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A SYSTEMATIC REVIEW ON THE EFFECT OF NEUROMARKETING STRATEGIES ON BRAND RESONANCE AND SALES PERFORMANCE OF FMCG PRODUCTS IN GUJARAT

Foram Narendrabhai Vedant¹, Dr. Ashish Prafulkumar Bhuva²

ABSTRACT

In the modern competitive market, understanding consumer behavior is essential for improving brand performance and sales. Traditional marketing methods often fail to capture subconscious consumer responses that influence purchasing decisions. Neuromarketing, which combines neuroscience, psychology, and marketing, helps analyze consumers' emotional and cognitive reactions to marketing stimuli. This study conducts a systematic review to examine the effect of neuromarketing strategies on brand resonance and sales performance of FMCG products in Gujarat. The study highlights how neuromarketing techniques such as EEG, eye-tracking, and biometric tools help marketers understand consumer engagement and decision-making. The study suggest that neuromarketing strategies can strengthen brand resonance and improve sales performance by creating stronger emotional connections with consumers.

KEYWORDS: Neuromarketing, Brand Resonance, Sales Performance, FMCG, Consumer Behavior

1. INTRODUCTION

In today's highly competitive market, understanding consumer behavior has become critical for firms seeking to enhance brand performance and sales. Traditional marketing methods, which rely largely on surveys, focus groups, or self-reported data, often fail to capture the subconscious factors that influence purchase decisions. Neuromarketing, an interdisciplinary field combining neuroscience, psychology, and marketing, has emerged as a powerful approach to bridge this gap. It allows marketers to examine consumers' cognitive and emotional responses to advertisements, branding, and product design, offering insights that are not accessible through conventional methods (Hussein & Ozad, 2023; Jesus et al., 2022).

The Fast-Moving Consumer Goods (FMCG) sector in Gujarat, characterized by intense competition and diverse consumer preferences, provides a

fertile ground for the application of neuromarketing strategies. By analyzing real-time emotional engagement, attention, memory, and decision-making processes using tools such as EEG, eye-tracking, and biometrics, companies can design more effective advertising, branding, and sales strategies. Furthermore, neuromarketing enables firms to strengthen brand resonance, foster consumer loyalty, and improve overall sales performance by tapping into both conscious and unconscious consumer behavior (Shah et al., 2026; Suvarna & Mendon, 2024).

This systematic review aims to explore the effect of neuromarketing strategies on brand resonance and sales performance of FMCG products in Gujarat. The study synthesizes evidence from previous research on neuromarketing concepts, techniques, advertising applications, brand engagement, and sales outcomes, providing a comprehensive understanding

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of how these strategies can drive consumer behavior and business growth in a regional context.

2. THEORETICAL BACKDROP OF STUDY

Neuromarketing emerged in the early 2000s when researchers began applying neuroscience techniques such as brain imaging to understand consumer behavior and decision-making. The term was first popularized by Ale Smidts in 2002, marking the beginning of using neuroscience tools to study how consumers respond to marketing stimuli. Neuromarketing is an interdisciplinary field that integrates concepts from neuroscience, psychology, and marketing to analyze consumer behavior at a profound cognitive and emotional level. Neuromarketing investigates subconscious brain processes that influence decision-making, preferences, and purchasing behavior, in contrast to traditional marketing, which depends on self-reported data from surveys or focus groups (Hussein & Ozad, 2023; Jesus et al., 2022).

Neuromarketing uses tools like functional Magnetic Resonance Imaging (fMRI), Electroencephalography (EEG), eye-tracking, and biometrics to see how people react to marketing messages in their brains and bodies. These methods enable marketers to evaluate emotional engagement, attention, memory recall, and motivation without depending exclusively on conscious consumer feedback (Shah et al., 2026).

Neuromarketing's most important parts are:

- **Consumer Decision-Making:** Neuromarketing examines the impact of emotions and subconscious cognitive processes on decision-making, frequently uncovering a discrepancy between consumers' stated preferences and their actual neurological responses (Hussein & Ozad, 2023).
- **Branding and Advertising:** Neuromarketing aids brands in creating advertisements, packaging, and promotional materials that more effectively attract attention, evoke positive emotions, and increase memorability, thereby enhancing brand recall and loyalty (Jesus et al., 2022).
- **Product Development and Pricing:** Neuromarketing helps with product design, pricing, and placement by looking at how

sensory cues like color, shape, and sound affect what people want (Shah et al., 2026).

- **Ethical Considerations:** Neuromarketing provides sophisticated instruments for shaping consumer behavior; however, it engenders ethical dilemmas related to manipulation, privacy, and consent. Researchers emphasize the necessity for responsible implementation and transparency (Hussein & Ozad, 2023).

In general, neuromarketing is a move away from traditional, rational-based marketing toward a more nuanced understanding of how people act, taking into account both conscious and unconscious responses. More and more industries are using it, such as retail, digital marketing, and pharmaceuticals, to improve customer engagement and predict behavioral trends (Shah et al., 2026).

2.1 Neuromarketing Techniques and Tools

Neuromarketing is a field that combines neuroscience, psychology, and marketing to look at how people subconsciously react to brands, ads, and products. Neuromarketing differs from conventional marketing techniques that depend on surveys or self-reports; it examines the fundamental cognitive and emotional mechanisms that influence decision-making, preference development, and brand loyalty. Neuromarketing offers profound insights into attention, memory, motivation, and emotional engagement by analyzing the responses of consumers' brains and bodies to stimuli, thereby enhancing the comprehension of consumer behavior (Hussein & Ozad, 2023; Jesus et al., 2022; Shah et al., 2026).

Neuromarketing uses a range of methods and tools to record these reactions. Neuroimaging techniques like fMRI and EEG assess cerebral activity and cognitive responses, with EEG being especially effective for real-time monitoring of attention and emotional states (Khondakar et al., 2024). Physiological and biometric instruments, such as eye-tracking, galvanic skin response, heart rate monitoring, and facial coding, yield insights into emotional arousal, visual attention, and micro-expressions (Bhattacharya & Roy, 2021). Behavioral methods like Implicit Association Tests and social media analytics show marketers how to improve campaigns, product design, and digital strategies

by revealing subconscious brand preferences and engagement patterns (Ahuja & Tabeck, 2024; Devi et al., 2024). These methods work together to help marketers make data-driven plans that work better than old-fashioned ones to change how people act.

2.2 Neuromarketing in Advertising and Branding

Neuromarketing has become a key tool in advertising and branding because it reveals the subconscious factors that drive consumer decisions, unlike traditional surveys or self-reports, which can be biased (Contemporary Marketing Strategy, 2025). Techniques such as EEG, eye-tracking, and biometric measurements allow marketers to understand how consumers pay attention, feel, and make choices, enabling the creation of ads and brand campaigns that are more engaging and memorable.

In Gujarat's FMCG sector, these methods help companies identify local preferences, enhance brand perception, and foster loyalty in highly competitive markets. Beyond FMCG, neuromarketing is also applied in automotive and retail industries to improve marketing effectiveness, product appeal, and brand recognition (Alghoor & Alkhazraje, 2024).

2.3 Brand Resonance and Consumer Engagement

Neuromarketing significantly contributes to building brand resonance and enhancing consumer engagement by uncovering the subconscious emotional and cognitive processes that drive consumer behavior. Traditional marketing often relies on self-reported data, which may fail to capture true consumer motivations. By contrast, neuromarketing techniques, such as EEG, eye-tracking, and biometric measurements, provide objective insights into how consumers perceive, process, and respond to brand stimuli (Yadete & Kant, 2023). These insights allow marketers to design campaigns that evoke strong emotional connections, reinforce brand values, and foster loyalty, ultimately creating a deeper and more enduring relationship between consumers and brands.

Research shows that neuromarketing enables brands to differentiate themselves in competitive markets by aligning marketing strategies with consumers' subconscious preferences and emotional responses (McDowell & Dick, 2015). By measuring attention,

memory recall, and emotional arousal, marketers can optimize advertisements, product experiences, and communication strategies to maximize engagement (Ismajli et al., 2022). This approach not only strengthens brand recognition but also encourages repeated interactions, advocacy, and long-term consumer loyalty. Through the integration of cognitive and emotional insights, neuromarketing helps brands move beyond transactional relationships to cultivate a sense of identity and attachment among consumers, enhancing overall engagement and market performance.

2.4 Neuromarketing and Sales Performance

Neuromarketing has a direct impact on sales performance by providing insights into consumers' subconscious preferences, emotional responses, and decision-making processes. By understanding how consumers perceive products, advertisements, and brand messaging, marketers can design strategies that increase purchase intention and conversion rates (Alam, 2024). Unlike traditional marketing methods, which rely primarily on surveys or focus groups, neuromarketing employs techniques such as EEG, eye-tracking, facial coding, and biometric measurements to capture real-time emotional and cognitive responses, allowing businesses to align marketing campaigns with consumers' inherent motivations (Alsharif et al., 2023).

Empirical studies show that neuromarketing can improve brand loyalty and sales performance across industries. Research in sectors such as FMCG and automotive indicates that campaigns based on neuromarketing insights increase consumer attention, engagement, and memorability, which positively influence purchase behavior (Balamurugan & Jeyalakshmi). In addition, integrating neuromarketing into product design, pricing, and promotion helps strengthen marketing strategies and supports long-term business growth (Cruz et al., 2016).

3. METHODOLOGY FOR LITERATURE REVIEW

This study adopts a systematic literature review approach to examine the effect of neuromarketing strategies on brand resonance and sales performance of FMCG products. A systematic review method was

chosen to collect, evaluate, and synthesize existing academic research related to neuromarketing, consumer behavior, branding, and sales performance. The selection of literature was based on specific inclusion criteria. Studies published between 2015 and 2026, focusing on neuromarketing, consumer behavior, brand engagement, branding strategies, and sales performance, were considered for the review. A total of 21 relevant studies were selected and examined to understand the development, techniques, applications, and outcomes of neuromarketing strategies. The selected literature was systematically analyzed to identify major themes, research trends, and findings related to neuromarketing's impact on brand resonance and sales performance, particularly in the FMCG sector. The collected information was study to synthesize insights from previous research and identify existing research gaps.

4. REVIEW OF LITERATURE

The Review of Literature provides an overview of existing research related to the study topic. It helps identify research gaps, trends, and theoretical perspectives in the field. By examining previous studies, the ROL places the present study within the broader academic context and highlights important discussions in the area of research.

Ahuja and Tabeck (2024) examined the role of social media marketing in enhancing brand trustworthiness, relationships, congruence, and positioning in the FMCG sector. The study aimed to understand how digital marketing strategies influence brand perception and consumer engagement. Focusing on the FMCG industry, the research analyzed the impact of social media communication on brand-consumer relationships. The findings indicated that effective social media marketing strategies significantly strengthen brand trust, improve brand positioning, and foster stronger relationships with consumers.

Alam (2024) provided an overview of neuromarketing strategies used by marketers as a modern marketing tool. The study aimed to explain how neuroscience-based techniques help marketers understand consumer emotions, cognition, and decision-making processes. The scope of the research included various neuromarketing tools and their applications in marketing practices. The findings

suggested that neuromarketing enables marketers to analyze subconscious consumer responses, thereby improving the effectiveness of marketing campaigns and advertising strategies.

Alghfoor and Alkhazraje (2024) conducted an applied study to examine the role of neuromarketing practices in improving marketing performance. The study aimed to evaluate how neuromarketing techniques enhance marketing efficiency in organizations. The scope of the research focused on the General Company for Cars and Machinery Trade in Al-Waziria. The findings revealed that neuromarketing practices contribute significantly to improving marketing performance by enabling firms to better understand consumer preferences and decision-making behavior.

Alsharif et al. (2023) conducted a systematic literature review to analyze neuromarketing tools used in the marketing mix. The study aimed to examine the application of neuromarketing techniques and identify future research directions. The scope included various scholarly publications related to neuromarketing methods such as EEG, eye-tracking, and biometric measurements. The findings highlighted that neuromarketing tools provide deeper insights into consumer reactions and have strong potential to enhance marketing decision-making.

Aydın (2021) evaluated different neuromarketing techniques and their applications in marketing research. The study aimed to review the effectiveness of neuromarketing methods in analyzing consumer responses. The scope focused on various neuroscience-based techniques used to measure emotional and cognitive reactions to marketing stimuli. The findings indicated that neuromarketing techniques are capable of capturing subconscious consumer responses that traditional marketing research methods often fail to detect.

Balamurugan and Jeyalakshmi (2024) explored the role of neuromarketing in enhancing brand loyalty. The study aimed to analyze how neuromarketing strategies influence consumer attachment and loyalty toward brands. The research focused on Bikerz Yamaha as a case example. The findings suggested that

neuromarketing techniques help create emotional connections between consumers and brands, thereby strengthening brand loyalty and long-term customer relationships.

Bhattacharya and Roy (2021) conducted a systematic review of scholarly articles to examine the development of neuromarketing as an interdisciplinary field. The study aimed to analyze the integration of neuroscience, psychology, and marketing in understanding consumer behavior. The scope included a wide range of academic publications related to neuromarketing research. The findings concluded that neuromarketing has emerged as an important research area that provides deeper insights into consumer decision-making and marketing effectiveness.

Contemporary Marketing Strategy (2025) discussed the importance of analyzing consumer behavior to support managerial decision-making and marketing strategy development. The study aimed to highlight the role of consumer psychology in shaping effective marketing practices. The scope included modern marketing strategies and behavioral analysis approaches used by organizations. The findings emphasized that understanding emotional and cognitive aspects of consumer behavior is essential for designing successful marketing strategies.

Cruz et al. (2016) conducted a systematic literature review to examine the contribution of neuromarketing to consumer behavior studies. The aim of the study was to analyze how neuroscientific techniques have been applied in marketing research. The scope covered studies related to neuromarketing applications in understanding consumer responses to marketing stimuli. The findings indicated that neuromarketing has significantly advanced consumer behavior research by providing insights into emotional and cognitive processes.

Devi et al. (2024) examined neuromarketing strategies and their role in influencing brand equity. The study aimed to analyze how sensory and emotional marketing techniques affect consumers' perceptions of brands. The scope focused on the application of sensory neuromarketing strategies in branding. The findings revealed that neuromarketing techniques

enhance brand equity by creating stronger emotional engagement and memorable brand experiences.

Hussein and Ozad (2023) conducted a systematic literature review on neuromarketing in branding, advertising, and consumer behavior. The study aimed to synthesize existing research related to neuromarketing applications in marketing communication. The scope included various academic studies examining neuromarketing tools and strategies. The findings suggested that neuromarketing plays an important role in improving advertising effectiveness, branding strategies, and consumer engagement.

Iloka and Onyeke (2020) presented a historical review of neuromarketing to explain its evolution as a research field. The study aimed to trace the development of neuromarketing from its early conceptualization to its current applications in marketing research. The scope included historical developments and theoretical perspectives in neuromarketing studies. The findings indicated that neuromarketing has evolved into a multidisciplinary field that integrates neuroscience and marketing to better understand consumer behavior.

Ismajli et al. (2022) examined the impact of neuromarketing on consumer behavior. The study aimed to analyze how neuromarketing techniques influence consumer decision-making processes. The scope included the use of neuroscience-based tools to measure emotional and cognitive responses to marketing stimuli. The findings suggested that neuromarketing significantly influences purchasing behavior by revealing subconscious emotional and psychological factors affecting consumer decisions.

Jesus et al. (2022) conducted a systematic review of neuromarketing literature to understand its theoretical and practical contributions. The study aimed to examine how neuromarketing tools help in analyzing consumer preferences and marketing effectiveness. The scope included empirical and conceptual studies related to neuromarketing applications. The findings indicated that neuromarketing techniques provide valuable insights into consumer perceptions, emotions, and decision-making patterns.

Khondakar et al. (2024) carried out a systematic review focusing on EEG-based neuromarketing research. The study aimed to identify recent trends and analytical techniques used in EEG-based marketing studies. The scope included research studies applying EEG technology to measure brain signals related to consumer reactions. The findings highlighted that EEG-based neuromarketing provides accurate insights into consumer attention, emotional engagement, and cognitive responses.

Maran et al. (2020) examined the application of neuromarketing techniques in FMCG product advertising. The study aimed to evaluate how sensory stimulation and emotional appeal influence consumer engagement with advertisements. The scope focused on the use of neuromarketing techniques in FMCG marketing campaigns. The findings revealed that neuromarketing improves advertisement effectiveness by increasing consumer attention and emotional connection with products.

McDowell and Dick (2015) analyzed the marketing strategies used by neuromarketing firms to differentiate their services and attract clients. The study aimed to understand how neuromarketing companies position themselves in the marketing industry. The scope included prominent neuromarketing firms and their branding strategies. The findings suggested that these firms use innovation, credibility, and differentiation strategies to establish a strong market position.

Shah et al. (2026) conducted a systematic review to examine neuromarketing applications in the pharmaceutical industry. The study aimed to explore how neuromarketing techniques improve marketing communication and consumer awareness in healthcare markets. The scope included studies related to neuromarketing strategies in pharmaceutical marketing. The findings indicated that neuromarketing can enhance communication effectiveness and consumer understanding of pharmaceutical products.

Suvarna and Mendon (2024) examined the potential of neuromarketing in improving consumer engagement in online shopping in India. The study aimed to analyze how psychological triggers influence online purchasing decisions. The scope focused on

digital marketing and e-commerce platforms. The findings revealed that neuromarketing strategies help businesses understand consumer motivations and improve engagement and purchase intention in online environments.

Tarannum et al. (2025) investigated the role of neuromarketing in shaping FMCG brand strategies in multinational corporations. The study aimed to understand how neuromarketing insights influence branding and competitive strategies. The scope focused on multinational FMCG companies operating in Bangladesh. The findings suggested that neuromarketing helps organizations develop effective brand strategies and gain competitive advantages in the FMCG market.

Yadete and Kant (2023) conducted a systematic literature review to analyze the role of neuromarketing in understanding consumer behavior. The study aimed to examine how neuromarketing techniques contribute to deeper insights into consumer psychology. The scope included various academic studies related to neuromarketing and consumer behavior research. The findings concluded that neuromarketing provides valuable insights into subconscious emotional and cognitive responses, enabling marketers to design more effective marketing strategies.

4.1 Research Gap

The current research shows that neuromarketing is becoming more and more important for figuring out how people act, how they see brands, and how well marketing works. Researchers have looked at neuromarketing methods like EEG, eye-tracking, and biometric measurements to look at how marketing affects people's emotions and thoughts (Alsharif et al., 2023; Khondakar et al., 2024). Other scholars have investigated the function of neuromarketing in enhancing brand loyalty, brand equity, and marketing efficacy (Balamurugan & Jeyalakshmi, 2024; Devi et al., 2024). Also, systematic reviews have been done to learn more about how neuromarketing has grown and how it can be used in advertising and studies of consumer behavior (Bhattacharya & Roy, 2021; Hussein & Ozad, 2023; Yadete & Kant, 2023).

Most of these studies, on the other hand, look at general

neuromarketing applications, global perspectives, or specific industries. They don't pay much attention to the FMCG sector in a specific region, like Gujarat, India. Also, while past studies have looked at how neuromarketing affects consumer behavior, brand equity, and marketing performance, there hasn't been much research on how it affects brand resonance and sales performance at the same time. A lot of studies focus on specific neuromarketing tools or techniques, but not as many look at all the different neuromarketing strategies and how well they work in the FMCG sector.

Therefore, the present study attempts to fill this gap by conducting a systematic review on the effect of neuromarketing strategies on brand resonance and sales performance of FMCG products in Gujarat. Unlike previous studies that primarily focus on general consumer behavior, advertising effectiveness, or individual neuromarketing techniques, this study specifically integrates brand resonance and sales performance as key outcomes within the FMCG sector. Furthermore, by concentrating on the regional context of Gujarat, the study provides a more localized understanding of how neuromarketing strategies influence consumer engagement, brand relationships, and business performance. This approach offers a more comprehensive perspective on the practical impact of neuromarketing in the FMCG market.

5. CONCLUSION

The review of literature indicates that neuromarketing has emerged as a significant interdisciplinary field that combines neuroscience, psychology, and marketing to understand consumer behavior more effectively. Many researchers have emphasized the importance of neuromarketing in improving marketing strategies, brand engagement, and consumer decision-making. Studies by Ahuja and Tabeck (2024), Alam (2024), Alghfoor and Alkhazraje (2024), Balamurugan and Jeyalakshmi (2024), Devi et al. (2024), Maran et al. (2020), and Suvarna and Mendon (2024) highlight that neuromarketing strategies enhance brand trust, customer relationships, consumer engagement, and brand loyalty. These studies demonstrate the positive impact of neuromarketing techniques on marketing effectiveness and brand performance.

Several scholars have taken a neutral or analytical perspective, focusing on reviewing existing studies, theoretical frameworks, and the development of neuromarketing as a research field rather than directly evaluating its effectiveness. Researchers such as Bhattacharya and Roy (2021), Cruz et al. (2016), Hussein and Ozad (2023), Jesus et al. (2022), Khondakar et al. (2024), and Yadete and Kant (2023) conducted systematic literature reviews to examine the evolution, tools, and applications of neuromarketing. Their studies primarily provide conceptual and methodological insights into neuromarketing research.

On the other hand, a few studies adopt a more critical or indirect perspective, discussing the limitations or challenges associated with neuromarketing research. For example, Iloka and Onyeke (2020) and McDowell and Dick (2015) highlight the developmental stages of neuromarketing and the marketing strategies used by neuromarketing firms, suggesting that the field is still evolving and requires further empirical investigation. Similarly, studies such as Shah et al. (2026) and Tarannum et al. (2025) focus on specific industry applications, indicating the need for more sector-specific and region-focused research.

Overall, the review suggests that while many studies confirm the potential of neuromarketing in enhancing marketing effectiveness and consumer engagement, there remains a need for more focused research examining its impact on brand resonance and sales performance, particularly in the FMCG sector and within specific regional contexts such as Gujarat.

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