

Project Dissertation Report on

**NEURO-MARKETING: CUSTOMERS' BUYING
BEHAVIOR IN BIG BAZAAR**

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CERTIFICATE FROM INSTITUTE

This is to certify that the Dissertation Report titled “**NEURO-MARKETING: CUSTOMERS’ BUYING BEHAVIOR IN BIGBAZAAR**” is an original and bonafide work carried out by **Mr. Chirayu Suri** of MBA 2017-19 batch and was submitted to Delhi School of Management, Delhi Technological University, Bawana Road, Delhi-110042 in partial fulfilment of the requirement for the award of the degree of **Masters of Business Administration**.

Signature of Guide

Signature of Head (DSM)

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I, **Chirayu Suri**, student of MBA Batch 2017-19 of Delhi School of Management, Delhi Technological University, Bawana Road, Delhi-110042 declare that Dissertation Report on “**NEURO-MARKETING: CUSTOMERS’ BUYING BEHAVIOR IN BIGBAZAAR**”, submitted in partial fulfilment of Degree of **Masters of Business Administration**, is the original work conducted by me.

I assert that the report is based on my own work carried out under the guidance of **Mr. Vikas Gupta**, Assistant Professor, Delhi School Of Management, DTU. I further declare that the information and data given in the report is authentic to the best of my knowledge.

This Report has not been submitted to any other University for the award of any other Degree, Diploma and Fellowship.

Place: _____

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ABSTRACT

Neuro-marketing is taking the world by storm and has been utilized by almost every major company and university in some way or form. It takes advantage of the vast blind-spot beyond our conscious awareness; leveraging psychological phenomenon in subtle ways to lead us into certain decisions. This study probes into the psychological aspect of customers to understand whether Neuro-marketing(parameters) can have significant effects on customers' buying behavior in shopping stores.

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CHAPTER 1

INTRODUCTION

Did you know that only about five percent of purchase decisions are made consciously? This has been proved by many scientific experiments in which the brain activity of test clients were measured. According to the publication "Neuromarketing" in 2008, the subconscious plays a main role and is in charge for about 95 percent of the purchasing decisions.

The neuro-philosopher Daniel Dennett compares the consciousness of a customer to a government spokesperson who has to announce decisions he was not involved in and didn't really understand as the true reasons for the decisions are often unknown. Therefore, in neuromarketing the communication is directed not to the conscious and rational buyers, but their emotions that govern them.

The reward system plays a vital role here: Expectations full of delight are encouraging the consumer to buy the desired object that rewards in return with good feelings.

What is perceived as a reward depends on which emotion system is being addressed. There are in general three different systems of emotion: The **balance system** for safety, risk avoidance and stability; then there is **dominance system** for self-enforcement, competition displacement and autonomy; and the last is **stimulation system** for discovery of new things and for the learning of new skills.

1.1 Neuro-marketing: Studying brain's response to marketing stimulus

Neuromarketing is a new field of marketing which uses medical technologies such as functional Magnetic Resonance Imaging (fMRI) to analyze the mind's responses to marketing stimuli. Researchers use the fMRI to measure changes in activity in parts of the brain and to understand why consumers make the decisions they do, and what part of the brain is telling them to do it...

Marketing analysts will use neuromarketing to better measure a consumer's preference, as the verbal response given to the question "Do you like this product?" may not always be the true answer. This information will help marketers create products and services designed more efficiently and marketing campaigns focused more on the brain's response.

Neuromarketing will tell the marketer what the consumer reacts to, whether it was the color of the packaging, the sound the box makes when shaken, or the idea that they will have something their co-consumers do not.

In other words, Neuromarketing is the application of neuroscience to marketing. Neuromarketing includes the direct use of brain imaging, scanning, or other brain activity measurement technology to measure a subject's response to specific products, packaging, advertising, or other marketing elements. In some cases, the brain responses measured by

these techniques may not be consciously perceived by the subject; hence, this data may be more revealing than self-reporting on surveys, in focus groups, etc.

In fig. below, fMRI was used to monitor participants' brain activity before, and during exposure to an ad or other marketing stimuli. The brain imaging shows parts of the brain that are activated in response to a stimuli light up.

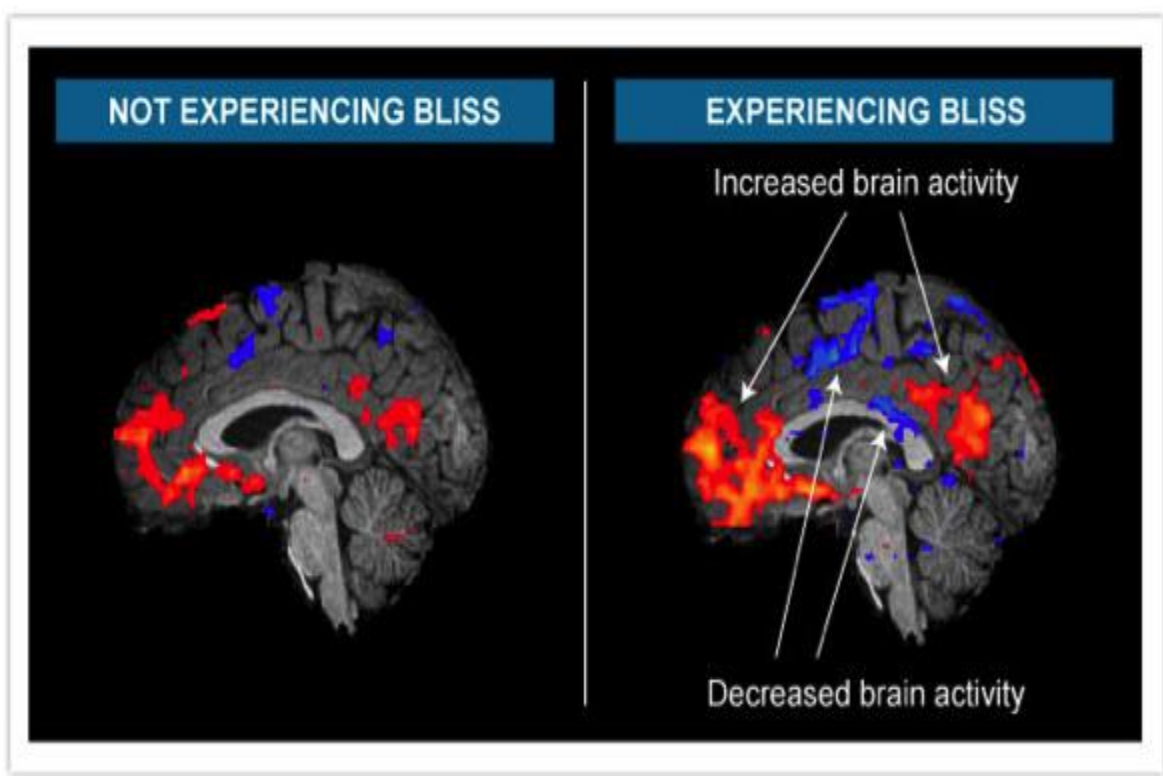


Figure 1.1 Brain's response to blissful stimulus

1.2 Methods used in Neuromarketing Research

To analyze changes in brain activity in the presence of packaging, advertising and other communications, neuromarketing uses the state-of-the-art technology to observe which parts of the brain 'light up' when test clients are processing a stimulus (Davis, 2012). However, the Neuromarketing methodologies have been categorised into three main groups which are:

1. Recording metabolic activity in the brain: E.g. fMRI and PET.

2. Recording electric activity in the brain: E.g. EEG, TMS and SST.

3. Without recording brain activity: E.g. measuring physiological responses, facial coding and Eye tracking.

CHAPTER 2

LITERATURE REVIEW

Neuromarketing – or consumer neuroscience – resorts to methods and research insights concerning the human mind, seeking to learn and solve problems in the marketing field. By means of advanced neurology techniques applied in the field of consumer neuroscience, a more direct understanding and view of the consumer’s ‘black box’ is possible (Solomon, 2008).

When neuromarketing communicates with the fields of psychology, neuroscience, and marketing, it reveals the interdisciplinary face of scientific knowledge. Studies about this subject started in different areas of knowledge in order to explore memory distortions, learning and plasticity of the brain, the effect of society over the brain’s development, among others. This branch of neuroscience seeks to understand the complex neural mechanisms underlying thoughts, such as reasoning, decision-making, object representation, emotion and memory, which overlap marketing notions, such as positioning, the hierarchy of effects, brand loyalty, and consumer’s responses to marketing.

It is worth noting that the application of neuroscience to marketing strategies, and particularly, to consumer psychology of brands, experienced significant growth throughout the last decade, both in the academic context and in the corporate world.

2.1 Powerful Examples of Neuromarketing in Action

If you throw a frog into boiling water, it’ll jump straight out. However, if it’s placed in cold water and the temperature gradually increased, it’ll be found dead without any attempt to escape. We’ve all experienced that subtle death.

Neuromarketing takes benefit of that vast blind-spot beyond our conscious awareness; leveraging psychological phenomenon in subtle ways to lead us into certain decisions.

Some Neuromarketing strategies to start leveraging:

1. Using Effective Packaging

We all know the feeling of being drawn to striking or attractive packaging. Advertisers have always known that it’s not always what’s inside that counts, but neuroimaging has managed to take this to a whole new level. Brands such as Campbell’s and Frito-Lay have used neuroimaging to reimagine their packaging. In studies, customers were shown packaging

with their responses recorded as positive, negative or neutral. Also, they were interviewed broadly in relation to color, text and imagery.



Figure 2.1 Packaging strategies by Firms

This research revealed that customers had a negative response to shiny packaging, but didn't show a negative response to packaging when it was matte. Frito-Lay then went on to scrap the shiny packaging, and move on with the new, matte look.

2. Color is Key

When selecting colors, bear in mind that you may be influencing how potential customers feel. Colors can tempt a wide range of emotions, with studies constantly showing a link between certain colors and certain emotions.



Figure 2.2 Color, a key

Using a color effectively can be a powerful marketing tool. One of the most infamous examples is Coca Cola's ubiquitous use of the color red, but there are many more companies who have also used color to great effect. Neuromarketing experts specializing in color and advertising have divided colors into subgroups as a guide to how they may be used effectively.

3. Decision Paralysis

Sometimes, customer behavior research goes against what we may have previously believed. A study by Columbia University exposed that too many choices may actually be a deterrent for potential customers. Using different types of setups, they found that displays containing a wide array of options were less likely to get customers to stop.



Figure 2.3 Decision Paralysis due to variety in same category

4. Memorable Headlines

Headlines are one of the first things the viewer sees so surely they need to stand out and be noticed. As a result, they have been heavily researched, with a new neuromarketing method called “Hippocampal Headlines” being coined. What does this mean? Researchers at University College London found that when a familiar phrase is slightly altered, our hippocampus is activated, and our attention is piqued. Many bloggers have used the example of Patron and their marketing slogan “Practice makes Patron” as an example of this.



Figure 2.4 Memorable headline used in Ads

5. Loss Aversion

One stimulating finding used by neuromarketing is that folks really don't want to lose out. People are just as concerned about what they might lose as what they might gain. For this reason, "buy before it's gone" strategies are extremely effective.

When the other option is posed as a loss, consumers are much more likely to buy. For this reason, a concept called "framing" is highly important in neuromarketing.



Figure 2.5 Loss Aversion

6. Anchoring

The first piece of information your customer gets is extremely important. It can be the basis for any subsequent decision making and set the manner for their purchasing behaviour. Neuroscientists have exposed a flaw in the workings of the brain, and how it reaches decisions. As individuals, we are hardly able to evaluate the worth of something

based on its intrinsic worth, but instead compare it with the surrounding options. A valuable application of neuromarketing therefore, is to take benefit of this “anchoring effect”. This includes offers, discounts, better pricing.



Figure 2.6 Discounts & Offers Strategy

7. Group Influence

Group influence is also taken to affect the choices made by a consumer. The chief influential group consisting of family members, classmates, immediate relatives and the secondary influential group consisting of neighbours and acquaintances are seen to have greater influence on the purchasing decisions of a consumer. Say for instance, the mass liking for fast food over home cooked food or the craze for the SUV's against small utility vehicle are evident examples of the same.



Figure 2.7 Group Influence

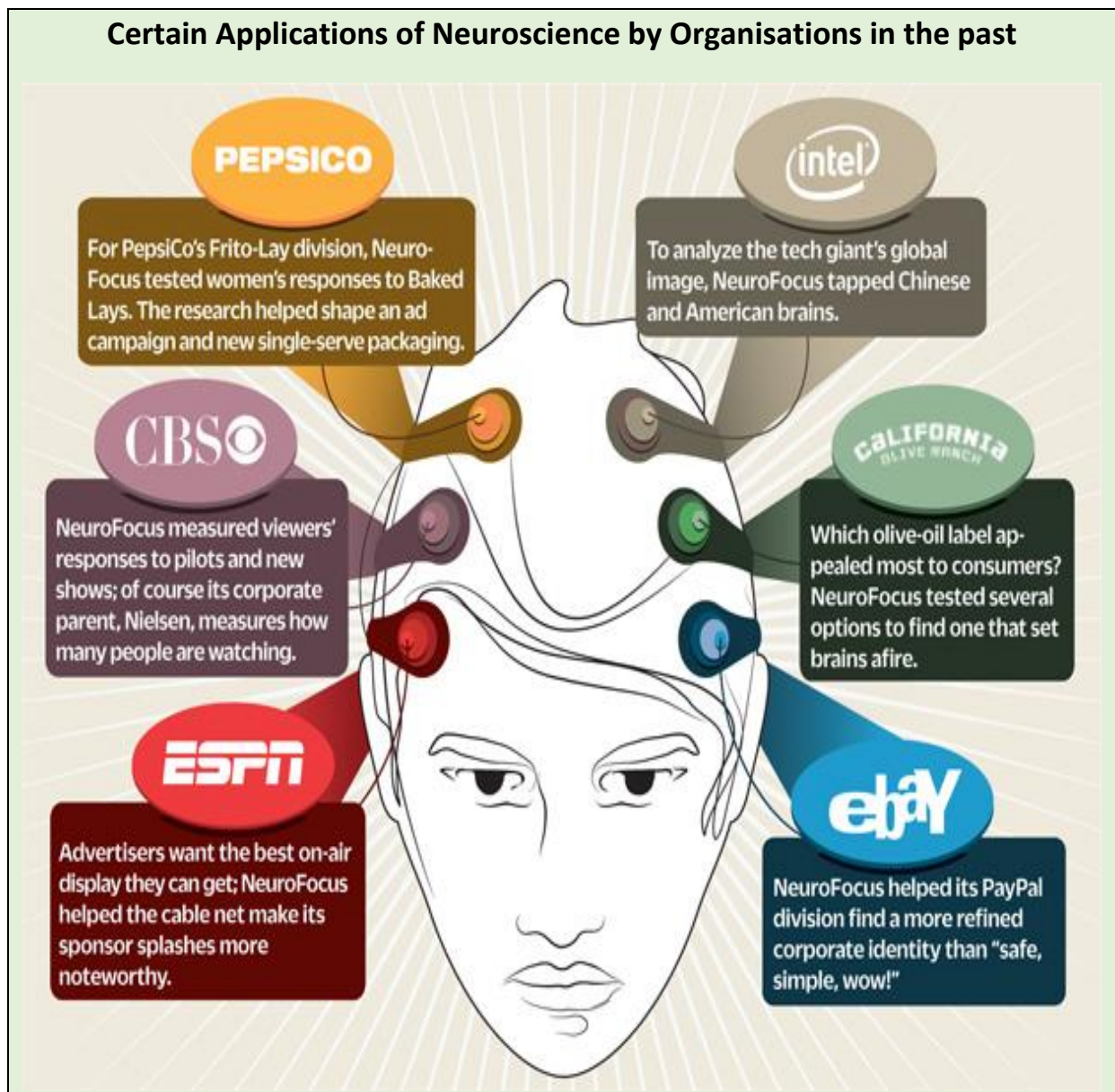


Figure 2.8 Previous attempts to implementing Neuromarketing by Firms in past

2.2 Importance of Neuromarketing

To improve competitiveness and profitability, businesses can use neuromarketing results in the following areas:

- Branding products
- Increasing brand preference
- Improvement of TV commercials
- Improvement of customer retention

- Maximizing the effect of advertising
- Improving brand loyalty
- Improving product design or packaging
- Creation of more enticing and convincing promotional materials or products
- Development of more useful and pleasant products
- Development of user friendly products
- New market entry
- Effective customer segmentation
- Enhancing customer perception of campaigns
- Enhancing the ability of the customer to recall an advertisement, product or promotion
- Improving the emotional appeal of the product, to fully engage the customer
- Improving both general and promotional pricing strategies
- Enhancing knowledge on strategically placing products e.g on shelves in the shop
- Improving customer satisfaction
- Better understanding the overall consumer decision making processes
- Shaping the organization's overall marketing strategy

CHAPTER 3

RESEARCH METHODOLOGY

3.1 PROBLEM DEFINITION

3.1.1 Background to the problem

To start with, the term Neuromarketing is defined as the application of neuroscience to marketing. It includes the direct use of brain imaging, scanning, or other brain activity measurement technology to measure a subject's response to specific products, packaging, advertising, or other marketing elements. Thus it is important to probe into the psychological aspect of customers to understand whether Neuro-marketing can have significant effects on customers' buying behavior in shopping stores (like Big Bazaar), in a geography like Delhi. If researched properly, the insights from this topic, can lead to effective branding products, increased brand preference, improvement in customer retention and satisfaction, profitable new market entry etc.

3.1.2 Identification of Stakeholders

The major stakeholders identified in the process are – Firms (which produce products for consumption) and the Consumers. A Consumer is anyone who purchases products for consumption, from nearby retail outlet/shopping stores like Big Bazaar.

3.1.3 Secondary Data Analysis

A secondary data analysis shows Neuromarketing takes benefit of the vast blind-spot beyond our conscious awareness; leveraging psychological phenomenon in subtle ways to lead us into certain decisions. And researches conducted by the leading Institutions (like Columbia University, University College London), have found that there is considerable dependence of Customers' buying behavior on the parameters (developed out of Neuromarketing Studies using fMRI/Brain Imaging) such as Effective Packaging, Decision Paralysis, Group Influence, Loss Aversion etc.

3.2 PROBLEM STATEMENT

From the research done by the cited steps, an insight to the phenomenon of Neuromarketing and its way of implementation by firms was gained. There does not exist a measurement tool to judge the effectiveness of the phenomenon, in a geography like Delhi. The results from this, could help solve firm's Management Decision Problems, to lay down better marketing strategies. The term effectiveness also needs to be defined precisely. Conversion of the Management Decision Problem (for better marketing strategy) into Marketing Research

Problem, does require identification of the parameters which can capture the effectiveness of such a Neuromarketing strategy.

3.2.1 Management Decision Problem

To decide upon the effectiveness of Neuromarketing strategies to produce better marketing plan for their products.

3.2.2 Marketing Research Problem

To find if the Customers' buying behavior is affected by Neuromarketing phenomenon. The parameters identified to judge the effectiveness are as follows:

- Effective Packaging
- Decision Paralysis
- Group Influence
- Loss Aversion
- Memorable Headlines
- Anchoring
- Color

3.3 APPROACH TO THE PROBLEM

The main targets were the customers who purchase their daily necessities from shopping stores like Big Bazaar. Thus a comprehensive questionnaire was designed for the survey from these customers, to lurk into their subconscious mind which is responsible for most of their decision making processes.

3.3.1 Specification of the information needed

- Brand Awareness
- Brand Resonance
- Group Influence
- Loss Aversion
- Decision Paralysis in presence of product varieties
- Colors & Packaging Impact

3.3.2 Research Questions

- Any Memorable Headline(s) attached to the product?
- Loss Aversion (Due to limited quantity)?
- Is Color, a key while deciding a product?
- Packaging, important for your purchase?
- Decision Paralysis (due to availability of many options), not an issue?
- Is there any impact of Group Influence?

3.3.3 Formation of Hypothesis

- There is significant dependence of customer's buying behavior on the Neuromarketing parameters (Effective Packaging, Decision Paralysis, Group Influence, Loss Aversion, Memorable Headlines, Anchoring, Color)

3.4 RESEARCH DESIGN

The research design adopted was primarily Exploratory in nature for insights into the problem domain. Further to quantify the metrics developed a Descriptive Research was adopted via a survey.

CHAPTER 4

DISCUSSION & ANALYSIS

4.1 DATA COLLECTION

A survey was conducted to measure the response of the costumers purchasing from Big Bazaar Outlets. The questionnaire developed comprised of queries intending to understand the buying behavior of customers. The survey was done at the Big Bazaar Stores. Data and images of the shelf under the study is shown as under:

4.1.1 Shelf/Display racks images at Big Bazaar



Figure 4.1 Shelf view at Big Bazaar for Face Wash & Creams

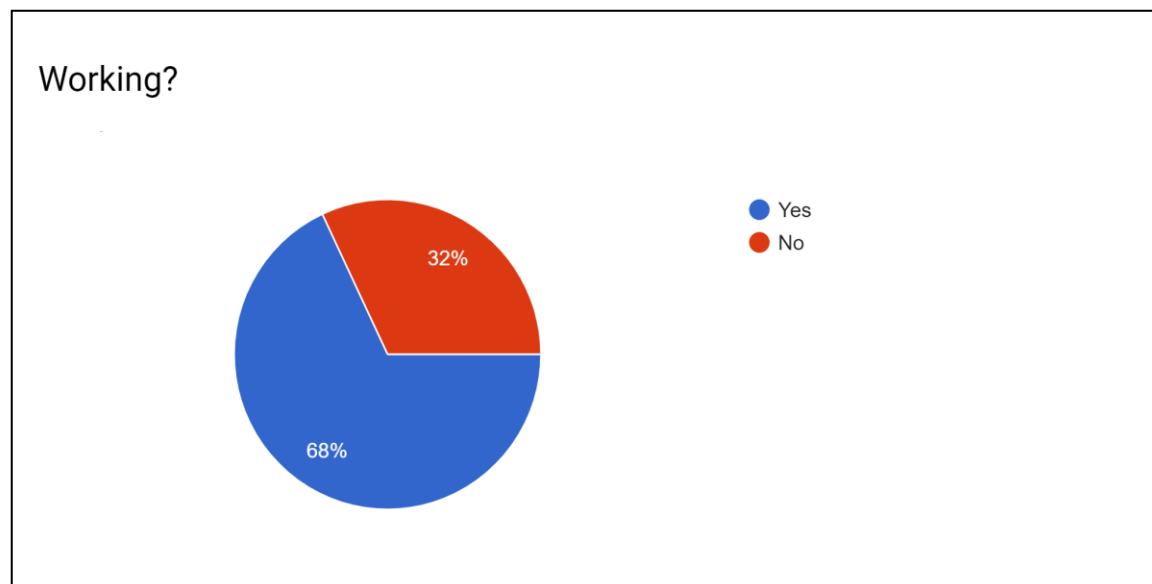
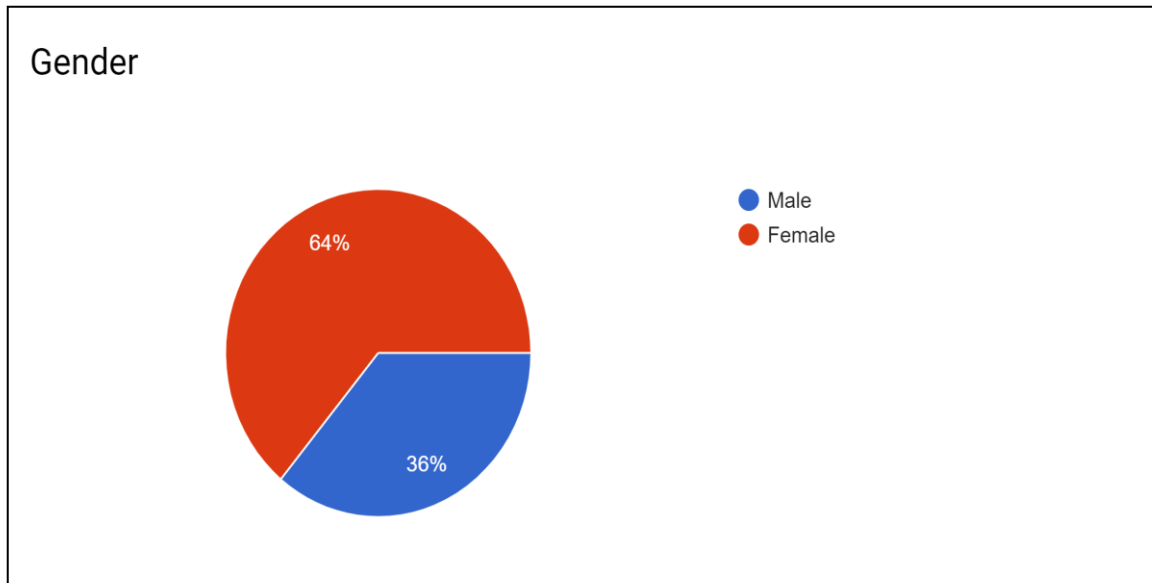


Figure 4.2 Himalaya's Fresh Start Face Wash

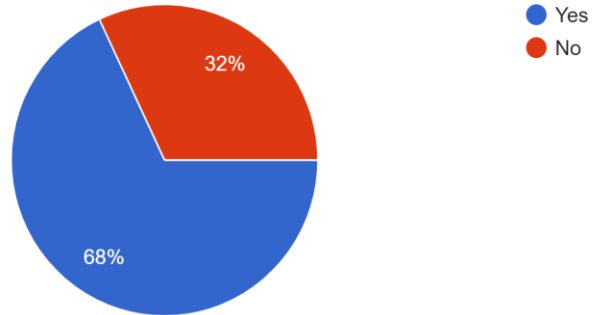


Figure 4.3 Nivea Men Creams on Shelf

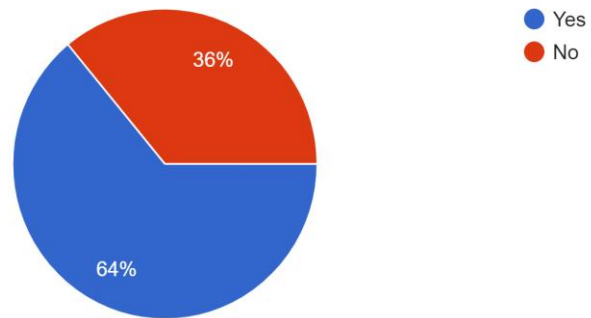
4.1.2 Data Analysis



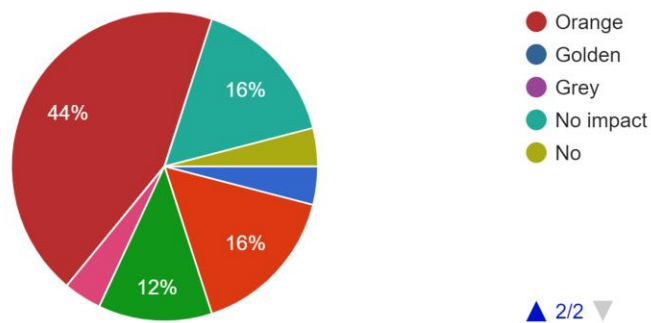
Is there any Memorable Headline(s) attached to the product?



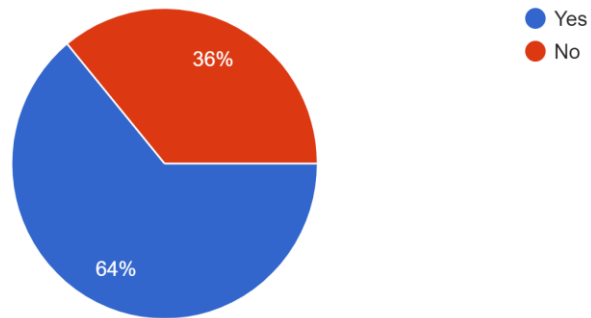
Loss Aversion (Due to limited quantity)?



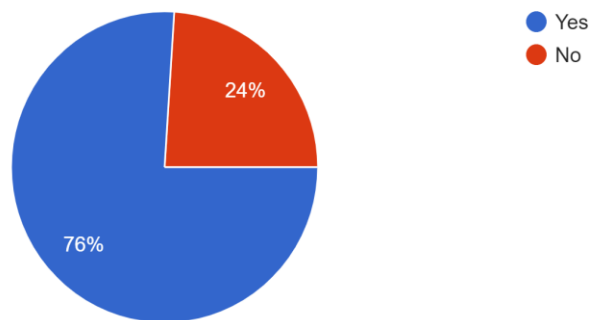
Is Color, a key while deciding a product ?



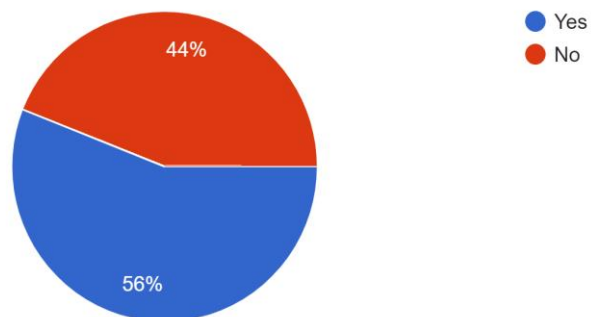
Packaging, important for your purchase?



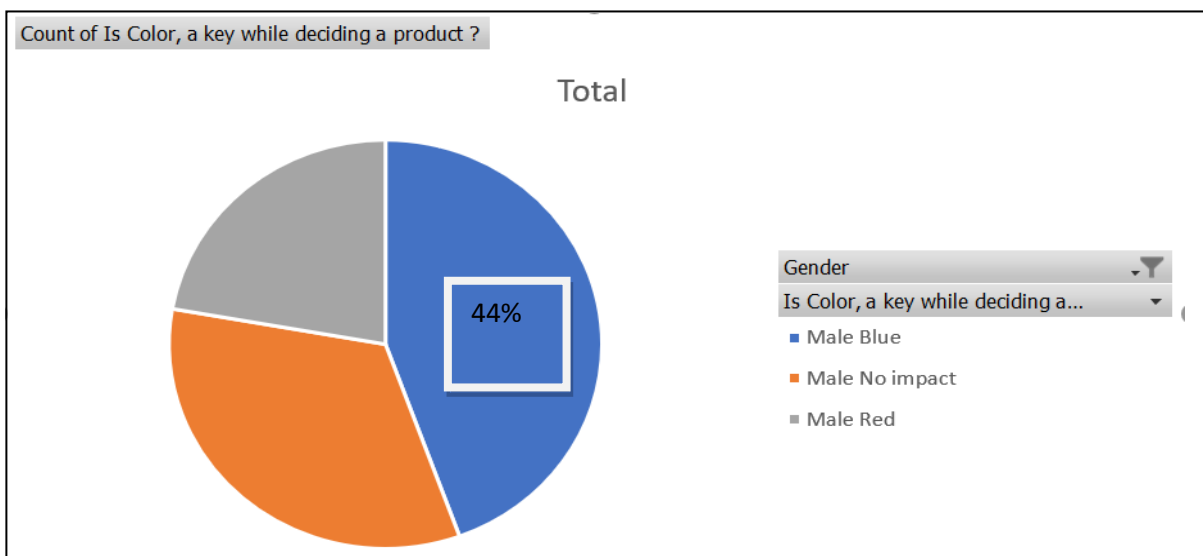
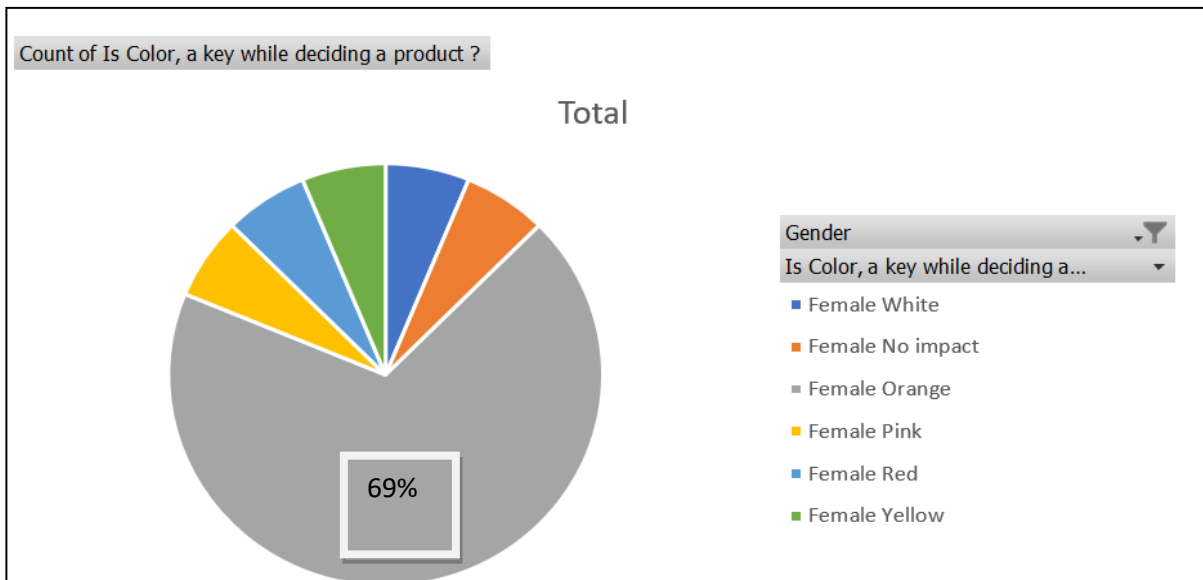
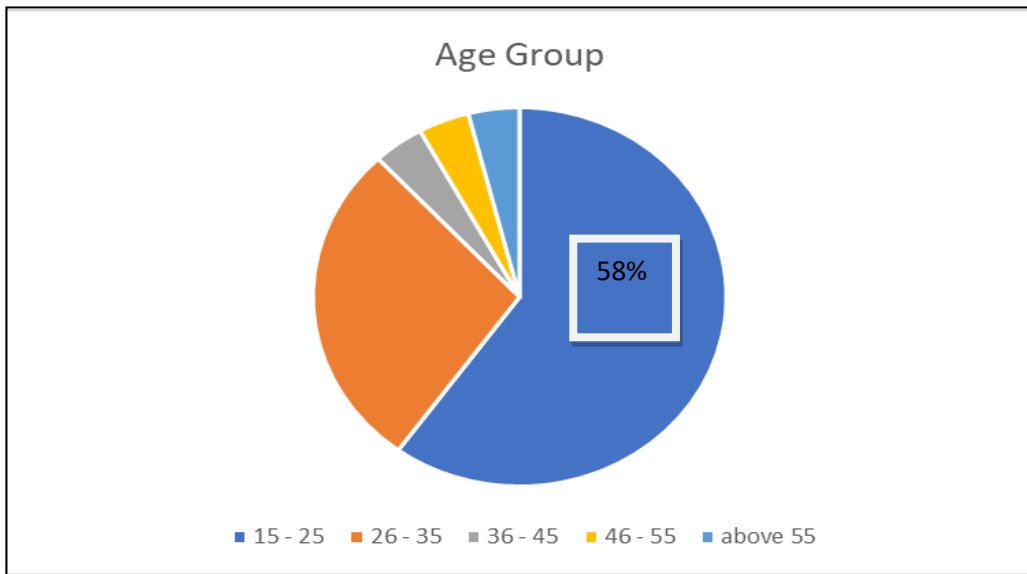
Anchoring (Discounts, Bundling, Free), important ?



Is there any impact of Group Influence?

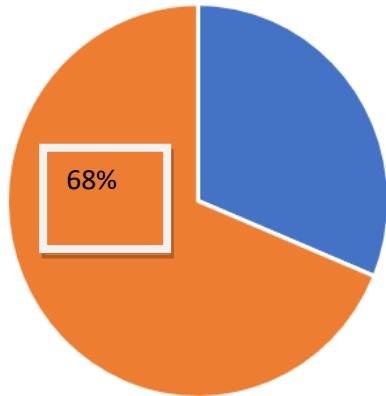


FURTHER PROBING



Count of Packaging, important for your purchase?

Total



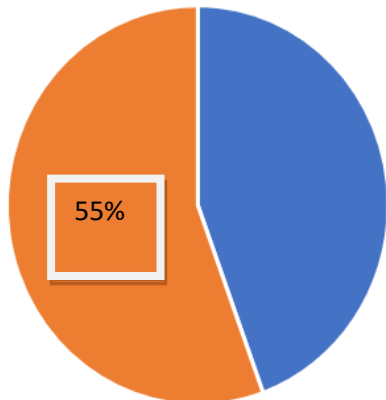
Gender

Packaging, important for your...

- Female No
- Female Yes

Count of Packaging, important for your purchase?

Total



Gender

Packaging, important for your...

- Male No
- Male Yes

TEST: Whether Gender has effect on Anchoring.

To verify if the parameter of Anchoring is Gender dependent i.e. one of the two gets more attracted to offers or not.

Independent Variable: Gender

Dependent Variable: Anchoring

Null Hypothesis: $H_0: \pi_1 = \pi_2$ (Gender has no effect on Anchoring)

Alternate Hypothesis: $H_1: \pi_1 \neq \pi_2$ (Gender has an effect on Anchoring)

→ Crosstabs

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
Gen * Anchoring	69	100.0%	0	0.0%	69	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	64.992 ^a	4	.000
Likelihood Ratio	81.385	4	.000
N of Valid Cases	69		

a. 5 cells (55.6%) have expected count less than 5. The minimum expected count is .78.

Sig Value

This value will help us determine if our condition means were relatively the same or if they were significantly different from one another. Put differently, this value helps determine if IV had an effect. The Sig Value is 0.000.

Which is less than 0.05. Thus, we can reject the null hypothesis and conclude that there is significant effect of Gender on Anchoring.

CHAPTER 5

CONCLUSION & LIMITATIONS

5.1 Conclusion

It has been observed that there is significant dependence of customer's buying behavior on the Neuromarketing parameters (Effective Packaging, Decision Paralysis, Group Influence, Loss Aversion, Memorable Headlines, Anchoring, Color), in a geography like Delhi.

The following are the figures to back this hypothesis:

- 68% of the respondents accepted that memorable headline from an ad on television or other media platforms, resonates in their subconscious brain, which affect their decision making while purchasing a product. Thus, a relevant catchy headlines (on the media platforms), in accordance with their target audience, is very likely to benefit.
- Around 64% of the respondents, feel that they are loss averse i.e. they are fearful of product shortage and are likely to purchase the product in bulk, if they sense shortage of it in future.
- For more than 70% respondents, color played crucial role while deciding a product. Female were attracted to orange color while men were bent towards blue.
- It has been also noted that 64% of respondents feel that packaging of the product also influences their purchase decisions towards or against the product. Further in this, women (68%) were seen to be more packaging conscious than men (55%).
- For 76% respondents, discounts and offers etc. play a major role while deciding a product. The cheaper the price, the more they are tempted to make a purchase.
- 56% of the respondents feel that their buying behavior is affected by formal/informal groups that they are a part of.

5.2 Limitations

There were certain limitations in the study. These are listed below:

- People could feel uncomfortable while elicitation during the span of questionnaire.

- Only big bazar stores were taken into consideration. One can explore into other shopping centres like D-mart, Reliance Fresh, 24 Seven Stores etc.
- Only East and North Delhi regions were explored. One can explore into West and South Delhi regions to gather more insights into Customers' brain while making purchasing decisions and bring out average results by consolidating data.
- In this study, respondents who came for Cosmetics section of the Big Bazaar were analyzed. One can explore other areas as well like Apparels, Hardware, Canned food, etc., to gain better insights

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ANNEXURE

NEURO-MARKETING: CUSTOMERS' BUYING BEHAVIOR IN BIGBAZAAR

Mention your Age.

Your answer

Gender

- Male
- Female

Education/Qualification

Your answer

Working?

- Yes
- No

Why this shelf/counter/section(posters communication)?

Your answer

Which product have you purchased and why?

Your answer

Is there any Memorable Headline(s) attached to the product?

- Yes
- No

Loss Aversion (Due to limited quantity)?

- Yes
- No

Is Color, a key while deciding a product ?

- Yellow
- Blue
- Black
- Red
- White
- Purple
- Pink
- Green
- Orange
- Golden
- Grey
- No impact

Packaging, important for your purchase?

- Yes
- No

Anchoring (Discounts, Bundling, Free), important?

- Yes
- No

Decision Paralysis (due to availability of many options), not an issue?

Your answer

Is there any impact of Group Influence?

- Yes
- No

