



Consumer Learning and Split-Brain Theory: Potential Usage in an Advertisement

Anima Karmakar^{1, *}, Ziarat Hossain Khan², Mustaqim Roshid¹, Shahira Hoshain Yesmin¹, Farjana Bashir Shamme¹

¹Department of Business Administration, Varendra University, Rajshahi, Bangladesh

²Faculty of Business Administration, American International University-Bangladesh (AIUB), Dhaka, Bangladesh

Email address:

anima.karmakar67@gmail.com (Anima Karmakar), ziarat@aiub.edu (Ziarat Hossain Khan),

mustaqimroshid@gmail.com (Mustaqim Roshid), shahirahoshain@gmail.com (Shahira Hoshain Yesmin),

shammefarjana3@gmail.com (Farjana Bashir Shamme)

*Corresponding author

To cite this article:

Anima Karmakar, Ziarat Hossain Khan, Mustaqim Roshid, Shahira Hoshain Yesmin, Farjana Bashir Shamme. Consumer Learning and Split-Brain Theory: Potential Usage in an Advertisement. *International Journal of Economics, Finance and Management Sciences*.

Vol. 11, No. 3, 2023, pp. 168-176. doi: 10.11648/j.ijefm.20231103.21

Received: May 25, 2023; Accepted: June 19, 2023; Published: June 27, 2023

Abstract: Understanding customers has an enormously beneficial effect on market success. Repeated advertising combining emotional and rational appeals is one technique to establish a foothold in the minds of consumers. Even advertisements on reality programs, movies, and sports are frequent forms of informing clients about the product most commonly used in marketing. Marketers nowadays can employ neuromarketing to tap into consumers' unconscious brain processes, but evaluating neuromarketing approaches is costly. Using split-brain theory, advertisers can better anticipate how consumers respond to their messages. Despite the fact that rational thought would dissuade them from owning an object, people often acquire an emotional attachment to things. This study looked at four countries and their major brands of refrigerators to see how ads' content related to the left and right sides of the brain. This study found that While Germany and India tend to concentrate on the brain's right hemisphere, Bangladesh places equal emphasis on the left and right sides. However, the United States tends to use the left side of the brain more. A consumer's demand can be influenced by economic, demographic, cultural, and political issues, which in turn ultimately causes a consumer's mind to connect with promotional efforts. The findings of this study could be utilized to guide content selections for campaigns both domestically and internationally, which has significant ramifications for advertising agencies.

Keywords: Split-Brain Theory, Advertising, Consumer Learning

1. Introduction

Consumers' purchasing habits include determining what they want, getting relevant data, weighing their options, and ultimately purchasing [1]. A buyer's answer can be considered the "black box," which holds the buyer's traits and decision-making process [2]. As a marketer, one needs to pay attention to the "consumer black box," which refers to all the assumptions a buyer makes about a product or service, whether conscious or unconscious. With technology, marketers can now better understand the consumer's mental scenario. Not only that, but it's vital for any advertising, be it

print, media, or elsewhere, to be shaped around a certain demographic of consumers. While reading the consumer's thoughts is crucial, neuromarketing makes it more accessible. Once a customer has decided to acquire anything, there is undoubtedly some process in the background. Marketers who want to get a handle on their customers' psyches watch how they act in all situations. The media heavily focuses on consumers' intellectual development [3]. Commercials educate buyers on whether or not a product satisfies their needs, wants, and demands. Shopping habits vary significantly among demographics such as gender, age, income, and employment. Consumers can be viewed as

sensible and logical when analyzed through consumer segmentation. Therefore, advertisements should be formulated depending on the functions of the brain. Several branches of psychology, including psychoanalysis and reinforcement theory, are drawn upon to explain consumers' actions. Motivation, cognition, and learning are the pillars of human behavior [4].

People make purchases daily, and many have yet to learn what influences them. Every purchase is controlled by a unique set of elements, some of which are cultural, some social, some personal, and some psychological in nature. Consumers may believe, as implemented by Tanja Lautaaenen, "I have always bought this same brand or product." Marketers can use these elements so subtly that customers may not even notice [5].

Consumers' spending power is a significant factor in maintaining a brand over the long haul. The pandemic has had different effects on people with varying amounts of money. Because of the pandemic, low-income households are more likely to spend less. People may have had to save money because of the pandemic [6]. Customer retention plays a significant role in this, as does appropriate advertising that pulls customers to consider rationally or emotionally to continue purchasing. Purchasing shopping products are significantly related to advertising and personal selling. Consumers spend significant time and effort researching and comparing options before buying a shopping product [7]. The level of interest generated by an advertisement should be the primary objective of any marketing campaign. It's natural to wonder if consumers are more influenced by an advertisement's intellectual or emotional content when purchasing. The paper focuses primarily on TV ads for

electronic products that emphasize how much the notion of the split brain is used in various countries. This study determines whether real-world advertising adheres to the Left and Right Brain theory. This study's principal objective is to analyze how advertisers use the split-brain theory. Does real-life advertising follow the approach of the Left and right Brain? Is there any significance in the country's economic conditions and purchase patterns? It also observes the content of TVC ads in different regions. This study also examines the breadth of the split-brain theory's applicability.

2. Literature Review

Consumer learning is how individuals gain knowledge about making purchases and consuming goods, which they then use to inform their behavior in the future. Split-brain theory, or hemispheric lateralization as it's sometimes called, also provides a window into how people respond to advertisements based on their senses of sight, sound, smell, taste, and touch, as well as the identities of the people behind the advertised products [8].

According to split-brain theory, the right and left hemispheres of the brain process distinct types of information. Regarding hemispherical specialization, this should mean that right-brain activities dominate in low-involvement situations, and left-brain processes dominate in high-involvement cases. "High engagement results in verbal, cognitive, and attributional processing of information while low involvement produces no cognitive, nonverbal, visual, or holistic processing. We may demonstrate the principle using the diagram below [9].

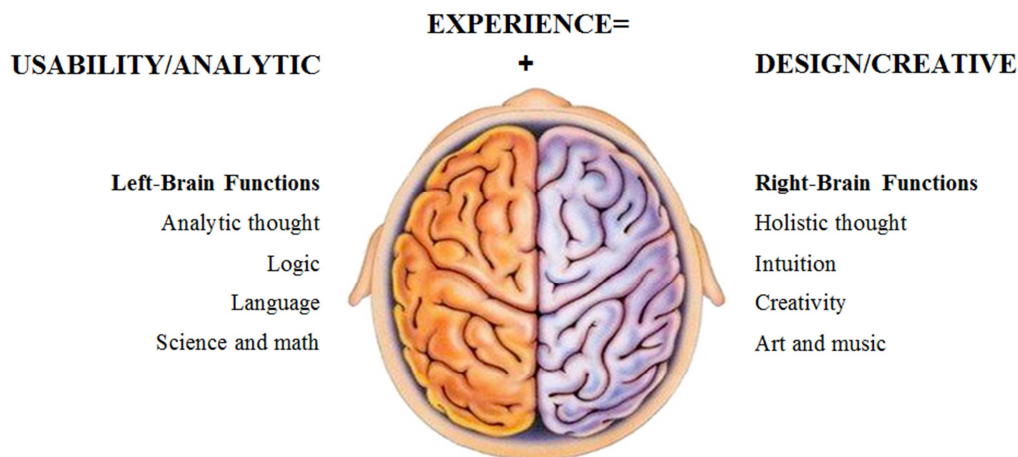


Figure 1. Concept of Split-Brain Theory [9].

The split-brain theory holds that the human brain is divided into two cerebral hemispheres that act together but specialize in different cognitions. Science is enabling "new" psychology. It showed that the brain's two hemispheres had various activities. Nerve fibers allow the brain's two hemispheres to exchange information and resources and combine their functions so that one half opposes and complements the other. Dr. Geoffrey states that left-sided shock therapy makes a

person unhappy, pessimistic, and withdrawn. When the right hemisphere is treated similarly to become a "left-hemisphere person," he becomes exceptionally talkative but talks like a computer or language machine [10, 11]. Even though marketing science and image research deal with many of the same issues about making decisions and deals, marketing science has been much slower to see the benefits of image research. There could be several reasons why brain imaging

technologies aren't used in marketing science. Neuroscience and cognitive psychology seem scary to marketing academics [12]. The most obvious sign that our brains don't work the same way on both sides is that almost everyone prefers to use their right hand. Customers need to feel that they have some control over their purchases [13].

Technology has changed how customers act, and these changes can now be tracked and measured to see how well a campaign is doing as it goes on. The market, industry, and environmental factors drive Left Brain's Marketing Strategy. These shifts in the world around us have many ramifications, all of which can be viewed as possibilities for advancing the state of the art in marketing [14]. The product's usefulness and the clarity of the argument dictate a left-brain campaign's success. Campaign success will be gauged in the same manner. The marketing team likely includes data analysis, design pros, statisticians, and accountants from the get-go. Left-brained marketers focus on their target audience rather than conducting market research [15]. Traditional education neglects to cultivate one of the right hemisphere's greatest strengths: creativity. It is suggested that classes be set up to encourage creativity on the right side of the brain. Even though the simple idea that creativity comes from the right side of the brain is appealing, it must be clarified that creativity comes from only one side [16]. Proper Brain Marketing provides access to various marketing resources to spread your marketing message and hit your sales targets. Ethical Brain Marketing uses PR campaigns, emails, advertising, and social media marketing to meet each client's needs [17].

Advertising has intermediate impacts on customer ideas and attitudes and behavioral effects on brand choice and purchasing behavior [18]. The study of consumer behavior in the modern day is particularly relevant because of the central role it plays in our lives.

Consumer behavior is significantly influenced by celebrity endorsement of an advertisement compared to non-endorsed advertisements. Consumer behavior is influenced dramatically by celebrity endorsement of an ad compared to non-endorsed advertisements. The study advises marketers and corporations to prioritize celebrity gender and type to please customers and boost brand loyalty [19].

Bianca argues that marketers are vested in learning more about their customers' motivations and actions; therefore, their strategies focus on better expanding their understanding of these two factors to anticipate their needs and aspirations [20]. Researchers in the field of consumer behavior may now peer into the "black box" of the consumer's mind because of advances in neuroscience. The authors argued that marketing had benefited much from and would continue to benefit from the incorporation of neuroscientific theory and methodology and broader psychophysiological approaches. Findings from the field of neuropsychology are crucial to academic efforts to understand the underlying mechanisms of consumer behavior and the development of marketing's body of scientific knowledge [21, 22].

Ads can benefit or negatively affect customer behavior,

although it tends to be the latter. Numerous variables, including advertising method, product category, and target demographics across age, religiosity, education, and others, shape the nature of this connection. Consumers' attitudes toward advertising were found to be most affected by emotional advertising, followed by combination advertising, with just a modest impact from rational advertising [23]. TV commercials affect viewers. Consumers shouldn't feel duped if they buy a product or service because of an ad, even if it contains inaccurate or misleading information. The author concludes that, despite the introduction of alternative advertising tools, advertising companies, and agencies still need to understand what people desire to view on television for their advertisements to become effective [24].

One of the most essential strategies for grabbing customers' attention is product placement. When a good or service is included in a piece of media, such as a television program, movie, music video, social media platform, or even advertisements for other goods, consumers react with curiosity [25].

Ramzan Sama elucidated that TV and internet ads affect consumer behavior's awareness, interest, and conviction stages. On the other hand, ads in newspapers and magazines are more likely to result in action from the target audience, both during and after the buying process. Radio commercials, however, had no discernible effect on the stages of the consumer decision-making process [26]. Only TV, online, and social media advertisements influenced Sri Lankan smartphone purchase intention, while radio, billboards, and the press did not affect consumer purchase intention. Advertisers should promote their products on social media. People can quickly evaluate internet advertising right when needed, which is one of the main reasons social media is so popular [27]. Bharti & Sanjeev believe product quality affects client purchasing decisions. The customer, family, and friends influence the purchase. TV and digital ads are more influential than other media [28].

3. Research Methodology

Social science research relies on observation, which is adaptable. Ethnographically, "observing" began at some point. Researchers must spend much time playing multiple roles to understand their subjects [29]. Most people's social lives are built on observation—we watch others and the world around us. Marketers adopted social science research methodologies, and observation proved effective. However, watching consumers is sometimes necessary and sometimes appropriate [30]. Since then, many observational studies have counted observations mechanically rather than employing this method for qualitative, exploratory goals. This study conducted descriptive research based on the observation method. One hundred twenty advertisements have been chosen, and finally, 95 advertisements have been selected for observation. Simple random sampling is used to observe advertisements, and Systematic sampling is used to select countries, and Cluster sampling is used to select brands. In this analysis, we employ

observational techniques to determine the relationship between TVC and split-brain theory implications in four nations: Bangladesh, India, Germany, and the United States.

4. Analysis and Findings

4.1. Advertisement Analysis of Bangladeshi Brand

One advertisement from selected Walton refrigerators TVC emphasizes the "Get Exchange Offer" program and the

possibility of a down payment installment. The enterprise values aesthetics and originality in its workers indicating Walton used the right-brain hemisphere theory in this commercial. In other ads, one emphasizes the sentimental connection between the farmer and the land in this advertisement and makes an effort to display its patriotism. Same as the third TV use art videos and visuals to reach out to the customer. Selected all five TVs focused on the right hemisphere of the brain.

Table 1. Summary of the Advertisement Analysis for the Bangladeshi Refrigerator Brand Based on Split-Brain Theory Observation.

Brand	Total Ad Observed	Left Hemisphere	Right Hemisphere
Walton Refrigerators	5	-	5
Jamuna Refrigerators	5	3	2
Marcel Refrigerators	5	3	2
Minister Refrigerators	5	4	1
Vision Refrigerators	5	3	2
Total	25	13	12

Source: Authors' Own Contribution

In Jamuna Refrigerators, the brand focuses more on the brain's left hemisphere in three selected advertisements, representing the product's features and facts by an authentic known face of the country. Well-known people were used to promoting products and attributes. Another one also presents the company's outside benefits, such as EMI and discounts. Good songs and stories were also used. Right hemispheric has been used in two TVs where Companies try to get customers' attention through digital ads.

The brand Marcel focuses on the left-brain hemisphere in three adv. where the company focuses on the facts and techniques that approach thinking logically and analytically about customers and the product. Another two adv., the company made a great background song and a cinematic video that stood out and used famous faces for the approach. In Minister, Company approaches the customers by the left-brain hemisphere in all ads except one. The company Vision focuses on the scientific facts of its product. And an approach to thinking about customers in terms of logic and analysis, development, and also for an ad, the company used a well-known face. The company used the left-brain hemisphere.

Only two ads focus on the right brain hemisphere because it promotes the artistry and creativity of its products.

4.2. Advertisement Analysis of Indian Brand

Most ads focus on the right brain hemisphere in Godrej company. The company promotes the artistry and creativity of its products. A method for addressing the feelings and emotions of customers towards the goods, as well as creative storytelling of a grandmother and grandson. Only one ad is used in the left-brain hemisphere. In British Physical Laboratories (BPL), three ad companies try to approach the product's technological aspect. The company used the right brain hemisphere. Two ads focus on the left brain. The review ad shows vital elements of the goods, price features, and logical approach to customers. A total number of 4 ads in Onida used the left brain because the company approached the technological aspect and hit logically. Only one ad in the right brain hemisphere is used, where excellent background music and a cinematic video stand out. The company used pictures to get the customers' attention.

Table 2. Summary of the Advertisement Analysis for the Indian Refrigerator Brand Based on Split-Brain Theory Observation.

Brand	Total Ad Observed	Left Hemisphere	Right Hemisphere
Godrej Refrigerators	5	1	4
BPL Refrigerators	5	2	3
ONIDA Refrigerators	5	4	1
Lloyd Refrigerators	5	-	5
Voltas Refrigerators	5	2	3
Total	25	10	15

Source: Authors' Own Contribution

All of the ads that were randomly selected from Lloyd brand used the right brain hemisphere because all of the ads focus on information and emotional aspects and also used well-known faces for the approach. In Voltas brand, three Ads use the Right brain hemisphere to demonstrate analytic facts and technological advantages. In other TVs, the left-brain

hemisphere shows analytical points and technical benefits to persuade people that their claims are valid.

4.3. Advertisement Analysis of German Brand

From three advertisements of Bosch Refrigerators, it came

out that the company used the left-brain hemisphere that talks about the product's key features. On the other hand, the other

two ads are that the right brain hemisphere provides information by using art, music, and visualizations.

Table 3. Summary of the Advertisement Analysis for the German Refrigerator Brand based on Split-Brain Theory Observation.

Brand	Total Ad Observed	Left Hemisphere	Right Hemisphere
Bosch Refrigerators	5	3	2
Miele Refrigerators	5	1	4
Neff Refrigerators	5	2	3
AEG Refrigerators	5	2	3
Liebherr Refrigerators	5	2	3
Total	25	10	15

Source: Authors' Own Contribution

In the Miele brand, only one ad used the left-brain hemisphere, discussed the benefits of purchasing these products, and discussed the product's key features. Otherwise, four ads are used in the right brain hemisphere. Neff's approach by the analytics way and critical product features in two ads that used the left hemisphere. And two ads focus on the right hemisphere, where the company displays outstanding computer graphics and visualization.

AEG brand approaches the left-brain hemisphere in two ads. For consumer learning, they focus on a logical and analytical approach. The remaining three ads used the Right brain hemisphere, where the company uses art videos and visuals to reach the customer in addition to a strategy that considers the customer's emotions and a distinctive narrative.

In three advertisements, Liebherr approaches the right brain hemisphere based on emotions and feelings. The company

used pictures to get the customer's attention. Also, using digital art and visualization and showing the ad's creativity. The other side used the left-brain hemisphere.

4.4. Advertisement Analysis of American Brand

Thermador uses the right brain hemisphere to appeal to people's emotions and sentiments in their three advertisements. Thermador created a fantastic background tune and a visually stunning video. Additionally, businesses approach clients based on their feelings and emotions. To attract customers, the firm employed images. In ads 2 and 5, a left-brain hemisphere corporation tries to convince consumers that its statements are legitimate by using analytical facts and technical benefits in the other two advertisements.

Table 4. Summary of the Advertisement Analysis for the American Refrigerator Brand Based on Split-brain Theory Observation.

Brand	Total Ad Observed	Left Hemisphere	Right Hemisphere
Thermador Refrigerators	5	2	3
GE Appliances Refrigerators	5	3	2
Sub Zero Group Refrigerators	5	3	2
Whirlpool Corporation Refrigerators	5	5	-
Total	20	13	7

Source: Authors' Own Contribution

GE Appliances uses a left-brain hemisphere technique in their three adv. The right brain hemisphere was employed in two advertisements. Sub Zero draws in clients by utilizing digital art and visualization in this commercial and showcasing the ingenuity of the piece. Comparatively, More Ads use the brain's right hemisphere to highlight analytical facts and technical advantages. The firm also utilized the left cerebral hemisphere. In addition to a rational and analytical approach to thinking about clients and the product, the firm emphasizes how scientifically sound its effect is. Additionally, the business uses well-known people in its advertisements.

Whirlpool Corporation places a strong emphasis on the process' scientific aspect. KitchenAid is an American home appliance brand owned by Whirlpool Corporation. The campaign strongly emphasizes logic, where reality predominates and is planned, and offers details and facts about its products. The corporation also tries to show analytical data and technological benefits to convince individuals that its statements are factual. Attempt to wow the buyer with advertising that was made using technology. All of the advertising used a left-brain hemisphere strategy by the corporation.

Table 5. Country Wise Summary of the Advertisement Analysis for the International Refrigerator Brands Based on Split-Brain Theory Observation.

Country	Total Ad Observed	Left Hemisphere	Right Hemisphere
Bangladesh	25	13	12
India	25	10	15
Germany	25	10	15
USA	20	13	7
Total	95	46	49

Source: Authors' Own Contribution

5. Conclusion

A marketing process enables firms and administrations to identify customer issues, examine market prospects, and create compelling marketing materials for their target audience. Factors of a consumer's own cultural, social, and psychological makeup all play a role in influencing their purchasing decisions [31]. Vakil and Amreek identified customer accessibility in cost, performance, guarantee, advertising, brand, refer recommendation, and packaging [32]. Approaching potential purchasers is necessary. Through exposure to advertisements, consumers become aware of the manufactured goods available. Television is by far the most effective medium when it comes to changing consumers' purchasing decisions, according to studies.

Advertising efficacy depends on appeals made and respondent brain dominance. Right-brained people favor visually-oriented ads. The large images in the advertising appealed to right-brain dominant respondents. People with a dominant left brain prefer informational commercials. Advertisers may find this experiment supports their assumptions about left- and right-brained customers [33].

In the advertisement, Bangladesh and India promote mainly the left hemisphere, while Germany prioritizes the right cerebral hemisphere, but studies both, and the United States pays equal attention to both hemispheres of the brain; however, it places more emphasis on the left. The study's findings are that the implications of split-brain theory from four nations such as Bangladesh, India, Germany, and the United States while purchasing the Refrigerator is that people apply it in general but not in the context of their own country. If our chosen countries apply the split-brain theory in the context of their own country, their commercials will be more effective. All twenty businesses in Bangladesh, India, Germany, and the United States of America are mainly aiming their products squarely at the left brains of consumers and encouraging them to make purchases. one that contributes to the reinforcement

or support of the brand's messaging, media, and overall image. Therefore, we believe that market researchers will start using split-brain theory as a primary method as soon as the instruments for split-brain theory become more easily accessible. The split-brain theory is not going away; what was once considered science fiction is already a practice. Companies of all sizes, including charitable organizations, should investigate the use of this instrument as soon as possible rather than waiting. To ensure an accurate simulation, future researchers can use primary data to work with a broader sample size of items (TV, air conditioner, washing machine, and so on, rather than only Refrigerator) and more commercial advertisements from other nations.

Neuromarketing employs a variety of tools and strategies for discovering concealed information. Magnetic resonance imaging (MRI) and electroencephalography (EEG) are the primary methods of analyzing human brain processes in neuromarketing. FMRI is the most used neuromarketing brain scan technology. FMRI creates high-quality brain pictures utilizing strong magnetic and radio waves. Using fMRI and EEG, researchers can "turn on" brain regions in response to various sounds, odors, images, and messages [34]. Using neuromarketing tools to observe customers' reactions is too complex, so marketers should create an advertisement based on this learning theory, Split-brain theory.

High inflation and the economic crisis have reduced consumers' purchasing power, while marketers have to focus on moving even more products. Even though a successful advertising campaign brings in many clients, advertising costs are a vital worry for business owners. Marketers can evaluate ad performance using neuromarketing technologies, but it's expensive and immoral at some point. Thus, vigilance is best. Split-brain theory lets marketers set emotive or rational information in advertisements to attract target clients. This study helps to visualize the application of split-brain theory in actual advertising.

Appendix

Table A1. Detailed Observation of the Advertisement for the Bangladeshi Refrigerator Brand Based on Split-Brain Theory Observation.

Refrigerator Brand	Title of advertisement	YouTube Link	Publishing Year	Duration (in second)	Hemisphere
Walton Refrigerators	গ্রেট এক্সচেঞ্জ অফার	https://youtu.be/laPII0Xd35A	2021	40	Left
	50th Independence Day	https://youtu.be/s4_7N8elbZk	2021	118	Left
	Walton Refrigerator TVC New	https://youtu.be/vJ55r5JhrqY	2021	46	Right
	WALTON Smart Fridge TVC Mashrafe Bin Mortaza Loves Fresh Food.	https://youtu.be/OlfeQMjhjE8	2021	40	Right
	Walton Smart Fridge, Fresh Food Everyday Freshness Story.	https://youtu.be/Gnmm-22uvSY	2022	122	Right
Jamuna Refrigerators	Jamuna Eco-Friendly Refrigerator.	https://youtu.be/SqgAXsg81gQ	2021	61	Left
	যমুনা রেফ্রিজারেটর	https://youtu.be/kUZqSM9HIOo	2021	30	Right
	সেরা দামে দেশের সেরা ফ্রিজ - যমুনা ফ্রিজ.	https://youtu.be/5X6JabE6bAA	2021	15	Left
	বাংলাদেশের এক নম্বর গ্লাসডোর রেফ্রিজারেটর.	https://youtu.be/hj0GBjjAgUs	2022	20	Right
Marcel Refrigerators	Jamuna Refrigerator Tvc 2022 Jamuna Fridge Up to 18% Discount.	https://youtu.be/FmgpNOejwE	2022	60	Left
	Marcel Refrigerator CG based TVC.	https://youtu.be/QkpKXJgxCUE	2019	11	Left
	Marcel Refrigerator TVC by Emon & Reshmi	https://youtu.be/zwkBz7dVx4I	2015	38	Right
	Marcel commercial BD	https://youtu.be/4v2x4Jf7LGc	2018	58	Left

Refrigerator Brand	Title of advertisement	YouTube Link	Publishing Year	Duration (in second)	Hemisphere
Minister Refrigerators	Marcel Refrigerator.	https://youtu.be/Jmcoc24BSzU	2018	15	Left
	MARCEL Refrigerator TVC.	https://youtu.be/MMHW8tNScL4	2019	30	Right
	Minister Fridge TVC Power Saver - Smart Glassdoor Minister Refrigerator.	https://youtu.be/erZektFfCWk	2019	5	Left
	পুরনো ফ্রিজ বদলে কিনুন নতুন মিনিষ্টার ফ্রিজ Exchange offer.	https://youtu.be/uA2bI8gVGmQ	2021	35	Right
	বিদ্যুৎ সঞ্চয়ী ও পরিবেশ বান্ধব গ্যাসে তৈরি মিনিষ্টার ফ্রিজ Energy Saving Minister Refrigerator.	https://youtu.be/RfDkx7I7lxc	2019	15	Left
	66% Energy-Saving Technology, 12-year Compressor Guarantee Minister Refrigerator & Freezer.	https://youtu.be/PKme6e4cNqs	2021	25	Left
	Eco-friendly & Energy Saving Minister Refrigerator & Freezer.	https://youtu.be/QrUqTKK7P7Y	2021	40	Left
	VISION Refrigerator TVC.	https://youtu.be/XyG1PRuwW_A	2020	10	Left
Vision Refrigerators	Vision Refrigerator - Foaming Thickness	https://youtu.be/ggniTvI2Hwg	2020	22	Right
	VISION Electronics Vision Smart Vis Refrigerator.	https://youtu.be/DxSz9HQIIWw	2022	41	Right
	Vision Electronics Vision Refrigerator Full-Jhuri Offer	https://youtu.be/5ZZXe9qC6o	2022	15	Left
	Vision Electronics Vision Refrigerator	https://youtu.be/Jp1-4LI0oVc	2022	21	Left

Source: Authors' Own Observation

Table A2. Detailed Observation of the Advertisement for the Indian Refrigerator Brand Based on Split-Brain Theory Observation.

Refrigerator Brand	Title of Advertisement	YouTube Link	Publishing Year	Duration (in second)	Hemisphere
Godrej Refrigerators	Godrej Frost Free Refrigerators with Nano Shield Technology Godrej Appliances.	https://youtu.be/X5Y_IUwitSM	2022	20	Right
	Godrej Eon: Double Door Refrigerators.	https://youtu.be/lbLa7XDZhSw	2022	72	Right
	Godrej Edge Duo - India Ka Naya Fridge	https://youtu.be/h-aIRUFURIQ	2018	30	Right
	Perfect Cooling for a Healthier India, with Advanced Godrej Refrigerators English.	https://youtu.be/KPzBLvyQIpI	2021	20	Left
	Find #TheOneForYou - Godrej Refrigerators.	https://youtu.be/dkJOluFtL0s	2019	30	Right
	Keeping Food Fresh BPL Refrigerators #HappyLittleThings.	https://youtu.be/bwKaYAb6rak	2021	30	Right
BPL Refrigerators	Food Fresh As Ever BPL Refrigerators #HappyLittleThings.	https://youtu.be/vDRDQO-krAg	2022	19	Right
	Binge Breaks BPL Refrigerators #HappyLittleThings.	https://youtu.be/k8BBA9OdIx0	2022	21	Right
	BPL 340 L double-door refrigerator.	https://youtu.be/O_kDeUElIEY	2022	63	Left
	Title is not available	https://youtu.be/mOmLAE4OpEg	2017	61	Left
Onida Refrigerators	Onida Refrigerator Defrost Demo	https://youtu.be/0Fgh3UhnugM	2020	67	Left
	Onida Instachill Refrigerator.	https://youtu.be/M-j0DJifa3g	2020	122	Left
	Onida Glass Door Refrigerators 190 L.	https://youtu.be/0k6JpxWKwsA	2021	49	Right
	Onida 190 Litres Single Door Fridge Superb Build Quality Amazing Features	https://youtu.be/jMkfzZQaXJs	2021	303	Left
	Onida Refrigerator 190 lts 3 Star Made in India.	https://youtu.be/8TFYawcD7SQ	2020	257	Left
	Lloyd Direct Cool Refrigerator Make Ice Faster with #Lloyd Refrigerator.	https://youtu.be/vgj9w60YpTU	2022	30	Right
Lloyd Refrigerators	Lloyd Refrigerator I Uniform Cooling For Long-Lasting Freshness	https://youtu.be/Pz0HZIXxksA	2021	51	Right
	Lloyd Frost Free Refrigerator with Ten Vent Technology.	https://youtu.be/WdPVqmNmOVs	2022	39	Right
	Befikar Karo Stock with #Lloyd Frost Free Refrigerator	https://youtu.be/-gNSkxosSd0	2022	40	Right
	Title is not available	https://youtu.be/_LUmnISDLyE	2022	31	Right
Voltas Refrigerators	Voltas Beko Refrigerator.	https://youtu.be/HHYkMbqgPUI	2020	35	Right
	Voltas Beko Refrigerator TVC.	https://youtu.be/kq_olql4siM	2019	9	Left
	Voltas Beko: Direct Cool Refrigerator.	https://youtu.be/jAH7DHJnvKM	2020	203	Left
	Voltas beko refrigerant.	https://youtu.be/G8k1BlN2ae8	2018	40	Right
	Voltas Refrigerator (Mother & Son).	https://youtu.be/HsY4SjvMw-8	2010	23	Right

Source: Authors' Own Observation

Table A3. Detailed Observation of the Advertisement for the German Refrigerator Brand Based on Split-Brain Theory Observation.

Refrigerator Brand	Title of Advertisement	YouTube Link	Publishing Year	Duration (in second)	Hemisphere
BOSCH Refrigerators	A refrigerator that fits all your needs	https://youtu.be/AgFLEIM1KJs	2022	219	Right
	VitaFresh Technology	https://youtu.be/qz2T9JqQQQ	2022	80	Right
	Title is not available	https://youtu.be/MA86MGbM8gg	2016	34	Left

Refrigerator Brand	Title of Advertisement	YouTube Link	Publishing Year	Duration (in second)	Hemisphere
Miele Refrigerators	Bosch Refrigerator Water Dispenser.	https://youtu.be/m_2aFgiKTCI	2022	57	Left
	Bosch Fridge Freezer KGN36HI32 Product Overview.	https://youtu.be/QEXi1hKiklM	2019	67	Left
	Miele's MasterCool Series of Refrigeration.	https://youtu.be/u-zEdQuBcAE	2021	47	Right
	Miele Refrigeration Overview	https://youtu.be/tgW8z_bL7OI	2014	76	Right
	DailyFresh Miele Refrigeration	https://youtu.be/Bd2n2jywBI8	2019	35	Left
	Miele MasterCool: The World's Finest Refrigerators Miele.	https://youtu.be/ne_2f6g0SYY	2016	121	Right
	Miele x Rogerseller - Miele Refrigerator.	https://youtu.be/mkMLMFggKUc	2018	15	Right
Neff Refrigerators	Neff Integrated Fridge Freezer KI7853D30G Product Overview	https://youtu.be/M7sOPfjuo0	2017	63	Left
	Neff Fridge KI1813FE0G Product Overview.	https://youtu.be/t5LTqNsIGp0	2020	54	Left
	NEFF HYDRO FRESH REFRIGERATOR	https://youtu.be/GvmdJYxyCk	2015	26	Right
	NEFF Fridges and Freezers Built-In Appliances by NEFF.	https://youtu.be/t_vl6zpplhs	2020	41	Right
AEG Refrigerators	Title is not available	https://youtu.be/_vnXecw0nc0	2018	24	Right
	Title is not available	https://youtu.be/_MBEUVC-jlg	2021	38	Left
	Optispace, AEG, fridge freezers	https://youtu.be/XbBvVwNySAU	2019	15	Right
	Live: Financiamento inteligente e sem burocracia com Aldo Solar e Sol Agora	https://youtu.be/4CNqvwbBIM	2019	35	Left
Liebherr Refrigerators	LongFresh, AEG, fridge freezers	https://youtu.be/54fhYXcJcg4	2021	32	Right
	Design Line, AEG, fridge freezers.	https://youtu.be/L3tzi2PqwPA	2020	30	Right
	Liebherr 'Peak' - new fully integrated refrigeration series	https://youtu.be/Eag_ySwHzYU	2022	141	Right
	Monolith Columns Liebherr	https://youtu.be/bhYvh2BpeWg	2022	118	Left
	Liebherr refrigeration	https://youtu.be/9qUbaRJIXg	2020	64	Left
	Launch Fully Integrated Liebherr	https://youtu.be/QPvn90AeURE	2021	64	Right
	Liebherr BluPerformance Refrigeration.	https://youtu.be/-1CFUK2VN0I	2021	115	Right

Source: Authors' Own Observation

Table A4. Detailed Observation of the Advertisement for the American Refrigerator Brand Based on Split-Brain Theory Observation.

Refrigerator Brand	Title of Advertisement	YouTube Link	Publishing Year	Duration (in second)	Hemisphere
Thermador Refrigerators	Thermador Freestanding Refrigeration Offers Timeless Luxury for Any Kitchen.	https://youtu.be/jpHaNhqt3xE	2021	189	Left
	Explore Thermador's Freedom	https://youtu.be/jdKsHEk3EG0	2021	189	Left
	Thermador Freedom® Refrigeration.	https://youtu.be/No9PH2T4ITc	2018	15	Right
	NEW Thermador Stainless Steel Refrigeration - TV Spot.	https://youtu.be/oeIlvU52RU8	2020	31	Right
	Title is not available	https://youtu.be/_ED8gHI3ss	2022	33	Left
GE Appliances Refrigerators	GE French Door Refrigerator Twin Chill at Appliancesconnection.com.	https://youtu.be/b93-QyqVsjU	2014	48	Left
	Title is not available	https://youtu.be/scDgDV-RROQ	2017	25	Right
	GE Profile Refrigerator Features.	https://youtu.be/iM4_R1NEZDc	2019	62	Left
	GE Cafe Series French-Door Refrigerator Odor Filter.	https://youtu.be/3mdq4nXLJgA	2013	32	Left
	GE Profile Refrigerator Internal Water Dispenser.	https://youtu.be/FOg-YuemDe0	2022	22	Right
Sub Zero Group Refrigerators	New Sub-Zero Designer Series Full-Size Refrigeration.	https://youtu.be/tkbiBsVkJNeO	2022	15	Right
	Sub-Zero Classic (formerly Built-In) Refrigeration - Dual Refrigeration	https://youtu.be/s5j4aH3I5iM	2019	82	Left
	Specialty Appliance Sub-Zero and Wolf Commercial.	https://youtu.be/jbx7lqKa878	2015	15	Left
	Nikki Herrera-Bharwani for Sub-Zero's Fresh Food Matters.	https://youtu.be/CdrhQX2UIJw	2019	15	Right
	the new Designer Series Refrigerator.	https://youtu.be/ACiBgBDjREo	2022	63	Right
Whirlpool Corporation Refrigerators	Counter-Depth French Door Refrigerator KitchenAid.	https://youtu.be/18WNYR7bCYs	2022	66	Left
	Counter-Depth French Door Refrigerator with FreshSeal™ Crispers KitchenAid	https://youtu.be/lujF6QMYB-4	2016	27	Left
	Live: Financiamento inteligente e sem burocracia com Aldo Solar e Sol Agora.	https://youtu.be/OekmS3cxEEs	2015	77	Left
	Refrigerator with Preserva® Food Care System KitchenAid	https://youtu.be/LcWri96zPaM	2016	64	Left
	Refrigerator with Produce Preserver	https://youtu.be/2W7SP3r6D2g	2016	16	Left

Source: Authors' Own Observation

References

- [1] A. A. Kumar, "Factors influencing customers buying behavior," *Global Journal of Management and Business Research*, vol. 16, no. E3, pp. 31-35, 2016.
- [2] N. M. Chauhan, "Consumer Behaviour and his Decision of Purchase," *International Journals of Multidisciplinary Research*, vol. 2, no. 5, pp. 1-4, 2013.
- [3] V. Kumar and W. Reinartz, "Creating Enduring Customer Value," *Journal of Marketing*, vol. 80, no. 6, p. 36-68, 2016.
- [4] J. A. Bayton, "Motivation, Cognition, Learning—Basic Factors in Consumer Behavior," *Journal of Marketing*, vol. 22, no. 3, p. 282-289, 1958.
- [5] T. Lautiainen, "Factors affecting consumers' buying decision in the selection of a coffee brand," Saimaa University of Applied Sciences, Lappeenranta, 2015.
- [6] S. Byrne, A. Hopkins, T. McIndoe-Calder and M. Sherman, "The impact of Covid-19 on consumer spending," *Central Bank of Ireland*, no. 15, pp. 1-17, 2020.
- [7] G. Armstrong, P. Kotler and M. O. Opresnik, "Products, services, and brands: building customer value.," in *Marketing—An Introduction*, New Jersey, Prentice Hall, 2009, p. 264.
- [8] L. G. Schiffman, L. L. Kanuk and S. R. Kumar, *Case Mapping for Consumer Behavior*, New Delhi: Pearson Education, 1951.
- [9] M. Murali, "Split Brain Theory and the Relevance of Consumer Decision Making Process," SSRN, 2015.
- [10] K. B. Seibert and B. H. Kleiner, "Right Brain approach to time management," *Management Decision*, vol. 29, no. 2, 1991.
- [11] G. Yarlott, "Split-brain theory and education," *British Journal of Educational Studies*, vol. 34, no. 3, pp. 235-248, 1986.
- [12] N. Lee, A. J. Broderick and L. Chamberlain, "What is 'neuromarketing'? A discussion and agenda for future research," *International journal of psychophysiology*, vol. 63, no. 2, pp. 199-204, 2007.
- [13] E. d. Bellis and G. V. Johar, "Autonomous Shopping Systems: Identifying and Overcoming Barriers to Consumer Adoption," *Journal of Retailing*, vol. 96, no. 1, pp. 74-87, 2020.
- [14] D. Pickton, "Left brain marketing planning: A Forrester Research® viewpoint," *Marketing Intelligence & Planning*, vol. 23, no. 6, pp. 537-542, 2005.
- [15] G. S. Thakur, "Envisioning & Retrospection of Customer Psychoanalytical Perceptual Mapping Dilemma: Decision Making Shifts through Right to Left Brain," *World*, vol. 2, no. 4, pp. 567-573, 2013.
- [16] A. K. Lindell and E. Kidd, "Why right-brain teaching is half-witted: A critique of the misapplication of neuroscience to education," *Mind, Brain, and Education*, vol. 5, no. 3, pp. 121-127, 2011.
- [17] A. A. Alsakaa, A. Borawska, M. Borawski, M. Łatuszyńska, M. Piwowarski, F. Babiloni and K. Nermend, "Cognitive neuroscience techniques in determining the right time of advertising," in *IOP Conference Series: Materials Science and Engineering*, Kerbala, 2020.
- [18] D. Vakratsas and T. Ambler, "How advertising works: what do we really know?," *Journal of Marketing*, vol. 63, no. 1, pp. 26-43, 1999.
- [19] Z. H. Khan, S. Istihad and M. Ali, "Consumers Attitude Towards Celebrity Endorsement on Advertisement," *Journal of Business Management and Economic Research*, vol. 5, no. 1, pp. 22-34, 2021.
- [20] B. Vainikka, "Psychological Factors Influencing Consumer Behaviour," Open Repository of the Universities of Applied Sciences, 2015.
- [21] M. Balconi, B. Stumpo and F. Leanza, "Advertising, brand and neuromarketing or how consumer brain works," *Neuropsychological Trends*, vol. 16, no. 16, pp. 15-21, 2014.
- [22] S. D. Shaw and R. P. Bagozzi, "The neuropsychology of consumer behavior and marketing," *Consumer Psychology Review*, vol. 1, no. 1, pp. 22-40, 2018.
- [23] O. A. Falebita, C. F. Ogunlusi and A. T. Adetunji, "A review of advertising management and its impact on consumer behaviour," *International Journal of Agriculture Innovation, Technology and Globalisation*, vol. 1, no. 4, pp. 354-374, 2020.
- [24] K. Shahu, "Effectiveness of the Advertisement through Television," *The Batuk*, vol. 6, no. 2, pp. 7-15, 2020.
- [25] A. Karmakar and A. Ahmed, "Consumers' Perception toward Brand Preferences while Purchasing Personal Care Products: A Study on Rajshahi City," *ABC Research Alert*, vol. 9, no. 1, 2019.
- [26] R. Sama, "Impact of media advertisements on consumer behaviour," *Journal of Creative Communications*, vol. 14, no. 1, pp. 54-68, 2019.
- [27] M. Kaldeen and M. S. I. Ali, "Media Advertisement: Does it Really Influence the Purchase Intention?," *International Journal on Economics, Finance and Sustainable Development*, vol. 4, no. 8, pp. 40-51, 2022.
- [28] B. Singh, S. K. Garg and M. Ghai, "Advertisement & its Influence on Consumer Behaviour: An analysis reference to FMCG eatable products," *Studies in Indian Place Names (UGC Care Journal)*, vol. 40, no. 56, pp. 48-56, 2020.
- [29] L. Baker, "Observation: A Complex Research Method," *Library Trends*, vol. 55, no. 1, pp. 171-189, 2006.
- [30] J. Boote and A. Mathews, "Saying is one thing; doing is another": the role of observation in marketing research," *Qualitative Market Research*, vol. 2, no. 1, pp. 15-21, 1999.
- [31] I. Karnreungsiri and N. Praditsuwan, "Factors Influencing Buying Behavior and Buying Decision Process of Customers: An Examination on Relationship Using One-Way Analysis of Variance," *PSAKU International Journal of Interdisciplinary Research*, vol. 6, no. 2, pp. 76-84, 2018.
- [32] V. Singh and A. Singh, "Factors Affecting Buying Behaviour of Rural Consumers," *International Journal of Management and Social Sciences Research (IJMSSR)*, vol. 3, no. 8, pp. 8-12, 2014.
- [33] N. Hanna, J. Wagle and A. H. Kizilbash, "Brain Dominance and the Interpretation of Advertising Messages," *International Journal of Commerce and Management*, vol. 9, no. 3/4, pp. 19-32, 1999.
- [34] A. Krajnovic, S. Dominik and J. Drazen, "Neuromarketing and customers' free will," in *Proceedings of the 13th Management International Conference*, Budapest, 2012.