommendations

This study examined the influence of packaging colour on consumer preference for packaged foods in Thika Municipality. The findings established that packaging colour, encompassing contrast, brightness, hue and colour combinations, has a statistically significant and positive influence on consumer preference. Colour was found to be a primary visual stimulus that determines whether a product is noticed or overlooked at the point of sale, particularly in a competitive retail environment characterised by supermarkets, mini-marts and open-air markets. The study concludes that packaging colour is a critical determinant of consumer preference in Thika Municipality, functioning as an immediate cue that shapes first impressions, attracts attention, supports brand recognition and, ultimately, influences purchase decisions.

Based on these findings, the study recommends that packaged food manufacturers and marketers operating in Thika Municipality and comparable semi-urban retail environments invest in professionally designed packaging colour schemes that maximise contrast and shelf visibility. Colour choices should align with consumer expectations for the product category and quality; for instance, leverage warm tones such as red and yellow when rapid attention capture is prioritised, while ensuring text-to-background contrast remains clear and legible. Manufacturers, particularly small and medium-sized enterprises competing against established brands, should conduct regular consumer research to track evolving colour preferences and incorporate this feedback into packaging redesign initiatives. Retailers should also collaborate with manufacturers to ensure shelf placement maximises the visibility of well-designed packaging colours, thereby enhancing product competitiveness and consumer satisfaction in Kenya's expanding packaged foods market.

5.1. Suggestions for Further Research

This study focused specifically on packaging colour as a determinant of consumer preference for packaged foods in Thika Municipality. Future research should examine other packaging design elements, including typography, labelling information and packaging material, alongside colour, to establish their combined and comparative influence on consumer preference. Further studies should also be conducted in other semi-urban and rural retail settings to allow for comparison with the findings from Thika Municipality, and should explore how consumer demographics such as age, income and education level moderate the relationship between packaging colour and consumer preference.

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