

THE EFFECT OF NEURO-MARKETING STRATEGY ON CONSUMER BEHAVIOUR: A STUDY OF MTN NIGERIA LTD.

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ABSTRACT

This study examines how neuro-marketing strategies affect consumer behavior, focusing on MTN Nigeria Ltd. As traditional marketing methods are becoming less effective in gaining consumer attention, many companies now use neuro-marketing an approach that combines science, psychology, and marketing to influence people's choices through emotions, sound, and visuals. Although neuro-marketing is widely used in many parts of the world, there is little research on how effective it is in Nigeria, where people often care more about service quality than emotional advertising. The study used a structured questionnaire with 20 questions divided into four key areas: emotional engagement and buying decisions, sound and brand recall, visual branding and trust, and overall consumer evaluation. Data were collected from 100 MTN subscribers and analyzed using statistics, reliability checks, and regression analysis. The findings revealed that emotional Engagement: Shows a negative but statistically non-significant effect ($\beta = -0.159, p = 0.147$), Audio Stimuli: has a small positive effect, but also not significant ($p = 0.449$) and Visual Branding also negative and non-significant ($p = 0.327$). Hence, the results showed that while many respondents recognized MTN's use of emotional and sensory marketing techniques, these strategies did not have a significant effect on their behavior. The analysis revealed that neuro-marketing only explained about 4.1% of changes in consumer behavior, suggesting that other factors may be more important. Emotional, audio, and visual marketing all showed weak influence on consumer decisions. The study concluded that although neuro-marketing may help people remember a brand, it has limited power to influence actual consumer behavior in Nigeria. The studies recommends that MTN Nigeria combine Neuro-marketing with practical benefits, like good service and competitive pricing, and use more personal and trust-building messages. It also suggests that further research should look into other factors that shape consumer behavior in developing countries.

Keywords: *Neuro-marketing, Consumer Behaviour, MTN Nigeria.*

INTRODUCTION

In the age of digital transformation and intensified global competition, businesses are constantly seeking innovative ways to understand and influence consumer behaviour. Traditional marketing research methods—such as surveys, focus groups and observational studies—often rely on conscious consumer feedback, which can be biased or incomplete. To overcome these limitations, marketers are increasingly turning to neuro-marketing, a discipline that applies neuroscience to marketing to better understand the subconscious processes that drive consumer decisions (Morin, 2019; Plassmann et al., 2023).

Neuromarketing utilizes brain-imaging technologies such as electroencephalography (EEG), functional magnetic resonance imaging (fMRI), and eye-tracking, along with biometric measures like galvanic skin response and heart rate monitoring, to decode consumer reactions to advertising, product design, and brand stimuli. These tools help marketers evaluate emotional engagement,

attention span, memory recall and decision-making, offering a more objective and scientific approach to consumer analysis (Calvert, 2022; Lim, 2018).

The telecommunications sector in Nigeria, particularly dominated by MTN Nigeria Ltd, presents a fertile ground for neuromarketing application. As of 2024, MTN Nigeria remains the largest mobile network operator in the country, with over 90 million subscribers (Nigerian Communications Commission [NCC], 2024). With intense competition from other players such as Airtel and Glo, MTN is under pressure to continuously innovate its marketing strategies. Neuromarketing offers a unique opportunity for the company to deepen customer engagement and improve the effectiveness of its brand communication.

The Nigerian consumer market is characterized by a growing middle class, increasing smartphone penetration, and a youthful population that is highly responsive to digital content. These factors make the Nigerian audience particularly susceptible to emotional and psychological triggers that neuromarketing can uncover and harness (Ibitoye & Ogunyemi, 2022). By tapping into subconscious drivers of consumer behaviour, MTN can enhance its customer targeting strategies and personalize service delivery to improve retention and loyalty.

Moreover, studies have shown that emotionally charged advertisements lead to better recall and brand affinity compared to purely informational content (Plassmann et al., 2023). For MTN, this could mean using neuromarketing data to fine-tune advertising campaigns and content across various platforms—from television to social media—to evoke stronger emotional responses. Emotional resonance has become a key driver of brand success, especially in a highly competitive and commoditized market like telecommunications.

Although neuromarketing has gained traction globally, its use in Africa—and particularly Nigeria—remains underexplored. Existing research in Nigeria has mostly focused on conventional consumer behaviour models and demographic segmentation, with little emphasis on neurological and psychological factors (Umeokafor & Adepoju, 2023). This study therefore fills a crucial gap by investigating how MTN Nigeria can integrate neuromarketing into its strategic marketing initiatives and what effect this has on customer perception, loyalty and purchasing intent.

Furthermore, this research aligns with global trends in data-driven marketing. Neuromarketing does not replace traditional market research but complements it by providing deeper insights that are not easily accessible through surveys or interviews. In combining conscious and subconscious consumer data, MTN can obtain a holistic view of its customers' decision-making process, leading to more effective marketing and brand positioning (Calvert et al., 2022).

This study is timely and relevant, as MTN continues to evolve into a digital-first company, expanding into fintech, streaming services, and cloud solutions. Understanding how consumers neurologically respond to different brand stimuli can aid the company in tailoring its service offerings and communications to specific customer segments. With increasing consumer choice and reduced brand loyalty, capturing and maintaining consumer attention has become a major challenge—one that neuromarketing may help address (Jack & Suri, 2021).

Ultimately, this study seeks to explore the effect of neuromarketing on consumer behaviour, using MTN Nigeria Ltd. as a case study. It investigates how neuromarketing techniques can influence customer perceptions, emotional engagement, and decision-making processes, thereby offering valuable insights for businesses seeking to enhance their marketing effectiveness. The outcomes of this research could provide a foundation for more science-driven, ethical, and customer-centric marketing practices in Nigeria and other emerging markets.

STATEMENT OF THE PROBLEM

Today's telecom market is very competitive, and companies are under pressure to stand out and make lasting impressions on customers. Traditional marketing methods are no longer enough to keep consumers interested, especially now that people are exposed to countless ads every day. Because of this, companies like MTN Nigeria Ltd, a major telecom provider in the country, are turning to neuro-marketing a modern strategy that uses ideas from brain science and psychology to influence consumer decisions using emotions, images, sounds, and other sensory cues.

Neuro-marketing is becoming popular around the world because it helps companies better understand how consumers think and feel. Techniques like storytelling, catchy music, colors, and engaging visuals are used to help people remember brands, trust them, and feel more connected. However, while these strategies have shown success in developed countries, there is not much evidence about how well they work in places like Nigeria, where people often make choices based on more practical things like price, network quality, and availability.

MTN has invested heavily in emotional ads, well-known jingles, and a strong visual identity (like its yellow color and the slogan "everywhere you go"). But it is unclear whether these efforts truly affect how Nigerian consumers think or act. Are customers influenced by MTN's emotional and sensory branding, or are they more concerned with service quality and pricing? Can neuro-marketing really give MTN an advantage in a market where consumers are more focused on basic needs?

Since consumer behavior is shaped by both conscious and subconscious factors, and because neuro-marketing focuses on the subconscious, it is important to study how well these strategies actually work. This research aims to find out how emotional engagement, sound, and visual branding affect consumer choices and opinions about MTN Nigeria. The goal is to provide useful insights that can help improve MTN's marketing and customer relationships in a highly competitive environment.

LITERATURE REVIEW

Concept of Neuromarketing

Neuromarketing is an emerging interdisciplinary field that combines neuroscience, psychology, and marketing to understand how consumers' brains respond to marketing stimuli (Plassmann et al., 2023). Unlike traditional marketing that relies on surveys and focus groups, neuromarketing explores subconscious processes such as emotion, attention, and memory through tools like EEG (electroencephalography), fMRI (functional magnetic resonance imaging), and eye-tracking. These tools allow marketers to measure real-time responses to advertisements, packaging, pricing, and branding elements. According to Morin (2019), neuromarketing enables firms to predict purchasing decisions more accurately by focusing on neurological reactions rather than verbal responses.

Consumer Behaviour and Decision-Making

Consumer behaviour involves the study of how individuals select, use, and dispose of products or services to satisfy their needs. Conventional models of consumer decision-making, such as the Theory of Planned Behaviour and the Consumer Decision Journey, are often limited by their reliance on rational choice assumptions. Neuromarketing introduces a new perspective by recognizing that most consumer decisions are influenced by emotions and unconscious brain activity (Calvert, 2022). This is particularly relevant in the telecom industry, where choices are driven not just by price or data volume, but also by brand trust and emotional resonance.

Neuromarketing Applications in Branding and Advertising

Recent studies have demonstrated that neuromarketing can be a powerful tool in branding and advertising. For example, eye-tracking and EEG analysis have shown how color schemes, facial expressions, and even background music can increase ad recall and positive emotional response

(Lim, 2018). In the context of MTN Nigeria, the use of recurring jingles, yellow color branding, and emotionally appealing campaigns like "Everywhere You Go" aligns with neuromarketing principles. These strategies are designed to trigger dopamine release in the brain, encouraging a sense of connection and loyalty.

Neuromarketing and Brand Loyalty

Brand loyalty is a crucial element for long-term customer retention. Studies show that consumers form emotional bonds with brands that activate reward centers in the brain (Morin, 2019). In telecom services, where switching costs are low, neuromarketing can help build emotional anchors that encourage continued patronage. Research by Umeokafor & Adepoju (2023) on Nigerian consumers shows that emotionally resonant content has a more lasting effect on brand preference than rational content such as data plans or pricing.

Ethical Concerns in Neuromarketing

While neuromarketing holds great potential, it raises ethical questions. Critics argue that accessing and manipulating subconscious processes may infringe on consumer autonomy and privacy. Calvert (2022) notes that ethical neuromarketing requires transparency, informed consent, and adherence to data protection laws. In Nigeria, where data protection is still evolving, there is a need for guidelines to ensure ethical practices in neuromarketing campaigns.

Neuromarketing in the African and Nigerian Context

In Sub-Saharan Africa, neuromarketing is still a novel concept. Few organizations have adopted neuroscience-based techniques in their marketing strategies. However, a recent study by Ibitoye & Ogunyemi (2022) found that Nigerian consumers respond strongly to visual and auditory branding elements, suggesting a ripe opportunity for neuromarketing interventions. MTN Nigeria, as a brand with a vast and diverse customer base, presents an ideal case for assessing the effectiveness of neuromarketing strategies in an African context.

Technological Infrastructure and Feasibility

Advances in technology have made neuromarketing more accessible and cost-effective. Mobile EEG devices, wearable eye-trackers, and AI-based emotion recognition software now allow marketers to gather neurological data without expensive lab setups (Plassmann et al., 2023). MTN, being a tech-forward organization, has the infrastructure to pilot neuromarketing tools and integrate findings into real-time campaigns.

THEORETICAL REVIEW

Emotional Branding Theory propounded by Gobe, (2001).

Marc Gobe introduced the concept of emotional branding as a strategy for creating deep emotional connections between brands and consumers. Emotional branding fosters loyalty, trust, and advocacy, elements that traditional rational advertising often fails to secure. Neuromarketing utilizes techniques like storytelling, facial expressions, and emotional tone to tap into affective neural circuits, thereby enhancing recall and preference.

Neuro-Associative Conditioning propounded by Robbins, (2001)

This theory proposes that decisions are influenced by associations between stimuli and emotional outcomes. Neuromarketing strategies build positive neuro-associations between the brand and desirable emotions (e.g., happiness, excitement, trust). MTN, for example, uses vibrant colors and optimistic messages to associate its brand with progress, connection, and energy.

Dual Process Theory propounded by Kahneman, (2011)

This theory posits that human cognition operates via two systems: System 1: Fast, automatic, emotional, and subconscious and System 2: Slow, deliberate, rational, and conscious. Neuro-marketing primarily targets System 1, which governs intuitive and affective reactions. Emotional appeals, jingles, and visual branding are designed to trigger automatic associations that guide behavior before rational deliberation occurs. According to Kahneman (2011), most consumer decisions are shaped by quick, emotion-driven judgments, making neuro-marketing an effective strategy for influencing behavior subtly and rapidly.

METHODOLOGY

This study adopts a quantitative survey research design, which is suitable for examining the measurable impact of neuro-marketing strategies on consumer behavior. The design enables the collection and analysis of numerical data from respondents using structured instruments.

The target population includes active MTN Nigeria subscribers across urban areas in Nigeria, particularly users exposed to MTN’s promotional campaigns through TV, radio, and online media. The population is undefined in size but is drawn from a diverse socio-economic and age background.

A total of 100 respondents were selected using a convenience sampling technique. This method was employed to gather responses quickly and efficiently, particularly from MTN users within the researcher’s reach, such as students, workers, and market consumers.

Data was collected using a structured questionnaire consisting of 20 items grouped under four thematic areas related to neuro-marketing namely Emotional Engagement and Purchase Intentions, Audio Stimuli and Brand Recall, Visual Branding and Consumer Trust and General Evaluation of Neuro-marketing Effectiveness. Each item used a 5-point Likert scale of 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Content Validity was ensured by subjecting the questionnaire to expert review by scholars in marketing and consumer psychology.

Reliability was tested using Cronbach’s Alpha, with all thematic scales achieving a coefficient of ≥ 0.70 , indicating acceptable internal consistency.

Data were coded and analyzed using SPSS version 23 for Descriptive Statistics: Mean, standard deviation, minimum and maximum. The hypothesis was tested using Regression Analysis. This is to determine the influence of independent variables (neuro-marketing strategies) on the dependent variable (consumer behavior).

RESULTS

Regression analysis

Dependent variable: Consumer behavior

Independent variables: Emotional engagement, audio stimuli, and visual binding

Table 1: Regression analysis output

Variable	Coefficient (β)	Std. Error	t-Statistic	p-Value	95% Confidence Interval
Intercept	4.046	0.639	6.33	0.000**	[2.778, 5.314]
Emotional Engagement	-0.159	0.109	-1.46	0.147	[-0.375, 0.057]

Audio Stimuli	0.081	0.106	0.76	0.449	[-0.130, 0.291]
Visual Branding	-0.098	0.100	-0.99	0.327	[-0.296, 0.100]

Source: SPSS ver. 23 output

R-squared: 0.041
 Adjusted R-squared: 0.012
 F-statistic: 1.385
 p(F-statistic): 0.252

The model's R-squared value of 0.041 indicates that only about 4.1% of the variation in consumer behavior is explained by the three neuro-marketing variables. The F-statistic is not statistically significant ($p = 0.252$), suggesting that the model does not collectively explain consumer behavior significantly in this dataset.

Emotional Engagement: Shows a negative but statistically non-significant effect ($\beta = -0.159$, $p = 0.147$). This implies emotional content may not strongly drive behavior alone. Although emotional engagement had a negative coefficient ($\beta = -0.159$), its effect was not statistically significant ($p > 0.05$). This contrasts with the popular notion that emotional advertising enhances customer connection and drives purchases. According to Plassmann et al. (2015), emotions play a vital role in decision-making, and effective marketing messages often stimulate emotional regions of the brain to influence behavior. However, the non-significant outcome here might indicate that MTN's emotional branding strategies may not be sufficiently resonant or distinct to alter customer behavior meaningfully.

Audio Stimuli: This has a small positive effect, but also not significant ($p = 0.449$). This suggests jingles and sounds may enhance recall but not necessarily influence decisions directly. Audio stimuli had a small positive effect ($\beta = 0.081$), also not statistically significant ($p > 0.05$). While literature supports the notion that music and jingles enhance brand recall and emotional resonance (Lindstrom, 2005; Bruner, 1990), the finding suggests that MTN's audio branding may enhance recall but does not translate into actionable consumer behavior in this context. The limited effect could be due to message fatigue or similarity in auditory branding across telecom providers in Nigeria.

Visual Branding: Also negative and non-significant ($p = 0.327$), showing that although visuals might affect perception, they don't show measurable impact on behavior in this sample. Visual branding also showed a negative coefficient ($\beta = -0.098$) and was not significant. This contradicts studies that argue consistent visual identity (color, logo, typography) builds trust and strengthens brand recall (Keller, 2009; Henderson et al., 2004). The result may imply that while MTN has strong brand visuals, they may have reached a saturation point, leading to diminishing returns in influencing consumer decisions.

The lack of statistical significance across predictors and the low adjusted R-squared (0.012) suggest that neuro-marketing strategies alone do not sufficiently explain consumer behavior in this sample. Other factors such as service quality, pricing, network coverage, and customer experience could be more dominant influencers. This aligns with the findings of Kotler & Keller (2016), who assert that customer value perception often outweighs emotional or sensory cues in service-oriented industries. Hence, these findings imply that while neuro-marketing strategies are popular and conceptually sound, their practical effect is context-dependent. MTN Nigeria may need to reassess how it integrates emotion, sound, and visuals in its messaging to create a more behaviorally impactful experience. A more personalized or interactive approach might yield stronger engagement.

CONCLUSION

This study looked at how neuro-marketing strategies affect consumer behavior, focusing on MTN Nigeria Ltd. It examined three main areas: how emotions influence buying decisions, how sounds (like jingles) affect brand recall, and how visual branding builds trust. Data was collected from 100 MTN customers using a structured questionnaire. The responses were analyzed to see how these factors influence consumer behavior. The results showed that even though many customers noticed MTN's use of emotional ads, sounds, and visuals, these strategies did not have a strong effect on their buying behavior. The statistical analysis revealed that neuro-marketing explained only about 4.1% of the changes in how consumers behaved. This means other factors—like service quality, price, and network reliability—likely play a much bigger role in consumer decisions.

These findings go against some popular beliefs that emotional and sensory marketing strongly influence consumer choices. The weak impact may be due to too many similar messages (message fatigue), overexposure to ads, or because Nigerian consumers focus more on practical benefits than emotional branding. In summary, while neuromarketing can help brands connect emotionally with consumers, this study found that it has limited real-world impact on behavior in Nigeria's telecom sector, especially for MTN. To be more effective, MTN should combine emotional and sensory strategies with practical improvements like better service, more affordable data plans, and targeted messages that speak directly to different customer groups.

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