

Original Article

Deciphering the Consumer Mind: The Impact of Neuromarketing on Mobile Phone Sales

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Neuromarketing was a rapidly evolving field that combined neuroscience and marketing to better understand consumer behaviour and their preferences. Neuromarketing science, a recent addition to the marketing research toolkit, has sparked inquiries concerning consumer perceptions of this emerging field. Neuromarketing, a burgeoning discipline, integrates consumer behaviour research with insight from neuroscience & the field has swiftly gained traction and acceptance within the advertising and marketing community. This paper aims to explore the dynamic relationship between neuromarketing techniques and consumer buying behaviour & their priorities with special reference to mobile phones, the most essential element of our life. Neuromarketing uses various neuro-scientific techniques, such as functional magnetic resonance imaging (fmri), electroencephalography (EEG), to gain insights into how consumers' brains respond in the form of Eye tracking and eye gaze, Effective packaging, Colour psychology, Ad efficiency, Decision fatigue, Evaluating satisfaction, Loss aversion, Hidden responses, Anchoring Speed, and efficiency to marketing stimuli like advertisements, products, and branding to uncover subconscious reactions that influence purchasing attitude and priorities towards various mobile phone brands. Through a survey-based approach, the study gathers insights from a sample group of 100 randomly selected respondents between the age group of 18 to 40 years from Vidya Nagar, Hubli city, Karnataka. The findings of this research could offer valuable insights for mobile phone manufacturers and marketers, enabling to create more tailored and effective strategies that align with consumers' underlying neural responses, ultimately leading to enhanced purchasing behaviour and customer satisfaction.

Keywords: Neuromarketing, Consumer Behaviour, Neural Responses, Marketing Stimuli, Customer Satisfaction

Introduction

Neuromarketing's roots extend to the 1990s when Harvard psychologists delved into its ideas. Coined by Ale Smidt's in 2002, the term crystallized this field's birth. Operating at the crossroads of neuroscience and marketing, neuromarketing deploys medical tools to assess how consumers react to brands, slogans, and ads. The inaugural Neuromarketing conference at Baylor College of Medicine in 2004 signalled the field's emergence. Anchored in the concept of "memes," brain-stored information units that swiftly shape decisions in 2.6 seconds, this fusion of neuroscience and marketing provides captivating insights into the swift mechanics of consumer choices. Neuromarketing has significantly transformed the landscape of consumer behavior analysis, particularly in the realm of mobile phones. By employing advanced neuroscientific techniques, such as brain imaging and biometric measurements, researchers can unveil the subconscious reactions that mobile phone advertisements, features, and designs evoke in potential buyers. These insights enable companies to tailor their marketing strategies to tap into consumers' emotional and cognitive triggers, influencing preferences and purchase decisions. Neuromarketing sheds light on what aspects of a mobile phone, be it its aesthetics, user interface, or innovative functionalities, and resonate most strongly with individuals' neural responses. This knowledge empowers brands to create captivating campaigns and product offerings that align seamlessly with customers' subconscious desires, ultimately shaping their choices when it comes to purchasing mobile phones. Neuromarketing serves as a potent tool for modern marketers amidst a new era of market research.



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It explores how insights from neuroscience enable marketers to engage intelligently with today's discerning buyers, decoding subconscious cues and crafting strategies that resonate deeply for more effective connections between products and consumers. This study endeavours to evaluate the importance and potential advantages of neuromarketing, emphasizing its superiority over conventional research techniques as a powerful instrument for marketing research.

Furthermore, it aims to unearth the ethical dimensions of neuromarketing research, spotlighting pivotal techniques utilized in marketing research advancement. By presenting case studies, the paper exemplifies the practical application of neuromarketing methods while acknowledging the inherent limitations of this approach. Neuromarketing can be thought of as the marketing counterpart to neuropsychology, akin to how neuropsychology is to psychology. While neuropsychology delves into the intricate interplay between the brain and various cognitive and psychological processes in humans, neuromarketing offers a novel approach to understanding consumer behaviour. By adopting a brain-centric viewpoint, neuromarketing emphasizes the importance of comprehending how the brain responds to marketing stimuli and influences decision-making. Just as neuropsychology has enriched our understanding of the human mind, neuromarketing endeavours to enhance our insights into the intricate mechanisms that drive consumer choices, enabling marketers to craft more effective strategies informed by the intricate workings of the brain. Neuromarketing aims at understanding consumer preferences; participants were tasked with ranking various communications related to sales forecasts according to their liking. The research team employed three distinct methodologies to generate sales forecasts. The first method relied on stated preferences, where participants explicitly conveyed their preferences. The second approach involved monitoring participants' brain activity while they viewed the communications. Lastly, the researchers measured functional magnetic resonance imaging (fmri) changes in response to product viewing before and after exposure to the communications. By employing these diverse techniques, the study sought to gain comprehensive insights into consumer preferences and their impact on sales forecasts. Neuromarketing can be thought of as the counterpart to neuropsychology in the realm of marketing. Just as neuropsychology delves into the intricate connection between the brain and various cognitive and psychological processes, neuromarketing underscores the significance of examining consumer behaviours through a neurological lens. While neuropsychology seeks to unravel the mysteries of human cognition and emotion, neuromarketing aims to unravel the secrets behind consumer decisions and preferences. By delving into the neural mechanisms that influence choices and reactions, neuromarketing offers insights into how individuals respond to marketing stimuli, enabling marketers to craft more effective strategies that resonate with the deep-rooted tendencies of the human brain. In essence, neuromarketing harnesses our growing understanding of neuroscience to shape a deeper comprehension of consumer behaviours, ultimately enhancing the art and science of modern marketing. "Understanding the human mind in biological terms has emerged as the central challenge of science in the twenty-first century", opined by Dr. Eric Kandel. Neuromarketing involves merging insights from brain research with marketing, particularly in the digital realm. By utilizing methods like fmri and brain activity monitoring, it deciphers consumer reactions to marketing cues.

Objectives of the Study

- To know about neuromarketing technique of utilization of physiological and neural measurements to delve into customers' motivations, preferences, and choices.
- To identify how neuromarketing techniques impact consumer purchasing attitudes and priorities regarding mobile phones.
- To identify the areas at which the Neuromarketing techniques have been applied.

Data Collection

The study is based on primary data i.e., survey-based approach, the study gathers insights from a sample group of 100 randomly selected respondents of age group between 18 to 40 from Vidya Nagar, Hubli city, Karnataka. The structured questionnaire was served to targeted respondents to collect the data for the study.

The researcher has applied secondary sources of data also which was collected from various sources, including published articles, reports, and websites.

Scope and Limitation

The geographical area of study is limited to vidya nagar location of hubli city of karnataka state which is quite conveniently accessible and affordable to the researcher, but there is a scope of study of entire hubli or complete dharwad district in future in this regard.

Data analysis and compilation:

The data collected through primary source will be compiled in suitable tables for deriving an appropriate inferences and conclusions. The data analysis interpretation is made by using charts, graphs to make it effective and easy to highlight significant trends.

Research gap and statement of the problem:

From recent years, neuromarketing harnesses our growing understanding of neuroscience to shape a deeper comprehension of consumer behaviour, ultimately enhancing the art and science of modern marketing.

Therefore, researcher tries to search in the present study that how neuromarketing influence the buying behaviour of consumer. This paper tries to comprehend that the role of neuromarketing in gathering the information on preferences of consumers of vidya nagar, hubli in ever changing market scenario. Hence the title is “**a study on the impact of neuro marketing on cunsumers purchasing behaviour with special reference to mobile phones**”

Profile of respondents:

The survey conducted on 100 respondents of age group between 18 to 40 years, among them 70 male respondents and 30 are female respondents. Out of 70 male respondents, 20 respondents are pursuing post graduation from university, using mobile for 5-6 hours a day and remaining 50 respondents are highly qualified & experienced professionals. Out of these 50 professional respondents 35 are married and others are unmarried, using minimum 2 hours a day.

Out of total 30 female respondents, 7 females are pursuing post graduation from university, using mobile for 5-6 hours a day, 8 females are home-makers, using mobile approximately for 3 hours a day and remaining 15 respondents are working professionals with high qualification and experience, using their mobile 6-7 hours a day.

Survey analysis & results

The table no. 01 represents the distribution of responses to a questionnaire on a 5-point agreement scale. The data suggests a range of opinions among respondents, with no clear consensus, and the specific statement/question and context would be crucial for a more detailed interpretation of the results.

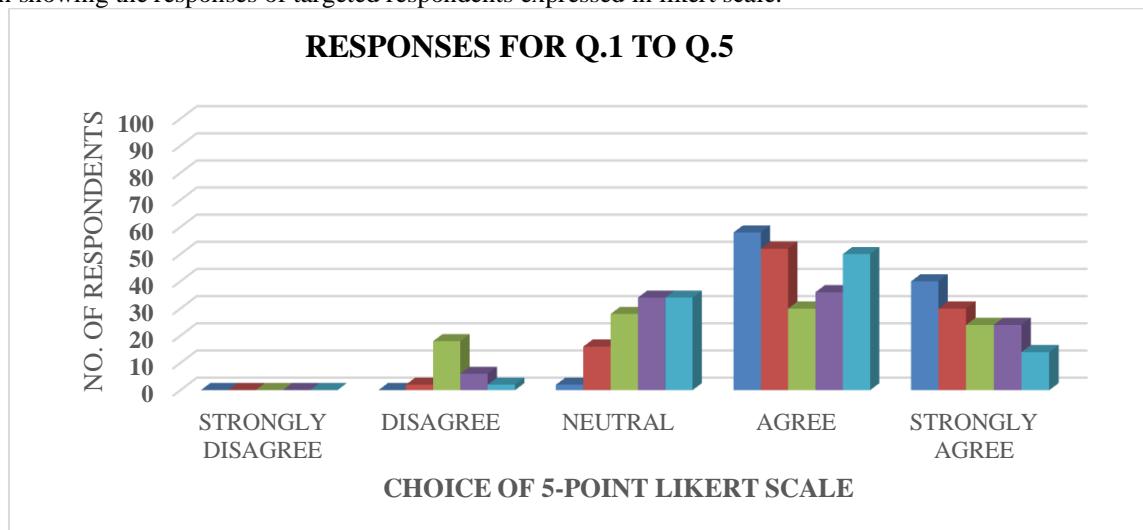
Table no: 01
The table showing responses of targeted respondents expressed in likert scale.

Q.no	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	0	0	2	58	40
2	0	2	16	52	30
3	0	18	28	30	24
4	0	6	34	36	24
5	0	2	34	50	14

Source: field study

Graph no: 01

Graph showing the responses of targeted respondents expressed in likert scale.



Source: Table No.01

The above given table 1shows ‘field study’ & graph 2 takes the ‘field study’ as its source to reveals responses given by 100 respondents regarding the statements from 1 to 5 of questionnaire used in survey study.

1. The first statement states that neuromarketing play an important role for companies to gaze the customers’ mindset about their purchasing priorities. 58% of respondents expressed their ‘agreement’ whereas 40% of respondents ‘strongly agreed’ for this. 2% respondents are kept themselves neutral. They denied ‘disagree & strongly disagree’. It can be inferred that a significant majority of respondents believe that neuromarketing is indeed important for companies in understanding customers’ purchasing priorities. This indicates a positive opinion towards the value of neuromarketing in the marketing industry.
2. The second statement asserts that often consumers feel that their emotions play a role in their decision to purchase a mobile phone. 52% of respondents expressed their ‘agreement’ whereas 30% of respondents ‘strongly agreed’ for this. 16% respondents are kept themselves neutral. And only 2% respondents disagreed. None responded strongly disagree’. Based on these responses, it can be pursued that a significant majority of

respondents believe that emotions play a role in their decision-making process when it comes to purchasing a mobile phone. This suggests that emotional factors are an important consideration for consumers in this context.

3. The third statement tells that consumers consider purchasing a mobile phone if the advertisement showcases people enjoying a luxurious lifestyle while using the product. Just 36% of respondents expressed their 'agreement' whereas 24% of respondents 'strongly agreed' for this. 28% respondents are kept themselves neutral. And only 18% respondents disagreed, none expressed 'strongly disagree'. A significant portion expressed agreement or strong agreement; there are also a notable number of neutral and disagreement responses. This suggests that different individuals may have varying reactions to this type of advertising strategy.
4. The fourth statement asserts neuromarketing works on subconscious factors which strongly influence your purchasing decisions regarding mobile phones. Just 36% of respondents expressed their 'agreement' whereas 24 % of respondents 'strongly agreed' for this. 34% respondents are kept themselves neutral. And only 6% respondents disagreed. None responded 'strongly disagree'. The significant number of neutral responses suggests that many consumers may not be well-informed about neuromarketing. This highlights the importance of educational initiatives and awareness-building efforts to help consumers make more informed decisions about their purchases, particularly in the context of mobile phones.
5. The fifth statement states that whether respondents would be comfortable with companies using neuroscientific techniques to understand their reactions to advertisements and improve their marketing strategies. Just 50% of respondents expressed their 'agreement' whereas 14 % of respondents 'strongly agreed' for this. 34% respondents are kept themselves neutral. And only 2% respondents disagreed. None responded 'strongly disagree' based on these responses, it can be conceived that there is a mixed level of comfort and awareness among consumers regarding the use of neuroscientific techniques in marketing. The neutral responses indicate a potential lack of understanding about neuromarketing. Therefore, there is a need for more education and awareness-building efforts to help people make informed opinions on this topic.

Table No: 02

The Table Showing Responses of Targeted Respondents Expressed In Likert Scale

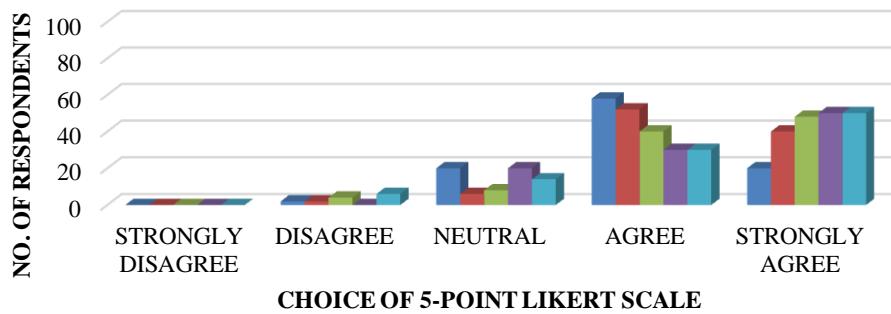
Q.no	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
6	0	2	20	58	20
7	0	2	6	52	40
8	0	4	8	40	48
9	0	0	20	30	50
10	0	6	14	30	50

Source: Field Study

Graph No: 02

Graph Showing The Responses Of Respondents Expressed In Likert Scale.

RESPONSE FOR Q.6 TO Q.10



Source: Table No: 02

The above given table 2 shows field study& graph 2 takes the 'field study' as its source to reveals responses given by 100 respondents regarding the statements from 6 to 10 of questionnaire used in survey study.

6. The sixth statement states that the physical design of a mobile phone, including its look, feel, and build quality, can strongly appeal to consumers who prioritize aesthetics and design. 58% of respondents expressed their 'agreement' whereas 20% of respondents 'strongly agreed' for this. 20% respondents are kept themselves neutral 2% disagree. None replied for 'strongly disagree'. These Responses Show That A Significant Majority of respondents believe that the physical design of a mobile phone is important, especially for consumers who value aesthetics and design.

7. The seventh questionnaire statements assert that mobile phone companies use neuromarketing (psychological) techniques to influence consumer's buying decisions. 52% of respondents expressed their 'agreement' whereas 40% of respondents 'strongly agreed' for this. 6% respondents are kept themselves neutral 2% disagree. None replied for 'strongly disagree.' it can be inferred that most respondents believe that mobile phone companies indeed utilize neuromarketing techniques to influence to shape consumer behaviour & consumer buying decisions.
8. The eighth statement asserts that people are influenced by the reputation of mobile phone brands. 40% of respondents expressed their 'agreement' whereas 48% of respondents 'strongly agreed' for this. 8% respondents are kept themselves neutral 4% disagree. None replied for 'strongly disagree'. This indicates a perception among respondents that brand reputation plays a significant role in consumers' decision-making process.
9. The ninth statement of questionnaire states that pricing is a crucial factor for buyers of mobile phone. 52% of respondents expressed their 'agreement' whereas 40% of respondents 'strongly agreed' for this. 6% respondents are kept themselves neutral 2% disagree. None replied for 'strongly disagree' based on these responses, it can be inferred that a significant majority of respondents believe that pricing plays a crucial role in the decision-making process of mobile phone buyers.
10. The tenth statement asserts that respondent do not mind to pay premium for unique features of mobile phone. 30% of respondents expressed their 'agreement' whereas 50% of respondents 'strongly agreed' for this. 14% respondents are kept themselves neutral 6% disagree. None replied for 'strongly disagree' based on these responses, it can be understood that a significant majority of respondents are willing to pay a premium for unique and innovative features in a mobile phone.

Table no: 03
The table showing responses of targeted respondents expressed in likert scale

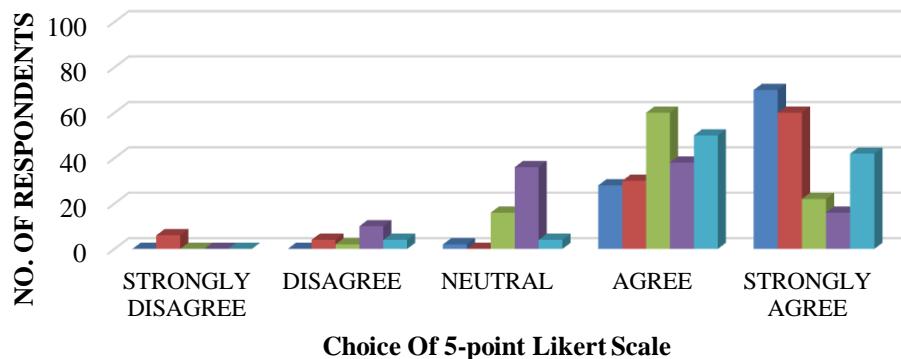
Q.no	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
11	0	0	2	28	70
12	6	4	0	30	60
13	0	2	16	60	22
14	0	10	36	38	16
15	0	4	4	50	42

source: field study

Graph no: 03

Graph showing the responses of targeted respondents expressed in likert scale.

RESPONSES FOR Q.11 TO Q. 15



Source: table no: 03

11. The eleventh statement of the questionnaire states that the recommendations and reviews from friends, family, or colleagues can have a substantial impact on purchasing decisions. 28% of respondents expressed their 'agreement' whereas 70% of respondents 'strongly agreed' for this. 2% respondents are kept themselves neutral. None responded for disagree & strongly disagree. Based on these responses for unique and innovative features in a mobile phone.
12. The twelfth statement asserts that consumers often consult online reviews, ratings, and testimonials on websites and social media platforms to gather information and to make decisions. 22% of respondents expressed their 'agreement' whereas 60% of respondents 'strongly agreed' for this. 16% respondents are kept themselves neutral. Respondents responded 4% for disagree and 6% strongly disagree. A significant majority

of respondents believe that consumers heavily rely on online reviews, ratings, and testimonials when gathering information and making informed decisions.

13. The thirteenth statement informs us that advertisements about mobile phones, both online and offline, can use persuasive techniques, visuals, and storytelling to influence consumers' emotions and desires. 22% of respondents expressed their 'agreement' whereas 60% of respondents 'strongly agreed' for this. 16% respondents are kept themselves neutral, 2% respondents responded disagree and none replied strongly disagree. Based on these responses, it can be inferred that a significant majority of respondents believe that advertisements, whether online or offline, have the capacity to use persuasive techniques, visuals, and storytelling to influence consumers' emotions and desires.
14. The fourteenth statement asserts that the potential for future upgrades and the longevity of a device can be crucial for consumers who want to maximize the value of their investment. 38% of respondents expressed their 'agreement' whereas 16% of respondents 'strongly agreed' for this. 36% respondents are kept themselves neutral, 10% respondents responded disagree and none replied strongly disagree. Based on these responses, it can be inferred that a significant portion of respondents believe that the potential for future upgrades and the longevity of a device are important factors for consumers seeking to get the most value out of their investment.
15. The fifteenth statement of the questionnaire reveals that buyers consider the compatibility of a mobile phone with other devices or services they use, such as smart home devices or software ecosystems (e.g., ios or android). 50% of respondents expressed their 'agreement' whereas 42 % of respondents 'strongly agreed' for this. 4 % respondents are kept themselves neutral, 4% respondents responded disagree and none replied strongly disagree. Based on the above responses, it can be inferred that a significant majority of respondents believe that buyers do consider the compatibility of a mobile phone with their existing devices and services. This suggests that compatibility with other tech products and ecosystems is an important factor in the decision-making process for mobile phone purchases.

Table no: 04

The table showing responses of targeted respondents expressed in likert scale

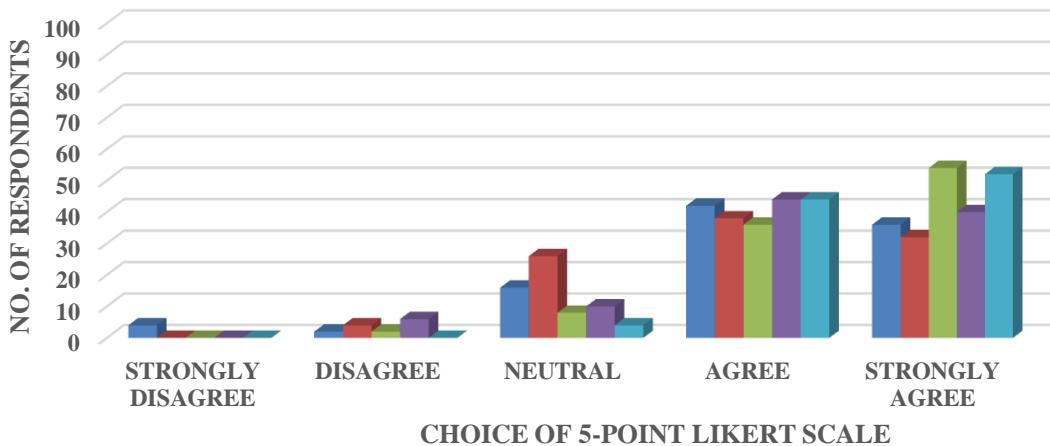
Q.no	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
16	4	2	16	42	36
17	0	4	26	38	32
18	0	2	8	36	54
19	0	6	10	44	40
20	0	0	4	44	52

Source: field study

Graph no: 04

Graph showing the responses of respondents expressed in likert scale.

RESPONSES FOR Q.16 TO Q. 20



Source: table no: 04

16. The sixteenth statement expresses that personal preferences, affordability, priorities, and individual needs play a significant role in the buying decision process of mobile phone. 42% of respondents expressed their 'agreement' whereas 36% of respondents 'strongly agreed' for this. 16% respondents are kept themselves neutral, 2% respondents responded disagree and 4% replied strongly disagree. It can be inferred that a

significant majority of respondents believe that personal preferences, affordability, priorities, and individual needs are significant factors in the process of buying a mobile phone.

17. The seventeen statement asserts that effective marketing campaigns, including persuasive language, compelling visuals, and emotional appeals, can strongly influence consumer choices. 38% of respondents expressed their 'agreement' whereas 32% of respondents 'strongly agreed' for this. 26% respondents are kept themselves neutral, 4% respondents responded disagree and none replied strongly disagree. A significant majority of respondents believe that effective marketing campaigns, employing persuasive language, compelling visuals, and emotional appeals, have a strong influence on consumer choices.

18. The eighteenth statement of the questionnaire states that there are differences in the attitudes between different age groups or generations towards buying mobile phones. 36% of respondents expressed their 'agreement' whereas 54% of respondents 'strongly agreed' for this. 8% respondents are kept themselves neutral, 2% respondents responded disagree and none replied strongly disagree. A significant majority of respondents believe that there are indeed differences in attitudes towards buying mobile phones among different age groups or generations. This highlights the recognition of varying consumer preferences and priorities across different demographic groups.

19. The nineteenth statement of the questionnaire declares that offering familiar, trusted online payment options, such as *upi* may reduce buying friction/confusion for reluctant customers. 44% of respondents expressed their 'agreement' whereas 40% of respondents 'strongly agreed' for this. 10% respondents are kept themselves neutral, 6% respondents responded disagree and none replied strongly disagree. The response shows that by providing familiar and trusted online payment options, like *upi*, can potentially alleviate buying friction for reluctant customers.

20. The twentieth statement asserts that an effective audio & video content in advertisement generate more user's engagement to have deeper impact of the product on their mind. 44% of respondents expressed their 'agreement' whereas 52% of respondents 'strongly agreed' for this. 4% respondents are kept themselves neutral, 6% none of respondents responded for disagree and strongly disagree it can be inferred that a significant majority of respondents believe that effective audio and video content in advertisements indeed generate more user engagement and leave a deeper impact on the product in consumers' minds. This emphasizes the importance of multimedia content in advertising strategies.

The data suggests that for most of the statements, respondents tended to lean towards agreement, with varying degrees of strength. Overall, it appears that the statements were generally well-received, with a higher percentage of respondents leaning towards agreement rather than disagreement. The "neutral" category suggests that there was a moderate portion of respondents who neither agreed nor disagreed with the statements. Respondents perceived that neuromarketing represents a novel approach to comprehending consumer behaviour. By leveraging insights from neuropsychology, it applies principles from neuroscience to the realm of marketing. This approach allows marketers to gain a deeper understanding of how consumers process information, make decisions, and respond emotionally to various marketing stimuli.

Major findings of the study:

- Neuromarketing play an important role for companies to gaze the customers' mindset about their purchasing priorities.
- The recommendations and reviews from friends, family, or colleagues can have a substantial impact on purchasing decisions.
- Neuromarketing works on subconscious factors which strongly influence your purchasing decisions regarding mobile phones.
- Pricing is a crucial factor for buyers of mobile phone.
- Consumers often consult online reviews, ratings, and testimonials on websites and social media platforms to gather information and to make decisions.

Conclusion

Neuromarketing employs diverse techniques to delve into consumer behaviour on a deeper, subconscious level. This includes eye tracking, which traces gaze patterns on web pages, facial expression analysis to gauge emotional responses, and controlled behavioural experiments for observed insights. Biometrics measures bodily signals like perspiration, respiration, heart rate, and muscle movements, revealing emotional engagement. Additionally, neuromeric methods such as eeg measure brain electrical activity, while fmri monitors blood flow, unveiling neural responses to stimuli. These combined approaches provide a more understanding of consumer reactions, complementing traditional market research methods for a comprehensive insight into consumer behaviour. Ethical considerations remain pivotal in handling sensitive data, especially in brain activity studies.

The above table and & graph reveal that respondents generally shown a positive disposition or agreement towards the statements provided, with a notable percentage either agreeing or strongly agreeing by exploring motivations and preferences, businesses can enhance advertising, product development, pricing, and overall marketing strategies.

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