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A STUDY ON ENVIRONMENT FRIENDLY PRODUCT QUALITY AND PREFERENCES & ITS IMPACT ON CUSTOMER SATISFACTION

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Abstract

This study's goal is to analyse consumer preferences for and the quality of eco-friendly products, as well as any partial or simultaneous effects they may have on customer satisfaction. The study employed a quantitative approach using several linear analysis of regression. The independent parameters (X) that were measured were the quality and preference of eco-friendly products, while the dependent variable (Y) was customer satisfaction. The research object used for study and analysis is consumers of Rajasthan. Random sampling was utilized, and 100 respondents who were Rajasthan market customers participated. The Eviews program was used to calculate the statistical analysis, which included the Classical Assumption Test and the Z, T, and F hypothesis testing tests with a significant level (α) of 5%. The findings showed that consumer fulfilment was considerably improved by eco-friendly product quality and eco-friendly preference. This outcome was attained because the statistical analysis showed that when consumer demand for and the superiority of eco-friendly products rises, so does customer satisfaction. Eco-Friendly Preference and Eco-Friendly Product Quality are two characteristics that either partially or simultaneously affect customer satisfaction.

Keywords: Customer Satisfaction, Eco-friendly products

Introduction

The general public's consumption of the numerous products available on the market is very high in the modern day, and most purchases are made in the neighborhood where the clients reside. Are the items we consume are safe and do not damage the surroundings? It is exciting to note down that a product's marketability is linked to its fascinating design, widespread communication, and outstanding product quality. The assessment, which involved the author conducting direct conversations with customers in the current market in January 2023, revealed the phenomena of consumers using environmentally friendly items, as shown in the figure 1.

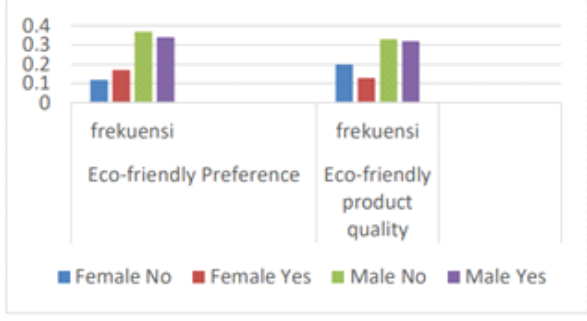

Figure 1: Consumers Consumption of Environmentally Friendly Products

Customers are frequently assisted by a variety of widely disseminated information regarding the caliber of the things being offered. Customers are invited to select goods that are not only practical for fulfilling needs and meeting consumption feasibility norms, but also have an eco-friendly manufacturing process. In light of the current situation, this study looks at how the market is trying to develop environmentally friendly liking and the caliber of eco-friendly products, which will influence consumer satisfaction and promote the contemporary market.

Green marketing is a tactic used by marketers in response to customers' increasing ecological distress. In general, green marketing entails (1) producing merchandise that are less detrimental to the environment in conditions of manufacturing, utilization, or discarding than their usual corresponding items; (2) creating products that benefit the atmosphere; or (3) linking the buy of a product to an environmental organization or event: (Hawkins, D. I., & Mothersbaugh, D. L. 2013) . One promotion strategy that puts an importance on shielding the environment is called "green marketing."(Solomon, M. R. 2011). Green marketing is inextricably linked to consumer comprehension, behavior based on eco-preferences, and product quality, which ensures that the expected features of the product satisfy the customer. By educating consumers and creating better products, respectively, it is possible to address the lack of knowledge about and unfavorable opinions of green products(Bonini, S., & Oppenheim, J. 2008).

Eco-friendly Consumer Preferences

Finding out what customers like and hate about environmentally friendly items, as well as their awareness and interest in these products in the contemporary market, are the goals of eco-friendly consumer preferences. Products like plastic wrappers, coffee cups, cake wrap, pouches, food items, electronics, and more are developed and produced without harming the environment. After they are used up, none of the products damage the environment. Setting a good example and ensuring that the products you buy are environmentally safe are two of the finest strategies to combat pollution. Studies show that although the target market may like the product, but it is not preferred over alternatives. (Kotler, P., & Keller, K. L. 2009). In order for the customer to react to the provided goods, (Best, R. J. 2009). it states that consumer preferences are made up of awareness and attraction. Because the product is known thanks to the communication mix process, the customer is aware of it and is intrigued. The decision to buy environmentally friendly items is heavily influenced by customer awareness of and attraction to a product promoted through green marketing. (Ivancevich, J. M. 2010).

A preference is an attitude that assesses a thing, concept, or somebody favourably or unfavourably. The preference-for-prototypes theory (Whitfield, T. W. A., & Slatter, P. E. 1979) states that an object will be more aesthetically favoured if it is more prototypical. Environmental concerns pertaining to product labelling, packaging, use, and disposal must be taken into account. Environmental protection entails a complicated web of trade-offs between social, political, economic, and technological factors (Schlegelmilch, B. B., Bohlen, G. M., & Diamantopoulos, A.1996).

A straightforward capture technique might not be sufficient because prolonged decision-making typically encompasses multiple brands, numerous qualities, and multiple information sources. Alternatively, the marketer needs to create an informational campaign that will increase brand favourability among the target audience. An efficient preference method presupposes a thorough

search and offers comprehensive details about various product features, retail locations, and other factors.

A strong stance on those market-relevant traits is the next stage. Globally, there are noticeable and significant variations in tastes for things like colour and flavour. It is risky for marketers to disregard preferences (Cravens, D. W., & Piercy, N. F. 2003) & (Warren, J. K. 1999). Customers with a higher degree of environmental awareness were more affected by their attitude toward the environment than those with a lower level of environmental knowledge (Noor, N. A. M., Muhammad, A., Kassim, A., Jamil, C. Z. M., Mat, N., Mat, N., & Salleh, H. S. 2012). It offers insight into the specific antecedents of eco-friendly product purchasing for both green and non-green consumers, allowing for the evaluation of potential similarities and differences in the eco-friendly product purchasing process, the hypothesized antecedents, their influence on eco-friendly product purchase intention and behaviour, and the intention–behavior relation.

Eco-friendly Quality Product

Customers' awareness and confidence in the quality of the products they intend to buy are issues with eco-friendly product quality. There are two major issues: (Hawkins, D. I., & Mothersbaugh, D. L. 2013) customers can think that because a product is green, it is of lower quality, and (Solomon, M. R. 2011)they might think that the product wasn't actually so green in the first place(Kotler, P., & Keller, K. L. 2009).. Successful green or eco-friendly products effectively allay these worries to convince customers that they are simultaneously acting in the long-term best interests of society and themselves. Examples of this include energy-efficient appliances that save money and organic foods that are regarded as safer, healthier, and tastier. Additionally, emphasis should be placed on the product's safety, quality, and green image (Barbarossa, C., & De Pelsmacker, P. 2016) & (D'Souza, C., & ; Taghian, M. 2005).It was noted that improving the menu, facilities, service, and product quality all have a favourable impact on customers' perceptions of value and satisfaction, which in turn shapes positive attitudes toward consuming (Gadenne, D., Sharma, B., Kerr, D., &; Smith, T. 2011).Green items were divided into several categories, including energy-efficient products, organically grown fruit and vegetables, recycled paper products, products that aren't tested on animals, environmentally friendly detergents, and ozone-friendly aerosols. Furthermore, there was a substantial positive correlation between environmentally conscious behaviour and the intention to buy ecologically friendly products (Omar, N. A., Osman, L. H., Alam, S. S., & Sanusi, A. 2015). Green products are generally referred to as ecological or environmentally friendly products (Chen, T. B., &; Chai, L. T. 2010).

Customer Satisfaction

When a person compares the apparent performance or outcome of a product to their expectations, they can feel either satisfied or disappointed (Kotler, P., & Keller, K. L. 2009). (Wirtz, J., Hean, T. K., &; Xiongwen, L. 2005) states that satisfaction is an emotional state, and that a post-purchase reaction may include neutrality, joy, annoyance, pleasure, or discontent. (Andreasson, T. W. 2000). "A subjective assessment of emotion is linked to satisfaction." Disconfirmation and the ratio of output to input determine the feeling. A sense of fulfilment, whether favourable or unfavourable, is the ultimate outcome. Additionally, (Mowen, J. C. 1995). asserts that the attitude of the general evaluation of a good or service following purchase and use is known as customer satisfaction.

Experience and education have an impact on customers' happiness with the product and likelihood of making a second purchase (Bradley, G. L., & Sparks, B. A. 2012).

Research Methodology

Objectives

1. To analyse consumer preferences for and the quality of eco-friendly products

2. To identify the partial or simultaneous effects of consumer preferences of eco-friendly products on customer satisfaction.

Hypothesis

1. There is no positive link between eco-friendly product quality and eco-friendly preference in the Rajasthan state market, according to H0: $\beta 1 = \beta 2 = 0$.

2. Customer satisfaction is not significantly impacted by eco-friendly preferences. Ho:

$\beta 1 = 0$

Multiple linear regression analysis was the quantitative research method that was employed. The independent parameters (X) that were measured were the quality and preference of eco-friendly products, while the dependent variable (Y) was customer satisfaction.

The Rajasthan state market consumers are served as the research's object and analytical unit. Saturated random sampling was the method utilized to acquire the data from 100 respondents who were Rajasthan state market customers. The Classical Assumption Test and the Z, T, and F hypothesis testing tests with a significant level (α) of 5% were used in the statistical analysis using the Eviews program.

Customer satisfaction and the selection and quality of eco-friendly products are correlated using multiple linear regression. The E-views 7 program yields the following results from multiple linear regression analysis: The values of a, b1, and b2 are equal to 0.38, 0.32, and 0.59, respectively. Consequently, the multiple linear regression equation that follows can be created:

$Y = 0.38 + 0.32X1 + 0,59X2$

The following is an interpretation of the a and bi values in the aforementioned equations:

c = 0.38 indicates that 38% of customers will be satisfied if they had zero percent preference for quality of eco-friendly products.

According to X1=0.32, consumer satisfaction will rise by 30% if eco-friendly product quality remains constant and eco-friendly preference rises by 1%. X2= 0.59 indicates that consumer satisfaction will rise by 59% if eco-friendly product quality rises by 1% and eco-friendly choice stays the same. **Classic assumption test:** Additionally, the following is revealed by the study of the conventional assumption:

Table 1: Analysis Of The Classical Assumption

BLUE Test	Criteria	Acceptance
Correlation serial test	X^2 statistic < X^2 table where 0.687 < 5.99	Model free from serial correlation problem
Normality test	Jarque-Bera < X^2 table where 2.28 < 5.99	Residual is normally distributed
Linearity Test	F-statistic < F-table (0.05;2;100) = 3.09 so that 1.32 < 3.09	Linear model is acceptable
Heteroscedasticity	Obs*R-squared = 0.925665 < table chi-square (5%) df = 5.99	The model passed the heteroscedasticity test
Multicollinearity	If R-squared1 > R-squared2 then R-squared1 = 0.717 > R-squared2 = 0.513	The model did not find any multicollinearity

Results and Discussion

Eco-friendly Product Quality And Preference Implications For Customer Satisfaction

The square of the correlation coefficient (R), sometimes referred to as R-Square, is the coefficient of determination (KD). The coefficient of determination is used to determine the extent to which eco-friendly choice and environmentally sustainable product quality to satisfy customers. The coefficient of determination, or R square, is 0,7175, or 71,75%, according to the results of E-Views 7. This demonstrates that eco-friendly preference and eco-friendly product quality have a significant impact on customer satisfaction, as both factors simultaneously influence the variable of 71,75%. This is because well-managed eco-friendly product quality and an increase in eco-friendly preference are expected to have a positive impact on customer satisfaction. The remaining 28.25%, however, is the result of other factors not included in the analysis of eco-friendly product quality and preference.

Correlation Between Eco-friendly Preference And Eco-friendly Product Quality

To ascertain whether there is a positive or negative connection between the variables of eco-friendly preference and eco-friendly product quality, statistical testing of z is employed. There is no positive link between eco-friendly product quality and eco-friendly preference in the Rajasthan City market, according to H0: $\beta 1 = \beta 2 = 0$. In the Rajasthan City market, eco-friendly product quality and eco-friendly preference are positively correlated (H1: $\beta i \neq 0$).

The level of significance (α): 0.05 Test criteria:

If Z-statistics > Z-table, reject H0.

accept Ha if the value of Z-statistics < Z-table

The calculation yielded a Z value of 10.9. The Z value from the table will be compared to this value. With $\alpha = 0.05$, Z-table = $Z\alpha / 2 = Z0{,}025 = 1.82$. The positive Z value suggests that there is a positive correlation between eco-friendly product quality and eco-friendly preference. The degree of eco-friendly product quality is a component of eco-friendly preference. H0 is rejected and Ha is approved because it is known from the previously reported data that the value of Z-statistics (17,34) > Z table (1,82). Assuming that variable X1 (eco-friendly desire) stays constant, value 17,34 indicates a positive association between eco-friendly product quality (X2) and eco-friendly preference (X1) in the Rajasthan market.

Effects Of Environmentally Friendly Product Quality And Preferences On Customer Satisfaction, Either Fully Or Partially

Partial testing of the relationship between eco-friendly preference (X1) and consumer happiness (Y). Ho: β1 = 0, indicating that customer happiness is not significantly impacted by eco-friendly preferences. Ha: β1 ≠ 0. This indicates that eco-friendly tastes have a somewhat significant impact on customer satisfaction. 5% is the significance level. It is evident from the EViews-7 processing that the eco-friendly preference's t-Stat value is 1.66. This value will be contrasted with the distribution table t's value. The value of the t table for the two-sided test is 1.66 with α = 0.05 and df = n-k-1 = 96-(3-1) = 94. Since t-Stat for X1 (4.05)> t-table, it is known that Ho accepted indicates that eco-friendly preference has a somewhat significant impact on customer satisfaction. In other words, increasing eco-friendly preferences will have a big impact on raising customer satisfaction.

The quality of eco-friendly products (X2) is evaluated in connection with customer satisfaction (Y). Ho: β1 = 0, suggesting that the quality of eco-friendly products has no appreciable effect on consumer satisfaction. Ha: β1 ≠ 0, suggesting that consumer pleasure is fairly significantly impacted by the caliber of eco-friendly items. Using the significance criterion of α = 5%

Criteria

If t-Stat is greater than t-table, reject Ho.

Accept in other things

The processing findings make it clear that the eco-friendly product quality has an t-Stat value of 1.66.This value will be contrasted with the distribution table t's t-table value. The value of the t table for the two-sided test is 1.66 with α = 0.05 and df = n-k-1 = 96- (3-1) = 94. Since t-Stat for X2 (7.68)> t-table, it is known that Ho accepted indicates that eco-friendly product quality has a somewhat substantial impact on customer satisfaction. In other words, if the quality of eco-friendly products is raised, customer satisfaction will rise in Rajasthan market.

Consequences of concurrently affecting customer satisfaction with eco-friendly product quality and eco-friendly preference. The following simultaneous hypothesis testing is used to determine whether eco-friendly product quality and eco-friendly preference factors have a substantial impact on customer satisfaction at the same time: H0: β1 = β2 = 0 In other words, there is no correlation between eco-friendly product quality and eco-friendly preferences in Rajasthan City market. Ha: βi ≠ 0. In other words, there are consequences for both eco-friendly product quality and eco-friendly desire at Rajasthan Market.

The significance threshold (α) is 0.05.

Criteria for testing: If value F-stat>F-table, reject H0
If the F-statistic value is less than the F-table, accept H0.

Using Eviews-7 to process the data, we can calculate that the F-statistic is 33.06. This value will be compared to the value in the F table. With α = 0,05, v = 2, and df = 94, the F table value is 3.09. F-stat (123,16) > F table (3.09), as indicated by the previously mentioned numbers, indicating that Ha is rejected and H0 is accepted. This suggests that eco-friendly preference (X1) and eco-friendly product quality (X2) have a significant impact on customer satisfaction (variable Y) at the same time, suggesting that eco-friendly preference and eco-friendly product quality have a significant impact on

customer satisfaction at the same time. According to the study's findings, the customer satisfaction variable is impacted by eco-friendly product quality and eco-friendly preference 71.75% of the time.This implies that eco-friendly preferences and product quality will have a bigger influence on customer satisfaction if they are successfully controlled and enhanced. The study's conclusions are in line with other research showing that consumer satisfaction was impacted by successful green marketing of eco-friendly goods.

Conclusion

On the basis of data analysis and discussion, the authors arrive at the following conclusions: Eco-friendly product quality (X2) and eco-friendly preference (X1) are positively connected in Rajasthan's modern market. The eminence of eco-friendly products can be improved by successfully implementing eco-friendly preferences, and superior eco-friendly products can have a bigger effect on customer satisfaction.

The impact of eco-friendly preferences on customer satisfaction is somewhat considerable. This could be because eco-friendly preferences have a partial impact on customer satisfaction in the Rajasthan market, which also affects the quality of green products. The quality of eco-friendly products has a somewhat substantial impact on customer satisfaction. In other words, in the market of Rajasthan, customer satisfaction would rise if the quality of eco-friendly products is enhanced.

Customers will feel good about the business and its eco-friendly items as a result. According to the survey, customer happiness is significantly impacted by both eco-friendly product quality and eco-friendly desire. Additionally, it was discovered that customer happiness is greatly impacted by eco-friendly product quality and eco-friendly preferences. This suggests that if eco-friendly preferences and eco-friendly product quality are enhanced and improved, customer satisfaction will increase in tandem.

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