INTERNATIONAL JOURNAL OF ENGINEERING MANAGEMENT AND SOCIAL SCIENCES (IJEMSS)

e-ISSN : 3139-065X

www.ijemss.com

editor@ijemss.com

Vol. 01, Issue 4, August2026, pp :593-598

The Changing Psychology of Digital Consumers: A Neuromarketing Perspective

[1]Dr Bhargava N [2]Dr Kiran L Maney

[1]PDFC Research Scholar, Poornaprajna Institute of Management, Udupi & Associate Professor, Acharya Institute of Graduate Studies, Bangalore, India. neellabhargava@gmail.com

[2]PDFC Research Scholar, Poornaprajna Institute of Management, Udupi & Associate Professor, Acharya Institute of Graduate Studies, Bangalore, India. kiranmaney@acharya.ac.in

[1]Orcid ID: https://orcid.org/0000-0002-0400-9243

[2]Orcid ID: https://orcid.org/0000-0002-6624-4396

DOI: https://doi.org/10.5281/zenodo.21929351

ABSTRACT

The psychology of the digital consumer is undergoing rapid change as decision-making increasingly unfolds within screens, feeds, and algorithmically curated environments rather than physical stores. Traditional consumer behaviour models, which rely heavily on self-reported attitudes and intentions, are increasingly unable to fully explain the fast, often non-conscious cognitive and emotional processes that drive online engagement, attention, and purchase decisions. Neuromarketing—the application of neuroscience tools such as electroencephalography (EEG), eye-tracking, functional magnetic resonance imaging (fMRI), and biometric sensing to the study of consumer behaviour—offers a complementary lens through which these non-conscious processes can be examined. This paper presents a conceptual, literature-based analysis of how digital consumer psychology is evolving, and of how neuromarketing methods and findings help explain attention capture, emotional engagement, memory encoding, and decision-making within digital environments such as e-commerce platforms, social media feeds, and video advertising. The paper reviews key theoretical foundations, including dual-process theory and the somatic marker hypothesis, alongside neuromarketing evidence on visual attention, emotional arousal, and cognitive load in online settings. It further examines ethical concerns surrounding the use of neuroscience-based persuasion techniques in digital marketing, including questions of consumer autonomy, informed consent, and manipulation. The paper concludes with a synthesis framework linking digital consumer psychology with neuromarketing evidence and offers implications for marketers, digital platform designers, researchers, and regulators.

Keywords: Neuromarketing, Digital Consumer Behaviour, Consumer Psychology, Eye-Tracking, EEG, Emotional Engagement, Dual-Process Theory, Digital Marketing Ethics.

1. INTRODUCTION

Consumer decision-making has traditionally been studied through surveys, interviews, and self-reported attitude and intention measures, on the assumption that consumers can accurately introspect and articulate the reasons behind their choices. However, a substantial body of psychological research indicates that a large proportion of consumer judgment and choice is driven by rapid, automatic, and largely non-conscious cognitive processes that are not fully accessible to self-report (Kahneman, 2011). This gap between what consumers say and what actually drives their behaviour has become particularly consequential in digital environments, where decisions are made within seconds while scrolling a social media feed, browsing a product page, or watching a short video advertisement (Ariely, 2008). Neuromarketing has emerged as a field that applies neuroscience methods and theory to the study of consumer behaviour, aiming to observe the neural, physiological, and attentional processes underlying consumer response more directly than traditional self-report methods allow (Lee, Broderick, & Chamberlain, 2007). Tools such as electroencephalography (EEG), eye-tracking, facial electromyography, galvanic skin response, and functional magnetic resonance imaging (fMRI) allow researchers to examine attention, emotional arousal, cognitive engagement, and memory encoding as consumers interact with marketing stimuli (Kenning & Plassmann, 2005; Morin, 2011).

The relevance of neuromarketing has grown substantially with the shift of consumer behaviour into digital ecosystems. Digital platforms are designed around continuous engagement: infinite scroll feeds, autoplay video, algorithmically ranked recommendations, and micro-targeted advertising all compete for a consumer's limited attentional resources within an information-dense environment (Genco, Pohlmann, & Steidl, 2013). Understanding

INTERNATIONAL JOURNAL OF ENGINEERING MANAGEMENT AND SOCIAL SCIENCES (IJEMSS)

e-ISSN : 3139-065X

www.ijemss.com

editor@ijemss.com

Vol. 01, Issue 4, August2026, pp :593-598

how digital consumers allocate attention, process emotional content, and form purchase intentions within such environments increasingly requires methods capable of capturing rapid, non-conscious responses rather than relying solely on post-hoc self-report.

At the same time, the digital consumer's psychology itself appears to be changing. Continuous exposure to information-rich, fast-paced digital environments has been associated with shorter attention spans, greater reliance on heuristic processing, and heightened sensitivity to visual and emotional cues over textual and rational argumentation (Vecchiato et al., 2014). Digital consumers increasingly evaluate products and brands through fragmented, multi-device journeys characterised by rapid switching between platforms, making the moment-to-moment capture of attention and emotion of particular strategic importance to marketers.

This evolving landscape raises important questions. How do digital environments capture and sustain consumer attention at the neural and physiological level? What role do emotional and non-conscious processes play in shaping engagement and purchase decisions within social media, e-commerce, and video advertising contexts? And what ethical boundaries should govern the use of neuroscience-informed persuasion techniques when applied to increasingly data-rich and personalised digital platforms? The present paper addresses these questions through a conceptual, literature-based examination of the changing psychology of digital consumers from a neuromarketing perspective.

2. NATURE AND SCOPE OF THE STUDY

This study is conceptual and descriptive-analytical in nature. It draws upon literature from consumer psychology, cognitive neuroscience, and neuromarketing to examine how digital consumer psychology is changing and how neuromarketing tools and theoretical frameworks help explain attention, emotion, and decision-making in digital contexts. The paper adopts a structured literature review and framework-building approach rather than reporting primary neurophysiological data collected specifically for this study.

The scope of the study is confined to consumer-facing digital environments, including e-commerce websites, social media platforms, and digital video advertising, within which neuromarketing methods such as EEG, eye-tracking, and biometric sensing have been most widely applied in the existing literature. The study does not extend to clinical neuroscience applications or to neuromarketing research conducted in offline retail settings, except where such findings offer a useful theoretical contrast. The paper further addresses ethical considerations associated with neuromarketing in digital contexts, given the heightened capacity of digital platforms to combine behavioural, biometric, and psychographic data. The findings are intended to inform academic researchers, digital marketers, platform designers, and policymakers concerned with the psychological and ethical dimensions of digital consumer engagement.

3. REVIEW OF LITERATURE

3.1 Theoretical Foundations: Dual-Process Thinking and the Non-Conscious Consumer

Kahneman (2011) proposed a dual-process framework distinguishing System 1, which is fast, automatic, and emotionally driven, from System 2, which is slow, deliberate, and effortful. A substantial share of everyday consumer judgment, particularly under conditions of information overload and time pressure typical of digital browsing, is argued to rely predominantly on System 1 processing. Ariely (2008) similarly demonstrated through behavioural experiments that consumer choices are frequently shaped by predictable, non-conscious biases rather than rational deliberation. Damasio's somatic marker hypothesis further suggests that emotional and bodily responses are integral to decision-making, providing rapid affective signals that guide choice before conscious reasoning occurs (Damasio, 1994, as discussed in Morin, 2011). These theoretical foundations underpin the neuromarketing premise that observing physiological and neural responses can reveal decision-relevant processes that self-report measures fail to capture.

3.2 Neuromarketing Methods and Their Application to Consumer Research

Kenning and Plassmann (2005) provided an early overview of neuroeconomic and neuromarketing methods, distinguishing between techniques measuring neural activity directly, such as EEG and fMRI, and those measuring peripheral physiological correlates of arousal and attention, such as eye-tracking, facial electromyography, and

INTERNATIONAL JOURNAL OF ENGINEERING MANAGEMENT AND SOCIAL SCIENCES (IJEMSS)

e-ISSN : 3139-065X

www.ijemss.com

editor@ijemss.com

Vol. 01, Issue 4, August2026, pp :593-598

galvanic skin response. Lee, Broderick, and Chamberlain (2007) argued that neuromarketing methods offer particular value in capturing implicit consumer responses that are difficult to elicit through surveys, including moment-to-moment emotional reactions to advertising content. Hubert and Kenning (2014) reviewed the maturing state of neuromarketing research, noting increasing methodological rigor alongside continued debate regarding the ecological validity of laboratory-based neuroscience methods when applied to real-world marketing contexts.

3.3 Attention, Emotion, and Engagement in Digital Environments

Vecchiato et al. (2014) applied EEG-based measures to examine attention and emotional engagement in response to video advertising, finding that neural indices of attention and approach-avoidance motivation predicted advertising effectiveness beyond self-reported liking. Eye-tracking research on website and social media design has similarly shown those visual attention patterns, such as fixation duration and gaze sequence, are strong predictors of engagement with digital content, often diverging from what users report about their own browsing behaviour (Genco, Pohlmann, & Steidl, 2013). These findings collectively suggest that in fast-paced, visually dense digital environments, attention capture in the first few seconds of exposure is critical to downstream engagement, consistent with the constrained attentional resources characteristic of online browsing.

3.4 Memory, Persuasion, and Purchase Decision-Making

Neuromarketing research has also examined how digital marketing stimuli influence memory encoding and subsequent purchase intention. Ariely and Berns (2010) reviewed neuroimaging evidence suggesting that neural activity in reward-related brain regions during exposure to marketing stimuli can predict subsequent product preference and purchase behaviour more accurately than self-reported preference in some contexts. Plassmann, Ramsøy, and Milosavljevic (2012) proposed an integrative framework linking attention, emotion, and valuation processes to consumer decision-making, arguing that neuromarketing evidence supports a view of purchase decisions as the outcome of rapid, largely automatic valuation processes shaped by contextual and emotional cues, particularly salient within recommendation-driven digital retail environments.

3.5 The Changing Digital Consumer: Attention Fragmentation and Heuristic Processing

A growing body of literature suggests that continuous engagement with fast-paced, notification-driven digital environments is associated with changes in consumer attentional and cognitive patterns. Digital consumers increasingly process information through brief, fragmented exposures across multiple platforms and devices, favouring visual, emotionally salient content over lengthy textual argumentation (Genco, Pohlmann, & Steidl, 2013). This shift has implications for digital marketing design, as content must capture attention and convey emotional or cognitive value within very short exposure windows, reinforcing the relevance of neuromarketing methods capable of measuring rapid, moment-to-moment consumer response.

3.6 Ethical Considerations in Neuromarketing

The increasing capability of neuromarketing tools to reveal non-conscious consumer responses has raised significant ethical questions, particularly as these methods intersect with the vast behavioural and biometric data already collected by digital platforms. Murphy, Illes, and Reiner (2008) and Fisher, Chin, and Klitzman (2010) raised early concerns regarding informed consent, potential manipulation, and the commercial application of neuroscience findings outside clinical or academic oversight. Stanton, Sinnott-Armstrong, and Huettel (2017) provided a systematic review of ethical questions in neuromarketing, highlighting concerns regarding consumer autonomy, the potential for exploitation of vulnerable populations, and the need for transparency when neuroscience-informed techniques are used to design persuasive digital content. These concerns are amplified in digital contexts, where neuromarketing insights can be combined with granular behavioural targeting to design highly optimised, individually tailored persuasive content at scale.

3.7 Synthesis of Literature and Research Gap

The reviewed literature indicates that neuromarketing offers valuable theoretical and methodological tools for understanding the non-conscious, emotional, and attentional processes that increasingly shape digital consumer behaviour, complementing rather than replacing traditional self-report-based consumer research. However, most existing neuromarketing studies have focused on discrete stimuli, such as individual advertisements or website

INTERNATIONAL JOURNAL OF ENGINEERING MANAGEMENT AND SOCIAL SCIENCES (IJEMSS)

e-ISSN : 3139-065X

www.ijemss.com

editor@ijemss.com

Vol. 01, Issue 4, August2026, pp :593-598

layouts, examined in controlled laboratory settings, rather than on the broader psychological shifts occurring in digital consumers as a result of sustained exposure to fast-paced, algorithmically curated digital ecosystems. Similarly, while ethical concerns regarding neuromarketing have been well documented, limited literature has explicitly connected these concerns to the specific characteristics of digital platforms, such as the combination of neuromarketing insight with behavioural data-driven personalisation. This paper addresses these gaps by offering an integrative discussion connecting the changing psychology of digital consumers with neuromarketing theory, evidence, and ethical considerations.

4. OBJECTIVES OF THE STUDY

1. To examine how the psychology of digital consumers, particularly attention, emotional engagement, and decision-making, is changing in response to fast-paced, algorithmically curated digital environments.
2. To analyse how neuromarketing tools and methods, including EEG, eye-tracking, and biometric sensing, contribute to understanding non-conscious consumer responses within digital marketing contexts.
3. To review theoretical frameworks, including dual-process theory and the somatic marker hypothesis, that explain the role of automatic and emotional processing in digital consumer decision-making.
4. To identify the ethical considerations associated with the application of neuromarketing techniques within data-rich digital platforms, and to propose an integrative framework linking digital consumer psychology with neuromarketing evidence.

5. DISCUSSION AND ANALYSIS

5.1 Attention Capture in Digital Environments: The First Few Seconds

Evidence from eye-tracking and EEG-based neuromarketing studies consistently indicates that attention capture within the first few seconds of exposure is a critical determinant of subsequent engagement in digital environments. Unlike traditional media, where exposure duration is often controlled by the medium itself, digital consumers exercise continuous, moment-to-moment control over their attention through scrolling, skipping, and switching between tabs or applications. This creates a highly competitive attentional environment in which visual salience, motion, colour contrast, and emotional facial expressions in imagery have been shown to disproportionately influence early attention capture. The neuromarketing evidence reviewed suggests that digital content optimised for rapid attention capture, such as short-form video and visually dynamic social media posts, aligns closely with the fast, automatic processing characteristic of System 1 cognition.

5.2 Emotional Engagement as a Driver of Digital Consumer Response

Neuromarketing findings on emotional arousal and approach-avoidance motivation suggest that emotional engagement, rather than purely informational content, plays an outsized role in shaping digital consumer response, including content sharing, ad recall, and purchase intention. This pattern is consistent with the somatic marker hypothesis, which posits that emotional and bodily signals guide rapid decision-making. In digital advertising contexts, content that elicits strong emotional arousal, whether positive or negative, has been associated with greater memorability and behavioural response than emotionally neutral content, reinforcing the strategic value that digital marketers place on emotionally resonant storytelling and imagery.

5.3 Heuristic Processing and the Fragmentation of Digital Attention

The literature suggests that sustained exposure to fragmented, multi-platform digital environments is associated with an increasing reliance on heuristic, System 1-driven processing among digital consumers, particularly during routine browsing and social media use. This has practical implications for digital content design: information that requires effortful, System 2 processing risks being overlooked amid the rapid pace of digital consumption, while content that leverages familiar heuristics, social proof cues, and simple visual framing is more likely to be processed and acted upon. This pattern also helps explain the widespread digital marketing reliance on techniques such as scarcity messaging, social proof indicators, and algorithmically curated recommendations, all of which reduce the cognitive effort required for consumer decision-making.

5.4 Neuromarketing Insight and Algorithmic Personalisation: A Converging Risk

A notable pattern emerging from the literature is the potential convergence between neuromarketing insight and

INTERNATIONAL JOURNAL OF ENGINEERING MANAGEMENT AND SOCIAL SCIENCES (IJEMSS)

e-ISSN : 3139-065X

www.ijemss.com

editor@ijemss.com

Vol. 01, Issue 4, August2026, pp :593-598

algorithmic personalisation capabilities on digital platforms. While early neuromarketing research primarily examined generalised patterns of attention and emotional response across consumer samples, digital platforms now possess the behavioural and biometric data infrastructure to apply neuromarketing-informed design principles at an individually personalised level and at scale. This convergence raises the ethical concerns discussed in the literature to a heightened level of practical relevance, as digital consumers may be exposed to content specifically optimised, using neuroscience-informed principles, to their individual attentional and emotional response patterns, often without their awareness or explicit consent.

5.5 An Integrative Synthesis Framework

Taken together, the reviewed evidence suggests an integrative framework in which the changing psychology of digital consumers, characterised by fragmented attention, heuristic processing, and heightened emotional reactivity, both shapes and is shaped by digital platform design informed by neuromarketing principles. Attention capture in the first moments of exposure, emotional engagement as a primary driver of response, and heuristic rather than deliberative processing collectively describe a digital consumer whose decision-making increasingly aligns with the fast, automatic System 1 processes long emphasised in dual-process theory. This framework highlights the dual role of neuromarketing in digital consumer research: as an explanatory tool for understanding these psychological shifts, and as a design methodology whose application raises important ethical questions regarding consumer autonomy and informed consent within increasingly personalised digital ecosystems.

6. IMPLICATIONS AND CONCLUSION

This paper has examined the changing psychology of digital consumers through a neuromarketing perspective, highlighting the growing role of non-conscious, emotional, and heuristic processing in shaping attention, engagement, and decision-making within digital environments. The reviewed literature indicates that neuromarketing methods offer valuable complementary insight into consumer responses that traditional self-report measures often fail to capture, particularly in fast-paced, visually dense digital settings. For marketers and digital platform designers, the findings underscore the strategic importance of attention capture and emotional resonance in digital content design, while also highlighting the risks of relying on manipulative, non-transparent applications of neuroscience-informed persuasion techniques. For policymakers and researchers, the convergence of neuromarketing insight with algorithmic personalisation capabilities represents an emerging area requiring closer ethical scrutiny and regulatory attention, particularly regarding informed consent and the protection of consumer autonomy. As digital ecosystems continue to evolve, a balanced approach that leverages neuromarketing insight to improve consumer experience, while safeguarding against manipulative or exploitative applications, will be essential for building sustainable and trustworthy digital marketing practices.

REFERENCES

[1] Ariely, D. (2008). Predictably Irrational: The Hidden Forces That Shape Our Decisions. HarperCollins.

[2] Ariely, D., & Berns, G. S. (2010). Neuromarketing: The hope and hype of neuroimaging in business. Nature Reviews Neuroscience, 11(4), 284–292. https://doi.org/10.1038/nrn2795

[3] Damasio, A. R. (1994). Descartes' Error: Emotion, Reason, and the Human Brain. G. P. Putnam's Sons.

[4] Fisher, C. E., Chin, L., & Klitzman, R. (2010). Defining neuromarketing: Practices and professional challenges. Harvard Review of Psychiatry, 18(4), 230–237. https://doi.org/10.3109/10673229.2010.496623

[5] Genco, S. J., Pohlmann, A. P., & Steidl, P. (2013). Neuromarketing for Dummies. John Wiley & Sons.

[6] Hubert, M., & Kenning, P. (2008). A current overview of consumer neuroscience. Journal of Consumer Behaviour, 7(4-5), 272–292. https://doi.org/10.1002/cb.251

[7] Javor, A., Koller, M., Lee, N., Chamberlain, L., & Ransmayr, G. (2013). Neuromarketing and consumer neuroscience: Contributions to neurology. BMC Neurology, 13, 13. https://doi.org/10.1186/1471-2377-13-13

[8] Kahneman, D. (2011). Thinking, Fast and Slow. Farrar, Straus and Giroux.

[9] Kenning, P., & Plassmann, H. (2005). NeuroEconomics: An overview from an economic perspective. Brain Research Bulletin, 67(5), 343–354. https://doi.org/10.1016/j.brainresbull.2005.07.006

[10] Lee, N., Broderick, A. J., & Chamberlain, L. (2007). What is 'neuromarketing'? A discussion and agenda for future

INTERNATIONAL JOURNAL OF ENGINEERING MANAGEMENT AND SOCIAL SCIENCES (IJEMSS)

e-ISSN : 3139-065X

www.ijemss.com

editor@ijemss.com

Vol. 01, Issue 4, August2026, pp :593-598

research. International Journal of Psychophysiology, 63(2), 199–204. https://doi.org/10.1016/j.ijpsycho.2006.03.007

[11] Morin, C. (2011). Neuromarketing: The new science of consumer behavior. Society, 48(2), 131–135. https://doi.org/10.1007/s12115-010-9408-1

[12] Murphy, E. R., Illes, J., & Reiner, P. B. (2008). Neuroethics of neuromarketing. Journal of Consumer Behaviour, 7(4-5), 293–302. https://doi.org/10.1002/cb.252

[13] Plassmann, H., Ramsøy, T. Z., & Milosavljevic, M. (2012). Branding the brain: A critical review and outlook. Journal of Consumer Psychology, 22(1), 18–36. https://doi.org/10.1016/j.jcps.2011.11.010

[14] Stanton, S. J., Sinnott-Armstrong, W., & Huettel, S. A. (2017). Neuromarketing: Ethical implications of its use and potential misuse. Journal of Business Ethics, 144(4), 799–811. https://doi.org/10.1007/s10551-016-3059-0

[15] Vecchiato, G., Cherubino, P., Trettel, A., & Babiloni, F. (2014). Neuroelectrical Brain Imaging Tools for the Study of Creativity and Social Interactions. Springer.

[16] Zurawicki, L. (2010). Neuromarketing: Exploring the Brain of the Consumer. Springer.