



# The Role of Customer Relationship Management in Boosting Sales of Eco-Friendly Products of Online Stores

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## Abstract

The aim of this study is to explore the ways in which different customer relationship management (CRM) tactics, such as customized marketing campaigns, loyalty initiatives, and focused promotions, impact consumer buying patterns and boost the sales of eco-friendly items. The study uses a quantitative research approach, using structured questionnaires to gather primary data from a sample of eighty respondents. Customers who have previously bought eco-friendly items from online retailers make up the responders. Utilizing statistical tests including regression analysis and correlation, data has been analyzed using SPSS to assess the associations between CRM initiatives and the propensity to purchase eco-friendly items from online retailers. The result shown no significant impact of CRM activities on the likelihood of buying eco-friendly products from online stores. However, both frequency of shopping and personalized services provided to customers have shown significant impact on the likelihood of buying eco-friendly products by customers. The research may encounter constraints concerning sample size and generalizability, given that the sample size is limited to 80 participants. The research's practical implications have great value for online merchants that seek to boost their customer loyalty and promote eco-friendly items through improved CRM methods. This will help them link their commercial goals with sustainability aims. This information can guide the creation of more focused CRM campaigns that increase consumer interaction and help the online retail industry's sales of environmentally friendly products.

**Keywords** – CRM, Eco-friendly products, E-Commerce, Online stores

## 1. Introduction

The notion of customer relationship management has been well recognized since the early 1920s (Kimiloğlu & Zaralı, 2009). The concept addresses a number of crucial business concerns, including long-term customer relationships, customer buy-outs, retention strategies, and promoting outstanding customer-market interaction. CRM is based on the idea that businesses and customers may have fruitful interactions (Boulding et al 2005). Every management and marketing strategy starts with this. CRM is expanding quickly in the modern world as a result of the issues that organizations are confronting and the recognition of its worth. Organizations that depart from traditional channel configurations in particular are crucial. CRM's widespread use may be due to the fact that it covers every facet of a business, including marketing, distribution, sales, and accounting, as well as structure and related operations. CRM ensures that all elements crucial to a business's devoted and prosperous clientele are safeguarded. In order to do this, it is necessary to identify the best customers and provide them the appropriate goods and services. The CRM system states that for an endeavor to be successful, contact networks, costs, and time must all be coordinated. CRM's numerous features are crucial for assisting a company in better focusing on its customers (Wilson et al 2002). Only because of technical advancements that have had a significant impact on business areas and enabled customer interaction by creating a platform where information is accessible to develop effective consumer management techniques, is the CRM notion even possible today. It is important to encourage the continued growth of CRM and its initiatives in various ways. Creating a basic system is a great way to build relationships with clients.

Enhancing business ties with company customers and assessing company experience specifics are the main objectives of corporate customer relationship management (CRM), which finally leads to higher customer retention rates. By gathering consumer data and analyzing their communication channels—such as social media—which are utilized globally to comprehend their demands, organizations may use CRM to learn about the preferences of their customers (Lambert, 2009). CRM uses its components, strategies, procedures, and technology to gather all of its customers' information and to track and analyze customer interactions over the course of a customer's life cycle. CRM technologies also streamline operations across several domains, including as customer care, advertising, revenue surveillance, and research (Wilson et al 2002).

In essence, a consumer is considered loyal if he is prepared to continue using a service or product of his choice in spite of situational factors and marketing campaigns that may persuade him to switch. Businesses are advised to

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spend in developing close relationships and intimate interactions with devoted clients as this would increase client loyalty (Chen & Popovich, 2003). Long-term consumers that buy a product from a business on a regular basis tend to be more profitable and less expensive to service than other types of clients. CRM guarantees higher profitability for customers. CRM fosters lucrative customer relationships because it adds benefit to the client (Richards & Jones, 2008).

The research aimed to explore “the Role of Customer Relationship Management (CRM) in Boosting Sales of Eco-Friendly Products of Online Stores”. The main theme of this research is to identify whether there is any significant impact of CRM on how likely customer is preferring to buy eco-friendly products from online stores.

The objectives of this research are:

- To analyse the significant impact of commercial mails related to new offer on likeliness to buy eco-friendly product from online stores.
- To determine whether receiving notifications related to new product launch has any significant impact on buying of eco-friendly products.
- To analyse the relationship between discount offers and likeliness to buy eco-friendly product.

The study promotes sustainable consumption habits, which is a significant worldwide problem. The research makes a valuable contribution to the understanding of how organizations can use customer interaction and involvement to drive environmentally aware purchase decisions by looking at how CRM techniques might increase the promotion of eco-friendly items. Particularly, the goals of SDG 12 (Responsible Consumption and Production) need assistance, and this is essential for minimizing environmental deterioration.

The study offers practical recommendations for online retailers looking to boost customer loyalty and increase sales of environmentally friendly goods by enhancing their CRM tactics. Businesses need to understand how customized communication, trust-building, and loyalty programs affect customer purchase decisions as the demand for sustainability from consumers develops. The results may aid businesses in implementing more effective CRM strategies that balance environmental responsibility with economic maximization.

By linking CRM practices to the online marketplace's marketing of environmentally friendly items, the study closes a research gap in academia. Although CRM has been extensively researched, its particular contribution to boosting sales of sustainable products has not gotten as much attention. The study adds to the expanding corpus of work that examines the link between sustainability, managing client relationships, and online advertising.

## 2. Literature Review

Rodriguez & Honeycutt Jr. (2011) state that there are several methods to engage with consumers if a business is ready to build a long-lasting relationship with them, including interaction through contact points and distribution networks. The primary goal is to ascertain the best time and method for consumers to communicate with the company (Chatterjee et al 2022). Using the many touch points accessible, the engagement activities should be thoughtfully planned and adapted. The touch points offer information on consumer profiles created using information gleaned from the clients' prior records. Itani et al. (2022) have emphasized the need of using touch points for customer interaction and the distribution of various goods and services. The implementation of interaction management involves a few strategies, such as gathering customer feedback and enhancing consumer contact through eye-catching means like social networking, according to the works of Ernst et al. (2011) and Reimann et al. (2010).

Globally, sustainability has emerged as a major strategic goal. It may be summed up as meeting present demands of mankind without sacrificing those of future generations (Oluwajana et al 2022). A new paradigm in firm values and regulations, as well as in how business is understood, has been brought about by awareness of sustainable development. This has led to the creation of novel management models that consider the effects that actions have on the economy, society, and environment (Jao et al 2023). The objective was to combine social and economic benefits in order to create long-term mutually beneficial (Bhagwat, 2010) between the company and its internal and external stakeholders (Sony et al 2015).

According to Bashir et al. (2016), the Sustainable Customer Relationship Management is a development of the CRM in this environment. According to Osburg et al. (2020), SCRM is understanding the effects that customer-oriented business processes have on the economy, society, and the environment. It also entails communicating business sustainability concerns to customers, which will raise the company's value in the eyes of its environmentally conscious clientele.

As per the findings of Kang & Kim (2017), relationship benefits may be classified as several functional or social advantages obtained from an exchange partner. They went on to say that in order to entice customers and partners to establish a long-term partnership, it may also involve convenience, time savings, and price reduction. Furthermore, relationship benefits are benefits from collaborations that have the potential to contribute value and are better described as valued advantages that aid in the implementation of plans intended to gain a competitive edge (Choi et al., 2018). As a result, Choi et al. (2018) proposed that the four aspects of relationship benefits are reputation, expenses, assistance, and adaptability advantages. Cost savings are defined as those that lower costs via better processes and structures; benefits related to service are defined as those that improve the provision of services; image benefits are defined as those that improve brand name, promotion, and image; and adaptability advantages are defined as those that increase adaptability to rivalries and demands from customers by means of creativity and competitive edge.

One of the most important tools the company utilized to communicate to its loyal clients that they would probably receive extra advantages as a result of their sustained business connection with it is the relationship benefits. To establish effective relationship exchanges, nevertheless, buyers and sellers must be dedicated to one another and gain from one another (Yan et al 2024). Pacevičiūtė & Razbadauskaitė-Venskė (2023) propose that while relationship advantages are involved, contentment does not necessarily translate into more customer loyalty. Rather, projected relationship benefits rise as customer participation with the service relationship improves. Consequently, they proposed that businesses providing extra value by perks related to confidence, social interaction, and special treatment might improve the link between satisfaction and loyalty. They also indicated that future research should concentrate on relationship investment and reliability. Furthermore, Gao et al. (2022) discovered that the advantages of customer retention boost income and support the tracking of devoted customers' upselling and cross-selling activities. Additionally, benefits related to the product—such as those related to confidence, the social needs of the client, individualization, economics, emotional, mental, and symbolic benefits—help to promote customer loyalty when it comes to acquiring new customers. Thus, in order for a business to establish more substantial difference and get a competitive advantage, a consumer's view of high relationship benefits is critical (Bhaskar, 2013).

Trust is derived from the customers' and the company's experiences, and it only has an impact in future periods, which reduces the complicated nature of the connection (Yadav et al., 2016). One of the main ideas of interpersonal marketing theory is trust. According to Siagian et al. (2022), trust and commitment are specifically seen in the research as moderating impacts of characteristics including communication, opportunistic behavior, and relationship advantages on important outcomes like productivity and loyalty.

### **3. Research Methodology**

#### **3.1 Research Design**

In this research, quantitative approach will be used to analyse the collected data. This approach focuses on explaining the reason behind any relationship or findings with quantitative or numerical data. As discussed above, CRM usually have direct and significant impact on the sales of E-Commerce and online stores. Thus, due to testing the existing concept through quantitative approach, positivist philosophy best fitted here.

#### **3.2 Sampling**

The sample consists of 80 participants from all over India. Online questionnaire has been approached to collect the response of selected participants. However, 120 customers were approached for the survey, out of which only 80 customers responded. Random sampling technique has been used to collect the sample, where participants were randomly selected. Google form was used as a tool for online questionnaire. The link of google form were shared with the participants on social medias, such as; Facebook, Email ID and WhatsApp.

#### **3.3 Data collection technique**

The data has been collected from primary source, which is from online questionnaire. Since the data has been collected once, the cross-sectional time frame is applicable for the particular dataset. The independent variables, which is represented as CRM1, CRM2 and CRM3 have been measured through Likert Scale ranging from 0 to 3. In which, 0 signifies rarely and 3 signifies once a week. Hence, Likert Scale shows the rank of the response, where 0 is the lowest and 3 is the highest rank. Thus, data for independent variables have been categorized as ordinal data. On the other hand, the other control variables and dependent variable except Gender and Age have also been measured through Likert Scale and presented as ordinal data.

3.4 Data Analysis Technique

The collected data has been analysed using SPSS software. The statistical tools used in this research includes correlation and regression. Due to having ordinal data, Spearman's Rho correlation test, which is also known as non-parametric correlation, has been applied in this research. On the other hand, Ordinal Regression test has been applied to form a relationship between ordinal variables.

4. Result and Discussion

4.1 Descriptive Analysis

The survey's average value of 1.525 indicates that, while somewhat more female respondents engaged with the genders of the respondents are recorded as 1 for men and 2 for females. Subsequent investigation reveals that 52.5% of participants are female and 47.5% of respondents are male. This suggests that the sample is representative of female clients. Nonetheless, the outcome of this data is significant for both genders due to the modest variation in the number of male and female participants. This representation is balanced, as seen by the low standard deviation of 0.503. The kurtosis value of 2.041 indicates that the data has a prominent peak, suggesting that the majority of respondents definitely identified as male or female without severe variance. The skewness is almost zero (-0.102), showing that the gender distribution is fairly symmetric.

The frequency of shopping was recorded on a 0–3 scale, where 0 meant "rarely" and 3 meant "once a week." The majority of respondents purchase online from time to time, as shown by their mean score of 1.375. The respondents' varying buying patterns are indicated by the standard deviation of 1.129. A somewhat positive skew is shown by a skewness of 0.292, indicating that certain participants shop more often than others. There are more participants dispersed in the intermediate categories and fewer extreme consumers, as indicated by the platykurtic distribution indicated by the kurtosis value of -1.297.

CRM1 has a mean of 1.413, indicating that respondents generally get occasional commercial emails about offers from online retailers. The frequency of email receives varies moderately, as indicated by the 1.25 standard deviation. The skewness is nearly nil (0.084), suggesting that the answer distribution is nearly symmetrical. A flatter distribution than usual is shown by a kurtosis score of -1.641, which denotes fewer extremes and a more equally distributed distribution of responses throughout the respondents' groups.

Online retailers typically notify respondents roughly once a month about new product launches, with a mean score of 1.963. In comparison to CRM1, the standard deviation of 0.947 shows lower variability. The distribution is nearly symmetrical with a tiny negative skew, as indicated by the skewness of -0.107, which indicates that more individuals report receiving notifications less frequently. The platykurtic distribution represented by a kurtosis score of -1.534 shows that the responses are well distributed without a clear peak.

Table 1. Descriptive Statistics

|              | Mean   | Std. Deviation | Variance | Skewness | Kurtosis |
|--------------|--------|----------------|----------|----------|----------|
| Age          | 28.738 | 7.708          | 59.411   | 0.640    | (0.502)  |
| Shopping     | 1.375  | 1.129          | 1.275    | 0.292    | (1.297)  |
| CRM1         | 1.413  | 1.250          | 1.562    | 0.084    | (1.641)  |
| CRM2         | 1.963  | 0.947          | 0.897    | (0.107)  | (1.534)  |
| CRM3         | 1.713  | 1.203          | 1.448    | (0.272)  | (1.490)  |
| Personalized | 3.300  | 1.195          | 1.428    | (0.561)  | (0.446)  |
| Trust        | 3.700  | 1.130          | 1.276    | (0.731)  | (0.571)  |
| Loyalty      | 3.738  | 0.978          | 0.956    | (0.363)  | (0.814)  |
| Eco-friendly | 3.763  | 0.997          | 0.994    | (0.446)  | (0.795)  |

The average score of 1.713 indicates that, on average, respondents do occasionally receive discount offers from online retailers. A moderate range of answers is indicated by a standard deviation of 1.203. With a skewness of -0.272, a bigger percentage of respondents receive offers less frequently, indicating a modest negative skew. A flatter distribution, with answers scattered over the range rather than concentrated in certain categories, is suggested by the kurtosis of -1.490.

The average score of 3.3 suggests that respondents are only mediocrely happy with the tailored communications they get from internet retailers. A reasonable degree of diversity in satisfaction levels is indicated by a standard deviation of 1.195. A moderate negative skew, as shown by the skewness of -0.561, suggests that a greater proportion of respondents fall into the pleased category. With less peaks at the extremes of pleasure, the answers appear to be properly distributed, as indicated by the kurtosis of -0.446, which points to a reasonably flat distribution.

With a mean score of 3.7, most respondents said they have a lot of faith in online retailers who use CRM strategies like tailored communications. Although there is significant variation, as indicated by a 1.13 standard deviation, average trust levels are very high. A negative skew, indicated by the skewness of -0.731, suggests that a greater proportion of respondents often report higher levels of trust. The platykurtic distribution is suggested by the kurtosis value of -0.571, which shows that most respondents' levels of trust are between moderate and higher, with no notable extremes.

The average score of 3.738 indicates that loyalty programs influence respondents' decisions to buy environmentally friendly items in a moderately strong way. The moderate variance in the effect of loyalty programs across the respondents is indicated by the standard deviation of 0.978. With a skewness of -0.363, there is a minor negative skew, indicating that more respondents said loyalty programs had a bigger influence on their purchasing decisions. A mesokurtic distribution, that is somewhat peaked but near to a normal distribution, is suggested by a kurtosis score of 0.814.

The average score of 3.763 suggests that respondents had a modest likelihood of purchasing environmentally friendly goods from internet retailers. The 0.997 standard deviation indicates that while responses do vary slightly, they mostly fall within the mean. A little negative skew, indicated by the skewness of -0.446, indicates that greater numbers of respondents incline toward being likely to purchase eco-friendly goods. A distribution that is quite near to normal and has a considerable proportion of responders around the mean is indicated by the kurtosis of 0.795.

Descriptive data as a whole indicate that respondents are usually happy with individualized communication (CRM), have faith in internet retailers, and are inclined to buy environmentally friendly goods. For the majority of respondents, CRM activities like sending promotional emails, product alerts, and discount offers seem to happen sporadically. Additionally, loyalty programs have a significant impact on their purchase choices. A comparatively youthful sample is suggested by the demographic variable (age), while the distribution of genders is balanced. The majority of variables have platykurtic distributions and mild skewness, which suggest a wide range of answers devoid of severe outliers.

#### 4.2 Correlation Analysis

Since the nature of the collected data is ordinal, Spearman's rho Correlation approach has been used to analyse the relationship between dependent and independent variables. The Spearman's Rho correlation table reveals relationships between various variables in the dataset, providing insights into how they are associated.

**Table 2.** Correlation Output

|          | Age   | Shoppin<br>g | CRM<br>1    | CRM<br>2    | CRM<br>3    | Personaliz<br>ed | Trust   | Loyalt<br>y | Eco-<br>friendl<br>y |
|----------|-------|--------------|-------------|-------------|-------------|------------------|---------|-------------|----------------------|
| Age      | 1.000 | 0.030        | 0.112       | 0.094       | 0.051       | (0.027)          | 0.005   | (0.132)     | 0.039                |
| Shopping | 0.030 | 1.000        | (0.161<br>) | (0.197<br>) | (0.243<br>) | 0.077            | 0.187   | (0.149)     | 0.384                |
| CRM1     | 0.112 | (0.161)      | 1.000       | 0.874       | 0.365       | 0.183            | 0.037   | 0.126       | 0.026                |
| CRM2     | 0.094 | (0.197)      | 0.874       | 1.000       | 0.372       | 0.153            | (0.006) | 0.006       | 0.036                |
| CRM3     | 0.051 | (0.243)      | 0.365       | 0.372       | 1.000       | (0.039)          | (0.080) | (0.028)     | (0.156)              |

|              |         |         |       |         |         |       |         |         |         |
|--------------|---------|---------|-------|---------|---------|-------|---------|---------|---------|
| Personalized | (0.027) | 0.077   | 0.183 | 0.153   | (0.039) | 1.000 | 0.576   | 0.024   | 0.304   |
| Trust        | 0.005   | 0.187   | 0.037 | (0.006) | (0.080) | 0.576 | 1.000   | (0.264) | 0.196   |
| Loyalty      | (0.132) | (0.149) | 0.126 | 0.006   | (0.028) | 0.024 | (0.264) | 1.000   | (0.061) |
| Eco-friendly | 0.039   | 0.384   | 0.026 | 0.036   | (0.156) | 0.304 | 0.196   | (0.061) | 1.000   |

The age of respondents has little bearing on their online shopping habits, how often they receive CRM (customer relationship management) communications, how satisfied they are with personalized communication, how much trust they place in online retailers, how loyal they are, or how likely they are to buy eco-friendly products. Age exhibits almost no significant correlation with any of the variables. The only marginal correlations are with loyalty and CRM1 (frequency of getting commercial emails), but neither is strong enough to support inferences.

The probability of buying eco-friendly items is positively correlated with the frequency of shopping (0.384), indicating that those who shop online more frequently are more likely to purchase eco-friendly products. All CRM variables, however, have a weak and negative correlation with shopping frequency. This suggests that individuals who buy more often receive less CRM messages, such as coupons, product notices, and promotional emails. This might imply that CRM initiatives target regular customers less frequently. Fascinatingly, there is also a marginally positive association between the frequency of shopping and \*trust in online retailers, suggesting that increased shopping frequency might marginally increase confidence in the online retailer.

Clients who obtain frequent emails are also more likely to get frequent product alerts, as indicated by the strong correlation between the CRM variables (CRM1, CRM2, CRM3), that assess the frequency of receiving emails, product alerts, and discount offers (0.874) between CRM1 and CRM2. Personalized communication happiness, trust, and loyalty, on the other hand, show little or no link with these CRM characteristics, indicating that the frequency of CRM conversations has little effect on these qualities directly. Discount offers (CRM3), for instance, exhibits a weak negative connection with trust and eco-friendly purchasing, suggesting that a greater frequency of discount offers may somewhat diminish confidence in online retailers and the propensity to purchase eco-friendly goods.

Personalized communication has a modest influence on the chance of buying eco-friendly items (0.304) and a considerable positive impact on trust (0.576). This suggests that consumer trust is shaped by the degree to which they are satisfied with personalized CRM efforts, such customized suggestions and targeted messages, and that this influence extends to the choice to buy eco-friendly items.

The chance of buying eco-friendly items and trust in online retailers have a minor positive connection (0.196), which suggests that higher levels of trust enhance the possibility of making eco-friendly purchases, however the impact is rather small. Nonetheless, there is only a somewhat negative correlation between trust and the efficiency of reward programs, suggesting that consumers who have greater faith in online retailers might not be as swayed by loyalty programs when making selections.

The chance of buying eco-friendly items is also slightly impacted by loyalty programs (-0.061), indicating that customers' decisions about eco-friendly products are not greatly influenced by these programs. This suggests that trust and individualized communication could be more significant motivators for eco-friendly purchasing than other variables.

#### 4.3 Regression Analysis

As discussed above, the nature of dependent and independent variables is ordinal. Hence, ordinal regression test has been applied to predict the dependent variable, which is likely to buy eco-friendly product by the customer. The Ordinal Regression model assesses the relationship between several predictors and the likelihood of buying eco-friendly products.

The degree to which the model fits the data is shown by the model fitting data. There is a -2 Log Likelihood of 175.854 for the Intercept Only model and 150.076 for the Final model. With a significance level of 0.000 and a Chi-Square value of 25.778 with 3 degrees of freedom (df), the model appears to be a significant advancement over the intercept-only approach. This suggests that the dependent variable (eco-friendly purchasing) is strongly predicted by the independent factors (shopping frequency, individualized communication, and gender).

**Table 3.** Model Fitting Information

| Model          | -2 Log Likelihood | Chi-Square | df | Sig. |
|----------------|-------------------|------------|----|------|
| Intercept Only | 175.854           |            |    |      |
| Final          | 150.076           | 25.778     | 3  | .000 |

The model does not fully match the data, as indicated by the significant p-values of 0.000 for both the goodness-of-fit statistics, Pearson Chi-Square and Deviance. There appears to be some misfitting in the model, indicating that the predictors are not fully explaining certain unexplained changes.

| Goodness-of-Fit |            |    |      |
|-----------------|------------|----|------|
|                 | Chi-Square | df | Sig. |
| Pearson         | 134.465    | 78 | .000 |
| Deviance        | 129.579    | 78 | .000 |

According to the data, the model may account for anywhere from 12.3% to 29.7% of the variation in consumers' propensity to buy environmentally friendly goods. Despite being rather low, these numbers make sense for data in the social sciences, where lower R-squared values are typical.

**Table 4.** Pseudo R-Square

| Pseudo R-Square |      |
|-----------------|------|
| Cox and Snell   | .275 |
| Nagelkerke      | .297 |
| McFadden        | .123 |

The impact of every predictor variable on the probability of making environmentally friendly buys is shown by estimated parameters.

**Scherz Estimates:** The cutoff points for the various categories of the dependent variable (propensity to make an eco-friendly purchase) are represented by these thresholds. The estimate for [Ecofriendly = 2] is 0.097, and there is no discernible difference between participants who are inclined to buy eco-friendly items ( $p = 0.889$ ), suggesting that the data is not significant.

With a p-value of 0.049 and an estimate for [Ecofriendly = 3] of 1.368, there is an important disparity for participants who are relatively likely to buy eco-friendly items. With a p-value of 0.000, the estimate for [Ecofriendly = 4] is 3.633, indicating an enormous disparity for participants who are extremely inclined to purchase eco-friendly goods.

**Shopping Frequency:** The probability of purchasing eco-friendly items improves considerably when one shops online frequently, as indicated by the estimate of 0.796 with a p-value of 0.000 for shopping frequency. Choosing eco-friendly products is more likely when one shops more frequently.

**Personalized Communication:** The probability of making eco-friendly purchases is highly impacted by satisfaction with tailored CRM communication, as indicated by the estimate of 0.460 and p-value of 0.013 for personalized communication. The positive coefficient indicates that consumers are more likely to purchase eco-friendly items when they receive more individualized information.

**Gender:** With a p-value of 0.070, the estimate for [Gender = 1] (male) is -0.786. The negative coefficient implies that males might be more inclined than women to purchase eco-friendly items, even if it is not nearly statistically noteworthy at the 0.05 level.

**Table 5.** Parameter Estimate Table

| Parameter Estimates |                   |                |            |        |    |      |
|---------------------|-------------------|----------------|------------|--------|----|------|
|                     |                   | Estimate       | Std. Error | Wald   | df | Sig. |
| Threshold           | [Ecofriendly = 2] | .097           | .694       | .019   | 1  | .889 |
|                     | [Ecofriendly = 3] | 1.368          | .695       | 3.872  | 1  | .049 |
|                     | [Ecofriendly = 4] | 3.633          | .813       | 19.969 | 1  | .000 |
| Location            | Shopping          | .796           | .212       | 14.135 | 1  | .000 |
|                     | Personalized      | .460           | .185       | 6.202  | 1  | .013 |
|                     | [Gender=1]        | -.786          | .434       | 3.285  | 1  | .070 |
|                     | [Gender=2]        | 0 <sup>a</sup> | .          | .      | 0  | .    |

The proportional odds assumption, which states that there is a constant link between the independent factors and the dependent variable's log odds throughout all categories, is tested against via the test of parallel lines. The proportionate odds assumption appears to be broken, as indicated by the Chi-Square value of 21.792 and p-value of 0.001, which indicates that the predictors' influence on the dependent variable is inconsistent throughout all categories of eco-friendly purchase probability.

**Table 6.** Test of Parallel Lines Table

| Test of Parallel Lines <sup>a</sup> |                      |                     |    |      |
|-------------------------------------|----------------------|---------------------|----|------|
| Model                               | -2 Log Likelihood    | Chi-Square          | df | Sig. |
| Null Hypothesis                     | 150.076              |                     |    |      |
| General                             | 128.284 <sup>b</sup> | 21.792 <sup>c</sup> | 6  | .001 |

## 5. Conclusion

The regression test shows that CRM has no significant impact on the likelihood of buying eco-friendly products. Frequency of buying and customized contact are important predictors of eco-friendly purchase behavior, according to the ordinal regression model. Purchasing eco-friendly items may be less common among males than among women, while this difference is not statistically significant. The significant model fit shows the value of the predictors, and the model explains between 12.3% and 29.7% of the variance in the likelihood of purchasing eco-friendly items. The test of parallel lines, however, reveals some non-proportionality in the predictors' effect, indicating that their influence could fluctuate for varying degrees of environmentally conscious consumer behavior.

The results indicate that although the frequency of CRM communications (emails, notifications, discounts) has no immediate impact on trust, loyalty, or eco-friendly purchase decisions, tailored CRM efforts and trust are important variables in driving sales of environmentally friendly goods. The lack of strong associations seen between loyalty programs and environmentally conscious purchases raises the possibility that these initiatives may not be useful in promoting goods with a sustainability focus.

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