

Fostering Eco-Conscious Consumerism: The Impact of Customer Education on Sustainable Purchase Intention

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Abstract: Customer education is an important communication strategy that can be used to promote sustainable purchase intentions. This paper explores the factors that can be enhanced by customer education to ensure sustainable consumption of green products. The study is able to analyze the current customer education practices and identify the main areas that should be addressed to create sustainable purchase intentions. The research conducted is based on the research model and the survey was administered to 480 consumers within Cochin City. The regression and mediation test outcomes show that customer education has a strong influence on sustainable product intentions. In addition, the mediating role is played by the awareness in terms of food waste, environmental issues and subjective product knowledge in terms of connecting customer education with sustainable purchase intentions. The findings have immense implications on the marketer of sustainable products, sealing loopholes that have been identified in the preceding literature reviews. This paper is original research undertaken in the Indian setting.

Keywords: Environmental, Food awareness, Product knowledge, green products, Sustainable purchase, Customer education.

Introduction

It is essential to promote sustainable food consumption in the future to have a sustainable environment (Nguyen, 2020; Rahman et al., 2020). Organic food purchases are a worthwhile element of the promotion of the Sustainable Development Goals established by the United Nations, especially those that are intense with sustainable production and consumption. The extensive literature has found that there is a variety of factors influencing the intention to purchase organic food. The concepts and models used in this research are the value theories, theories of rational choice (the Knowledge-Attitude-Behavior Model, the Theory of Reasoned Action, and the Theory of Planned Behavior), normative and ethical models (the Norm Activation Model, the Value-Beliefs-Norm Model, etc.). The previous studies have revealed the important motivators, such as individual (age, individual values, environmental and health anxiety, ethical beliefs, lifestyles, attitudes) and societal (cultural norms, media impact, and societal values) factors (Kushwah et al., 2019; Pham et al., 2019; Nosi et al., 2020; Katt et al., 2020; Molinillo et al., 2020).

Most firms make a wrong assumption on the interest of consumers in green products, and this leads to over saturation of the market with unsold products. Social and environmental benefits do not usually affect the purchase decisions as much as the basic product attributes. Being focused on the products that should fulfill their particular needs, consumers base their choice on the advantages that affect society and the environment, in the first place (Đurić and Djuric, 2024).

Sustainable production and consumption are among the 17 SDGs introduced by the United Nations in 2015 (Ranjan and Bhagat, 2024). The UN emphasizes the possible contribution of the household consumption and the considerable implications of food production toward the environment (Sachdeva et al., 2024). It is therefore believed that sustainable food consumption should be promoted by educating the consumers. Nevertheless, the role of consumer education in encouraging green consumerism has not been given much attention. It has already been established that there is an increasing body of research on the propensity of consumers to buy eco-friendly items, but the limited information is known about the specific effect of consumer education about these propensities. Even though they incorporate consumer education in their marketing communication strategies, absent is in-depth analysis (Nejad & Fard, 2019).

The importance of educating the customers with regards to environmentally friendly products and the impact they have on their purchasing behavior. This paper highlights the significance of consumer education in promoting

consumption of environmentally friendly products by consumers. Consumer education was propounded by early followers as a powerful strategy to boost the commercial prosperity of green products. On the same note, although there is a lack of discussion on the topic, it is accepted as an impact on environmentally conscious behavior in EU. Customer education aims at ensuring positive attitudes towards the businesses and their products. Stated the importance of persuasive education programs.

The handful who has examined the overall impact of consumer education beyond the mere dispersion of information. Training the customers will be able to improve the level of satisfaction, loyalty, and trust. Sari et al. (2020) also demonstrated the critical importance of customer education, a methodical analysis of the impact of consumer education on purchase intentions of environmentally friendly products over time was made through a repeated cross-sectional approach.

Customers should be made to remember that ecologically friendly products are associated with environmental issues, which is why it is important to educate them. Therefore, to improve performance of green products market, a long-term and strategic intervention including education is necessary.

Factors Affecting Sustainable Purchase Intention

Over the past years, the growing awareness of the necessity of sustainable consumption has been observed across the world (Wang et al., 2019a). Customers are paying more attention to the problem of environmental protection, which has resulted in the increased interest in the assessment of product usage, including the use of materials to deal with packages, rubbish, and the use of pesticides. This is why the growing awareness of this problem has led researchers to investigate the sustainable consumption behavior more deeply (Emekci, 2019; Mishra et al., 2021). It is imperative to realize that not all cultures share the same consumption behavior in regard to sustainability. In developing economies, purchase behavior about sustainability is quite different. A number of challenges present themselves in the form of societal, economic, human rights, and environmental issues in emerging markets (Choi & Luo, 2019). In India, sustainable practices and consumer attitudes towards eco-friendly products are still in development. The information about environmentally friendly buying behavior in India is scarce; however, in recent years, Indian customers have started to be more open toward sustainable fashion (Khare et al., 2020).

There is a sustainability budget that is already determined by many consumers and determines how much consumers are eager to pay on sustainable products. Customer education is considered as a good strategy of communication on green product promotion. The study examines the role of customer education on purchase intentions in a sustainable context and asks a question into the mediating impacts of food waste awareness, environmental concern, and subjective product knowledge in the study.

Food Waste Awareness

Food waste is a global issue that has significant economic, social, and environmental prospects. Data indicates that nearly one-third of the food produced in different categories for human consumption is discarded every year. This wastage is throughout the entire supply chain, encircling production, the distribution, retail, and consumer phases. Several studies have been done that identify different causes regarding the issue of food waste. Like consumer related factors like attitudes, perceptions, and behaviors play key roles in the generation of food waste. These consumer perceptions as well as behaviors cannot be ignored in establishing appropriate strategies to minimize food waste. In studies, it has been pointed out that awareness and education of consumers have to be increased on the effects of their behaviors as regards to food wastage.

Reducing food waste suggests a chance for practitioners and policymakers to develop and ensure the establishment of educational activities to reduce the impact of food waste (Chakrabarty et al., 2020). The specific awareness relates to becoming aware of the scope of the problem, comprehending the negative environmental and social impacts, and getting an idea of the significance of decreasing such wastages using strategies such as smart planning of meals, minimising leftovers, composting, and donating to food redistribution programmes. Through the creation of awareness, individuals and communities will be better able to make choices on how they can dispose of food and what kind of food they eat. They could also lobby policies and practices that support sustainable food systems as well as minimize household, retail, and agricultural waste. Such knowledge can be used to trigger behavior change where the individuals will feel compelled to make reducing food waste a part of their lives.

Besides, food waste awareness also includes information about the relationship between food waste and sustainability (Alkaim & Hassan, 2024). It involves understanding the fact that minimization of food wastage is not only beneficial to the individual and community but also to the environment as a whole. The minimisation of food waste leads to the

conservation of resources, reduction in emissions of greenhouse gases related to food production and discard, conservation of biodiversity, and response to hunger and food insecurity. To limit social, economic, and environmental costs, control environmental degradation, and facilitate a sustainable food system, the restaurant industry has to prevent/ reduce food waste (Martin-Rios et al., 2023).

Environmental Concern

It means the sensitivity, cognizance and concern about the natural environment wellbeing. It entails the process of recognizing the impact that the activities of man have on the environment and needing to adopt appropriate measures to limit its damages and to embrace environmentally friendly measures. The aspects of environmental concern span many issues, including pollution, deforestation, climate change, and destruction of habitat. Environmentally concerned people tend to put emphasis on their ability to conserve and protect the natural resources, reducing their carbon impact, and embracing environmentally friendly projects, and championing policies and activities that are environmentally sustainable.

Environmental concern also implies the acknowledgment and recognition of human activities on the environment. It is about realizing the interconnectedness that exists between people and the physical environment and agreeing with the fact that the resources of this planet have a limit. This is borne out of the fact that the environment can be degraded by human-related activities, leading to ecological disproportions that may have adverse effects on ecosystems, wildlife, and even human life. Mindfulness makes people take an interest in practices that can help them minimize their impact on the environment, including but not limited to recycling, energy preservation, consuming at sustainable businesses, and promoting environmental regulation, policies, and projects.

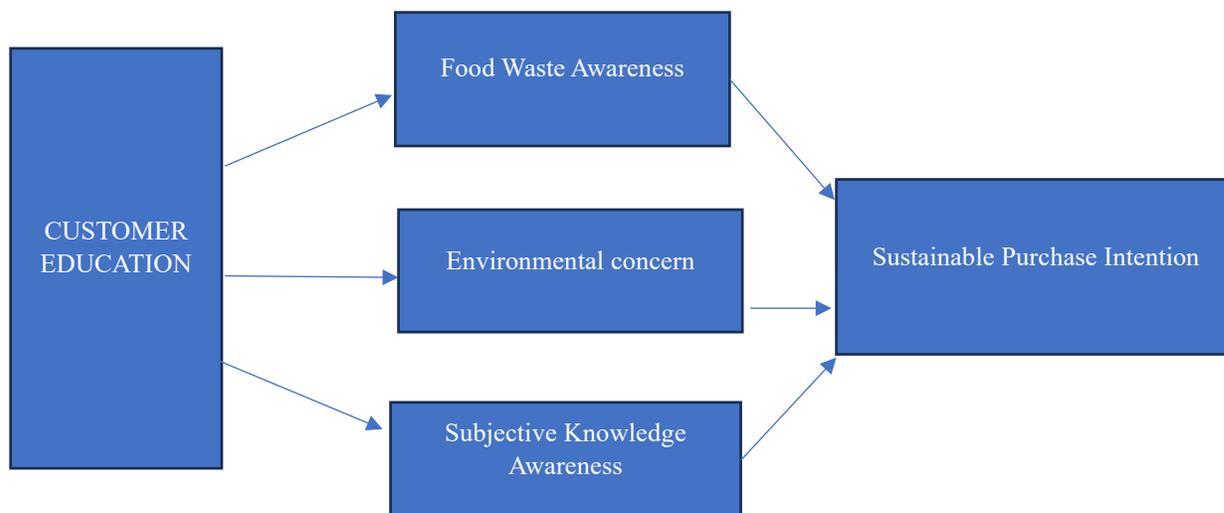
The theory of reasoned action by Fishbein and Ajzen in 1975 offered a model to use to investigate how the beliefs on the practical benefits that a product has to the environment affect the intentions of individuals in buying products that are friendly to the environment. Education is central to enhancing the development of environmentally valuable orientations and the instillation of long-term environment-friendly habits.

Subjective Knowledge Awareness

It is of salient connection with the pro-environmental behavior of the consumers. The term subjective knowledge, as used in this study, refers to how clients perceive and comprehend such and such about organic food in terms of quality. It involves how well-informed individuals feel about sustainable products, practices, and their potential effects on the environment and society (Chaname-Chira et al., 2024). This personal knowledge awareness is bound to have an unavoidable influence on sustainable purchase intentions. Although people tend to think that they possess high subjective knowledge regarding sustainability, more are supposed to take into account the aspects of sustainability when making a buying choice. They are also less insensitive to the possible environmental and social consequences of their decisions and more motivated to make sustainable purchases. On the other hand, people that lack a high subjective knowledge awareness might not be as motivated to focus on sustainability when making purchasing decisions. They might have less intentions of buying sustainable products due to their incomplete knowledge of sustainable practices or potential consequences of their actions. Therefore, subjective knowledge awareness is a key determinant in driving individuals to make more sustainable choices.

Customer expertise refers to the knowledge and skills essential for understanding a brand, product, or market. When businesses render customers with information and insights about their products, it enriches the perceptions of their knowledgeability. Former research has underlined the significance of educating of customers to enhance their knowledge (Bell et al., 2017).

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Figure 1: Conceptual Model

Literature Review and Hypothesis

Customer Education and Food Waste Awareness

Food wastage is a substantial global problem across the entire food supply chain (Goodman-Smith et al., 2021). Upcycling of food presents a hopeful approach towards decreasing food waste by converting by-products and discarded materials into new food items (Aschemann-Witzel et al., 2023; Moshtaghian et al., 2021). However, the current literature has limitations, particularly its reliance on estimates rather than actual measurements of household food waste. Many studies also use surveys based on theoretical or psychological frameworks that lack validation for explaining changes in food waste following interventions. This raises concern about the efficacy of proposed strategies and interventions in objectively reducing household food waste.

Consequently, scholars conclude that intervention at a household level demands better planning. Thus, the purpose of the study was to research the impact of a holistic educational strategy on the food waste of households during five weeks. Wharton et al. (2021) reported a significant decline in household food waste and the positive changes in behavior maintenance, mentioning the effectiveness of the educational intervention. The correlation between food waste reduction and change of behavior highlights the relevance of handling attitudes, norms, and control mechanisms. The food waste in the participating households has decreased by 27.85%, which testifies to the effectiveness of a comprehensive education strategy that comprises the educational project.

The outcome of the study (Westrate et al., 2002) shows that there is no general knowledge about the health-enriching foods and their advantages, which places an obstacle to broader application. Such a blindness poses a problem in terms of communication for the marketers. Consumers familiar with health-boosting foods perceive them as high-quality and are satisfied with their health benefits. There is also significant consumer interest in learning more about these products. Therefore, raising awareness and educating consumers are closely linked goals. Marketers must ensure they communicate timely, relevant, credible, and easily understandable information, especially when introducing new products or services.

Food waste often occurs because people do not understand the value of food and the societal and environmental impact of wasting it. Educating young consumers is crucial to addressing this issue (Fraj-Andrés et al., 2023).

From the existing literature, it is clear that food waste happens throughout all stages of the food supply chain, and upcycling food presents a promising strategy for reducing it. However, more well-designed household interventions

focusing on customer education are needed. Adequate efforts to modify leftover usage and shopping habits can significantly reduce the wastage. A lack of understanding of health-boosting foods poses a barrier to their adoption, highlighting the need for consumer food waste awareness and education throughout their engagement with new products or services. Thus, the following hypothesis has been formulated.

Hypothesis H1:

Customer Education correlates well with Food Waste Awareness.

Customer Education and Environmental Concerns

The majority of consumers want to make a deliberate choice when purchasing environmental-friendly products. They want to obtain sufficient information about the environmental problems in order to develop their own opinion and make conscious decisions. It is indicated that consumer education would be a good measure of enhancing perceived convenience and credibility in terms of environmental friendliness.

Actions of the individual can affect his or her surrounding, and vice versa, the surroundings can affect the behavior. As an example, product knowledge or environmental education has a significant influence on the purchasing behavior of consumers.

Environmental concerns developed can bring harmony in the society and contribute to the preservation of the environment. Manufacturers need to be educated on the production of environmentally-friendly products. Consumers can be supplied with environmental education using media such as electronic and television, in particular. Underlining education as the force that can be used to exploit purchasing behaviours that are environmentally responsible. It claims that educating the consumers is essential in effectively communicating the relationship between green products and green issues. It is therefore imperative to incorporate the continuous education in enlightening the market performance of the eco-friendly products. Moreover, education of customers helps them to make decisions based on knowledge in buying.

Customer education initiatives are much more effective in marketing the eco-friendly products than other approaches that include advertising, labels, and certifications.

Customer education is considered as powerful tactic to ensure that products which are environmentally friendly are adopted. At this point, there is lack of studies that use repeated cross-sectional methodology to examine consumer intentions to buy environmentally friendly product. Hasrini Sari et al. (2020) carried out a study to examine on the impact of customer education on the willingness to purchase green products in Indonesia at two different times in 2008 and 2019.

Education of consumers on environmental matters is a very significant role in developing a more positive attitude towards environmentally friendly products. The communication work on the emphasis of diverse environmental campaigns and the strategies on the eco-friendly products may provoke buying patterns. It has been discovered that the demographic elements can account only a low percentage (8) of green-friendly behavior. The intensity of personal environmental concerns is measured by Sari et al. (2020). The degree of environmental issue is more or less correlational to attitudes on the individual level, which is backed by the relationship between the explained variances and the number of questions posed.

When buying environmentally friendly products, buyers require sufficient information on environmental concerns so as to make conscious decisions. Consumer education is proposed as a good strategy to increase perceived convenience and trustworthiness in terms of environmental friendliness. The environmental concerns can be developed to reconcile the society and save the environment, and this will involve educating manufacturers to come up with environmentally friendly products. Customer education has been known to make informed purchases and is seen as a strong communication tool in promoting environmentally friendly products. Customer education programs are the best marketing strategies to promote eco-friendly products. Consumers need to be educated about the environment, which is an important part of introducing a more positive attitude toward environmentally friendly products; different approaches, including emphasizing campaigns related to environmental support, can help promote sustainable purchasing behavior.

H2: Customer Education is positively associated with Environmental Awareness .

Customer Education and Subjective Knowledge Awareness

Customer The subjective knowledge of consumers is based on their beliefs and the objective knowledge is based on the facts that are stored in the memory. Consumers utilize both the memory and the marketing channels to provide information in the decision making. Food label information including food ingredients, nutritional value, etc, plays a crucial role in enabling consumers to make healthier decisions. Consumers are exposed to a lot of marketing and family related factors in-store. The extent to which consumers rely on the knowledge gained during customer education to assess the information on food labels during healthy food choices is not clear.

Identification of quality is critical to discriminating consumers. Even though they might be less competent in detecting the superior quality, the sophisticated consumers are more concerned with quality and its communicative advantages than the mass markets.

Consumers frequently make comparisons within the same category when assessing quality. Retailers across different industries often take on the responsibility of developing the ability to recognize quality through customer education (Sanchez and Martínez, 2020).

Consumer education plays a crucial role in enhancing developed markets. Assisting consumers in acquiring subjective knowledge about product features and benefits provides a competitive edge for companies operating in these advanced markets. Educating consumers empowers them to assess a company's offerings more adeptly, potentially impacting their loyalty. The capability to evaluate products and differentiate between different quality levels can also differentiate advanced markets from less sophisticated ones .

To make informed decisions, consumers need to be educated, and this will enable them to have some personal knowledge, engage in increased involvement, and create a high level of loyalty (Sanchez and Martinez, 2020).

The subjective knowledge can be countered by consumer education (Moorman et al., 2003). By undertaking a consumer education task, businesses recognize the value of proper communication with all interested parties. This implies reaching companies, viewers, and customers with the right information concerning the products or services of the company. Consumer education may become a strategic decision of companies that want to implement ethical marketing. Educational disclosures of such type are also capable of encouraging responsible consumption, without generating negative environmental and social effects.

The knowledge of the consumers is subjective or subjective and refers to what the consumer thinks he or she knows, whereas the objective knowledge refers to facts that are learnt and stored in the head. In the education process, consumers rely on their memories and promotional materials, but the labeling of food will be very important in making healthy choices. Sophisticated consumers can discern and place value on quality goods on higher priority on quality goods as compared to mass-market alternatives, and this is usually done through customer education by the retailers. Consumer education will help instil knowledge in people to judge products better, and this may affect consumer stickiness. It also enables people to make better decisions, resulting in their higher engagement and loyalty, and enables responsible consumption behavior. Thus, the hypothesis below has been formulated.

H3: Customer Education (CE) positively correlates with Subjective Knowledge Awareness (SKA).

Customer Education and Sustainable Purchase Intention

The concept of customer education has been incorporated in marketing strategies and the main purpose is to educate the customers so that they are equipped with knowledge and skills that will enable them to make informed purchases. This includes the complete coverage of information about the products and services and their advantages and the best way to utilize the products and services. In most studies, the topic customer education is addressed in different aspects and fields. The customer education is cited as such a powerful communicative action when it concerns the environmentally friendly products.

The United Nations emphasizes sustainable consumption and sustainable production as the key objectives of sustainable development (United Nations, 2015). The United Nations puts great emphasis on consumer education as a way of ensuring sustainable food consumption as households can greatly influence production. However, the importance of informing customers in order to promote environmentally friendly behavior has not been popularly known.

The tendency to purchase environmentally friendly products among consumers is an issue that is gaining academic attention. Nevertheless, there is little research that specifically analyzed the effect of consumer education on actual intentions to buy green products with a significant exception of implementing consumer education into marketing communication strategies. Being recognized as an influencer of the intention to purchase green products, it is acknowledged that customer education is used as a means of the creation of awareness and the development of consumer intentions to purchase the green products.

There is a perception that organic produce is costly and the apprehension on whether organic produce is worthwhile necessitates organic farmers to utilize novel communication and educational approaches. The consumers have to be cognizant of the extra costs of production of organic food and they should know that the extra cost is well compensated by the fact that organic food offers benefits such as better health and environmental conservation. This is in line with the recommendation that Roger (2003) suggests to spell out benefits in order to be more acceptable. The research discovered a lack of faith in the participants with respect to the health advantages of organic foods. Increased prices will probably discourage those who do not find higher advantages than costs. Therefore, to enable consumers perceive the value of organic products not just in terms of their money, there is need to enlighten people on how and why these products are valuable. The process of organic farming can be told to create awareness among the consumers and give them a mental picture of the source of the produce.

These innovative forms of communication can make farmers and retailers sell more of their produce. Conversely, social marketing communication plans are designed to facilitate sustainable consumption habits with the application of marketing principals in the benefit of society (Kotler et al., 2002). The social marketing activities could boost the perception of the benefits of taking organic products to the individuals, society, and the environment. Educational campaigns could be made by organic farmers, and each farmer provides on the labels a piece of information concerning the advantages of organic produce. This would not only raise the sales but also raise the amount of knowledge that consumers have on the benefits of organic produce, which is beneficial to all farmers and society.

Rogers (2003) notes that when the products are marketed, the more the benefits are transferred to the consumers, the faster the products will spread in the society. Therefore, farmers and retailers of organic products ought to emphasize on the benefits of organic consumption during point-of-sale and advertising. Consumer education plays a vital role in enabling the consumers to make informed decisions.

One of the effective methods of promoting the benefits of organic consumption is formal environmental education. Although it remains an environmental education component, the advocates of organic consumption may collaborate with curriculum developers in order to introduce this issue into the education programs. This justifies the suggestion of Zsoka et al. (2013), who recommends environmental education pay more attention to sustainable living and consumer-related behaviors, targeting at different levels of knowledge and environmental awareness.

Integrated Marketing Communication is the provision of a similar message through various media (Kotler and Keller, 2012). Having a proper, truthful, and consistent communication as to the advantages of organic produce can raise environmental awareness among consumers. The education of consumers plays an important role in educating consumers on the benefits of organic products that may result in higher sustainable purchase intentions.

Based on the above literature, it is evident that customer education is critical in the empowerment of customer to make informed and sustainable purchases through provision of detailed information about products, services, and their advantages. It also teaches environmental friendliness and assists in wise decision making. To solve the perception of the high prices of organic produce, there is need to communicate creatively and to educate the consumers so that they recognize the value that is not necessarily in the price, but other factors that will make informed decisions on sustainable purchases. Creative communication strategies can help boost sales, while social marketing efforts can increase awareness of the benefits of consuming organic products for individuals, society, and the environment. There is a growing emphasis on consumers' readiness to purchase sustainable products, yet only a limited number of studies have specifically investigated how consumer education affects the intention to buy green products.

The same evidence can be provided with respect to suboptimal food (e.g., food with an uncommon shape or closer to expiration date) which showed that high environmental responsibility and food waste awareness translated to high sustainable intention to buy documented that although being an environmentally responsible consumer alone did not have a significant effect on the purchase intention, when coupled with low food waste awareness, it had a significant negative effect. Principato et al. (2021) also highlighted personal and social solutions to the problem of food waste disposal: educational campaigns and the process of resocialization of society. The scarce literature has covered consumers' attitudes to sustainable buying, including their intentions, goals, and willingness to pay (WTP)

significantly (Bhatt et al., 2021). The perceived image of products can be beneficial through educating customers on the prevention of food waste (Aschemann-Witzel and Peschel, 2019; Altintzoglou et al., 2021) as well as people can be motivated to consider positive effects on the environment and view it as an opportunity to construct green impressions which in turn lead to greater intentions to buy sustainably (Yang et al., 2021).

As demonstrated in the provided literature, the high level of environmental responsibility and food waste problem awareness are the factors that affect sustainable purchase intention. With low insensibility of environment and food waste, the intentions to buy are likely to experience considerable reduction. It is essential to tackle food waste management issues through educational initiatives and shifting societal norms at both individual and community levels. Educating the consumer on the prevention of food waste can positively affect the perception towards the product and inspires individuals to visualize the positive impact that the environment can have on their desire to buy products more sustainably.

Zameer and Yasmeen (2022) discovered that knowledge of green products, along with their awareness of the environment, has an important role in determining whether a person will buy green products. In their work, they also examined the improving effect of environmental awareness on environmental concerns. The findings showed that environmental awareness plays a critical role in strengthening environmental issues. The past research has largely concentrated on the issue of environmental education and awareness but has not been able to cover the relationship between environmental consciousness and environmental concern. The research contributes to existing information as it proves that increasing awareness of the environment is one of the ways to strengthen the environmental issues. Moreover, growing number of environmental concern results in consumer intents towards green shopping of green products. Environmental concern reflects an individual's core commitment to conserving the environment and plays a crucial role in encouraging pro-environmental behaviors among consumers. It is widely recognized as a significant driver for adopting sustainable lifestyles, where able to portray how environmental concern affected their purchasing intentions, especially in green energy brands. In regard to sustainable food choices, environmental concern is a decisive element (Hao et al., 2019) as personally responsible consumers have a greater preference for products showing low environmental impact (Taufique et al., 2019). The current COVID-19 pandemic has raised consumer sensitivity on making sustainable and environmentally friendly decisions on purchases (Qi et al., 2020). Of late, scholars have investigated whether such heightened environmental awareness can strengthen consumers' perceptions towards buying organic foods (Cachero-Martinez, 2020; Tandon, et al., 2020).

Environmental concern entails the emotional type assessment of environmental issues by a consumer, and it is normally considered as an immediate antecedent of intentions to make purchases that are sustainable, meaning an inclination to acquire commodities and services with companies that practice environmental responsibility. Environmental concerns do not need to be directly related to promoting sustainable purchasing intentions, but they can be utilized to make buyers more interested in obtaining more information related to the proposed outcomes. Findings on other studies indicate that people who have shown interest or are distressed with a given issue have a high tendency to get actively involved in relevant information seeking. This gained knowledge helps consumers to get the needed information in order to develop their buying intentions.

Customer education has consistently impacted environmental concerns over the two years studied. Education is suggested as a critical element in nurturing environmental values and fostering lasting intentions to engage in sustainable purchasing.

The scholars have noted that knowledge about environmental friendly products accompanied by environmental consciousness plays a significant role in influencing consumer buying of environmentally sustainable products. The concept of environmental awareness indicates the general inclination of a consumer towards the environmental preservation and plays a central role in influencing the pro-environmental behaviour. It goes a long way in encouraging the consumers to adopt sustainable lifestyles and is a direct antecedent to their purchase intentions that are sustainable. Although it will not necessarily dictate such concerns, environmental consciousness can lead the consumer to desire more information on such consequences, therefore giving the consumer the knowledge he/she needs to make a wise purchase.

By informing the customers and exchanging information with them about product expertise, they can feel more knowledgeable. Customer expertise refers to the knowledge and skills that one needs to understand a brand, product or market. According to the previous literature, the benefits of training customers to increase their level of proficiency have been highlighted. People become willing to transfer their knowledge to other people when they believe that they possess such knowledge. It is noted that the desire and the ability of a customer to communicate may be determined by his/her understanding of the product.

Valuable information shared can make a person gain respect, self esteem and belonging to the society. Thus, the customers receive new knowledge and increase their perceived knowledge on a subject, enhancing their motivation and capacity to talk about it. Provided that the source of the information is a well-developed customer education program that a brand implements, it may positively affect the frequency with which customers cite the brand when they interact, as well as their desire to make sustainable purchases.

Current literature on the consumption of organic food has portrayed the personal knowledge to be very influential in the purchase behavior. The subjective knowledge has an issue in relation to attitudes and behavior concerning sustainable purchase decisions. The analyses show that the greater the subjective level of knowledge about sustainability, the greater the positive attitude towards the sustainable product, and the intention to purchase the latter (Lee and Kang, 2019).

On the whole, the personal understanding of sustainability affects the intentions to buy organic food and attitudes. The exchange of information with the customers will improve their knowledge, desire, and communication skills stimulating respect and a feeling of acceptance in the society. Education of the customer can lead to an increase in referencing the brand in the process of interaction with others and a change in sustainable intentions to purchase.

As such, the hypotheses developed are as follows:

Hypothesis H4: Customer Education (CE) and Sustainable Product Purchase Intention (SPI) have a positive relationship.

Hypothesis H5: FA Mediates the effect of FA on the relationship between CE and SPI.

Hypothesis H6: EC has a Mediation effect with CE-SPI relationship.

Hypothesis H7: The subjective knowledge awareness is the Mediator between the CE-SPI relationship.

Research Methodology

Data Collection

It is descriptive and a study of Cochin City consumers. The sample was created by taking a random sample consisting of 480 people using a simple random selection process. The data were collected using a systematic questionnaire, and study variables scales were borrowed in previous researches. On the collected data, regression and mediation analysis was conducted.

Triangulation and reflexivity methods have been used to reduce internal biases in the collection of qualitative data (verbal, textual, and visual answers). The reliability and credibility of the data were achieved through cross-verification of data by interview, open questionnaire items, and the observational cues. Researcher reflexivity was maintained through audit trails and memoing to prevent subjective influence during interpretation. Peer debriefing and participant validation were also conducted to confirm that the responses authentically reflected participants' perspectives.

Research instrument

The survey consists of one component collecting demographic data and six sections that use established scales. The first part includes the items that measure firm-specific and market-specific customer education. They have been taken out of Bell et al. (2017) and are rated on a scale of 7 points. Also, it scores with a 7-point scale the following: Subjective Knowledge Awareness (items of Li and Leonas, 2022); Environmental Concern (items of Aschemann-Witzel et al., 2022); Food Waste Awareness (items of McCarthy et al., 2020); and Sustainable Product Purchase Intention (items of Zhang and Liu, 2022; Kong et al., 2016).

Data Analysis

Reliability Analysis

Table 1: Reliability Analysis Table

Scale	Number of Items	Cronbach's Alpha	Mean Score Range
Customer Education (CE)	8	0.839	5.339 to 5.661
Food Waste Knowledge	5	0.734	5.612 to 5.762
Environmental Awareness	4	0.713	5.486 to 5.860

In this research, Cronbach's Alpha helped to test the consistency of scales in implementing and sustaining behaviors of various dimensions of consumer education. The analysis indicated that there was strong internal consistency and appropriateness to use in measuring customer education both at a firm level and at a market level; moreover, that the overall Customer Education (CE) scale, where there was Firm- specific Customer Education (FCE) and Market-specific Customer Education (MCE), had high Cronbachs Alpha of 0.839 (with eight items), that is, 0.839 as its alpha value. The responses of the participants were also consistent and the means of the scores of the FCE items and MCE methods had a range of 5.339 to 5.661.

Food Waste knowledge scale (5 items, Cronbach Alpha=0.734) was also adequate to measure consumer knowledge regarding food waste. Basically, the responses were slightly divergent, with an average score of 5.612 to 5.762.

The four-item Environmental Awareness scale slightly lower than the scales before confirmed a Cronbachs Alpha of 0.713, which means that, it is reliable. Mean scores of the respondents varied by 5.486 to 5.860 levels of environmental awareness.

With a Cronbach's Alpha of 0.763, the three-item Subjective Knowledge Awareness scale was found to be a valid indicator of perceptions regarding sustainability knowledge. The participants' consistent responses were reflected in the mean scores, which varied from 5.554 to 5.831.

The Sustainable Product Purchase Intention scale was also good in internal consistency with a Cronbachs Alpha of 0.761. The mean scores of the participants were between 5.731 and 5.831, thus a great willingness to adopt sustainable purchasing was observed.

All things considered, the outcome of such reliability helps to serve the scales of the study and guarantee the proper establishment of construct In the context of sustainability and consumer education, this is essential for future research examining connections and possible mediating effects between these variables.

KMO and Bartlett's Test

Before examining the relations between Customer Education and other psychological constructs, it is crucial to verify that the data are appropriate for factor analysis. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy yielded a value of 0.919, indicating excellent adequacy for identifying underlying structures in the data, indicating an excellent level where the variance among variables is likely shared variance, suggesting it is appropriate for uncovering underlying structures. Bartlett's Test of Sphericity showed significant results ($\chi^2 = 5927.165$, $df = 253$, $p < .000$), suggesting that, the correlation matrix is not an identity matrix, which validates the suitability of performing factor analysis.

Correlation Analysis

A Pearson correlation analysis was conducted to investigate the relationship between Customer Education (CE), Food Waste Awareness (FA), Environmental Awareness (EC), Subjective Knowledge Awareness (SKA), and Sustainable Product Purchase Intention (SPI). The results obtained revealed that there were very high positive correlations among all the construct pairs, a fact that supports the theoretical background that greater awareness and education correlate with more intentions and knowledge in sustainability.

Table 2: Pearson Correlation Analysis

Relationship	Correlation (r)	p-value
Customer Education & Food Waste Awareness	-0.753	< 0.000
Customer Education & Environmental Awareness	0.578	< 0.000
Customer Education & Subjective Knowledge Awareness	0.472	< 0.000
Customer Education & Sustainable Product Purchase Intention	0.522	< 0.000
Food Waste Awareness & Sustainable Product Purchase Intention	0.568	< 0.000
Environmental Awareness & Sustainable Product Purchase Intention	0.563	< 0.000
Subjective Knowledge Awareness & Sustainable Product Purchase Intention	0.49	< 0.000

- Customer Education and Food Waste Awareness: They found a good correlation ($r = -.753, p < .000$) between the means, which means that the higher the amounts of customer education, the more people would be conscious of food waste.
- Customer Education and Environmental Awareness: A moderate correlation ($r = .578, p < .000$) suggests that customer education positively influences environmental awareness.
- Customer Education and Subjective Knowledge Awareness: There was a moderate correlation ($r = .472, p < .000$), indicating that customer education contributes to increased subjective knowledge about sustainability.
- Customer Education and Sustainable Product Purchase Intention: It was identified that the relationships between the two variables were moderately connected ($r = .522, p < .000$), which indicates that customer education is related to the intention to purchase sustainable products: the stronger customer education, the stronger the intention to purchase sustainable products.
- The conditions of positivity of the correlation of the mediating variables (FA, EC, SKA) with the dependent variable (SPI) were also significant, which proves the veracity of the hypothesis of the possibility of the mediating variable inclusions in the relationship between Customer Education and Sustainable Product Purchase Intention. Specifically:
 - Food Waste Awareness and Sustainable Product Purchase Intention ($r = .568, p < .000$)
 - Environmental Awareness and Sustainable Product Purchase Intention ($r = .563, p < .000$)
 - Subjective Knowledge Awareness and Sustainable Product Purchase Intention ($r = .490, p < .000$)

These results provide a solid basis for performing regression and mediation analysis to examine these associations in more detail and measure their impact. This more thorough examination will make it clearer how knowledge and awareness moderate the impact of education on sustainable practices.

Overall, the correlation analysis and preliminary adequacy tests emphasize the importance of customer education in fostering sustainability outcomes by offering strong proof of significant links between the constructs under study. To determine how education affects sustainability-related intents and behaviors, more thorough research is now possible.

Discussions

1. Hypothesis Testing Results

Hypothesis H1: Customer Education (CE) has a positive relationship with Food Waste Awareness (FA).

According to the regression analysis, Customer Education (CE) and Food Waste Awareness (FA) were significantly correlated ($R = .753, p < .000$), and this explained 56.7% of the variation in Food Waste Awareness ($R^2 = .567$). The regression coefficient of CE was high ($.753 = .753, p < .000$), which validates Hypothesis H1 which states that CE has a positive impact on FA.

Hypothesis H2: Customer Education (CE) and Environmental awareness (EC) are Positively related.

The results showed that there was a significant positive relationship of Customer Education (CE) and Environmental Awareness (EC) ($R = .578, p < .000$) with the EC being explained by CE ($R^2 = .334$). The large positive regression coefficient ($=.578, p < .000$) confirms Hypothesis H2, which proves that CE has a positive, and significant impact on EC.

Hypothesis H3: Customer Education (CE) and Subjective Knowledge Awareness (SKA) have a positive correlation.

The results of the analysis showed a moderate level of correlation between Customer Education (CE) and Subjective Knowledge Awareness (SKA). $R = .472$, $p = .000$, where 22.3 percent of the variance of SKA can be attributed to CE ($R^2 = .223$). The positive value ($= +.472$, $p = -.000$) supports the Hypothesis H3, which implies that CE has a positive impact on SKA.

H4: Customer Education (CE) and Sustainable Product Purchase Intention (SPI) are related in a positive manner.

The regression analysis showed that there was a moderate correlation of CE with SPI ($R = .522$, $p < .000$) with an explanatory potential of CE on SPI of 27.2% ($R^2 = .272$). Hypothesis H4 is confirmed by the positive regression coefficient ($= .522$, $p < .000$) which indicates that CE is a considerable predictor of SPI.

Table 3: Mediation Analysis

Path	Coefficient	p-value	95% CI (LL)	95% CI (UL)
Customer Education (CE) $\hat{\alpha}$ ' Food Waste Awareness (FA) $\hat{\alpha}$ ' Sustainable Product Purchase Intention (SPI)	0.1672	< 0.000	0.0544	0.2862
Customer Education (CE) $\hat{\alpha}$ ' Environmental Awareness (EC) $\hat{\alpha}$ ' Sustainable Product Purchase Intention (SPI)	0.1085	< 0.000	0.0479	0.1792
Customer Education (CE) $\hat{\alpha}$ ' Subjective Knowledge Awareness (SKA) $\hat{\alpha}$ ' Sustainable Product Purchase Intention (SPI)	0.1085	< 0.000	0.0479	0.1792

Hypothesis H5: Mediation effect of FA on the CE-SPI relationship

As the analysis of the PROCESS macro showed, Food Waste Awareness (FA) turned out to be the effective mediator between Customer Education (CE) and Sustainable Product Purchase Intention (SPI). The indirect impact was estimated as .1672 with bootstrap confidence interval set on .0544 to .2862. This finding substantiates Hypothesis H5, confirming that FA plays a significant mediating role.

Hypothesis H6: Mediation effect of EC on the CE-SPI relationship

Mediation analysis also showed the significant interaction between Customer Education (CE) and Sustainable Product Purchase Intention (SPI) through the mediation effect of Subjective Knowledge Awareness (SKA). The indirect effect was .1085, BootLLCI = .0479 and BootULCI = .1792 thus Hypothesis H7 is true about the mediating process of SKA.

Hypothesis H7: Mediation effect of SKA on the CE-SPI relationship

The mediation analysis revealed that subjective knowledge awareness (SKA) played an important role in relation between customer education (CE) and sustainable product purchase intention (SPI). The importance of the indirect effect was .1085 and the second assumption of Hypothesis H7 the 95 percent Confidence Interval of the Boot = .0479 to .1792 is associated with the mediating effect of SKA.

The mediation analysis revealed that although CE has direct effect on SPI, the effect is highly enhanced by the mediating effects of FA, EC and SKA. These mediators had a significant overall impact, which highlights the role of such mediators in the Customer Education-to-Sustainable Product Purchase Intentions pathway.

All hypotheses put forward are proven by the statistical analysis, which proves the deep influence of Customer Education on not only the variables of awareness, but also on sustainable consumer behavior, which is realized through the increased awareness and knowledge. Such results provide a solid argument in favor of a theoretical standpoint and point to the significance of education as a way of increasing sustainability.

According to the literature considered, the findings of the investigation were in line with the findings of other research papers. The relation between H1 and between Customer Education is strong and the relation between Sustainable Purchase Intention and H2, H3, H4 is moderate and significant between Sustainable Purchase Intention and H5, H6,

and H7. The mediation test, then, indicated that whereas the overall impact of CE on SPI is direct, the impact is significantly higher when the mediation impact of FA, EC and SKA are taken into consideration.

Implications

There are theoretical and practical implications of the study. Theoretically, it fills in the gaps in the literature that are fulfilled. Depending on the outcome, marketers can use the education of the customers to enhance consumer knowledge and awareness to create sustainable purchase intentions.

Bias Mitigation in Interpretation and Conclusions

When drawing conclusions based on qualitative data, a systematic coding method and theme verification were followed in the research to reduce the effect of interpretative bias. Interpretations were also made valid by triangulated results of the responses of participants and the supporting quantitative results. Moreover, a review of the conclusions by co-researchers was done so as to make sure that the conclusions were objective and in line with the narratives of the original data.

Limitations and Future Directions

The researchers narrowed down on a limited number of mediating variables in order to actualize the role of customer education in sustainable purchase intentions. In particular, it has only analysed the Market-specific and Firm-specific education as far as the customer education context is concerned. Subsequent studies may examine more types of customer education and other possible mediating variables that may be studied.

Conclusion:

This paper has discussed the effect of customer education on eco-conscious consumerism and purchase intentions that are sustainable. In the study conducted using qualitative analysis of the answers provided by the participants, the researchers found out that consciousness, perceived duty, and emotional involvement in the sustainability motivate consumer choices. To reduce the internal biases in the qualitative data, several verification processes were used, such as the triangulation of interview transcripts, reflective memoing when interpreting the data, and the cross-checking of the statements by the participants. The reflexivity of the researcher was upheld during the entire process because it will limit the subjective impact and assure the validity of the interpretation. The conclusions that were derived are based on the repetitive patterns and confirmed themes instead of the segregated opinions, hence the reliability and accuracy of the results.

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Research Questionnaire

The questionnaire will be divided into six subsections, which will be rated on the basis of the 7-point Likert scale (1 = Strongly Disagree → 7 = Strongly Agree):

1. Demographic Questions
2. Customer Education (Firm-Specific and Market-Specific) (Bell et al., 2017)
3. Subjective Knowledge Awareness (Li and Leonas, 2022).
4. Environmental Dilemma (Aschemann-Witzel et al., 2022)
5. Food Waste Level (McCarthy et al., 2020)
6. Sustainable Product Purchase Intention (Zhang et al., 2018; Kong et al., 2016)

Ethical Approval

Approval for this research involving human participants was obtained from the Institutional Ethics Committee. All procedures were conducted in accordance with the institution's research ethics and guidelines for studies involving human participants.

