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The effect of customer satisfaction, green switching costs and alternative attractiveness on customer loyalty to green products in Viet Nam

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ABSTRACT

This study evaluates the impact of green switching costs on loyalty to green products in Viet Nam. The study surveyed 960 consumers who have been using green products in Viet Nam. The research employs quantitative techniques for analysis, and the findings indicate that customer loyalty is positively impacted by satisfaction and green switching costs. The results show that alternative attractiveness has an effect and negatively affect customer loyalty. The influence of alternative attractiveness on customer loyalty can also be altered by green switching costs. The novelty of this study is to provide insight into customer loyalty to green products by increasing green switching costs and reducing alternative attractiveness. The results are useful for businesses and managers of green product manufacturing enterprises in their efforts to promote customer loyalty sustainably.

1. INTRODUCTION

In the context of the commodity market expanding not only domestically but also internationally, the competitive pressure on businesses is increasing. Gaining new clients gets harder, and keeping, satisfying, and retaining current clients gets even harder (Dabija et al., 2018). So, businesses need to come up with ways to keep customers from leaving. Previous research shows that acquiring new customers costs six times more than retaining and satisfying existing customers (Studies et al., 2021). Furthermore, when the relationship between customers and businesses is good, customer loyalty increases and price sensitivity decreases (Alam & Islam, 2021). As a result, to maintain their current customers in the long run, businesses must manage them (Li et al., 2019). In an era of intense competition and innovation, maintaining a competitive edge is crucial for businesses, as customer satisfaction and service quality are no longer sufficient for customer retention. Businesses need to manage customer churn losses to comply with this requirement. Knowing customer switching costs and how they affect a company's ability to retain customers is therefore crucial (Guandalini et al., 2019). Previous studies demonstrate that switching costs give businesses a chance to address disgruntled clients who are preparing to leave (Valenzuela & Valenzuela, 2012). From there, companies can employ switching barriers to boost operating profits and foster client loyalty (Bhatnagar et al., 2019).

Another factor that is equally important in retaining customers is alternative attractiveness (Kuo et al., 2013), especially green products (Dabija et al., 2018). Green products are manufactured with processes and materials that minimize environmental impact, which creates a positive impression of the business and product in the minds of customers (Khan & Salim, 2021). On the customer side, consuming green products provides an experience that contributes to the mission of

environmental and social protection (Dabija et al., 2018).

Environmental pollution is a major concern in Viet Nam and is being addressed by relevant parties (Kim et al., 2020). The current situation of environmental pollution is at an alarming level. The increase in environmental pollution data in Viet Nam requires cooperation and raising people's awareness (Hoang et al., 2019). According to data from the International Energy Agency, Viet Nam is a country with high levels of pollution, ranked 10th among countries in the Asia-Pacific region.

Environmental pollution in Viet Nam comes from many causes (Kim et al., 2020), (Hoang et al., 2019), (Hoa et al., 2023). The industrialization process has developed but has not been invested properly, causing serious environmental pollution (Hoa et al., 2023). Factories release waste into the environment massively without treatment, causing the environment to be under heavy pressure and oppression. Viet Nam is a strong country in agriculture, however, farmers still use pesticides and plant protection substances that pollute the environment to ensure crops (Hoang et al., 2019). Domestic waste, industrial, medical, and construction waste... are also some of the factors causing environmental pollution. At the same time, waste classification has not been strictly implemented, causing difficulties in treating and destroying waste (Kim et al., 2020).

Green products are designed with environmental sustainability in mind, aiming to minimize negative impacts on the planet while providing consumers with high-quality alternatives (Dabija et al., 2018). These products often utilize eco-friendly materials, sustainable production methods, and ethical sourcing practices, appealing to environmentally conscious consumers (Zhou et al., 2021). The growing awareness of climate change and ecological degradation has led to an increased demand for green products across various sectors, from household items to personal care and food. As consumers seek to make more responsible choices, companies that prioritize green product development can differentiate themselves in a competitive market and foster customer loyalty by aligning their offerings with the values of sustainability and social responsibility (Zameer et al., 2020).

Most of the previous research on this topic was conducted abroad, and no research has been conducted in Viet Nam. Therefore, this article was conducted to understand the impact of green switching costs on customer loyalty, researching green products in Viet Nam. This study contributes to the current literature in several ways and differs from previous studies on customer loyalty in several aspects. The first aspect is that the results of this research will provide empirical support in Viet Nam as an emerging economy regarding sustainable development strategies. This study also provides further results on the power of green transition costs on customer loyalty. This is very important in the strategy of increasing the competitive efficiency of businesses. The study has also contributed empirical evidence to social exchange theory, showing that customer loyalty, alternative attractiveness, and switching costs have an impact on customer loyalty. In addition, the study in Viet Nam also confirmed the mediating role of switching costs in the relationship between alternative attractiveness and customer loyalty.

2. LITERATURE REVIEW

2.1. Social exchange theory

Social Exchange Theory was initiated by Malinowski in 1922 (Cropanzano & Mitchell, 2005). This theory offers a useful lens for examining customer relationships within a research model by emphasizing the perceived costs and benefits of interactions. Customers are in a constant state of evaluating these elements. When they believe that the benefits, such as high-quality service or emotional fulfillment, they may feel a sense of loss. This feeling can also emerge when their expectations fall short, resulting in disappointment. Additionally, customers frequently assess their current relationships against available alternatives, and if they identify more appealing options, the sense of loss intensifies. Emotional investment is also critical. If customers sense that their loyalty is not reciprocated, it can erode trust and satisfaction. Ultimately, Social Exchange Theory underscores how continuous assessments of value and reciprocity shape customer perceptions, influencing their experiences and relationships with brands. According to this theory, although consumers generally have rational tendencies, they frequently pursue profits and cost-cutting measures (Guandalini et al., 2019). As a result, companies that wish to grow their clientele must provide advantages to them. The company's initiatives include raising switching costs. Customers will experience a loss of benefits from the company when they choose to do business with another one.

Therefore, this is the most suitable theory for understanding consumer behavior under the influence of switching costs (Patterson & Smith, 2003).

2.2. Green switching costs and customer loyalty

Switching costs are the costs necessary to stop using old green products and switch to using new ones (Patterson & Smith, 2003). This cost is often related to search, evaluation, and conversion, and this cost is difficult to measure (Martin & Pandiammal, 2018). This type of cost has important implications for companies' pricing strategies, market shares, and profits (Guandalini et al., 2019).

Green switching costs are the costs of converting from one enterprise's green products to another enterprise's green products. Green switching requires users to make major changes in behavior. These changes are not only related to environmental protection but also help protect public and individual health (Dabija et al., 2018).

Customer loyalty represents the repeated consumption of a product (Khan & Salim, 2021). Because consumers must pay a price to switch to other products, it has been demonstrated that green switching costs have an impact on customer loyalty (Dabija et al., 2018). Green switching costs are the price consumers must pay to move to a different environmentally friendly product (Ghazali et al., 2016). Companies that create high green transition costs will retain customers. This result has been proven in the research by previous scholars (Zhang & Yousaf, 2020; Chan et al., 2022). These empirical research results have also contributed to proving the content of Social Exchange Theory.

The time, effort, and other investments customers make in adopting green products usually create attachment and loyalty towards the brands of such greener products. This now creates some sort of switching barrier, where the customer would weigh the relative benefits of current eco-friendly choices against perceived costs of transitioning to alternatives (Anisa & Tjhin, 2023). Besides, emotional and ethical considerations that accompany sustainability further reinforce such loyalty, where a customer would feel obliged towards the environment and are thus more likely to stay with brands that concur with their values (Anisa & Tjhin, 2023). Hence, the higher the switching costs regarding green products either through brand loyalty, product familiarity, or the ethical implications of switching, the greater a customer's commitment will be that heightened towards green product loyalty. From there, the following research hypothesis is proposed:

Hypothesis H1. Green switching cost has a positive effect on customer loyalty

2.3. Alternative attractiveness and customer loyalty

Substitute attractiveness is the attractiveness of competing products (Chan et al., 2022). This attraction affects customer behavior in choosing to consume products (Anisa & Tjhin, 2023). Social Exchange Theory highlights customer benefits as a key factor for customer retention (Cropanzano & Mitchell, 2005). Products with higher appeal are those that offer higher benefits.

When superior alternatives are made available in the market, there is the tendency or attraction of customers turning away from green product choices (Tessaro et al., 2024). This normally happens through marketing strategies that drive convenience, affordability, or superiority in features of the alternative non-green options, which lure the customer to reconsider their commitment towards sustainability (Ahmed et al., 2024). With increasingly attractive alternatives now more familiar to customers, there will come a point when the perceived switching benefits may balance or even outweigh the ethical considerations of their purchases of green products. In other words, attractive alternatives can ruin the perceived value of loyalty to green products by reducing customer retention and maybe even eroding brand market share.

Previous study have demonstrated that customer loyalty is directly impacted by alternative attractiveness (Chan et al., 2022). Customers' consideration of alternatives is a key factor in making choices about whether to stay or quit (Patterson & Smith, 2003). The lack of alternative attractions can be a favorable situation to protect and retain customers (Chan et al., 2022). This also implies that the attractiveness of alternatives has a negative impact on commitment and repurchase intention. From there, the following research hypothesis is proposed:

Hypothesis H2. Alternative attractiveness has a negative effect on customer loyalty.

2.4. Customer Satisfaction and customer loyalty

Customer satisfaction is satisfaction with the products that the business provides. It can also be

considered as the customer's overall evaluation, whether positive or negative, towards the product (Chan et al., 2022). Consumers who use a product or service that meets their expectations can have varying degrees of satisfaction or dissatisfaction (Amsami & Hamid, 2020).

In this study, customer satisfaction is the feeling of satisfaction after using green products (Ghazali et al., 2016). Theoretically, loyalty is proven to be one of the results of satisfaction, this has been mentioned in many studies (Amsami & Hamid, 2020; Chan et al., 2019). Customer satisfaction is often suggested as the top criterion affecting customer loyalty (Amsami & Hamid, 2020). From there, this study proposes the following research hypothesis:

Hypothesis H3. Customer satisfaction has a positive impact on customer loyalty.

2.5. The regulatory role of green switching costs

Prior studies have demonstrated that switching costs moderate the relationship between customer loyalty and satisfaction (Ghazali et al., 2016). High switching costs will lower customer satisfaction and make it harder for rivals to steal clients away from the company (Anisa & Tjhin, 2023).

Another important role that switching cost plays in the study of consumer behavior is by regulating the association between satisfaction, loyalty, and the appeal of alternatives with regard to green products. When customers are satisfied with green products, high conversion costs may make it difficult to leave their present brand, especially amidst an appeal from alternatives. This, in turn, leads to increased loyalty, whereby the consumer can bear a certain level of inconvenience or lesser value from other products. Conversely, if the relative attractiveness of alternatives improves while the cost of switching decreases, then loyalty may be threatened irrespective of the current degree of satisfaction with the green product. Consequently, understanding the role conversion costs play in this relationship aids the marketer in optimizing their customer retention strategy and to develop more sustainable products.

Customers may believe that prices are unfair if a competitor offers a lower price than the supplier they are using, even though the attractiveness of the alternatives has a negative impact on their loyalty. Switching costs can then serve as a buffer against this influence (Ghazali et al., 2016). From there, the following two research hypotheses are proposed:

Hypothesis H4. Green switching cost has a moderating role in the impact of customer satisfaction on customer loyalty.

Hypothesis H5. Green switching cost has a moderating role in the influence of alternative attractiveness on customer loyalty.

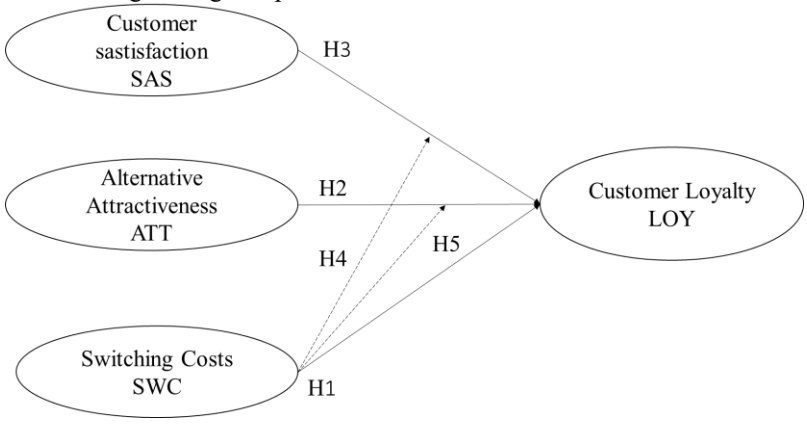

Figure 1. Theoretical research model

(Source: Author's suggestion, 2024)

The article's objective is to comprehend how green switching costs affect customer loyalty in Viet Nam. Based on fundamental theory and previous research, the author proposed a research model, as shown in Figure 1.

3. RESEARCH METHOD

3.1. Data and research method

This study uses a quantitative research method. Data was collected from people who have been using green products. There are lots of industries that

contain green products. However, the main research sample has to focus on the essential products. Thus, most of the survey sample accounts for beauty, fashion, food, and beverage industries (Table 1). The survey was translated into Vietnamese. To make sure the survey questions were clear and accurate in terms of meaning, the author first polled 15 experts to make any necessary adjustments before sending the questionnaire out. Then, the survey was designed on Google Forms to collect data in a convenient sampling way.

To conduct the survey, the author shared the link to it with friends, family, and coworkers on various social media platforms, including Facebook, Instagram, and Zalo. They also shared it in community groups for green products. The official survey period of this study is three months, from August 2023 to November 2023. The main survey subjects in this study are people who have been using green products in Viet Nam. The questionnaire uses filtered questions to ensure that participants answer the right target audience. Therefore, the survey includes selected questions to survey the right research subjects.

The online survey results received 986 responses, 26 were eliminated because they did not meet the requirements. Thus, the valid survey rate is 97%. The final result was 960 valid votes used to perform further analysis. Since the paper uses Structural Equation Modeling (SEM) to analyze the multidimensional relationships of variables in the model, the authors based on the recommendations of Comrey & Lee (2013) on how to determine the size of the research sample. According to the above authors, a sample size of 50 to 100 is not enough for the SEM model, a sample size of 200 is satisfactory and 300 is acceptable. The sample size of the study was 960, in line with the required threshold.

Based on the research results of Al Haq et al. (2020), the research identifies the model as a reflective model. This study explores the relationship between variables in the model and focuses on the target variable of customer loyalty. Therefore, using the partial least squared-based linear structure analysis method (PLS-SEM) is the most appropriate (Hair et al., 2016). This method is handled with the help of SmartPLS 4.0 software. To evaluate this model, there are two steps to be taken: evaluation of the measurement model and evaluation of the structural model. The author used the software SmartPLS 4.0 to process the data. Evaluation of the measurement model and evaluation of the structural model were the two phases of data analysis.

3.2. Research scale

The concepts in this study are inherited from previous studies and use a 5-level Likert scale from "Completely disagree" to "Completely agree". To be precise, Yen's (2010) scale with three variables is used to measure switching costs. The customer satisfaction scale includes 3 variables and is based on research by Ghazali et al. (2016). The alternative attractiveness scale includes 6 items and is based on the research of Ghazali et al. (2016). The customer loyalty is based on the Yen (2010) scale and consists of three variables.

4. RESEARCH RESULTS

4.1. Descriptive statistics

Table 1. Results of descriptive statistics

Characteristic	Frequency	% of total sample
Sex		
Male	403	42
Female	557	58
Year Old		
18-24	518	54
25-44	403	42
>45	38	4
Place of residence		
Ho Chi Minh City	413	43
Binh Duong	96	10
Dong Nai	48	5
Danang	106	11
Hanoi	192	20
Other	106	11
Income		
Under 10 million/month	355	27
From 10 - under 20 million/month	509	53
From 20 - under 30 million/month	58	16
Over 30 million/month	38	4
Industry		
Beauty	288	30
Fashion	240	25
Food & Beverage	384	40
Other	48	5

The results of demographic information of 960 survey samples are presented in Table 1. Statistics show that the proportion of men and women responding to the survey is not much different. The age group responding to the survey was mainly from

18 to 44 years old, this is the age to update social knowledge well. The survey sample was mainly concentrated in big cities such as Ho Chi Minh City and Hanoi. The income of the survey sample is mainly from 10 to 30 million, which is a fairly average income level in Viet Nam. The main industries of the survey.

4.2. Measurement model evaluation results

The results in Table 2 demonstrate that the remaining observed variables all meet the criteria of Cronbach's Alpha coefficient and composite reliability (CR) after ATT6 was eliminated because the loading factor is less than 0.7. All of the loadings have an AVE greater than 0.5 and are greater than 0.7. Thus, the scale of the research model achieves reliability and convergence (Hair et al., 2017).

Table 2. Measurement model evaluation results

The concept	The scale	Load factor	Cronbach's Alpha	CR	AVE
SWC_Conversion cost (Yen, 2010)					
SWC1	Overall, I would spend a lot of time finding a green alternative.	0.810	0.806	0.886	0.721
SWC2	When I change to consuming green products, I will spend a lot of effort to learn.	0.863			
SWC3	I'm not sure that the green product will be better than the one I'm using	0.873			
SAS_ Customer Satisfaction (Ghazali et al., 2016)					
SAS1	The green products of this company meet my needs.	0.856	0.820	0.892	0.733
SAS2	In general, my shopping experience has left me content.	0.832			
SAS3	When I think about consuming green products, I am very happy with this company.	0.879			
ATT_ Alternative Attraction (Ghazali et al., 2016)					
ATT1	I can purchase green products, but they don't seem to differ much from the ones I already use.	0.829	0.916	0.937	0.749
ATT2	I think the green products of this company will suit me better.	0.871			
ATT3	Maybe I will be satisfied when I switch to using the green products of other companies.	0.890			
ATT4	I find green products better than the products I'm using.	0.865			
ATT5	If I had to change, I would use a green product that is of better quality than the one I am currently using.	0.870			
LOY_ Customer loyalty (Yen, 2010)					
LOY1	I will not buy any product other than the company's green products	0.925	0.912	0.944	0.850
LOY2	When I need this product, I will buy the company's green products	0.933			
LOY3	I plan not to switch to using other companies' green products in the near future	0.907			

(Source: Analysis results from SmartPLS 4.0 software, 2024)

Table 3. Correlation assessment results

	ATT	LOY	SAS	SWC
ATT	**0.865**			
LOY	-0.405	**0.922**		
SAS	0.472	0.360	**0.856**	
SWC	0.432	0.400	0.542	**0.849**

Note: LOY: Customer loyalty; ATT: Alternative Attraction; SAS: Customer Satisfaction; SWC: Switching cost; The bold numbers are the square root value of AVE

(Source: Analysis results from SmartPLS 4.0 software, 2024)

The study's findings, displayed in Table 3, demonstrate that the diagonal's bold values have a higher correlation than the model's remaining latent variables. Therefore, the model achieved discriminant validity based on the threshold of Fornell & Larcker (1981). The results also show that the HTMT coefficient of the scale ranges from 0.262 to 0.663, less than 0.9 (Henseler, 2017). So, the scale's discriminant value is verified.

4.3. Results of structural model evaluation

The VIF coefficients of the variables in the model are all less than 3.0, indicating that the multicollinearity phenomenon of the research model is not serious.

Table 4. Hypothesis testing results

Hypothesis	Relationship	Original sample	Sample mean	Standard deviation	p-values	f^2	Conclusion
H2	ATT -> LOY	-0.195	-0.195	0.046	0.000	0.027	Accept
H3	SAS -> LOY	0.129	0.129	0.044	0.003	0.023	Accept
H1	SWC -> LOY	0.229	0.229	0.043	0.000	0.044	Accept
H4	SWC x SAS -> LOY	0.039	0.035	0.038	0.313	0.002	Reject
H5	SWC x ATT -> LOY	0.067	0.069	0.034	0.047	0.029	Accept
Adjusted R^2		$R^2_{LOY} = 0.538$					

Note: LOY: Customer loyalty; ATT: Alternative Attraction; SAS: Satisfaction; SWC: Switching costs

(Source: Analysis results from SmartPLS 4.0 software, 2024)

Table 4 shows that customer loyalty is determined by satisfaction (β = 0.129; p = 0.003) and green switching costs (β = 0.229; p = 0.000). Customer loyalty rises in tandem with rising customer satisfaction and green switching costs. This would imply that when customers have satisfactory experiences with the existing brands and can afford to switch to alternatives which may be more sustainable, they are more likely to be loyal to them. Meanwhile, alternative attraction has a negative impact on customer loyalty (β = -0.195; p = 0.000). When customers are attracted to alternative green products, they will be more likely to leave. This result is compatible with the previous research (Yen, 2010; Chan et al.; 2022; Amsami & Hamid, 2020).

The effect of alternative attraction on customer loyalty is moderated by switching costs (β = 0.067; p = 0.047). When switching costs are perceived as high, customers may feel deterred from pursuing alternatives, even if they are attracted to them. This suggests that the economic and psychological barriers associated with switching can effectively insulate brands from the competitive allure of alternatives. Consequently, businesses should consider strategies that not only enhance customer loyalty through satisfaction and engagement, but also emphasize the value of remaining with their brand in light of potential switching costs. This result is similar to the study of Ghazali et al. (2016).

However, switching costs do not change the relationship between customer satisfaction and customer loyalty (β = 0.039; p = 0.313). Previous research has demonstrated that customers will remain loyal to green products that meet their needs without being impacted by the costs associated with switching to green ones, which helps to explain this result (Amsami & Hamid, 2020). This interplay underlines how important understanding customer perceptions of sustainability is in fostering loyalty, as companies may well have to address not only satisfaction levels but also perceived switching costs to retain their customer base effectively.

The research results reveal significant insights into the dynamics of customer loyalty within the context of sustainable practices. Specifically, the findings indicate that both customer satisfaction and green switching costs contribute positively to fostering loyalty among consumers. This suggests that when customers are satisfied with their experiences and perceive the costs associated with switching to more

sustainable alternatives as manageable, they are more likely to remain loyal to their current brands. Conversely, the study highlights that alternative attraction has a negative effect on customer loyalty, implying that when consumers are drawn to competing options, it can diminish their commitment to their existing choices. Notably, the results also demonstrate that green switching costs can moderate the relationship between alternative attractiveness and customer loyalty, suggesting that when customers perceive high switching costs, their attraction to alternatives is less likely to translate into actual switching behavior. This interplay underscores the importance of understanding customer perceptions of sustainability in fostering loyalty, as companies may need to address both satisfaction levels and the perceived costs of switching to retain their customer base effectively.

In Viet Nam, green switching costs do not significantly moderate the relationship between customer satisfaction and loyalty due to several factors. Consumers often prioritize immediate satisfaction from green products, such as quality and usability, over potential switching costs, which can diminish their impact. Additionally, cultural attitudes may lead customers to view the long-term benefits of green products as outweighing any short-term switching inconveniences; this allows satisfaction to directly drive loyalty.

5. CONCLUSIONS AND MANAGEMENT IMPLICATIONS

5.1. Conclusions

The purpose of this study was to investigate how green switching costs affect the tendency of customers to stay with green goods. Research results show that satisfaction and green switching costs have a positive influence on customer loyalty. Alternative attraction has a negative impact on customer loyalty. Furthermore, green switching costs can also change the impact of alternative attractiveness on customer loyalty. This shows the importance of reducing the attraction of alternatives and increasing the green switching costs for customers.

5.2. Management implications

Research results show that alternative attraction has a negative impact on customer loyalty. To reduce the negative effect of alternative attraction on customer loyalty towards green products in Viet Nam, the company should focus more on strategies that will help in improving the quality of their products, using smart marketing techniques, and creating positive experiences for the customers. It shall assist the business in making the green products meet, and where possible exceed, customer expectations by setting a high standard of quality, hence reducing the attractiveness of alternatives. Besides this, the creation and execution of innovative marketing strategies that focus on the unique selling points and sustainability of their offerings will enable them to engage with their customers and develop brand distinctiveness within a very competitive marketplace. Finally, positive customer experiences-through superior customer service, loyalty programs, and involvement with the community-foster brand affinity, which would further insulate their customers from substitutable attractions and encourage long-term loyalty.

The first and most crucial thing to consider is the quality of the product. Standards for sustainability and environmental safety must be met or exceeded by imported green products. Not only does using recycled or sustainably sourced materials help cut waste, but it also projects a positive image of environmental commitment.

Research results also show that satisfaction has an impact on customer loyalty. Afterward, companies require ways to raise client satisfaction. Establishing and maintaining comprehensive strategies for customer service and shopping experience is imperative for businesses to foster customer satisfaction. Convenience during the shopping process, quick delivery, and professional support services all influence customer satisfaction. Businesses can use technology to optimize the online shopping experience and create positive touchpoints from order to deliver. Developing a well-thought-out customer support strategy is also essential. Customer satisfaction and trust are increased when problems are resolved efficiently and with the assistance of a committed and flexible team. Businesses can also show their appreciation and respect for their devoted customers by developing incentive programs or special privileges.

The relationship between alternative attractiveness and customer loyalty is moderated by green switching costs, which also directly affects customer loyalty. To keep customers, businesses must concentrate on switching cost factors. Businesses can use a variety of clever strategies to make sustainable changes more convenient for customers and boost their involvement in the process, all of which will drive up the cost of

switching. First of all, providing detailed information and clear instructions on how to use green products is important. Simple and detailed instructions help customers easily adapt to new products without much learning or additional costs. Second, creating promotional policies and incentives for customers to use green products can also reduce financial pressure. Businesses can set up discounts, special offers, or reward points for people who choose green products from the company. This not only motivates customers but also helps them feel like they are losing too much money when switching to other green products.

6. RESEARCH LIMITATIONS

Besides the results achieved, the study also has some limitations. First, this study has not analyzed by region to have a more appropriate and specific solution. Second, the research sample does not have traditional products. From there, future research can analyze in depth according to the survey sample of each geographical area and compare it with traditional products to propose implications for businesses that are making a green transition.

CONFLICT OF INTEREST

The author declares that there is no potential conflict of interest in connection with the research, authorship, and publication of this article.

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