

Brand Switching and Product Disposal as Predictors of Retail Sales Performance of Made-in-Nigeria Cosmetics in Akwa Ibom State

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Abstract

This study examined brand switching and product disposal as predictors of perceived retail sales performance of Made-in-Nigeria cosmetics in Akwa Ibom State. A cross-sectional survey generated 605 complete retailer responses. Two separate simple linear regressions were estimated, and the reported model statistics were algebraically verified from the regression, residual and total sums of squares. Brand switching had a negligible positive association with retail sales performance, $r = .010$, $R^2 < .001$, $F(1, 603) = 0.063$, $p = .802$. Product disposal also had a negligible positive association, $r = .005$, $R^2 < .001$, $F(1, 603) = 0.013$, $p = .911$. Brand switching accounted for approximately 0.010% of the outcome variance, while product disposal accounted for approximately 0.002%. Neither proposed relationship was supported at the .05 significance level. The findings do not establish that switching or disposal is commercially unimportant. Rather, they show that the questionnaire scores did not predict the broad perceived-sales outcome in these data. Several switching items measured loyalty or customer service instead of actual switching, and the disposal items measured the purchase of defective or adulterated products rather than post-use disposition actions. Future research should use construct-valid scales, objective outlet-level sales records, a consistent unit of analysis and a simultaneous model that controls for product quality, price, availability, promotion and outlet conditions.

Keywords: Brand switching; consumer disposition; Made-in-Nigeria cosmetics; product disposal; retail sales performance; consumer behaviour.

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1. Introduction

Made-in-Nigeria cosmetics operate in a crowded retail market in which domestic and foreign brands are compared on quality, price, safety, ingredients, packaging, availability and image. The commercial problem does not end when a consumer makes a first purchase. A disappointing experience can prompt movement to another brand, while concerns about expiry, counterfeiting, contamination or unwanted effects can lead consumers to stop using or discard a product. Evidence from Nigeria shows that misleading marketing, trademark problems and product

information can affect patronage and loyalty in the beauty-products market (Abdulsalam et al., 2024). For local manufacturers and retailers, these post-purchase responses can weaken repeat demand, obscure product-performance signals and redirect expenditure to competing brands.

The problem has a second dimension: disposal is not a single act with a single commercial meaning. Discarding a partly used cosmetic after dissatisfaction may signal lost future sales, whereas discarding an empty container may follow complete consumption and precede repurchase. Reuse, recycling, return and ordinary household disposal

also produce different environmental and managerial implications. Research on cosmetics packaging shows that consumers may support responsible end-of-life practices while lacking clear knowledge or convenient disposal systems (da Silva et al., 2024; De et al., 2023). Retailers therefore need evidence that distinguishes brand movement from product or packaging disposition and connects each response to a measurable sales outcome.

Despite growing work on both topics, three gaps remain. First, cosmetics studies commonly examine the antecedents of switching, such as brand image, attitudes, reviews, price and push-pull forces, rather than the relationship between switching and retailer-level sales performance (Ajiwinanto et al., 2021; Firdausi et al., 2024). Second, disposition research concentrates on clothing, electronics and other durable or semi-durable products, and recent reviews identify limited evidence from Africa and other Global South settings (Kundu et al., 2024; Madhuhansi et al., 2025). Third, switching and disposal are usually studied in separate research streams, although retailers experience both as post-purchase signals. There is consequently little context-specific evidence on whether either response explains variation in the retail performance of locally manufactured cosmetics in Akwa Ibom State.

This study addresses the gap by treating brand switching and product disposal as distinct post-purchase predictors and testing their separate relationships with perceived retail sales performance. Brand switching refers to movement from a previously used brand to an alternative. Product disposal refers to the post-use decision to keep, return, reuse, recycle, transfer or discard a product or its packaging (Jacoby et al., 1977). Retail sales performance is used as the outcome label because it is clearer than the broader term salability and reflects retailer perceptions rather than audited revenue or unit sales.

Accordingly, the study determines whether (1) brand switching predicts perceived retail sales performance of Made-in-Nigeria cosmetics and (2) product disposal predicts perceived retail sales performance of Made-in-Nigeria cosmetics among retailers in Akwa Ibom State. By examining the two behaviours within one retail context, the study provides evidence for retention decisions, complaint monitoring, product quality improvement and end-of-life initiatives for locally manufactured cosmetics.

2. Literature Review and Hypothesis Development

2.1 Brand switching and retail sales performance

Brand switching is the behavioural movement from one

brand to another within a product category. It is the opposite of behavioural persistence, although repeated purchase does not always mean strong attitudinal loyalty. Switching may be deliberate, as when consumers compare performance and price, or situational, as when a preferred brand is unavailable. Shukla (2009) showed that contextual factors shape purchase decisions and influence both loyalty and switching. Bansal et al. (2005) organised switching forces into push factors that drive consumers away from a current provider, pull factors that attract them to alternatives, and mooring factors that facilitate or restrain movement.

The push-pull-mooring framework is useful for cosmetics. Unwanted product effects, poor value, low trust or dissatisfaction may push a consumer away. Better quality, price, availability, packaging, endorsements or perceived safety may pull the consumer towards another brand. Habit, brand attachment, search costs and uncertainty may moor the consumer to the current choice. In a cosmetics study, Ajiwinanto et al. (2021) found significant paths from brand image and brand attitude to switching, and reported that positive reviews and recommendations could reduce switching intensity. Firdausi et al. (2024) similarly found that push and pull factors were important in switching between green and conventional cosmetics.

At outlet level, switching can redistribute rather than simply destroy sales. A retailer carrying both the abandoned and selected brand may retain the transaction, while the original manufacturer loses it. If the replacement is foreign-made, the domestic producer and the local-brand category may lose demand. If switching occurs among Nigerian brands, aggregate sales of Made-in-Nigeria cosmetics may remain stable even while individual brands gain or lose. This level-of-analysis issue means that brand switching need not correlate strongly with total outlet sales unless the measure identifies the direction and destination of the switch.

On this basis, the first hypothesis is stated as follows: H1: Brand switching significantly predicts perceived retail sales performance of Made-in-Nigeria cosmetics in Akwa Ibom State.

2.2 Product disposal and retail sales performance

Disposition is part of the consumer journey after acquisition and use. Jacoby et al. (1977) established that consumers may keep a product, dispose of it temporarily or dispose of it permanently. Later research has shown that the chosen route depends on product condition, attachment, value, convenience, social norms, disposal infrastructure and opportunities for reuse or exchange. Weng et al. (2016)

found that disposition and repurchase relationships varied across product types, which cautions against treating all disposal as a single uniform behaviour. Kundu et al. (2024) likewise concluded that disposition research requires clearer treatment of methods, antecedents and outcomes.

Cosmetics create an additional measurement challenge. A partly used cream may be discarded because it expired, caused discomfort, appeared counterfeit or no longer suited the user. An empty bottle may be reused, recycled or discarded even when the product itself was satisfactory. Therefore, disposing of product contents may communicate dissatisfaction, whereas disposing of empty packaging may simply follow full consumption. Sustainable packaging studies emphasise that reuse and recycling depend on attitudes, values and practical control factors (Corona et al., 2024). Cosmetics-specific work also shows that waste outcomes depend on packaging design and the wider collection and treatment system (De et al., 2023; Dube & Dube, 2023).

Product disposal could affect future sales when it reflects product failure, distrust or dissatisfaction. However, it can also accompany normal depletion and replacement. Prakash et al. (2024) documented an intention-behaviour gap in zero-waste consumption, indicating that favourable intentions do not automatically translate into disposal-related action. Consequently, a predictive model requires items that specify what was disposed, why it was disposed and which route was used.

The second hypothesis is: H2: Product disposal significantly predicts perceived retail sales performance of Made-in-Nigeria cosmetics in Akwa Ibom State.

3. Method

3.1 Research design and setting

A cross-sectional descriptive survey was conducted among registered cosmetics retailers in Akwa Ibom State, Nigeria. The design was suitable for collecting retailer assessments of consumer post-purchase responses and perceived sales performance at one point in time. To obtain geographic coverage, the sampling frame was organised into the North-East, South and North-West senatorial districts.

3.2 Population, sample and analytical cases

The target population comprised 1,454 cosmetics retailers registered with the Akwa Ibom State Ministry of Trade and Investment. The sampling frame contained 665 retailers in the North-East district, 316 in the South district and 473 in the North-West district. The Yamane formula was applied

separately within the three strata at $e = .05$, producing district targets of 249, 176 and 216 retailers, respectively, and a combined target of 641. This stratified calculation should be distinguished from a single statewide Yamane calculation, which would produce approximately 314 cases. The larger stratified target was retained to improve district representation. After screening for complete predictor and outcome scores, 605 responses were retained for analysis, representing 94.4% of the planned retailer sample. With one predictor and an intercept in each model, $N = 605$ produced 1 regression degree of freedom, 603 residual degrees of freedom and 604 total degrees of freedom.

3.3 Measures

Three researcher-developed measures were relevant. Brand switching was represented by six five-point items. Product disposal was also represented by six five-point items. Retail sales performance was derived from the Salability of Made-in-Nigeria Cosmetic Products Questionnaire, which contained 25 five-point items ranging from sold very often to sold very seldom. Pilot testing produced overall Cronbach alpha coefficients of .891 for the post-purchase behaviour instrument and .901 for the retail-sales instrument. Separate reliability coefficients were not available for the switching and disposal subscales; this limits construct-specific reliability interpretation.

Content review identified major construct-validity concerns. Brand-switching items included “using one brand of product steadily,” “poor customer service,” and “working with negative feedback.” These items mix loyalty, service conditions and organisational response with actual consumer switching. Product-disposal items asked about buying defective, fake, obsolete, inferior or adulterated products; two items repeated obsolescence. They measure exposure to problematic products rather than disposal actions. The sales instrument also combined sales frequency with product attributes such as quality, price, fragrance, labels, expiry dates and packaging. For that reason, the dependent variable is described as perceived retail sales performance, not audited sales revenue or unit sales.

3.4 Data collection and ethics

Questionnaires were administered in the participating retail outlets with the assistance of trained research assistants. Participation was voluntary, informed consent was obtained, names were not collected and responses were used only for research.

3.5 Statistical analysis and verification

Each objective was analysed with a separate simple linear regression. The coefficient of determination was calculated as $R^2 = SSR/SST$, where SSR is the regression sum of squares and SST is the total sum of squares. The signed correlation was recovered as $r = \text{sign}(B)\sqrt{R^2}$. The residual mean square was $MSE = SSE/(N - 2)$, the standard error of estimate was $\sqrt{MSE}$, and $F = SSR/MSE$ with $df = (1, N - 2)$. Exact upper-tail F probabilities were calculated with $N = 605$. Model-summary, ANOVA and coefficient statistics were checked against these algebraic identities to prevent incompatible reporting. Adjusted R^2 was calculated as $1 -$

$(1 - R^2)(N - 1)/(N - 2)$. Statistical significance was assessed at $\alpha = .05$, but interpretation also considered effect magnitude.

4. Results

Table 1 presents the algebraically verified model summaries. Both models have effect sizes close to zero and non-significant F tests. The values of R^2 , F, the degrees of freedom and p were checked against the reported sums of squares and the analytical sample of 605 cases.

Table 1. Verified simple-regression model summaries

Predictor	r	R^2	Adj. R^2	SEE	F(1, 603)	p
Brand switching	.010	< .001	-.002	1.153	0.063	.802
Product disposal	.005	< .001	-.002	1.015	0.013	.911

Note. $N = 605$. Brand switching: $SSR = 0.084$, $SSE = 801.156$, $SST = 801.240$. Product disposal: $SSR = 0.013$, $SSE = 620.787$, $SST = 620.800$. R^2 values before rounding were .000105 and .000021, respectively.

4.1 Brand switching

Brand switching was negligibly and positively related to perceived retail sales performance, $r = .010$. The model explained $R^2 = .000105$ of the variance, equivalent to approximately 0.010%. The overall model was not significant, $F(1, 603) = 0.063$, $p = .802$. The unstandardised slope was $B = .012$, with a rounded standard error of .046. H1 was therefore not supported. The data do not justify the conclusion that the measured switching score predicts retail sales performance.

4.2 Product disposal

Product disposal was also negligibly and positively related to perceived retail sales performance, $r = .005$. The model explained $R^2 = .000021$ of the variance, equivalent to approximately 0.002%. The model was not significant, $F(1, 603) = 0.013$, $p = .911$. The unstandardised slope was $B = .004$, with a rounded standard error of .037. H2 was not supported. The result provides no evidence that the measured disposal score predicts retail sales performance.

Table 2. Regression coefficients

Model term	B	SE B	β	t	p
Brand-switching intercept	14.669	.836	—	17.546	< .001
Brand switching	.012	.046	.010	.251	.802
Product-disposal intercept	14.525	.681	—	21.317	< .001
Product disposal	.004	.037	.005	.112	.911

Note. Displayed B and SE values were rounded. Predictor t values were recovered as $\sqrt{F}$ to preserve the one-predictor identity $F = t^2$. Small differences from B/SE calculated using the displayed rounded coefficients are therefore rounding artefacts.

5. Discussion

The analysis found no meaningful predictive relationship between the measured brand-switching score and perceived retail sales performance. This result does not contradict the broader literature showing that consumers switch cosmetic brands. Instead, it indicates that the score used in this study did not track outlet-level sales variation. Switching can

move expenditure between brands without changing total outlet turnover, especially when the retailer stocks the alternative selected by the consumer. A category-level outcome also obscures whether consumers moved from a Nigerian brand to a foreign brand, between Nigerian brands or from a foreign brand to a Nigerian alternative.

Measurement likely contributed to the null result. Actual

brand switching requires a behavioural transition with an origin brand, destination brand and time frame. The questionnaire items instead mixed loyalty, customer-service conditions, negative feedback and unclear wording. Ajiwinanto et al. (2021) and Firdausi et al. (2024) measured switching within models that distinguished attitudes and push, pull or mooring factors. That structure is more suitable than treating diverse conditions as interchangeable indicators of switching.

The product-disposal model was even closer to zero. Again, the result should not be read as evidence that disposal is irrelevant to cosmetics retailing or sustainability. The instrument asked whether consumers bought defective, fake, obsolete, inferior or adulterated products. Those questions measure problematic acquisition and perceived product condition, not what consumers did after use. Disposition frameworks distinguish keeping, returning, storing, donating, selling, reusing, recycling and discarding (Jacoby et al., 1977; Kundu et al., 2024). Without those behavioural options, a composite “disposal” score has weak conceptual meaning.

The cosmetics context also requires separate treatment of leftover product and empty packaging. Discarding a partly used product because of expiry, counterfeiting, contamination or an unwanted effect may predict avoidance and negative word of mouth. Discarding an empty package after satisfactory use may follow complete consumption and precede repurchase. Recycling or returning packaging may indicate environmental commitment rather than dissatisfaction. Contemporary studies of packaging therefore connect consumer behaviour with design and end-of-life systems (Corona et al., 2024; De et al., 2023).

5.1 Theoretical implications

The findings reinforce the need to match theory, construct, unit of analysis and outcome. Push-pull-mooring theory predicts movement between alternatives, so it should be tested with consumer-level switching records or stated transitions. Disposition theory predicts post-use routes, so it should be tested with specific disposition behaviours. Retail sales performance is an outlet-level outcome influenced by stock, footfall, assortment, pricing and promotion. Claims that connect consumer actions to outlet-level performance therefore require an explicit aggregation strategy or a properly specified multilevel design.

5.2 Practical implications

Retailers and manufacturers should not use these two null models as a basis for ignoring customer retention or product

end-of-life. They should collect more decision-relevant information. Switching records should identify the abandoned brand, selected brand, reason, product category and timing. Retailers can then distinguish loss of a domestic brand from switching retained within the local category. Disposition records should separate unused product returns, complaints, expired inventory, empty-package recycling and ordinary household disposal. These data can guide quality improvement, safety communication, take-back schemes and assortment decisions.

For Made-in-Nigeria cosmetics, trust-related cues remain important. NAFDAC guidance requires informative and accurate labelling for locally manufactured cosmetics. Retailers should verify registration details, batch and date information, ingredient and usage instructions, and supply-chain authenticity. These actions address product confidence directly and produce clearer managerial indicators than a general perceived-salability scale.

6. Conclusion and Recommendations

Neither brand switching nor product disposal predicted perceived retail sales performance of Made-in-Nigeria cosmetics in Akwa Ibom State. Brand switching explained about 0.010% of the variance and product disposal about 0.002%; both *p* values were far above .05. The verified model summaries, degrees of freedom and exact significance values all support these null findings.

The evidence supports methodological improvement rather than a substantive claim that the behaviours do not matter. Future studies should: (1) use validated consumer-level switching and disposition scales; (2) distinguish product contents from packaging and dissatisfaction-driven disposal from normal depletion; (3) measure outlet performance with monthly unit sales, revenue, stock turnover, repeat-customer counts or category share; (4) keep the unit of analysis consistent or use a properly specified multilevel model; (5) test brand switching and product disposal simultaneously with product quality, price, availability, promotion and outlet characteristics; and (6) report *R*², *B*, *SE*, confidence intervals, *F*, degrees of freedom, exact *p* values and diagnostic checks from the same analytical sample.

7. Limitations

The cross-sectional design cannot establish causality, and the variables are perceptual questionnaire scores rather than observed switching events, disposal routes or audited sales records. Separate simple regressions do not estimate the predictors' unique contributions after controlling for one

another or for price, quality, availability, promotion and outlet characteristics. Construct-specific reliability, factor structure, confidence intervals and case-level diagnostic results were also unavailable for this analysis. Finally, weak content alignment in the predictor scales may have attenuated the relationships.

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