



Study of Purchase Behaviour Using Black Box Model

J. Reeves Wesley, G. R. Logeshwari, K. Mercy Freeda^(✉), G. Pavithra,
and R. Prathiksha

VIT Business School, VIT University, Kelambakkam 600127, India
mercyfreeda.k2022@vitstudent.ac.in

Abstract. The Black Box model is a contemporary framework designed to be cognizant of the behavioral patterns of the consumers. The objective of this study is to understand the level of influence of the Marketing mix elements, Environmental factors, Consumer characteristics, brand image and Sociological preferences on Purchase decisions and also the mediating effect of brand awareness. The data were collected from 203 respondents belonging to the age group 18–24 using a questionnaire. Structural Equation Modelling was used to test the framework. Results showed that environmental factors, brand image and sociological preferences directly influence the purchase decision, and this relationship was partially mediated by awareness.

Keywords: Consumer behaviour · purchase decision · brand awareness · marketing mix · sociological preferences · consumer characteristics

1 Introduction

Various eco-friendly and non-eco-friendly cosmetic products are available in the market, and their profitable performance depends on the consumer's perception of their intent to purchase. In India, the cosmetics industry has developed significantly in the last few decades largely due to access to higher education for women and women taking employment outside home in large numbers. As a result, their perception towards themselves and as lifestyle has changed. The modern consumer is not only strong but also demanding. They consider perceived factors such as brand image and quality in addition to traditional factors such as decent product, price, promotion, and location. One of the main issues with consumer's purchasing decision is the generational shift, modification, and use of decision-making procedures.

Many theories or models have been proposed to understand the purchase behaviour of the customers. One such model is the Black Box model. This simple but powerful model aids in our comprehension of customer behavior and purchase decision-making processes. Customers might apply guidelines or tactics that allow for a gratifying choice and a speedy and straightforward conclusion, but it's important to appreciate each customer's uniqueness.

The paper's main objective is to study the mediating effect of awareness of the products on the relationship between purchase decisions and the marketing mix, environmental factors, consumer characteristics, brand image and sociological preferences.

2 Literature Review

The black box model identifies the stimuli that prompts buyers to buy the product. The stimuli might be presented to the customer in any form by the marketer and the environment. The black box is a 2-element phenomenon that included the buyer's characteristics and the decision by the customer to buy the product. The buyer's characteristics might be internal to the buyer that include personal, social, cultural and psychological. Many authors have conducted studies using black box model and here we present the reviews of few studies. Hanaysha proposed that the corporate social responsibility of companies in the Malaysian retail market considerably attracted the customers which consequently positively promoted the purchase decision. At the same time, sales force which means the marketing mix elements delivered by the companies significantly had a negative effect. This study also uncovered another interesting belief. According to the findings of the study, the effect of social media marketing was insignificant [11]. Mohammed Z. Salem focused on consumer's purchase decisions in Spain where he compared visual packaging design, verbal packaging design and packaging benefits with the consumer purchase decision and there was a significant positive relationship between the two variables [25]. Green consumer behaviour is an upcoming conviction of many consumers. This theory focuses on harming the environment lesser or benefitting it. According to this study by Kumar and Ghodeswar based on green consumer behaviour upon the Asian markets, the consumers were ready to support environmental protection. When companies support environmental protection, it stimulates the urge for environmental responsibility. The practical implications included effective green marketing strategies and campaigns drives the consumer behavior [16]. González-Rodríguez et.al conducted a study to investigate the influence of customers' environmental concerns, customers' perceptions of a hotel's environmental practices and of the hotels' environmentally friendly images, on customers' willingness to pay a price premium to stay at environmentally friendly hotels. They concluded that customers' value-based self-perceptions of environmental practices influence their behavioural intentions, as predicted by social identity theory and those customers with a higher than average level of environmental concern are better placed to evaluate hotels' environmentally friendly practices [9]. Han et.al focused on enumerating the effects of virtual stores and the store perceptions and purchase decisions of consumers. The authors considered opaque exterior of VS and transparent exterior of VS designed using 3D modelling software and 3D architectural visualization software. They concluded that the role of the opaque exterior of VSs in increasing consumers' favorable attitudes and purchase intentions [10]. Another study focused on perception, experience and attitude towards the luxury brand in an emerging market. The purpose of this study is to explore the experiences and attitudes of young shoppers in India towards luxury consumption while the post-purchase behaviour of shoppers is important to understand their experience with the brand and a negative experience could lead to a post-purchase dissonance, which in turn could lead to an unbalanced or distorted attitude towards the brand and other marketing stimuli. Jhamb et.al concluded that sensory, intellectual, behavioural and affective experience play a significant role in building the attitude of consumers towards luxury brands [14]. Confente et.al studied the consumer's perceived risk and the role of returns policy in the remanufactured products. They investigated how the efficacy of return policy of remanufactured goods and new products in brick

- motor and online channels affect the consumer intention of purchasing the product. It was previously assumed that the consumer valued the return policy only for new products and not the remanufactured goods. They concluded that whether the product is remanufactured or new, the consumers have a similar purchase intention for a new and remanufactured product in a brick-and mortar and online channels [7].

3 Representation of the Model

(See Fig. 1)

4 Research Methodology

In this study, five factors were used an independent variable and purchase decision was the dependent variable. Brand awareness was the mediating variable. The framework constituted with these factors were taken from [23]. The items used to measure these factors were drawn from standardized questionnaires. Items that measured marketing mix [15] environmental factors [12], consumer characteristics [14], brand image [2], sociological preferences from [12], awareness and purchase decision [26].

4.1 Data Collection and Sampling Technique

The data were collected from 203 respondents with the help of a questionnaire containing 35 items from age ranging from 20 to 24, occupation of which the majority of them were students. Out of 203 respondents, 151 (74.4%) were female, 52 (25.6%) were Male. They live in nuclear families and were unmarried. The data collected from 203 respondents were sampled using the convenience sampling technique.

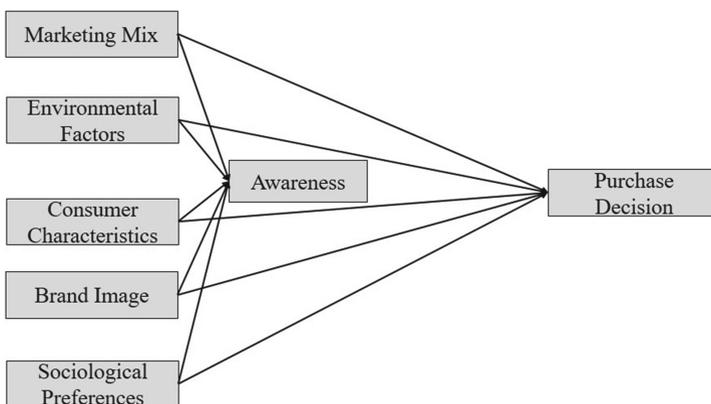


Fig. 1. Representation of the model.

4.2 Hypothesis

- H1:** There is a significant positive relationship between marketing mix and purchase decision.
- H2:** There is a significant positive relationship between environmental factors and purchase decision.
- H3:** There is a significant positive relationship between Consumer characteristics and purchase decision.
- H4:** There is a significant positive relationship between brand image and purchase decision.
- H5:** There is a significant positive relationship between sociological preferences and purchase decision.
- H6:** Awareness mediates the relationship between marketing mix, environmental factors, consumer characteristics, brand image and sociological preferences and purchase decision.

5 Data Analysis and Findings

The framework given above was tested using Structural Equation Modelling. This was used because we intended to study the mediating effect of brand awareness on the relationship between marketing mix, environmental factors, consumer characteristics, brand image and sociological preferences and purchase decisions. The results of the direct model linking marketing mix, environmental factors, consumer characteristics, brand image and sociological preferences and purchase decisions is shown in Fig. 2.

The estimates show that the model is fit as indicated by the CMIN/DF = 2.498 (<3.00); RMR = 0.037 (<0.05); GFI = 0.992 (>0.90); AGFI = 0.915 (>0.80); NFI = 0.981 (>0.90); IFI = 0.9891 (>0.90) TLI = 0.910 (>0.90); RMSEA = 0.086 (<0.1) and CFI = 0.988(>0.90). On examination of the regression weights, it was found that

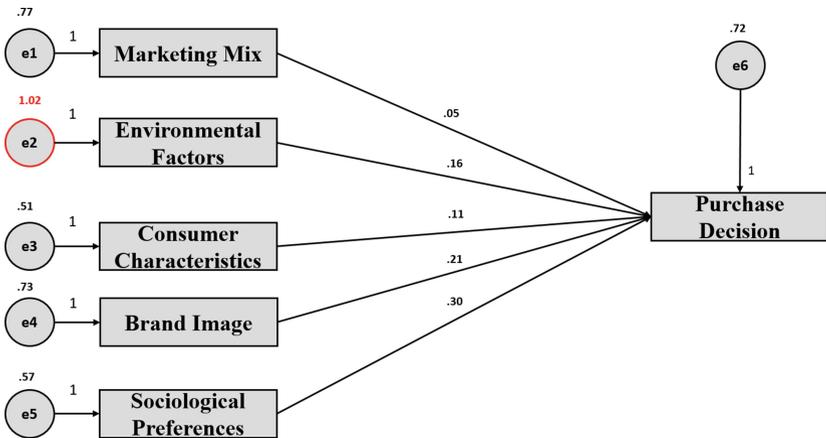


Fig. 2. Showing the results of the direct model.

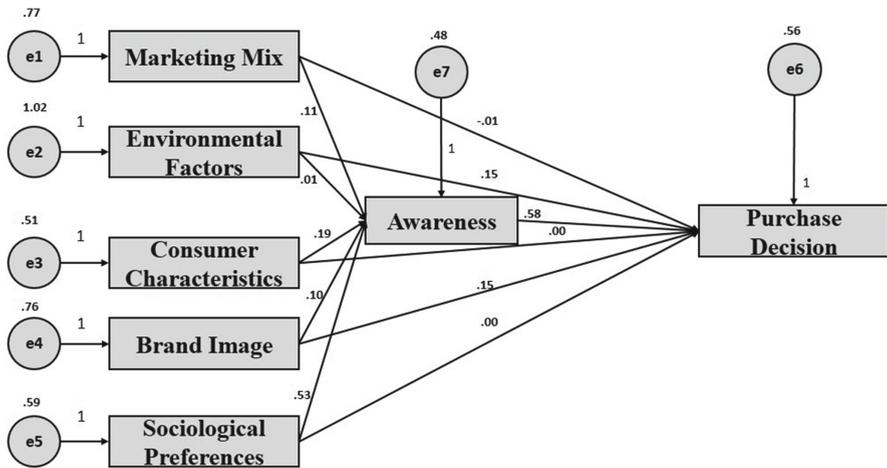


Fig. 3. The regression weights of the path model.

environmental factors ($p = 0.030$); brand image ($p = 0.015$); Sociological preferences ($p = 0.001$) directly predict purchase decision. Thus **H2**, **H4** and **H5** are supported.

The model was tested for the mediating effect of brand awareness on the relationship between marketing mix, environmental factors, consumer characteristics, brand image and sociological preferences and purchase decisions. The regression weights of the path model is shown in Fig. 3.

The model was a fit model and there was partial mediation of awareness of cosmetic products on the relationship between marketing mix, consumer characteristics, brand image and sociological preferences.

6 Discussion and Implication

According to the black box model, the external and internal stimuli react with the consumer's black box – their minds and consumers are rational thinkers. They process these stimuli and decide whether to buy or not buy the product. From the study, the respondents (who are problem solvers and thinkers) process the external stimuli (marketing mix, environmental factors, brand image, sociological preferences) and these react with the internal stimuli (characteristics of the consumer) and the information is processed in the minds of the consumer also known as the black box. The consumers then decide whether to buy or not buy the product.

It is now evident that success in the beauty industry is more than just delivering high quality products. Customers have become more intelligent and choose their purchase decision wisely. So our study results show that consumers tend to decide whether to buy a product or not buy a product based on the environmental factors which includes demographic, political factors and cultural factors.

According to the results of an article which studied consumer's perception regarding Calabrian local products and the role of the culture in their buying behaviour, it was

found that there is a direct influence of cultural-related factors on consumer's perception. Basically these factors relate to the authenticity and the regional image of the product that shapes the perception of the consumers. Our study results are in accordance with the above research findings.

According to another study that examined to understand the impact of online movie word of mouth on consumer choice, it was found that culture is an important determinant of e-word of mouth effects on sales. Our study results are in accordance with the above mentioned statement. But the above mentioned study was based on the box office collection of movies. But movies are also an experience product. So these results hold good for the cosmetic products also.

According to the study of exploring women's luxury perceptions, it was found that the congruency between the consumer's self-image and the consumer's image of brands determines the consumer behaviour. Our study's result was also in accordance with this statement.

We intend to associate our research findings with the managerial relevance of the current cosmetics market. At present, cosmetics have become an important requisite of the modern lifestyle of individuals. It is high time that the cosmetics market contemplates the buying behavior of its consumers.

So the firm has to thrive and come up with pioneering and progressive strategies to escalate its sales and consumer satisfaction. By enhancing consumer satisfaction, brand awareness also increases substantially. Our study also reveals that brand awareness partially mediates the relationship between the dependent and the independent variables.

7 Limitations and Future Research

This study has used a mixed methodology by including consumers and market participants from the Chennai cosmetics market. The sampling method that we used was convenience sampling method. So the findings of our study cannot exactly align with the population. The preferences and opinions change over time, the study's results, conclusions, and findings are solely based on these preferences and opinions. In other words, outcomes would vary depending on the viewpoints or preferences diverge the aforementioned study was conducted in a single region, it cannot be compared to studies that were conducted in other areas or that are a part of other areas. Only research that has been conducted in the same field is comparable due to variation in sample size, the summary of the components cannot be generalized to the precise terms.

Furthermore, a quantitative analysis using more extensive data might be more successful in establishing concrete proof of the elements influencing consumer views in the Chennai cosmetics sector. In order to prove that there is a full mediating effect of brand awareness, the sample size should be increased. The results would change accordingly. Additionally, the study only takes in consumers' perspectives. Additional investigation might be done from the makers' perspective and manufacturers' perceptive to acquire a clearer picture. Our results cannot be absolute or accurate because our data collection instrument was only questionnaires. We restricted of observing the interviewees' body language and verbal clues because our empirical data was gathered via electronic tools rather than in-person interactions. Future research might be able to get around these restrictions and produce even more precise results.

8 Conclusion

The cosmetics industry is moving towards the mountains and the clouds in the modern world. As customers become more aware of it, demand for it is rising quickly. This study was conducted to identify the level of influence of every independent variable. Environmental factors, sociological preferences and brand image of the product directly influence the purchase decision of the consumers. This effect is also mediated by the brand awareness of the product. Basically the variables are separated into dependent (Purchase Decisions and Brand Awareness) and independent variables for ease of understanding (Marketing Mix, Environmental Factors, Consumer Characteristics, Brand Image, Sociological Preferences).

According to the research study's findings, the primary driving forces and major influences of the purchase decision, are the environmental factors, sociological preferences and brand image of the product have been found to have the most impact on consumer behavior when it comes to buying cosmetic items across the entire research. These motivational elements lead to people purchasing various kinds of cosmetic products.

Therefore, practitioners might use the study's findings to re-evaluate their approaches to using cosmetic goods and channel the marketing strategies accordingly. As a result, businesses should develop policies and strategies to attract more customers to this market for both current and future use.

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