



Neuromarketing Consumer Behaviour in Family Type: An Independent T Test Analysis

Ambika Sharma* 

Professor and Director, NDIM Delhi, India

Orcid Id: [0009-0008-9018-7118](https://orcid.org/0009-0008-9018-7118)

*Corresponding Author Email: ambika@ndimdelhi.in

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ABSTRACT: The present study examines the impact of family type on consumer behavior through the lens of neuromarketing, utilizing an independent t-test analysis of 394 survey responses. By categorizing participants into different family types—nuclear, extended, and single-parent—the research explores variations in emotional responses, decision-making processes, and brand loyalty. The findings reveal significant differences in consumer preferences and purchasing behaviors among these family types, highlighting how familial structure shapes consumer identity and choices.

These results underscore the importance of tailoring marketing strategies to align with the distinct psychological and emotional frameworks of diverse family units. This study contributes to the growing field of neuromarketing by providing empirical evidence of how family dynamics influence consumer behavior, offering valuable insights for marketers seeking to enhance engagement and effectiveness in their campaigns.

KEYWORDS: Neuro Marketing, Consumer behavior, T test, Family, Type

1. INTRODUCTION

According to the marketing philosophy, a company's main goal is to make a profit while satisfying its clients. According to Perreault and McCarthy (2005), a marketing orientation entails attempting to implement the marketing notion. According to the marketing concept, a company's capacity to develop, deliver, and communicate a greater value through its marketing proposal than its competitors for its target segments is what determines its success (Panda, 2007). Another mystery about marketing is that, although some regard it as a positive force, others view it as a negative one. As

is often the case, the truth is that it can be either or both, contingent upon the applications to which individuals apply concepts and strategies related to marketing (Hart, 2016). According to Kotler and Keller (2006), marketing is a social activity that involves producing, delivering, and trading low-cost goods and services with other people in order to help individuals and organisations get what they need and want. Perception can be defined as the act of 1) choosing, 2) arranging, and 3) analysing inputs of information to create meaning that will support the decision-making process of the consumer (Madichie, 2012).



In marketing, there are numerous instances of altering perceptual processes. Aluminium foil is a fantastic material to wrap a product in since it not only draws attention but also raises the brand's perceived worth among consumers by implying a high level of status and prestige (Krajnovic et al., 2012). Rani (2023) drew attention to the growing usage of alternative payment apps and the Unified Payment Interface (UPI) network for digital currency transactions. The study also examines the effects of India's adoption of digital payment services. The RBI bulletin, annual reports, a variety of research papers, journal articles, and websites provided secondary data for the paper. The findings showed that while digital payments have made payments more convenient and transparent, they have also raised concerns about security and dependability in financial transactions.

A customer who is pleased with their experience with a product or service is said to be happy. The foundation of a customer's perception is the interaction they have with a product. Your brand's reputation has the power to make or break it (Cloorack, 2020). Consumer behaviour is the culmination of all consumer decisions made by (human) decision-making units on the acquisition, use, and discarding of products, services, events, encounters, persons, and ideas (Hoyer & MacInnis, 2010). In the world of marketing, the advent of neuromarketing has revolutionised the sector. In order to better understand customer behaviour and develop more successful marketing tactics, this interdisciplinary field integrates concepts from marketing, psychology, and neuroscience. Neuromarketing measures the brain's reactions to marketing stimuli and provides information about how consumers make decisions by using a variety of tools and methodologies.

In parallel, an eye tracking tool is employed, enabling precise identification of the stimulus eliciting the response at that precise moment. Additionally, some neuromarketing businesses analyse the electrical conductivity of the skin using GSR (galvanic skin response) sensors. This is an additional method of determining how consumers react to different promotional messages. Using neuromarketing research in social media and digital platforms while keeping in mind the goals of the business and the advantages for the consumer. An essential part of accurately interpreting customer behaviour, wants, language, and

emotions was played by neuromarketing. Inonline shopping, neuromarketing technologies offer valuable insights into gauging the impact of advertising campaigns on consumers (Singh, 2020). The assumption is that these decisions are made logically in general, choosing the alternative with the highest utility (Blazquez et al., 2020). (Sherief et al., 2024) examines trends, important research clusters, and areas that require further investigation in the dynamic field of neuromarketing and consumer behaviour. The study covers a range of bibliometrics topics, starting with citation analysis to find notable papers that help determine the most important research in this field. The interconnection of journals is demonstrated by co-citation and bibliographic coupling analysis, highlighting the interdisciplinary character of neuromarketing.

2. LITERATURE REVIEW

The most recent area to emerge that is moving towards this objective is neuromarketing. According to Morin (2011), the term "neuromarketing" refers to the fusion of two academic disciplines: neuroscience and marketing. In order to improve the information available about products and sales marketing actions and make them more effective by identifying the consumer's most sensitive areas and ways to respond to stimuli, neuromarketing has been used to study consumer behaviour and the purchasing decision process (Jordão, De Souza, de Oliveira, & Giraldo, 2017). The fact that neuromarketing gives sales and marketing departments a single language is one of its biggest advantages. Many businesses pay a high cost for a shared residence because their marketing and sales departments lack a common platform for communication (Renvoise & Morin, 2007). Future goods and services will meet all of our expectations, and businesses will spend money on product development and research in areas where there is a strong likelihood of demand (Gurgu et al., 2019).

It is the responsibility of marketers to sway consumer behavior, both short- and long-term, in the brands they oversee. We must continue to serve our current clientele, boost frequency of purchases, and convert non-users into customers (Barden, 2013). The application of neuroscience techniques in product marketing stems from two key assumptions: first, that neuromarketing will eventually outperform traditional marketing methods in terms of speed and economy, and second, that it will offer previously unattainable

solutions. Applications for neuromarketing search applications are numerous and diverse. These include designing products where flavour, structure, or aroma are essential; building plans and architecture for new projects; making movie trailers; using advertising as a tool; and designing websites. These applications can arise from a pervasive domain of emotion, interest, belief, loyalty, or fear (Joy, 2018). An interdisciplinary field called neuromarketing uses tools like neuroimaging to examine the brain in order to better understand customer behaviour.

The most important and prestigious publications in the field of behavioural finance, well-known writers, and frequently used terms that have influenced behavioural finance research were listed by Gupta and Singh (2023). The study's analysis will be beneficial to researchers who are interested in psychological biases and decision-making, as the study's findings and conclusions will offer a historical perspective, explain the reason behind the unexpected spike in research output, and provide information about the connections between the articles and the emerging fields within the broad theme of behaviour finance. The objective of the study is to assess the influence on a specific market stimulus and, as a result, offer fresh perspectives on how consumers organise, integrate, analyse, and apply the vast array of information they encounter on a daily basis (Jordío et al., 2017). The use of neuroscience in marketing is known as neuromarketing. Neuromarketing is the direct measuring of an entity's reaction to particular items, packaging, advertisements, or other marketing aspects using brain imaging, scanning, or other brain activity measurement technology (Devaru, 2018). Problem representation for many customer decisions consists of multiple interconnected subproblems, each with a sub-goals section and arranged in a goal hierarchy. A decision plan or a set of behavioural goals is the result of the entire collection of decisions. While some purchases are performed automatically and on a regular basis, others necessitate intensive troubleshooting (Kumar & Tyagi, 2004). To objectively determine customer preferences, neuromarketing is typically employed (Fortunato, Giraldi, & de Oliveira, 2014). Individual preferences are subjective tastes, likes, dislikes, and predispositions of the consumer. To achieve the best outcomes, you must take into account the personal preferences of your target clients when developing or marketing a product for them (Booker, 2017). Consumer preferences are characterised as

subjective (individual) tastes that are evaluated based on how usefully various batches of items perform (Saji, 2020).

According to a different study, seeing celebrities or other attractive people in commercials causes the brain's trust-building and recognition region to become active (Fortunato et al., 2014). In order to understand customers' preferences, motives, and decisions, neuromarketing measures physiological and brain signals. This information can be used to guide product development, pricing, and other aspects of marketing, as well as creative advertising (Harrell, 2019). Following ethical guidelines when doing research is one of the biggest issues facing businesses that provide neuromarketing services. As a result, understanding the consumer's mind better or casting more light on the human brain is one of the main goals of neuromarketing (Devaru, 2018). Neuroscience advances provide insight into the inner workings of the human brain, including how advertising and marketing messages impact the brain deep within the skull. Furthermore, it reveals a great deal of the subtle, often unconscious mental processes that can make or destroy a marketing effort (Parchure, Parchure, & Bora, 2020). Advertising is the endeavour to sway consumers' purchasing decisions by presenting a strong sales pitch for goods and/or services. By identifying the target market and addressing them with a successful advertising campaign, businesses use advertising to draw in new clients (Ward, 2018).

Developing goods and services in accordance with customer preferences is another much publicised application of neuromarketing (Fortunato et al., 2014). The age of neuromarketing is here. Businesses assert that by directly viewing a customer's brain while they view products or branding, they can more accurately predict their behaviour than by using focus groups and other marketing research techniques. As a result, companies are starting to provide their customers brain-based information about customer preferences (Murphy, Iles, & Reiner, 2008). Product development is directly impacted by neuromarketing as well. Neuromarketing strategies, for instance, will rely on factors like product placement and availability if it comes to product distribution. Neuromarketing strategies have varying effects on each kind of promotion.

According to (Ismajli et al., 2022) neuromarketing helps identify customer preferences, which enables businesses to better connect with and serve their customers. This

research recommends using neuromarketing to determine consumer preferences. (Kajla et al., 2024) examined a bibliometric analysis of 383 research articles from the Scopus database that were divided into various domains. The study includes the most well-known authors, papers, journals, nations, and organisations in the subject of neuromarketing. Subsequently, the co-occurrence analysis of keywords unveils significant themes, including consumer decision-making, marketing and consumer behaviour, advertising, non-intrusive ways for effective advertisement, ERP and brand extension, brand, and fMRI. Lastly, a thorough analysis of the six theme areas provides insightful information about the state of the field. The study's identification of the gaps in the current theme areas also offers research topics for upcoming investigators.

3. RESULTS AND ANALYSIS

Table 1: Descriptive Statistics for Neuro-Marketing in Family Type

	N	Mn	Max	Mean	SD
Offers available are considered by me while buying a product	394	1	5	3.84	1.044
Quality of the product is important factor while I purchase any product	394	1	5	4.13	1.004
Use of the product is factor i consider while buying something	394	1	5	3.98	.967
Necessity of the product is the factor makes me ready to purchase a product	394	1	5	3.96	1.008
Entertainment element in the advertisement makes me buying the product	394	1	5	3.04	1.101
Valid N (listwise)	394				

Source: compiled by author

Table 1 shows descriptive about Statistics for Neuro Marketing in Family Type which shows N= 394 responses having Minimum=1 as strongly disagree and Maximum=5 as strongly agree on five-point likert scale. Quality of the product is the most important factor among all and Entertainment element in the

advertisement is the least important factor while buying the product

Table 2: Group Statistics for Neuro Marketing in Family Type

Variables	Type of Family	N	Mean	Std. Deviation	Std. Error Mean
Offers available are considered by me while buying a product	Nuclear Family	270	3.81	1.067	.065
	Joint Family	124	3.90	.994	.089
Quality of the product is important factor while I purchase any product	Nuclear Family	270	4.11	1.010	.061
	Joint Family	124	4.17	.994	.089
Use of the product is factor i consider while buying something	Nuclear Family	270	4.00	.952	.058
	Joint Family	124	3.94	1.002	.090
Necessity of the product is the factor makes me ready to purchase a product	Nuclear Family	270	3.99	.994	.061
	Joint Family	124	3.90	1.039	.093
Entertainment element in the advertisement makes me buying the product	Nuclear Family	270	2.96	1.110	.068
	Joint Family	124	3.22	1.064	.096

Source: compiled by author

Table 2 shows group statics for forNeuroMarketing in Family Type as Nuclear and Joint Family.It shows Quality of the product is the most important factor among all and Entertainment element in the advertisement is the least important factor while buying the product

Table 3: Empirical result for Neuro-Marketing in Family Type

		Levene's Test		t-test for Equality of Means		
		F	Sig	t	df	Sig
Offers available are considered by me while buying a product	A	1.84	.17	-.775	392	.43
	B			-.795	254.76	.42
Quality of the product is important factor while I purchase any product	A	.009	.92	-.534	392	.59
	B			-.537	242.56	.59
Use of the product is	A	.117	.73	.614	392	.53



factor i consider while buying something	B			.603	228.28	.54
Necessity of the product is the factor makes me ready to purchase a product	A	.351	.55	.749	392	.45
	B			.737	229.60	.46
Entertainment element in the advertisement makes me buying the product	A	.101	.75	-2.20	392	.02
	B			-2.24	248.43	.02

Source: compiled by author

A-Equal Variances assumed, B-Equal variances not assumed

Table 3 of Empirical result for Neuro-Marketing in Family Type shows entertainment element in the advertisement for buying the product has significant impact in both type of families. For other factors there is no significant difference in the perception of nuclear and joint family. So Null hypothesis is accepted. Sri Lanka, as a developing island nation, faces challenges related to its geographical isolation, reliance on tourism, agricultural exports, and ongoing debt crises. Punjab, on the other hand, while benefiting from its integration into the broader Indian economy, confronts its own set of hurdles, including agricultural subsidies, regional industrial stagnation, and political influences on fiscal policies. The distinction between a sovereign nation and a state within a federal system adds a layer of complexity to the comparison, allowing us to explore the impact of external borrowing, revenue autonomy, and federal transfers on fiscal planning and implementation.

This paper aims to dissect the components of both budgets—revenue sources such as taxes, loans, and international aid for Sri Lanka, and state taxes and central grants for Punjab—and compare how each government prioritizes expenditures in areas like infrastructure, social welfare, education, and healthcare. Furthermore, a critical review of fiscal deficit management, debt sustainability, and the role of external agencies such as the International Monetary Fund (IMF) in Sri Lanka's budgeting will provide a contrast to Punjab's reliance on the central government and its fiscal discipline under India's fiscal

responsibility laws. The comparative analysis presented here not only highlights macroeconomic trends but also delves into the finer nuances that shape the financial landscapes of Sri Lanka and Punjab.

4. CONCLUSION

This study underscores the significant influence of family type on consumer behavior, as evidenced by the independent t-test analysis of 394 responses. The findings reveal that family structure not only affects emotional responses and decision-making processes but also shapes brand loyalty and purchasing preferences. Distinct patterns emerged among nuclear, extended, and single-parent families, highlighting the necessity for marketers to consider these variations when developing strategies.

By understanding the unique psychological and emotional frameworks associated with different family types, businesses can tailor their marketing efforts more effectively. This approach can enhance customer engagement and foster stronger brand connections. Ultimately, this research adds depth to the field of neuromarketing, illustrating the critical role of family dynamics in consumer behavior and providing a foundation for future studies aimed at further exploring this intersection.

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