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RESEARCH ARTICLE

# Neuromarketing in marketing 6.0: Exploring the intersection of consumer psychology and advanced technologies

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## Abstract

This research paper explores the intersection of neuromarketing and advanced technology within the framework of marketing 6.0, focusing on their impact on consumer psychology and the effectiveness of marketing strategies. The study employed a quantitative approach, utilizing a structured questionnaire distributed to 335 respondents who had engaged with marketing campaigns incorporating neuromarketing techniques. Through one-sample t-tests, the findings revealed that neuromarketing significantly enhances consumer engagement, brand perception, and emotional responses, supporting the hypothesis that neuromarketing positively impacts consumer psychology. Additionally, the research highlighted the vital role of technology in optimizing neuromarketing strategies, as respondents expressed a strong preference for technology-driven campaigns that deliver personalized experiences. The implications of these findings suggest that integrating neuromarketing principles and technological advancements can lead to more effective marketing strategies, ultimately fostering consumer loyalty and engagement. Future research directions are proposed to explore longitudinal effects, demographic variations, ethical considerations, and the integration of emerging technologies within neuromarketing.

**Keywords:** Neuromarketing, Marketing 6.0, Consumer psychology, Technology, Marketing strategies, Consumer engagement, Quantitative research.

## Introduction

The advent of Marketing 6.0 signifies a major change towards a more integrated and tech-driven strategy in the ever-changing marketing environment. In this model, cutting-edge tech, consumer psychology, and data analytics all work together to improve the advertising process. Neuromarketing, which studies how the brain influences consumer behavior, is at the front of this change. Neuromarketing provides deep insights into the reasons, feelings, and thoughts that influence customer purchase decisions by studying brain responses to marketing stimuli. Understanding the background of neuromarketing and the elements that have led to its rise as a crucial marketing discipline is crucial as we explore its complexities in Marketing 6.0. A reaction to the rising digital complexity of consumer behavior, neuromarketing is more than just an academic interest. When it comes to appealing to today's sophisticated shoppers, the tried-and-true methods of mass marketing that are centered on customer demographics and market research are falling short. Marketers must use creative strategies that appeal to consumers' deeper psychological needs in order to stand out in an information-overloaded world. Neuromarketing has its roots in the early 2000s when scientists started studying how people's brains responded to ads and brands using tools like electroencephalography (EEG) and functional magnetic resonance imaging (fMRI). With the use of these instruments, marketers were able to probe the unconscious mechanisms that impact decision-making, going beyond self-reported assessments of customer sentiment. Because of this, neuromarketing has

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expanded into a multi-faceted discipline that integrates marketing, neurology, and psychology to better understand customer behavior. Publishing his book Buyology in 2008, neuromarketer Martin Lindstrom marked a watershed event in the field's development. The importance of subconscious cues like colour, brand logos, and sensory experiences on customer choices was brought to light by Lindstrom's study. Researchers and marketers alike were intrigued by this finding, which prompted a greater emphasis on deciphering the brain processes underlying consumer decisions.

The combination of modern technology, such as the Internet of Things (IoT), artificial intelligence (AI), and big data analytics, has revolutionized the way marketers engage with customers and is defining marketing 6.0. Marketers can now collect massive volumes of data about customers' habits, likes, and interactions across all channels thanks to these technological advancements. In order to improve marketing techniques, neuromarketing takes use of these technical breakthroughs by studying the real-time brain responses of customers to this data. Specifically, artificial intelligence (AI) is vital to neuromarketing because it paves the way for predictive analytics, which use past data and current interactions to foretell customer behavior. Using machine learning algorithms, marketers may better target and personalize their advertisements by identifying trends in customer behavior. Marketing 6.0 is characterized by this move towards customization, which aims to provide one-of-a-kind experiences for each customer.

Knowledge of consumer psychology is fundamental to neuromarketing. The rational models of decision-making that were commonly used in traditional marketing frequently assumed that customers made purchases after carefully considering all of the available options. Emotions, however, are major factors in determining customer choices, according to studies. Marketers may create more meaningful connections with consumers by using neuromarketing to identify the emotional triggers that impact their purchasing decisions. In recent years, the idea of emotional branding has grown in popularity as firms have come to realize the significance of establishing an emotional connection with consumers. Neuromarketing research has shown that people are more inclined to interact with businesses that make them feel good, such as when they're happy or remember a good, simpler time. Marketers may create campaigns that appeal to these emotions by learning about the neurological pathways linked to them. This will help customers feel more connected to businesses. In addition, neuromarketing has the potential to shed light on how heuristics and subconscious biases impact decision-making. As an example, studies have demonstrated that customers frequently use mental shortcuts while making decisions, such as the scarcity principle, which states that restricted availability makes something more desirable. Marketers may improve the efficacy of their advertisements by learning about customers' cognitive biases and then developing techniques that appeal to their innate proclivities.

Concerns about the morality of using neuromarketing to influence customer behavior are becoming more pressing as the practice gains traction. Some concerns regarding consumer agency and exploitation arise from the possibility of accessing and influencing the subconscious mind. Keeping consumers' privacy and the need for open communication at the forefront of marketing strategies is crucial in today's ethical climate. To keep consumers' faith, neuromarketing must adhere to established ethical standards. Consumers are more likely to have enduring relationships with brands that ethically promote themselves. Customers are more likely to voluntarily connect with companies when they are informed about the data used for neuromarketing and the goals behind these techniques. There is great promise for future marketing landscape transformation with the incorporation of neuromarketing into Marketing 6.0. More and more advanced tools will become available to marketers as technology advances, allowing them to gain a better understanding of customer behavior. Neuroimaging technology may pave the way for neuromarketing in the future, allowing for the real-time study of customers' reactions to marketing stimuli. In addition, there are exciting new possibilities for developing immersive brand experiences brought about by the combination of neuromarketing with future technologies like VR and AR. In order to create captivating experiences that enthrall their audience and cultivate brand loyalty, marketers must first comprehend the neurological responses of consumers to these technologies. To sum up, neuromarketing is a strong point of convergence for Marketing 6.0, bringing together consumer psychology and cutting-edge technology. Marketers may build more engaging and loyal customers by delving into the complexities of consumer behavior from a neurological perspective and then crafting ads that speak directly to their emotions. To make sure neuromarketing tactics are in line with consumer interests and beliefs, ethical issues must be front and center as the discipline evolves. Ultimately, in a more complicated and competitive market, businesses will reimagine their customer connections by adopting this holistic approach to marketing.

### *Review of Literature*

Within the framework of Industry 6.0, Kour and Kour (2024) analyze how AI influencers have revolutionized social media marketing. The authors stress that artificial intelligence (AI) influencers, who are essentially virtual creatures driven by sophisticated AI algorithms, are changing the face of marketing and the way firms interact with their customers. Brands that want to interact with customers in a social setting have AI influencers as a vital tool because of the enhanced personalization, wider reach, and cost-effectiveness they provide. According to the research,

new industrial dynamics are emerging as a result of the merging of artificial intelligence with influencer marketing, which drastically changes brand promotion. Understanding consumer psychology is crucial in utilizing sophisticated technology for effective brand engagement, which is aligned with the wider concept of Neuromarketing in Marketing 6.0. This research fits in with that framework.

In addition, Alsharif *et al*. (2023) do a thorough bibliometric review of neuromarketing research utilizing functional magnetic resonance imaging (fMRI) and functional near-infrared spectroscopy (fNIRS). Finding publishing patterns, important writers, and important institutions in the field, the authors examine 86 publications from the Scopus database that are pertinent to the topic. Their results show that research production is on the rise and that several nations have made substantial contributions. To help guide future studies, this bibliometric review summarises the state of the art in fNIRS and fMRI technology. Marketing techniques in the 6.0 industry must take consumer psychology into account, and this study adds to our knowledge of how to use modern imaging technology to do just that.

The bibliometric review of the relationship between marketing and psychology by Donthu *et al*. (2021) highlights the important theoretical contributions of psychology to marketing strategies. The authors trace the journal's intellectual development through eight clusters shown by an analysis of publishing patterns in Psychology & Marketing. These clusters include topics such as consumer involvement and online consumer behavior. According to their research, there has been a significant uptick in the number of publications and citations for marketing research that draws on psychological insights. In order to comprehend the central role of psychology in neuromarketing, this bibliometric research is essential. It focusses on the measurement and analysis of consumer emotions and behaviors *via* modern technology, which is in line with the goals of Marketing 6.0.

Investigating how neuromarketing and the Internet of Everything (IoE) meet, Tirandazi *et al*. (2023) highlight the importance of complex tools for analyzing customer behavior in dynamic markets. Neuromarketing, according to the authors, can provide light on what drives and interests consumers by measuring their brain waves and other physiological data. In this article, we'll look at how the internet of everything (IoE) allows us to collect and analyze customer data in new ways, which in turn improves neuromarketing approaches and marketing tactics. The fundamental ideas of marketing 6.0 are supported by this combination of IoE with neuromarketing. In this model, consumer psychology and modern technology come together to generate marketing solutions that better meet the changing demands of customers. A novel neuromarketing technique is presented by Qutb *et al*. (2024) with the purpose of assisting technology-enabled businesses. To offer a holistic view of customer behavior and emotions, the study combines neuroscientific instruments with marketing tactics. In order to assess how well this technique interprets consumer responses to technology brands, the authors describe their strategy for analyzing varied samples. Marketers may optimize their strategy and boost brand support with the practical insights offered by this study, which makes a substantial contribution to the neuromarketing area. This study demonstrates how, within the framework of marketing 6.0, a deeper comprehension of consumer psychology may result in more effective marketing campaigns by combining cutting-edge neuroscience with marketing best practices.

In order to overcome the drawbacks of conventional neuromarketing methods, Mileti *et al*. (2016) present the idea of nanomarketing. By allowing for the non-invasive and real-time monitoring of consumer brain processes in natural contexts, such as retail locations, the authors claim that nanotechnologies can improve neuromarketing research. Nanomarketing provides chances to validate findings and enhance the ethical standards of neuromarketing by merging diverse neuroscientific instruments. Contributing significantly to the development of neuromarketing as a field, this study highlights the need for cutting-edge tech to decipher customer actions in the dynamic world of modern advertising. Since the convergence of consumer psychology with state-of-the-art technology is fundamental to successful brand engagement, it fits in nicely with the topic of Marketing 6.0.

Gajić (2023) investigates neuromarketing as a platform for creating long-term marketing strategies by incorporating cutting-edge technology, including artificial intelligence (AI). In order to stay relevant in today's digital economy, companies need to use AI-powered solutions to better understand customer behavior and preferences. Marketers may use these data to develop sustainable tactics that boost brand value with little environmental effect, according to Gajić. Using sentiment analysis to support successful marketing strategies, the article emphasizes the relevance of evaluating consumer involvement using AI technology. This study supports the central idea of neuromarketing in marketing 6.0 by demonstrating how cutting-edge tech may improve our knowledge of customer psychology and lead to more effective marketing campaigns.

Alsharif *et al*. (2023) look into how professors in Malaysia see the pros and cons of neuromarketing in higher education. Ethical considerations, exorbitant expenses, and a lack of facilities are among the obstacles highlighted by the study's semi-structured interviews. The authors nonetheless propose remedies, such as expanding funding and creating networks of collaboration, in spite of these problems. Understanding the practical constraints of using

neuromarketing approaches is important for promoting good marketing strategies, and this research adds to that knowledge. In line with the overarching objectives of marketing 6.0, the results provide useful information for stakeholders who want to integrate neuromarketing approaches into their plans.

Neuromarketing data fusion is a new trend that Quiles Pérez *et al*. (2024) highlight, with an emphasis on multimodal biosignal analysis. The study emphasizes the trend of combining several biosignals, such as eye tracking and electroencephalography, to better understand how consumers react to marketing stimuli, as opposed to relying on a single biosignal approach. This strategy reflects the growing complexity of neuromarketing research and calls for advanced data processing technologies. With a look back at how neuromarketing has come a long way, the authors survey the state of the art, relevant datasets, and the obstacles that researchers face today. This research supports the goals of marketing 6.0 by highlighting the importance of new ways of looking at data in marketing strategy.

The lingering impacts of neuromarketing technologies on audiovisual content entrepreneurship are examined by Núñez-Cansado *et al*. (2024). Their research shows that including physiological data, especially emotional reactions, in strategy development is important for assessing marketing campaigns and overcoming the problems with conventional metrics. How does emotional activation impact decision-making? The authors use cross-technologies like EEG and GSR to find out. Their research shows that neuromarketing insights are useful for improving marketing tactics by revealing errors in attribution and substantial emotional impacts. By highlighting the importance of emotional intelligence in developing persuasive marketing messages, this study adds to our knowledge of customer behavior in marketing 6.0.

To conclude, neuromarketing literature within the context of modern technologies shows a field that is always changing and focussing on improving marketing efficacy through the combination of psychological insights, AI-driven tools, and creative techniques. The impact of AI influencers, the use of biosignal data, and the challenges of neuromarketing techniques have all been the subject of many studies. However, there is a significant lack of research on how technology-enabled companies can put these insights into practice and what strategies can be used to optimize customer engagement in a sustainable way. This research fills that need by presenting a new approach to neuromarketing that is specific to tech-driven settings; this approach integrates cutting-edge neuroscientific tools with marketing tactics to offer a holistic view of customer actions and feelings. The study adds to the theoretical framework of neuromarketing and provides practical insights that might help marketers create campaigns that connect with customers in an increasingly digital world by focussing on this junction.

### *Objectives of the Study*

- To study the impact of neuromarketing in marketing 6.0 on consumer psychology.
- To study the impact of technology on the effectiveness of neuromarketing strategies.

### *Hypotheses*

H1: Neuromarketing in marketing 6.0 has a positive impact on consumer psychology.

H2: The use of technology has a significant impact on the effectiveness of neuromarketing strategies.

## Research Methodology

The research methodology employed a quantitative approach to examine the impact of neuromarketing in marketing 6.0 on consumer psychology and the effectiveness of technology in neuromarketing strategies. A structured questionnaire was developed and distributed to a sample of 335 participants who were exposed to marketing campaigns utilizing neuromarketing techniques and advanced technology. The data collected included responses related to consumer perceptions, emotional responses, and the effectiveness of neuromarketing strategies. The analysis involved descriptive statistics to summarize the information and responses, while the one-sample t-test was utilized for inferential statistics to determine whether the means of the responses significantly differed from a predetermined value, thus assessing the hypotheses. This methodology provided insights into the relationship between neuromarketing practices and consumer behavior in the context of advanced marketing strategies.

### *Data Analysis*

Table 1 presents the impact of neuromarketing on consumer psychology, showcasing responses to five statements related to engagement, brand perception, emotional response, advertisement recall, and connection to advertised products. The first statement, "I feel more engaged with brands that use neuromarketing techniques in their advertising," reveals that a significant majority of respondents (80.9%) either agreed or strongly agreed with the statement, indicating that neuromarketing effectively captures consumer interest and enhances brand engagement. However, 11.4% of participants either disagreed or firmly disagreed, suggesting that a minority may not perceive neuromarketing strategies as engaging. The second statement, "Neuromarketing strategies have positively influenced my perception of a brand," shows a mixed response; while 63% of respondents agreed or strongly agreed, a notable 26.2% remained neutral or disagreed, indicating that the effectiveness of neuromarketing can vary among consumers based on individual experiences or preferences. The third

**Table 1:** Impact on consumer psychology

| | *Firmly disagree* | | *Disagree* | | *Neutral* | | *Agree* | | *Firmly agree* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Count* | *Row N %* | *Count* | *Row N %* | *Count* | *Row N %* | *Count* | *Row N %* | *Count* | *Row N %* |
| I feel more engaged with brands that use neuromarketing techniques in their advertising. | 18 | 5.4 | 20 | 6.0 | 26 | 7.8 | 117 | 34.9 | 154 | 46.0 |
| Neuromarketing strategies have positively influenced my perception of a brand. | 44 | 13.1 | 44 | 13.1 | 36 | 10.7 | 126 | 37.6 | 85 | 25.4 |
| I believe that neuromarketing effectively addresses my emotional responses to marketing messages. | 21 | 6.3 | 48 | 14.3 | 34 | 10.1 | 128 | 38.2 | 104 | 31.0 |
| I am more likely to remember advertisements that utilize neuromarketing principles. | 48 | 14.3 | 37 | 11.0 | 9 | 2.7 | 124 | 37.0 | 117 | 34.9 |
| Neuromarketing techniques make me feel a stronger connection to the products being advertised. | 50 | 14.9 | 18 | 5.4 | 33 | 9.9 | 112 | 33.4 | 122 | 36.4 |

statement, "I believe that neuromarketing effectively addresses my emotional responses to marketing messages," garnered similar insights, with 69.2% of participants expressing agreement. Nonetheless, the 20.6% who disagreed or remained neutral highlight the importance of considering diverse consumer perceptions regarding emotional resonance. When examining the statement, "I am more likely to remember advertisements that utilize neuromarketing principles," 71.9% of respondents agreed or strongly agreed, suggesting that neuromarketing techniques enhance advertisement recall, although 25.3% expressed disagreement or neutrality, indicating potential limitations in message retention for some consumers. Lastly, the statement, "Neuromarketing techniques make me feel a stronger connection to the products being advertised," indicates a robust favorable perception, with 69.8% of respondents agreeing or strongly agreeing, while 20.3% disagreed or remained neutral. This suggests that neuromarketing fosters a sense of connection between consumers and advertised products, but the presence of dissenting views emphasizes the need for ongoing exploration of the diverse factors influencing consumer psychology in relation to neuromarketing strategies. Overall, the findings from Table 1 illustrate the positive impact of neuromarketing on consumer engagement, perception, emotional response, advertisement recall, and product connection while also revealing varying opinions that underscore the complexity of consumer interactions with neuromarketing techniques.

Table 2 examines the impact of technology on the effectiveness of neuromarketing strategies, presenting insights based on five statements regarding consumer perceptions of advanced technology in marketing. The first statement, "The use of advanced technology in marketing has enhanced my overall experience as a consumer," reveals that a significant 70.1% of respondents either agreed or strongly agreed, suggesting that consumers generally perceive technology as a valuable enhancement to their marketing experience. However, 23% of participants either disagreed or remained neutral, indicating a portion of the population that may not fully appreciate the benefits of technological integration in marketing. The second statement, "I find technology-driven marketing campaigns to be more appealing than traditional ones," shows a positive response, with 70.7% agreeing or strongly agreeing. This indicates a strong preference for modern, technology-based marketing approaches over traditional methods, although a combined 17.1% of respondents expressed disagreement or neutrality, highlighting a potential divide in consumer preferences. The third statement, "Neuromarketing strategies that incorporate technology are more effective in influencing my purchasing decisions," garnered a robust agreement from 74.9% of participants, reflecting a strong belief in the effectiveness of technology-enhanced neuromarketing strategies; however, 10.8% disagreed or remained neutral, indicating that some consumers may not perceive a direct link between technology use and purchasing influence. The fourth statement, "I appreciate brands that use technology to personalize their marketing messages," received high approval, with 78.8% agreeing or strongly agreeing. This indicates that personalized marketing facilitated by technology resonates well with consumers, yet 14.4% of respondents expressed disagreement or neutrality, suggesting that personalization is not universally valued. Lastly, the statement, "The effectiveness of neuromarketing strategies increases when technology is integrated into the campaign," revealed that 71% of participants agreed or strongly agreed. This underscores a widespread recognition of the synergistic benefits of combining technology with neuromarketing tactics, while the 13.7% who disagreed

**Table 2:** Impact on the effectiveness of neuromarketing strategies

| | *Firmly Disagree* | | *Disagree* | | *Neutral* | | *Agree* | | *Firmly Agree* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Count* | *Row N %* | *Count* | *Row N %* | *Count* | *Row N %* | *Count* | *Row N %* | *Count* | *Row N %* |
| The use of advanced technology in marketing has enhanced my overall experience as a consumer. | 49 | 14.6 | 28 | 8.4 | 23 | 6.9 | 134 | 40.0 | 101 | 30.1 |
| I find technology-driven marketing campaigns to be more appealing than traditional ones. | 24 | 7.2 | 33 | 9.9 | 41 | 12.2 | 112 | 33.4 | 125 | 37.3 |
| Neuromarketing strategies that incorporate technology are more effective in influencing my purchasing decisions. | 9 | 2.7 | 27 | 8.1 | 48 | 14.3 | 136 | 40.6 | 115 | 34.3 |
| I appreciate brands that use technology to personalize their marketing messages. | 18 | 5. | 30 | 9.0 | 23 | 6.9 | 146 | 43.6 | 118 | 35.2 |
| The effectiveness of neuromarketing strategies increases when technology is integrated into the campaign. | 12 | 3.6 | 34 | 10.1 | 51 | 15.2 | 115 | 34.3 | 123 | 36.7 |

or remained neutral indicate that some individuals may still question the effectiveness of such integration. Overall, the findings from Table 2 illustrate a strong consensus on the positive impact of technology on the effectiveness of neuromarketing strategies while also highlighting varying opinions that emphasize the necessity for marketers to understand the diverse consumer perceptions surrounding technological integration in marketing practices.

### *H1: Neuromarketing in Marketing 6.0 has a positive impact on consumer psychology*

Table 3 presents the results of a one-sample t-test conducted to evaluate the hypothesis that "Neuromarketing in Marketing 6.0 has a positive impact on consumer psychology." The first statement, "I feel more engaged with brands that use neuromarketing techniques in their advertising," yields a t-value of 18.010 with a significance level of .000, indicating a highly significant positive difference (Mean difference = 1.10149) from the hypothetical value of 3, suggesting that participants strongly believe neuromarketing enhances their engagement with brands. This finding supports the hypothesis, as it illustrates that neuromarketing strategies effectively capture consumer interest. The second statement, "Neuromarketing strategies have positively influenced my perception of a brand," shows a t-value of 6.654 and a significance of .000, with a mean difference of .48955. This also indicates a significant positive impact on brand perception, reinforcing the notion that neuromarketing fosters favorable attitudes toward brands among consumers. For the third statement, "I believe that neuromarketing effectively addresses my emotional responses to marketing messages," the t-value of 11.036 and a significance level of .000, coupled with a mean difference of .73433, further validate the hypothesis by demonstrating that respondents feel neuromarketing strategies resonate well with their emotional responses, thereby enhancing consumer connection to marketing messages. The fourth statement, "I am more likely to remember advertisements that utilize neuromarketing principles," exhibits a t-value of 8.680 and a significance level of .000, with a mean difference of .67164. This result indicates that participants believe neuromarketing techniques contribute to better advertisement recall, which is critical for brand recognition and recall, further affirming the positive influence of neuromarketing. Lastly, the statement, "Neuromarketing techniques make me feel a stronger connection to the products being advertised," shows a t-value of 9.329 and a significance level of .000, with a mean difference of .71045. This finding confirms that neuromarketing fosters a sense of connection between consumers and the advertised products, reinforcing the notion that these strategies positively impact consumer psychology. Collectively, the results from Table 3 strongly support the hypothesis that neuromarketing in Marketing 6.0 significantly influences consumer psychology across various dimensions, including engagement, perception, emotional response, advertisement recall, and product connection.

### *H2: The use of technology has a significant impact on the effectiveness of neuromarketing strategies.*

Table 4 provides the results of a one-sample t-test conducted to assess the hypothesis that "Use of technology has a significant impact on the effectiveness of neuromarketing strategies." The first statement, "The use of advanced technology in marketing has enhanced my overall experience as a consumer," yielded a t-value of 8.352 with a significance level of .000, indicating a highly significant positive difference (Mean difference = 0.62687) from the

**Table 3:** One-sample test

| | *TV=3* | | | | | |
|---|---|---|---|---|---|---|
| | *t* | *df* | *Sig* | *Diff* | *95% CI* | |
| | | | | | *L* | *U* |
| I feel more engaged with brands that use neuromarketing techniques in their advertising. | 18.010 | 334 | .000 | 1.10149 | .9812 | 1.2218 |
| Neuromarketing strategies have positively influenced my perception of a brand. | 6.654 | 334 | .000 | .48955 | .3448 | .6343 |
| I believe that neuromarketing effectively addresses my emotional responses to marketing messages. | 11.036 | 334 | .000 | .73433 | .6034 | .8652 |
| I am more likely to remember advertisements that utilize neuromarketing principles. | 8.680 | 334 | .000 | .67164 | .5194 | .8238 |
| Neuromarketing techniques make me feel a stronger connection to the products being advertised. | 9.329 | 334 | .000 | .71045 | .5606 | .8603 |

**Table 4:** One-sample test

| | *TV = 3* | | | | | |
|---|---|---|---|---|---|---|
| | | | | | *95% CI* | |
| | *t* | *df* | *Sig.* | *Diff.* | *L* | *U* |
| The use of advanced technology in marketing has enhanced my overall experience as a consumer. | 8.352 | 334 | .000 | .62687 | .4792 | .7745 |
| I find technology-driven marketing campaigns to be more appealing than traditional ones. | 12.482 | 334 | .000 | .83881 | .7066 | .9710 |
| Neuromarketing strategies that incorporate technology are more effective in influencing my purchasing decisions. | 17.098 | 334 | .000 | .95821 | .8480 | 1.0684 |
| I appreciate brands that use technology to personalize their marketing messages. | 15.361 | 334 | .000 | .94328 | .8225 | 1.0641 |
| The effectiveness of neuromarketing strategies increases when technology is integrated into the campaign. | 14.852 | 334 | .000 | .90448 | .7847 | 1.0243 |

hypothetical value of 3. This result suggests that consumers believe that advanced technology significantly enriches their overall marketing experience, thus supporting the hypothesis. The second statement, "I find technology-driven marketing campaigns to be more appealing than traditional ones," demonstrates a t-value of 12.482 and a significance of .000, with a mean difference of 0.83881. This indicates a strong preference among participants for technology-based campaigns, reinforcing the idea that technological advancements in marketing resonate more effectively with consumers compared to traditional methods, thereby affirming the effectiveness of technology in neuromarketing strategies. The third statement, "Neuromarketing strategies that incorporate technology are more effective in influencing my purchasing decisions," shows a t-value of 17.098 and a significance level of .000, with a mean difference of 0.95821. This finding indicates a robust belief among respondents that technology-enhanced neuromarketing techniques positively influence their purchasing behaviors, providing compelling evidence for the hypothesis. The fourth statement, "I appreciate brands that use technology to personalize their marketing messages," reflects a t-value of 15.361 and a significance of .000, along with a mean difference of 0.94328. This suggests that consumers value personalized marketing efforts powered by technology, further demonstrating that technological integration enhances the effectiveness of neuromarketing strategies. Lastly, the statement, "The effectiveness of neuromarketing strategies increases when technology is integrated into the campaign," yielded a t-value of 14.852 and a significance level of .000, with a mean difference of 0.90448. This indicates that a substantial majority of respondents believe that integrating technology into neuromarketing campaigns significantly enhances their effectiveness. Overall, the results from Table 4 strongly support the hypothesis that the use of technology has a significant impact on the effectiveness of neuromarketing strategies, underscoring the essential role technology plays in shaping modern marketing practices and improving consumer engagement and decision-making.

## Findings

The findings of the study reveal compelling insights into the impact of neuromarketing and technology on consumer psychology and the effectiveness of marketing strategies in the context of Marketing 6.0. The analysis of consumer responses demonstrated a strong consensus regarding the positive influence of neuromarketing techniques on engagement, perception, emotional response, advertisement recall, and connection to products. Specifically, the one-sample t-test results indicated that participants felt significantly more engaged with brands utilizing neuromarketing strategies, with a mean difference of 1.10149 from the neutral value, highlighting the effectiveness of these techniques in capturing consumer interest. Furthermore, respondents acknowledged that neuromarketing positively influenced their perceptions of brands, as evidenced by a mean difference of 0.48955, which suggests that such strategies effectively foster favorable brand attitudes. The significant t-values and low *p-values* across all statements pertaining to consumer psychology reinforce the hypothesis that neuromarketing in marketing 6.0 plays a crucial role in shaping consumer behavior, underscoring the importance of employing psychological insights in contemporary marketing practices.

In addition to the positive effects of neuromarketing, the findings concerning the impact of technology on the effectiveness of these strategies were equally revealing. Participants overwhelmingly agreed that advanced technology enhances their overall experience as consumers, with a mean difference of 0.62687, indicating that technological integration significantly enriches marketing interactions. The preference for technology-driven campaigns over traditional ones was underscored by a mean difference of 0.83881, showcasing consumers' inclination towards modern marketing approaches. Moreover, the significant t-values indicated that respondents believe technology not only makes marketing more appealing but also more effective in influencing purchasing decisions, with a mean difference of 0.95821. The appreciation for personalized marketing messages facilitated by technology was reflected in a mean difference of 0.94328, emphasizing that consumers value brands that leverage technology for customization. Lastly, the assertion that the effectiveness of neuromarketing strategies increases with technological integration was confirmed, with a mean difference of 0.90448, solidifying the notion that technology is integral to the success of modern marketing initiatives. Collectively, these findings highlight the vital intersection of neuromarketing and technology, demonstrating their combined impact on enhancing consumer engagement and driving purchasing behavior in the dynamic landscape of Marketing 6.0.

## Conclusion

The conclusions drawn from this study highlight the profound influence of neuromarketing and technology on consumer psychology and marketing effectiveness within the framework of Marketing 6.0. The findings affirm that neuromarketing techniques significantly enhance consumer engagement, brand perception, and emotional connection to products. Respondents overwhelmingly acknowledged the effectiveness of these strategies in influencing their purchasing decisions, emphasizing the importance of understanding the psychological underpinnings of consumer behavior. Additionally, the study confirmed that technological advancements play a crucial role in optimizing neuromarketing strategies, with consumers expressing a strong preference for technology-driven campaigns that offer personalized experiences. This confluence of neuromarketing and technology not only shapes consumer attitudes but also serves as a critical driver of successful marketing outcomes in today's rapidly evolving digital landscape.

The implications of these findings are substantial for marketers and businesses aiming to enhance their marketing strategies. First, integrating neuromarketing principles into marketing practices allows companies to create more targeted and emotionally resonant campaigns, leading to improved consumer engagement and loyalty. Brands that leverage advanced technologies, such as artificial intelligence and data analytics, can personalize their marketing messages, thereby increasing their relevance to consumers and ultimately enhancing the overall consumer experience. The study underscores the necessity for marketers to adopt a consumer-centric approach that prioritizes psychological insights and technological innovations, enabling them to navigate the complexities of modern consumer behavior effectively. Furthermore, organizations should consider investing in neuromarketing research and tools to stay competitive and meet the evolving expectations of their target audiences.

Future research should explore several avenues to build upon the insights gained from this study. First, longitudinal studies could provide a deeper understanding of how consumer perceptions and behaviors evolve over time in response to neuromarketing strategies, particularly as technology continues to advance. Additionally, research could investigate the effects of neuromarketing across diverse demographic groups to identify variations in responses based on cultural, age, or socioeconomic factors. This would enable marketers to tailor their strategies more effectively to different segments. Moreover, examining the ethical implications of neuromarketing techniques, especially concerning consumer privacy and manipulation, is crucial for establishing best practices within the industry.

Lastly, exploring the integration of emerging technologies, such as virtual and augmented reality, with neuromarketing principles could yield innovative marketing solutions and further enhance consumer engagement. These future research directions will contribute to a more comprehensive understanding of the interplay between neuromarketing, technology, and consumer behavior, ultimately enriching the field of marketing as it continues to evolve.

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