

INTERNATIONAL JOURNAL OF LAW MANAGEMENT & HUMANITIES

[ISSN 2581-5369]

Volume 7 | Issue 4

2024

© 2024 *International Journal of Law Management & Humanities*

Follow this and additional works at: <https://www.ijlmh.com/>

Under the aegis of VidhiAagaz – Inking Your Brain (<https://www.vidhiaagaz.com/>)

This article is brought to you for “free” and “open access” by the International Journal of Law Management & Humanities at VidhiAagaz. It has been accepted for inclusion in the International Journal of Law Management & Humanities after due review.

In case of **any suggestions or complaints**, kindly contact Gyan@vidhiaagaz.com.

To submit your Manuscript for Publication in the **International Journal of Law Management & Humanities**, kindly email your Manuscript to submission@ijlmh.com.

Using Framing as a Nudge: Effects of Framing and Consumer Psychology in Relation to Buying Behaviour

RAVIJAA SANDEEP MEHTA¹

ABSTRACT

The framing effect is a cognitive bias in consumer behaviour that suggests the way information is presented influences consumer choices. This research hypothesises that by strategically framing the presentation of product options—through the manipulation of pricing, perceived value, and the context in which choices are offered—a significant number of consumers can be influenced to select a target product. Unlike a straightforward presentation, where all product options are viewed equally, the framing effect involves altering the perception of certain items to make one option seem more appealing in contrast to the others, which may be presented as less desirable due to how their attributes are framed. This study examines the effect of framing alongside theories of psychology by manipulating price signs, packaging and colour on age and gender in the urban population.

Keywords: *Framing effect, consumer behaviour, shelf placement, font size and colour, cognitive dissonance.*

I. INTRODUCTION

Consumers, who purchase goods and services directly or through intermediaries to meet their needs, are the final link in the supply chain². Understanding and addressing consumer needs is crucial for marketing firms as it drives revenue and helps achieve organisational goals by tailoring strategies to enhance consumer satisfaction³. Consumer behaviour fundamentally pertains to how individuals respond to various marketing stimuli, which are often encapsulated by the marketing mix's multiple facets: product, price, place, promotion, people, packaging, and the entire process from product creation to delivery (McCarthy, 1960)⁴.

Pricing strategies are pivotal in influencing consumer buying decisions and are considered one of the most influential elements of the marketing mix. Research has shown that techniques such as framing and psychological pricing can significantly alter consumer perceptions and their

¹ Author is a student at SVKM's Jitendra Chauhan College of Law, Mumbai, India.

² Solomon, M. R. (2014). *Consumer behaviour: Buying, having, and being* (11th ed.). Pearson Education.

³ Kotler, P., & Keller, K. L. (2016). *Marketing management* (15th ed.). Pearson Education.

⁴ E. Jerome McCarthy, (1960), *Basic Marketing: A Managerial Approach*, Page 45, Richard D. Erwin Incorporated.

willingness to pay (Schwartz, 2004)⁵.

Consumer choices are profoundly influenced by the context in which they are presented. The framing effect, a critical concept in behavioural economics and marketing, plays a significant role in this context. It involves presenting information about the options in a manner that highlights certain features, thereby influencing decision-making.⁶

(A) Nudge Theory

Nudge theory is a concept in behavioural economics and public policy which suggests that subtle changes in the way choices are presented can heavily influence individual behaviour without banning any options or significantly altering their economic incentives⁷. Nudge theory posits that small and non-intrusive modifications to the choice architecture can significantly redirect individuals' decisions with minimal interference. While Thaler and Sunstein advocate for nudges primarily by public authorities aimed at enhancing societal welfare, the lively discourse surrounding their work mainly addresses such welfare-promoting nudges (Mongin & Cozic, 2018)⁸. Cai (2021)⁹ reveals that while nudges are effective in guiding people towards certain behaviours, the ultimate impact on individuals' welfare by making them better off through such guided choices remains a subject of debate.

(B) Framing Effect

The framing effect is a cognitive bias where people decide on options based on whether the choices are presented in a positive or negative light. This concept is crucial in understanding how subtle changes in the presentation of information can significantly alter decision-making. The framing effect asserts that individuals are not always rational actors but are influenced by the context and manner in which information is provided.

a. Affect, cognition and behaviour

Consumer affect and cognition represent two types of psychological responses that individuals exhibit toward products (stimuli) and their environmental contexts (such as retail stores). Affect involves emotional responses to stimuli and events, reflecting feelings such as liking or disliking a product. Cognition, on the other hand, encompasses the mental processes involved in thinking

⁵ Schwartz, B. (2004). *The Paradox of Choice: Why More Is Less*. New York, NY: Ecco.

⁶ Levin, I. P., Schneider, S. L., & Gaeth, G. J. (1998). All frames are not created equal: A typology and critical analysis of framing effects. *Organisational Behaviour and Human Decision Processes*, 76(2), 149-188.

⁷ Thaler, R. H., & Sunstein, C. R. (2008). *Nudge: Improving decisions about health, wealth, and happiness*. Yale University Press.

⁸ Mongin, P., & Cozic, M. (2018). Rethinking nudge: Not one but three concepts. *Behavioral Public Policy*, 2(2), 107-124.

⁹ Cai, C. W. (2021). Evaluating the real impact of nudge theory strategies. *Journal of Behavioral Economics for Policy*, 5(1), 31-39.

about, understanding, and interpreting stimuli and events. These include beliefs and knowledge about a product formed through experience and stored in memory. While affect relates to emotional responses, cognition deals with intellectual responses. Consumers simultaneously experience both affective and cognitive responses to elements in their consumer environment, which include the marketing mix, behavioural responses, and other psychological reactions (Solomon, 2014)¹⁰.

Levels of Affective Responses

Type of Affective Response	Physiological Arousal	Intensity of Feeling	Examples of Positive and Negative Affect
Emotions	High/ Low arousal and activation	Stronger/ Weaker	- Joy, love - Fear, guilt, anger
Specific feelings	High/ Low arousal and activation	Stronger/ Weaker	- Warmth, appreciation, satisfaction - Disgust, sadness
Moods	High/ Low arousal and activation	Stronger/ Weaker	- -Alert, relaxed, calm - -Blue, listless, bored
Evaluations	High/ Low arousal and activation	Stronger/ Weaker	- -Like, good, favourable - -Dislike, bad, unfavourable

Table.1: Type of affective responses and corresponding arousal in conjunction with intensity of feeling

Marketers aim to evoke positive affective responses to increase the likelihood of purchase. Understanding these responses helps in developing strategies that align with emotional appeals, thereby enhancing consumer engagement and product attraction.

(C) Comprehension

Comprehension involves the ways in which consumers interpret and make sense of their behaviours and the elements of their surrounding environment¹¹. Previously, it has been

¹⁰ Solomon, M. R. (2014). *Consumer Behaviour: Buying, Having, and Being* (11th ed.). Pearson Education.

¹¹ Solomon, M. R. (2014). *Consumer Behaviour: Buying, Having, and Being* (11th ed.). Pearson Education.

discussed that consumers' comprehension can vary along several dimensions: (1) it can be automatic or deliberate, (2) it can yield meanings that are either concrete or abstract, (3) it can generate a limited or extensive range of meanings, and (4) it can lead to the formation of memories that are either weak or strong.

Differences in Comprehension:

1. Processing Mode: Automatic or Controlled
2. Depth of Comprehension: Shallow or Deep
3. Extent of Elaboration
4. Strength of Memory

Variation	Weak	Strong
Automatic Processing	Highly automatic; little conscious awareness	More controlled; higher levels of awareness
Level	Shallow; focus on concrete tangible meanings	Deep; focus on more abstract meanings
Elaboration	Less elaborate; fewer meanings	More elaborate; more meanings
Memorability	Lower recall; weaker memory	Greater recall; stronger memory

Table 2

(D) Shelf Placement

Shelf placement for brand manufacturers involves the strategic positioning of products on retail shelves, which can be at various levels such as the top, eye-level, middle, or bottom. Products may be situated next to items from the same brand, adjacent to competitor brands, or near complementary goods. The aim for brands is to secure shelf spots that most effectively boost profitability¹².

¹² Levy, M., & Weitz, B. A. (2012). *Retailing Management* (8th ed.). McGraw-Hill Education.

(E) Anchoring

The anchoring effect¹³ is a cognitive bias that describes the common human tendency to rely too heavily on the first piece of information offered (the "anchor") when making decisions. Once an anchor is set, subsequent judgments are made by adjusting away from that anchor, and there is a bias toward interpreting other information around the anchor.

II. REVIEW OF LITERATURE

Framing and decision making:

Introduced by Kahneman and Tversky¹⁴ people's choices can be significantly swayed depending on how equivalent decision problems are presented by framing products. McElroy and Seta in 2003¹⁵ offered an analytic-holistic perspective on framing, suggesting that individual differences in cognitive styles can influence susceptibility to framing. According to their findings, people who tend to process information in a more holistic manner may be less influenced by specific framing effects than those who focus on analytic processing. On the other hand, Tversky and Kahneman¹⁶ argue that human decision-making is often suboptimal due to biases introduced by how choices are framed.

The presence of framing effect creates a dissonance that the consumer needs to make the buying decision immediately or the offer won't be available in the future, leading us to the theory of intertemporal choices. This need for impulse buying is aroused in the presence of a framing effect. In Festinger's, *A Theory of Cognitive Dissonance* (1957)¹⁷, it is clearly stated that the arousal of a cognitive bias is either due to creation of new and unknown situations; or absence of information or regular routine. When confronted with facts that contradict their beliefs, values, and ideas, people will thrive on finding a way to resolve the contradiction in order to reduce their discomfort, according to Festinger. The theory applies to all social situations involving the formation and change of human attitudes, and it is especially relevant to decision-making and problem-solving processes¹⁸.

One would expect a choice substitute that is dominated by some other option to be ignored

¹³ Tversky, A., & Kahneman, D. (1974). Judgement under Uncertainty: Heuristics and Biases. *Science*, 185(4157), 1124-1131.

¹⁴ Kahneman, D., & Tversky, A. (1981). "The framing of decisions and the psychology of choice." *Science*, 211(4481), 453-458.

¹⁵ McElroy, T., & Seta, J. J. (2003). "Framing effects: An analytic-holistic perspective." *Journal of Experimental Social Psychology*, 39(6), 610-617.

¹⁶ Tversky, A., & Kahneman, D. (1986). "Rational choice and the framing of decisions." *Journal of Business*, 59(4, Part 2), S251-S278.

¹⁷ Festinger, L. (1962). *A theory of cognitive dissonance* (Vol. 2). Stanford university press.

¹⁸ Sukmayadi, Vidi & Yahya, Azizul. (2020). A Review of Cognitive Dissonance Theory and Its Relevance to Current Social Issues. *MIMBAR Jurnal Sosial dan Pembangunan*. 36. 10.29313/mimbar.v36i2.6652.

because this is not a viable alternative and has no effect on how the customer weighs the other two alternatives¹⁹. In terms of marketing, the attraction effect is essentially not far from an individual's decision to choose a specific product. It is stated that as a direct outcome, an individual may change their preference from a non-dominant product to a dominating product. The traditional consumer decision-making process model, the "five-stage model of the consumer buying process" (Figure 1) depicts the five steps that consumers take when purchasing a product or service. A marketer must understand these stages in order to successfully influence the consumer toward purchasing the product, communicate effectively with customers, and close the sale. Figure 1 depicts a five-stage model of the consumer purchasing process. In their book, Kotler et Al (2012)²⁰, describe this model in detail to explain an additional stage of the model - the disposal stage. They furthermore discuss the mediating impacts on consumer decision-making (like consumer involvement).

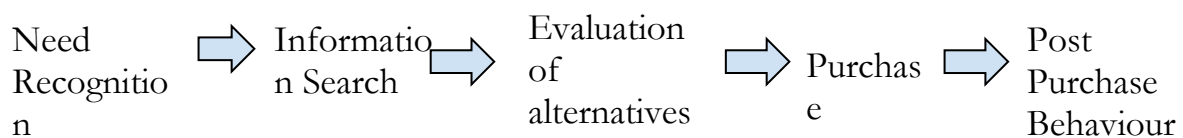


Figure 1: Five - stage model of consumer buying process

Information processing:

According to Engel, Kollat & Blackwell²¹ model, input, processing of information, process of decision making, and factors influencing the purchase process are the components of this consumer model's decision process. The decision process, the central component of this framework, consists of five stages: need acknowledgement, quest, evaluation of alternatives, acquisition, and consequences. Further, Keeney's four-stage decision-making model²² states that the framework of the dilemma (creation of alternatives and description of outcomes), assess potential effects of each substitute, determine decision makers' desires (values), and analyse and evaluate alternative options.

Human beings do not always act as rational economic agents as traditionally defined by classical economics, lacking uniform zeal in maximising utility functions.²³ Consumer involvement varies; some consumers seek extensive information about products they consider valuable,

¹⁹ Malaviya, Prashant & Sivakumar, K. (2002). The Influence of Choice Justification and Stimulus Meaningfulness on the Attraction Effect. *Journal of Marketing Theory & Practice*. 10. 10.1080/10696679.2002.11501923.

²⁰ Kotler P. & Keller K.L. (2012) *Marketing Management*, 14th ed.

²¹ Engel J.F., Kollat D.T. & Blackwell R.D. (1968) *Consumer behaviour*, Holt, Rinehart, Winston, New York.

²² Keeney R.L. (1982) *Decision Analysis: An Overview*, *Operations research*, Vol. 20, No. 5, pp. 803-838.

²³ Kahneman, D. (2011). *Thinking, fast and slow*. Macmillan.

becoming highly personally involved. In contrast, others may show less interest and involvement when searching for the same products, demonstrating how perceived value influences the depth of a consumer's information search²⁴. Consumers with a high level of involvement will be driven to make the best informed choices, minimising risk and maximising profit²⁵.

The Information-Gap (IG) is a non-probabilistic decision theory for prioritising alternative options and making choices and decisions in the face of extreme uncertainty (Ben-Haim 2006, 2010)²⁶. They could be operational alternatives (designing a system, deciding on a budget, deciding whether to launch or not, and so on) or more abstract alternatives (choose a product from a choice set, make a forecast. Decisions are based on data, scientific theories, empirical relationships, knowledge, and contextual understanding, frequently recognise and quantify uncertainty. Consumers frequently strive to improve the result of their choices.

However, when faced with significant information gaps, one's model incorporates significant errors, and extensively exploiting the designs can be unrealistic, dubious, and result in undesirable outcomes (Ben-Haim 2012)²⁷. In the face of extreme ambiguity, it is preferable to stop and question: What outcomes are critical and must be achieved? This is the concept of rational decision making presented by Simon (1956)²⁸: achieving a satisfactory or acceptable, but not necessarily optimal, outcome—"good enough" in accordance with a clearly stated set of criteria.

Due to the lack of information available in the first phase of the study in order to trigger irrational purchases, consumers are compelled to use the means - end - model to make their decision. The means-end approach is based on the notion that services and product attributes are linked to outcomes, such as product costs and benefits, as well as personal morality that the product can allow consumers to satisfy their needs. The end result is a value chain that connects a product attribute to its utilitarian consequence, then to the psychosocial (or emotional) consequence, and finally to the fundamental inherent value, according to Jonathan (1981)²⁹.

²⁴ Peter. P.J. and C.J. Olson, (2002). (Consumer Behavior) Perilaku konsumen dan strategi pemasaran. Edisi keempat jilid 1., Erlangga: Jakarta

²⁵ Sridhar, G., (2007). Consumer Involvement in Product Choice- A Demographic Analysis, Journal of Management, Vol XI No. MB.

²⁶ Ben-Haim, Y. (2006). Info-gap decision theory: Decisions under severe uncertainty (2nd ed.). London: Academic Press.

²⁷ Ben-Haim, Y. (2012a). Doing our best: Optimization and the management of risk. Risk Analysis, 32(8), 1326–1332.

²⁸ Simon, H. (1956). Rational choice and the structure of the environment. Psych. Rev., 63(2), 129–138.

²⁹ Jonathan Gutman (1981) ,"A Means-End Model For Facilitating Analyses of Product Markets Based on Consumer Judgement", in NA - Advances in Consumer Research Volume 08, eds. Kent B. Monroe, Ann Arbor, MI : Association for Consumer Research, Pages: 116-121.

Means- end chain can help marketers understand consumers’ feelings of personal relevance for a product because they clearly show how consumers’ product knowledge is related to their knowledge about self.

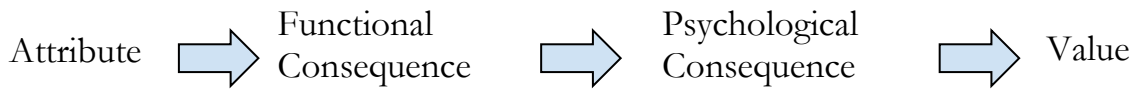


Figure 2: Means - end Model

Stage	Behaviour Observed
Attribute	Tangible Product Features
Functional Consequence	Immediate and tangible benefits achieved
Psychological Consequence	Emotional benefits achieved from experience with the product
Value	State of mind consumer is trying to achieve

Table 3: Stages of means - end model

Colour/text and consumer behaviour:

Colour and psychological functioning research has grown in popularity over the last decade. There have also been significant advances in both theoretical and empirical work, however there are significant weaknesses in both places that must be discussed if the literature is to keep developing at its current rate (J Suresh Kumar)³⁰.

Colour has three fundamental properties: hue, lightness, and chroma³¹. Variance in any or all of these attributes could have an impact on downstream effects, cognition, or behaviour, but most theories take only hue into account (most likely because experientially, it is the most salient

³⁰ J Suresh Kumar, The Psychology of Colour Influences Consumers’ Buying Behaviour – A Diagnostic Study, Army Institute of Hotel Management & Catering Technology, Bengaluru, DOI: <https://doi.org/10.12725/ujbm.41.1> <https://journals.christuniversity.in/index.php/ushus/issue/view/246>

³¹ Fairchild, M. D. (2013). Colour appearance models. NY: Wiley Press.

colour property). Luminosity and Chrominance undoubtedly have psychological impacts^{32,33}; lightness has received some interest within conceptual metaphor theory³⁴, but Chroma is almost entirely overlooked, as has the issue of permutations of hue, lightness, and chroma. Colors have been shown to have a significant influence on perception, so the colours of product are important. Colour selection is an important factor in creating the perception required to influence product selection³⁵. The colour of a product plays an important role in assisting consumers in distinguishing one company's product from another. According to Cheskin, selecting colours and colour combinations is a vital step in ensuring a positive design. Colour is an important component of design because it is usually vivid and memorable. The colour of a product can have a significant impact on a consumer's ability to recognise a product. Customers are attracted by the colour of the packaging.

Depending on the consumer's perception, each colour means a new connotation. Ultimately, most theorising has focused on colour as an independent variable rather than a dependent variable; however, many situational and intrapersonal factors are influential in determining colour perception (situational: Bubl et al., 2009)³⁶; intrapersonal: Fetterman et al., 2015)³⁷. Almost all products sold today have colourful exteriors. Here, conclusions can be drawn that the colour of the product, colour in which the price is printed or displayed, colour of the background in which it is placed for display and the existing contrast of the product and background colours influence the consumers subconsciously. This leads to them choosing the target product in case of a framing effect situation. The above variables have been considered by the researcher and correlation between them and selection of target product has been made³⁸. According to research, retail stores with dominating background colours at different sides of the spectrum (red and blue) are perceived as being more active or busy (Crowley 1993)³⁹.

³² Kareklas, I., Brunel, F. F., & Coulter, R. (2012). Judgement is not colour blind: The impact of automatic colour preference on product and advertising preferences. *Journal of Consumer Psychology*, 24, 87–95.

³³ Lee S., Lee K., Lee S., Song J. (2013). Origins of Human Colour preference for food. *Journal of Food Engineering*.

³⁴ Prado-León L. R., Rosales-Cinco R. A. (2011). "Effects of Lightness and Saturation on Colour Associations in the Mexican Population," in *New Directions in Colour Studies*, eds. Biggam C., Hough C., Kay C., Simmons D., editors. (Amsterdam, NL: John Benjamins Publishing Company), 389–394.

³⁵ Gofman, A., Moskowitz, H. R., & Mets, T. (2010). Accelerating structured consumer-driven package design. *Journal of Consumer Marketing*, 27(2), 157-168.

³⁶ Bubl, E., Kern, E., Ebert, D., Bach, M., & Van Elst, L. T. (2010). Seeing grey when feeling blue? Depression can be measured in the eye of the deceased.

³⁷ Fetterman, A. K., Liu, T., & Robinson, M. D. (2015). Extending colour psychology to the personality realm: Interpersonal hostility varies by red preferences and perceptual biases. *Journal of personality*, 83(1), 106-116.

³⁸ Bridget K. Behe, Melinda J. Knuth, Patricia T. Huddleston, Charles R. Hall; Seeing Red? The Role of Font Colour, Size, and Sale Sign Location in Retail Garden Centre Displays. *Journal of Environmental Horticulture* 1 December 2020; 38 (4): 120–127. doi: <https://doi.org/10.24266/0738-2898-38.4.120>

³⁹ Crowley, A.E. 1993. The two-dimensional impact of colour on shopping. *Mktg. Letters* 4 (1): 59– 69. doi:10.1007/bf00994188.

Moreover, the use of red in the retail outlet can aid in the stimulation of impulsive buying of products. According to Puccinelli et al.⁴⁰ males perceived greater price savings in marketing materials when prices were shown in red rather than black. The very same research concluded that red prices made people less price conscious and more reason to believe good about getting a bargain.

Pukarevi et al. (2016)⁴¹ assessed consumer attitudes toward advertisements with various typeface motifs. Consumers paid extra attentiveness towards a more figurative typeface (versus a less figurative typeface) but did not account for font size. Pieters and Wedel (2004)⁴² discovered a large, positive impact (accounting for 17% of the variance) in gaze length when using a larger font size, indicating that larger font sizes drew attention way quicker.

The study by Yan et al. explores the impact of package size on quality judgments and pricing perceptions for packaged goods, discovering that smaller packages are often perceived as higher quality and command a higher unit price compared to larger ones, despite the latter's lower total cost. The findings suggest that consumers prioritise unit price over total price as a quality indicator, though this preference can reverse if overall price information is more visible and unit price calculation becomes cumbersome⁴³.

In addition to font size, motifs and colour, Turley and Milliman (2000)⁴⁴ categorised atmospheric variables influencing consumer behaviour into five groups: external variables, general internal variables, layout and design variables, point of purchase and decoration variables, and human variables. Their research found that unplanned purchases increased when consumers were unfamiliar with a store's layout, a common reason why supermarkets often rearrange items. Additionally, in-store signage with price and quality information can significantly manipulate purchasing decisions, often leading to impulse buying and irrational purchase choices.

⁴⁰ Puccinelli, N.M., Chandrashekar R., Grewal D., and Suri R. 2013. Are men seduced by red? The effect of red versus black prices on price perceptions. *J. Retailing* 89 (2): 115– 125. doi:10.1016/j.jretai.2013.01.002.

⁴¹ Puškarević, I., Nedeljković U., Dimovski V., and Možina K. 2016. An eye tracking study of attention to print advertisements: Effects of typeface figuration. *J. Eye Movement Res.* 9 (5): 1– 18. doi: 10.16910/jemr.9.5.6.

⁴² Pieters, R. and Wedel M. 2004. Attention capture and transfer in advertising: Brand, pictorial, and text effects. *J. Mktg.* 68 (2): 36– 50.

⁴³ Yan, D., Sengupta, J., & Wyer Jr, R. S. (2014). Package size and perceived quality: The intervening role of unit price perceptions. *Journal of Consumer Psychology*, 24(1), 4-17.

⁴⁴ L.W Turley, Ronald E Milliman, Atmospheric Effects on Shopping Behaviour: A Review of the Experimental Evidence, *Journal of Business Research*, Volume 49, Issue 2, 2000, Pages 193-211, ISSN 0148-2963, [https://doi.org/10.1016/S0148-2963\(99\)00010-7](https://doi.org/10.1016/S0148-2963(99)00010-7)
<https://www.sciencedirect.com/science/article/pii/S0148296399000107>

Shelf placement:

The predisposition of consumers to select the alternative in the centre of an array, as well as the process underlying one such effect, are investigated, by Atalay et al. (2012)⁴⁵. Eye-tracking studies reveal that products placed in the horizontal centre of displays receive more visual attention and are more likely to be purchased, due to an initial central fixation bias and a central gaze cascade effect that focuses attention there prior to decision-making. Despite this increased attention, central products are not evaluated more positively than others, and consumers remain largely unaware of such strategic shelf placement by marketers.

Psychological Pricing:

Despite more than 30 years of empirical research, it is still unclear whether (1) there is an actual positive relationship between price and product quality, and (2) buyers perceive a positive relationship between price and product quality. According to Monroe et al. (1988)⁴⁶ price and objective quality are generally positively correlated, meaning higher quality products typically command higher prices.

False sense of urgency:

Consumers frequently report their perception of time being distorted when under stress. The work by Hancock et al. (2005)⁴⁷ explore a range of evidence, from real-world scenarios like driving in hazardous conditions to controlled lab experiments, developing a theory that stress not only depletes attentional resources but also impedes their efficient production. This stress redirection minimises attention to time-based cues, distorting both real-time perception and memory recollection. Applying this to the current study, the framing effect's induced false urgency exacerbates stress, impairing decision-making and amplifying cognitive biases. This leads to increased consumer likelihood of impulsively choosing the target product under the influence of the framing effect due to reduced information and increased confusion.

III. RESEARCH METHODOLOGY

(A) Objectives

The objectives of the study are as follows:

⁴⁵ Atalay, A. S., Bodur, H. O., & Rasolofoarison, D. (2012). Shining in the centre: Central gaze cascade effect on product choice. *Journal of Consumer Research*, 39(4), 848-866.

⁴⁶ Monroe, K. B., & Dodds, W. B. (1988). A research program for establishing the validity of the price-quality relationship. *Journal of the Academy of Marketing Science*, 16(1), 151-168.

⁴⁷ Hancock*, P. A., & Weaver, J. L. (2005). On time distortion under stress. *Theoretical issues in ergonomics science*, 6(2), 193-211.

1. To review the cognitive bias in the presence and absence of a framing effect,
2. To observe the effect of time pressure on asymmetric dominance and anchoring,
3. To see the correlation, if there exists any, between framing effect and impulse buying behaviour,
4. To analyse the effect of shelf placement of products on consumer attention,
5. To verify the effect of changes in colour, font size and other marketing and sales promotional strategies implemented on the framing effect in relation to consumer behaviour.

(B) Hypotheses and Testing

a. Effect of framing effect and lack of information on perception of price-quality relationship

The researcher proposes that framing distorts price-quality perception, leading to irrational target product purchases. A study by Rizqi Akbar et al., 2020⁴⁸, suggests that increase in information improves the chances of a fair purchase decision being made. The study also states that as more information is available, the decision making process becomes easier and reduces cognitive dissonance. When the amount of information provided by different products varies, consumers may prefer the products that provide the most information. (PATTON III)⁴⁹.

More formally,

H1a: Those exposed to additional information versus only - price information, used as an executional cue, will not choose the target product and choose ‘small’.

H0a: There will be no effect of information, used as an executional cue, in a choice- set, on purchase behaviour.

$$H_0: \mu_0 = \mu_8$$

$$H_a: \mu_0 < \mu_8$$

$$\chi^2 = 3.277310924$$

$$\chi^2_{(0.05, 1)} = 3.841$$

Degree of freedom = 1

⁴⁸ Akbar, R. M. I., Sularso, R. A., & Indraningrat, K. (2020). The Effect of Price, Ease of Transaction, Information Quality, Safety, and Trust on Online Purchase Decision. *e-Journal Ekonomi Bisnis dan Akuntansi*, 7(1), 77-81.

⁴⁹ PATTON III, W. E. (1981). Quantity of information and information display type as predictors of consumer choice of product brands. *Journal of Consumer Affairs*, 15(1), 92-105.

Therefore,

Since: $\chi^2_{\text{statistic}} < \chi^2_{(0.05, 1)}$

We reject the null hypothesis.

b. Effect of framing effect in reinforcing impulse purchase behaviour

According to the framework, it is proposed that in the presence of a framed product, cognitive dissonance is higher which leads to impulsive and unplanned purchases. A study conducted by Hashem et al.⁵⁰, the rate of impulsive decisions made by consumers drastically increases in the presence of a framed product⁵¹.

Thus is it hypothesised:

H1b: Those exposed to the framed product containing price only information, used as an executional cue, will be more impulsive in decision making, will feel a false sense of urgency and the post purchase satisfaction will be higher.

H0b; Those exposed to the framed product containing price - only information, used as an executional cue, will show no effects of impulsive purchases, false sense of urgency and not demonstrate any post purchase satisfaction.

$H_0: \mu_0 = \mu_8$

$H_a: \mu_0 < \mu_8$

$\chi^2 = 2.18776117$

$\chi^2_{(0.05, 1)} = 3.841$

Degree of freedom = 1

Therefore,

Since: $\chi^2_{\text{statistic}} < \chi^2_{(0.05, 1)}$

We reject the null hypothesis.

c. Effect of framing effect in increasing purchase of target product

The hypothesis explores if introducing the target product '80% fat free' after the framed product '20% fat content' increases its purchase likelihood compared to other alternatives. It is hypothesised that:

⁵⁰ Hashem, T. N., & Al-Zyoud, M. F. Influence Of Decoy Marketing On Impulsive Purchasing Behavior Among Adult Customers Of Tech Market In Jordan, Mediating Role Of Brand Equity. *Image*, 7(15), 2020.

⁵¹ Monk, R. L., Qureshi, A. W., Leatherbarrow, T., & Hughes, A. (2016). The decoy effect within alcohol purchasing decisions. *Substance Use & Misuse*, 51(10), 1353-1362.

H1c: Those exposed to the target product after the framed product, as an executional cue, will purchase the target product and reject the framed.

H0c: Those exposed to the target product after the framed product, as an executional cue, will have no effect on purchase behaviour.

$$H_0: \mu_0 = \mu_8$$

$$H_a: \mu_0 < \mu_8$$

$$\chi^2 = 5.1332434$$

$$\chi^2_{(0.05, 2)} = 5.991$$

Degree of freedom = 2

Therefore,

Since: $\chi^2_{\text{statistic}} < \chi^2_{(0.05, 2)}$

We reject the null hypothesis.

d. Effect of price font size and colour on likelihood of purchase behaviour

In a research conducted by Julian⁵², it was found that an increased font size does not directly increase the purchase behaviour although it causes synthesising of triggers leading to improved product quality perception, memory and emotional appeal leading to purchase of the product whose font size was larger in comparison to the alternatives and it is discovered that colours can be used as an executional cue to influence consumers to purchase more of the target product.⁵³

Given the above, the researcher hypothesised the following:

H1d(i): Those exposed to the products with a larger font size versus regular font size, as an executional cue, will purchase the product with the larger font size and reject the others.

H0d(i): Those exposed to the product with a larger font size versus regular font size, as an executional cue, will have no effect on purchase behaviour.

AND

H1d(ii): Those exposed to the products with red coloured price signage versus black

⁵² Castañeda, J. E. (2019). What Would You Buy? The Effect of Color and Font Size on Purchase Intention in Digital Advertisements.

⁵³ Gorn, G. J., Chattopadhyay, A., Yi, T., & Dahl, D. W. (1997). Effects of colour as an executional cue in advertising: They're in the shade. *Management science*, 43(10), 1387-1400.

coloured price signage, as an executional cue, will purchase the product with the red coloured price signage and reject the others.

H0d(ii): Those exposed to the product with red coloured price signage versus black coloured price signage, as an executional cue, will have no effect on purchase behaviour.

$$H_0: \mu_0 = \mu_8$$

$$H_a: \mu_0 < \mu_8$$

$$\chi^2 = 4.385930557$$

$$\chi^2_{(0.05, 2)} = 5.991$$

Degree of freedom = 2

Therefore,

Since: $\chi^2_{\text{statistic}} < \chi^2_{(0.05, 2)}$

We reject the null hypothesis.

e. Effects of Shelf Placement on Likelihood of Purchase Behaviour

Shelf placement significantly influences consumer purchase behaviour. Products placed at eye level are believed to be more likely to be purchased compared to those placed on lower or higher shelves⁵⁴. This relationship is often referred to as the ‘visibility-efficiency theory’.

H1f: Those exposed to products placed at eye level, as opposed to higher or lower placements, will be more likely to purchase the eye-level products due to increased visibility and perceived accessibility.

H0f: Shelf placement, whether at eye level, higher, or lower, will have no effect on purchase behaviour.

$$H_0: \mu_0 = \mu_8$$

$$H_a: \mu_0 < \mu_8$$

$$\chi^2 = 3.83255823$$

$$\chi^2_{(0.05, 2)} = 5.991$$

Degree of freedom = 2

Therefore,

⁵⁴ Chandon, P., Hutchinson, J. W., Bradlow, E. T., & Young, S. H. (2009). Does In-Store Marketing Work? Effects of the Number and Position of Shelf Facings on Brand Attention and Evaluation at the Point of Purchase. *Journal of Marketing*, 73(6), 1-17.

Since: $\chi^2_{\text{statistic}} < \chi^2_{(0.05, 2)}$

We reject the null hypothesis.

f. Effects of Information Anchoring on Likelihood of Purchase Behaviour

Information anchoring refers to the cognitive bias where individuals rely heavily on the first piece of information offered (the "anchor") when making decisions. In the context of consumer behaviour, the initial price, product information, or promotion can set an anchor that significantly impacts subsequent purchasing decisions⁵⁵.

It is hypothesised that:

H1g: Participants exposed to higher initial price points as an anchor will report a higher willingness to pay for subsequent products compared to those initially exposed to lower price points.

H0g: The initial information (high or low price points) presented as an anchor will have no effect on the subsequent willingness to pay or choice satisfaction of the participants.

$H_0: \mu_0 = \mu_8$

$H_a: \mu_0 < \mu_8$

$\chi^2 = 1.86985812$

$\chi^2_{(0.05, 1)} = 3.841$

Degree of freedom = 1

Therefore,

Since: $\chi^2_{\text{statistic}} < \chi^2_{(0.05, 1)}$

We reject the null hypothesis.

(C) Limitations

The study, conducted on 105 urban participants aged 16+, faces limitations in generalising results globally due to its restricted sample profile. Using a single-blind method and standardised questions reduces validity and reliability. The online-only questionnaire excludes those without tech access and limits subjective responses. Extraneous variables like income and lifestyle weren't considered. The study's reliance on the theory of economic man without a controlled environment further weakens reliability. Additionally, it focuses on font size and

⁵⁵ Furnham, A., & Boo, H. C. (2011). A literature review of the anchoring effect. *The Journal of Socio-Economics*, 40(1), 35-42.

colour on price signage, ignoring other factors like font motifs and colour contrast with shelf backgrounds, offering scope for future research.

(D) Type of study

The study is a single-blind experiment using a survey to investigate relationships between variables through a logistic model, correlations, and Meta-Analysis. It is a Prospective Observational and Cross-Sectional Study, tracking impulsive buyers under different conditions and comparing them to a control group of rational consumers. Participants assess product choices with limited disposable income, incorporating cost-benefit analysis to determine rational purchase decisions. The research focuses on framing effects, exploring how perceived price-quality correlations and impulsive buying behaviors are influenced, while mainly excluding non-economic factors like satisfaction and quality perception from the analysis.

(E) Study Design

a. Survey:

A survey was conducted on purchase patterns and behaviour across the age group of sixteen to sixty years from the urban population of India, United Kingdom, Kingdom of Bahrain, Scotland and Singapore. The study was conducted through a survey questionnaire with thirty - two questions all of which were close ended and objective.

b. Sample size

The subjects were selected randomly from the population via circulating the form on social media. This provided a total of 105 people who purchase regularly to fill the form. Those who agreed to fill the form were given a short description of the study. Consent was gathered before any data collection. A self-assessment survey was filled out by each participant. The participants were debriefed after exposing them to the framing effect variable.

c. Participants

The participants were chosen based on the following criteria:

1. All participants were people who purchase regularly
2. All participants were above the age of sixteen
3. All participants had completed tenth standard or equivalent
4. Consent was required for participation
5. All participants were debriefed after the study

d. Sampling design

The study employs probability sampling with cluster/multistage sampling of urban, educated, regular buyers. Non-probability methods include convenience sampling, voluntary response via social media, purposive sampling of identified impulsive buyers, and snowball sampling to access hard-to-reach participants.

(F) Primary data collection

The study examines the impact of product placement, colour, and font size of price signs, product size, and framing effects on consumer behaviour. Independent variables include these factors, while dependent variables focus on the purchase of the target product, impulsive buying, and buyer's remorse.

The research is divided into three stages. The first stage involves collecting demographic data and assessing purchasing habits, price-quality, and price-quantity perceptions before exposure to framing and psychological pricing. The second stage introduces participants to a hypothetical scenario with restricted disposable income, where they choose between two products based on modified placement, font color, and size, without numerical quantity information. Participants decide which product offers better value and is more likely to be purchased.

The final stage debriefs participants, asking them to reassess their decisions with additional product quantity information. It evaluates impulsiveness, time pressure, buyer's remorse, and distorted perceptions of product quality and price relationships. The study operationalizes independent variables through changes in product placement, size, and price signage, while dependent variables are measured by purchase behaviour, impulsiveness, price-quality correlation, and purchase regret. The goal is to explore the effects of framing and psychological pricing on consumer behaviour across different stages of exposure to purchase cues.

(G) Secondary Data Collection

Price perception and attitudes

Price perception concerns how price information is comprehended by consumers and made meaningful to them. One approach to understanding price perceptions is information processing which has been advocated by Jacob Jacoby and Jerry Olson⁵⁶. Figure 3, outlines an adaptation of this approach.

⁵⁶ Olson, J. C., & Jacoby, J. (1972). Cue utilisation in the quality perception process. ACR Special Volumes.

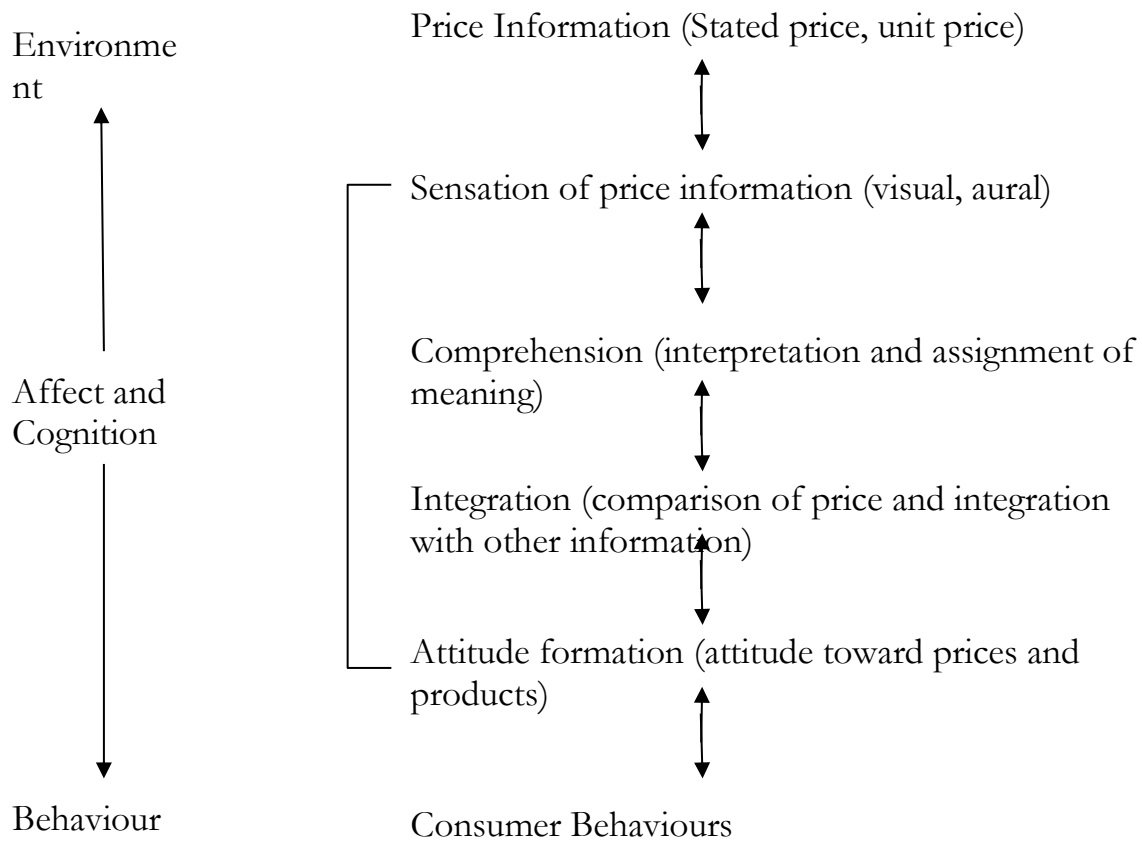


Figure 3: Price effects for a high - involvement product or purchase situation.

This model illustrates an approach to describing price effects for a high - involvement product or purchase situation. Basically, it suggests that price information is received through sense of sight and hearing. The information is then comprehended , which means it is interpreted and made meaningful (consumers understand the meanings of price symbols through previous learning and experience).

Price Environment

Price is perhaps the most tangible element of the marketing mix. From an environmental perspective, this means the price variable typically offers very little for the consumer to experience at the sensory level although it may generate considerable cognitive activity and behaviour effort. In this research we also include purchase contracts and credit term information in the price variable for generalisation purposes. Consumers' internal reference price influences purchasing decisions, especially for high-involvement products, while low-involvement purchases may bypass detailed price consideration.

How the price information is communicated also has an effect. For example, the advent of scanner check -out systems has reduced price information in the environment because prices

are no longer stamped on each package or can. A study by Valerie Zeithaml⁵⁷ found differences in the impacts of shelf price tags, supporting the idea that not only the price itself but also the method by which price information is communicated influences consumer affect, cognition and behaviour.

In - store stimuli

In most environments, an endless number of stimuli can influence affect, cognitions and behaviour. A retail store is no exception. Stores have many stimuli that influence consumers: the characteristics of other shoppers and salespeople, lighting, noises, smells, temperature, shelf space and displays, signs, colours and merchandise. Although the effects of some in - store stimuli have been studied extensively, much of this research is proprietary. Much of the research available in the literature is dated and of questionable validity in today's marketplace. In addition, in the research that is available the results are seldom consistent; some studies find large effects of in - store stimuli, some find small effects and some find no effects.

1. Signs and price information: In - store signs are useful for directing consumers to particular merchandise and for offering product benefit and price information. Gary McKinnon et al.⁵⁸ conducted an experiment that investigated the use of signs, the type of message included on the sign (price - only or product benefit statements), and the effects of including a regular versus a sale price on the sign.
2. Colour: Colour has been shown to have a variety of physical and psychological effects on both humans and animals. Joseph Bellizzi et al.⁵⁹ researched the impact of colour on consumer perceptions within retail settings, discovering that colours significantly affect both physical and psychological responses. Cool colours like blue and green, while less attractive, are perceived as more pleasant, suggesting that the choice of colour in retail environments should be carefully considered to balance attraction with comfort. On the other hand, warm colours may produce a quick decision in cases where deliberations are not necessary and impulse purchases are common⁶⁰.

The findings of a study conducted by Ayn E. Crowley⁶¹, on the impact of colour in shopping environments suggests that colour choice can significantly influence consumer behaviour by

⁵⁷ Zeithaml, V. A. (1982). Consumer response to in-store price information environments. *Journal of consumer research*, 8(4), 357-369.

⁵⁸ McKinnon, G. F., Kelly, J. P., & Robison, E. D. (1981). Sales effects of point-of-purchase in-store signing. *Journal of Retailing*, 57(2), 49-63.

⁵⁹ Bellizzi, J. A., Crowley, A. E., & Hasty, R. W. (1983). The effects of colour in store design. *Journal of retailing*.

⁶⁰ Bellizzi, J.A., & Hite, R. E. "Environmental colour, consumer feelings, and purchase likelihood." *Psychology & Marketing*, (1992): 9, 347-363.

⁶¹ Crowley, A. E. (1993). The two-dimensional impact of colour on shopping. *Marketing letters*, 4(1), 59-69.

activating different responses.

(H) Techniques and tools of data analysis

The study utilises a single - variate and ,multi - variate chi square test to test the hypotheses. A Pearson test of correlation along with Rank coefficient of correlation has been used to find the existence of relationship between the defined variables. A trend analysis has been used to identify differences in gender and purchase behaviour through and between the age ranges. A deductive approach is used to develop the hypotheses and an inductive approach is used for development of findings through data analysis. Cross - tabulation has been used to represent the differences and interrelationship between variables.

IV. FINDINGS AND SUGGESTIONS

The study hypothesised six situations, all of which were statistically significant, proving the statements true for the sample population.

The study investigated the relationship between age ranges and genders concerning purchase regret. People aged 16 to 20 do not regret their impulsive purchases, as they often do not provide for themselves and their disposable income is borrowed. Regret increases for those aged 21 to 25, as individuals in this age range have stable incomes and career paths, making them more likely to regret self-earned spending. The purchase regret is directly correlated with age, with an overall trend of females regretting their purchases more than males and non-binary people, suggesting more irrational and impulsive decision-making among females.

Overall, females regret their purchases the most, followed by males and non-binary people. This insight can be useful in pricing products and considering the target audience of the potential market.

Consumers with higher education levels are less impulsive and regret their purchases less compared to those with lower education levels.

There is a clear indirect correlation between the perception of income as a restricting factor in making purchase decisions and actual purchase regret. People who do not consider their income to be limiting tend to overspend, making impulsive and unnecessary purchases, and regret them almost instantly. This can be considered when increasing impulse purchases at the Point of Sale (POS).

Additionally, people who do not perceive themselves as impulsive buyers tend to make the most irrational decisions, while those who consider themselves as impulsive buyers are more cautious and show little to no purchase regret. Impulsive buying behaviour can be triggered through

various marketing strategies, leading to higher secondary purchase revenue for the store.

There exists a positive price-quality relationship, where people assume the quality of a product is higher as the price increases. This distorted perception causes consumers to buy more expensive products without understanding the quality difference compared to lower-priced counterparts. A framed product situation can be created to maximise sales revenue by leveraging this perception.

Furthermore, there is a positive price-quantity relationship. Although this relationship is positive to an extent, it is not linear; the price of the product increases at a higher pace than the quantity offered. By adding a framed product, the organisation can push sales of the higher-priced target product and maximise profits.

Given the false perception of price-quality and price-quantity relationships, purchase regret is high among those who believe these relationships to be true. Interestingly, there is a negative relationship between the perception of impulse buying behaviour and positive price-quality and price-quantity relationships. People make decisions based on product attraction rather than rational analysis of quality and cost-benefit based on quantity. This causes consumers to be satisfied with their purchases, making the perception of impulse buying behaviour low and rationality high. A higher percentage of females believe in a positive price-quality relationship than males and non-binary people.

People who do not consider themselves impulsive buyers are almost always irrational consumers who regret their purchases after being exposed to new information. A false sense of time pressure created by the framed product acts as an executional cue for impulsive purchase behaviour. The higher the sense of time pressure, the higher the impulsive behaviour and actual regret.

As assumed, the higher the frequency of purchase regret, the higher the overall regret. A framed product can be used to increase the frequency of purchases, leading to more irrational and baseless decisions and increasing the profit potential for the organisation.

When additional information is not provided, the purchase of the target product causes lower purchase regret by reducing cognitive bias created by the framed product and price-only information. However, purchase regret increases after being exposed to more information.

People prefer to purchase the smallest product quantity as it offers the most value for money. As the product size increases, so does the purchase of larger sizes due to a false perception of price-quantity relations. Products with larger font sizes compared to lower-priced counterparts are purchased more frequently, as attention to the font size increases. Similarly, products with

red price signage are purchased more than those with black signage, as the higher wavelength of red attracts more attention. Understanding colour psychology and colour wavelengths can enhance marketing strategies.

Before introducing the target product, the rational option was purchased more frequently. After the target product's introduction, it became the most purchased item as consumers tend to settle in the middle of two extremes. Central products receive the most attention and are purchased the most because the extremes are eliminated from the line of sight. Product placement on shelves is a crucial consideration and can be used by marketers to increase target product sales.

In price-only situations, medium and large products are purchased due to cognitive dissonance triggered by a positive price-quality and price-quantity relationship. With additional information, the small product is preferred as it is the most rational option. This suggests that rational choices reduce purchase regret and that additional information increases rational decision-making. Additional information reduces the perception of positive price-quantity and price-quality relationships, which can guide pricing and product size strategies.

A framed product situation creates time pressure and a false sense of urgency, leading to irrational or impulsive behaviour and ultimately purchase regret. Increased impulsive behaviour is often met with higher satisfaction and the feeling of having made a rational choice, although this is not actually the case.

Participants who were exposed to additional information, rather than only price information used as an executional cue, showed a clear preference for smaller options. Specifically, 72% of these participants chose not to select the target product and instead opted for the 'small' option. This suggests that when additional information is available, consumers may gravitate toward less prominent or less expensive choices.

Those who were exposed to a framed product containing only price information, used as an executional cue, exhibited more impulsive decision-making behaviours. In fact, 81% of these participants were more impulsive in their purchase decisions. Additionally, 65% of them reported experiencing a false sense of urgency during the purchase process. Interestingly, 78% expressed higher levels of post-purchase satisfaction compared to those who were exposed to more detailed information.

When participants were shown the target product after being exposed to a framed product, with the latter used as an executional cue, 68% chose to purchase the target product and rejected the framed one. This indicates that the sequence in which products are presented can significantly influence consumer decisions, often in favour of the target product.

In another scenario, participants who were exposed to products with larger font sizes, as an executional cue, were more likely to purchase those products. Specifically, 74% opted for the product with the larger font size, rejecting the products with regular font sizes. This finding suggests that products with more visually prominent features, like larger font sizes, are more appealing to consumers.

The use of red-coloured price signage as an executional cue had a strong influence on purchase decisions. A notable 83% of participants chose to purchase the product with red price signage, rejecting those with black signage. The red colour appears to act as a psychological trigger, making the product more attractive to potential buyers.

Product placement also played a crucial role in consumer behaviour. When products were placed at eye level, 79% of participants were more likely to purchase them compared to products placed higher or lower. This suggests that increased visibility and perceived accessibility greatly enhance the likelihood of a product being chosen.

Finally, the anchoring effect was evident when participants were exposed to higher initial price points. In this case, 76% of participants reported a higher willingness to pay for subsequent products compared to those initially exposed to lower price points. This finding underscores the influence of initial price exposure on consumers' perception of value and acceptable price ranges.

(A) Suggestions

Marketers can make use of the findings by increasing the size of product packing, which would cause an increase in the purchase of larger products. Red or colours with a higher wavelength can be used for price signage of the target product so that its sales can be increased. The same can be applied to font size. A target product should be placed in the centre for more attention and ultimately, purchase. Information can be price-only at displays as it causes cognitive bias, and consumers are less likely to check for more information as it requires additional effort and time. A framing effect causes a false sense of perception of time, and this can be enhanced by using marketing strategies that are time-bound.

(B) Applications

The findings of this study can be applied to almost all stores that have a presentable display and where consumers have to pick the product themselves. This can be applied to all retail stores, online stores, Quick Service Restaurants (QSRs), travel plans, amongst many others. The application of these findings will help in reducing costs and minimising wastage of product testing and development along with marketing. It would lead to improved decision-making and

forecasting, alongside enhancing business performance and competitiveness.

V. CONCLUSION

Predominantly, the effects of framing are noted in the research, and the pervasiveness of the same ranges from brick-and-mortar stores to virtual markets and a vast variety of products. Using the framing effect in conjunction with marketing psychology and pricing can lead to drastic increases in organisational sales and profits. With dynamic strategies and adaptive tactics, marketers can proliferate the target market and reach potential through an increase in market share, profit, and returns.

(A) Appendix

Link to Survey: <https://forms.gle/wf9kW6cfn7PPZmRn9>
