Economic Sciences
ISSN: 1505-4683
Vol. 25, No. 1 (2025)
DOI: https://doie.org/10.10399/ES.2025128185

# AI-Driven Insights for Sustainable FMCG Marketing: Understanding Purchase Intention of Organic Consumers in Karnataka

**[1]Rashmi K M, [2]Rakesh N, [3]Shobha B K, [4] Netravathi N**

[1]Assistant Professor at DSCASE
[2]Assistant Professor at MLA Academy of Higher Learning
[3]Assistant Professor at Vijaya College
[4]Assistant Professor at DSCASE

**Abstract**

As sustainability becomes a major part of consumer attitudes, artificial intelligence (AI) is also reshaping the landscape of marketing strategies. In this context, organizations possess a large and consonant opportunity in their hands to strategically combine these two potent elements to build a competitive advantage in the marketplace. This current research is carried out with the very specific objective of empirically testing different aspects of sustainability marketing and their effects. This involves a thorough analysis of significant variables like carbon foot printing labeling, ethical sourcing initiatives, and green packaging innovations for packaging, i.e., their effects on consumer buying intentions of organic fast-moving consumer goods (FMCG) in Karnataka state of India. In addition, this research also seeks to determine how customers' experience assets augmented by artificial intelligence, such as customized product recommendations, chatbot-supported customer care for query resolution, and sophisticated predictive analytics for forecasting consumer behavior, act as mediating and moderating variables in the impact of sustainable marketing on consumer decision-making processes.

The research design used in this study will predominantly be quantitative in nature, which is a prevalent scientific method appropriate for systematic data analysis. Specifically, this study will employ a highly structured questionnaire carefully crafted, which is an instrumental device for the acquisition of accurate and appropriate information from a representative sample of consumers. The sampling will be conducted in a manner to reflect a broad spread of demographic profiles, thereby achieving a broad representation across Karnataka state. On completion of data collection, data will be analyzed using Structural Equation Modeling (SEM), which is a highly versatile statistical technique that enables estimation and disclosure of hypothesized relationships between a set of meaningful variables. These variables encompass some aspects of sustainability, customer experience enhanced through artificial intelligence (AI), trust in AI, and lastly, consumers' buying intentions. Moreover, the theoretical framework of this research will consider the effect of consumer trust in artificial intelligence (AI) as a moderating variable on the interaction between personalized AI experiences and actual buying behaviors of these consumers.

The study will be compelled to probe very deeply into the wide range of psychological and experiential channels through which green marketing, enabled by the innovative capacity of artificial intelligence, can strongly shape and even augment the key elements of customer loyalty, trust, and buying behavior. For this, it will attempt to graphically depict the many ways through which customer experience can serve as a strategic connective bridge of significant value between green brand campaigns and consumer behavior, especially in an increasingly technology-mediated retail environment. In addition, the study will also not hesitate to explore significant ethical concerns stemming from the use of AI, such as issues related to data privacy,

Economic Sciences
ISSN: 1505-4683
Vol. 25, No. 1 (2025)
DOI: https://doie.org/10.10399/ES.2025128185

possible algorithmic biases, and process transparency. Through active participation in the forecasting process and cautious consideration of these possible scenarios, the study aims to make an important and significant contribution to the growing and increasingly relevant body of literature regarding sustainable consumer attitudes, an emerging and increasingly significant subdiscipline of digital marketing, as well as to the highly consequential issue of AI ethics. The findings and conclusions of this study will be of specific value and inherent significance to marketers, retail managers, and policymakers who are working to effectively design and manage coordinated campaigns that account for environmental attitudes while cautiously weighing them against state-of-the-art solutions that give primacy to consumer experience. This study will also provide critical data that will be a guiding framework for the regulation of AI in relation to sustainable retail practice, with actionable recommendations and practical recommendations designed to facilitate responsible adjustments in marketing strategy in response to the multi-faceted challenges of the age of artificial intelligence.

**Keywords:** Sustainable Marketing, Artificial Intelligence, Customer Experience, Organic FMCG, Purchase Intention, Structural Equation Modelling.

## Introduction

The intersection of sustainability and artificial intelligence (AI) has become a key driver in contemporary marketing, redefining consumer engagement strategies and organizational value propositions. Once considered a niche issue, sustainability is now fully integrated into consumers' thinking, impacting buying behaviors across a wide range of industries, from fast-moving consumer goods (FMCG) (Testa et al., 2015; Dangelico & Vocalelli, 2017).

The advent of AI technology has revolutionized the marketing scene with the deployment of instant personalization, automated customer interfaces, and predictive analytics, resulting in improved decision-making frameworks and customer satisfaction. (Gursoy et al., 2019; Davenport et al., 2020).

The development of artificial intelligence (AI) technologies such as recommendation systems and chatbots has transformed the customer-brand interaction in technology-enabled environments (Huang & Rust, 2018; Chatterjee et al., 2021). In hospitality and retailing, AI technologies are used to improve the quality of service, maximize the efficiency of communication, and enhance the overall customer experience, hence profitability and customer loyalty. (Li et al., 2021; Mariani & Borghi, 2021). In Web 2.0 ecosystems, AI also enables one to receive real-time customer perspectives, hence allowing brands to gain a competitive advantage in fast-evolving and multi-dimensional markets. (Kumar & Ayodeji, 2022).

Green marketing practices, such as carbon footprint labeling and environmentally friendly packaging, are increasingly being used to appeal to environmentally aware consumers. (Carrington et al., 2010; Rokka & Uusitalo, 2008).

Consumers have positive views towards brands that heavily endorse the environmental sustainability of their products, particularly in the face of product advertisements that highlight environmental benefits (Shaw et al., 2006). Enactment of policies and interventions to encourage sustainability in Karnataka significantly influences organic fast-moving consumer goods (FMCG) purchasing intentions, showing a shift towards organic consumption patterns.

Despite such prevalent trends, there exists a significant lack of empirical studies on AI customer experiences and the effects of sustainable marketing on consumer attitudes in the Indian retail market. The present study attempts to fill in the gap by investigating to what extent AI

Economic Sciences
ISSN: 1505-4683
Vol. 25, No. 1 (2025)
DOI: https://doie.org/10.10399/ES.2025128185

functionalities such as personalized recommendations and chatbots influence the effect of sustainable marketing practices and consumer purchase intention. The study further investigates the effect of trust in AI technology as a moderation effect on the acceptance of AI-based interventions by consumers.

Artificial intelligence needs to be regulated in order to impose compliance with ethical principles and the promotion of environmental sustainability, particularly in ethical issues and data privacy (Floridi & Cowls, 2019). The research illuminates empirical evidence that reveals how AI can make sustainable practices possible for organic FMCG. It offers insights for policymakers, marketers, and retail strategists. The findings reveal how AI can improve customer experience and make sustainability possible.

## Literature Review

### 2.1 Defining the Concepts

#### 2.1.1 Stimulus-Organism-Response Theory (SOR)

The Stimulus-Organism-Response (SOR) model outlines how environmental stimuli influence consumer cognition and affect, and thus influence behavioral response (Islam & Rahman, 2016; Mehrabian & Russell, 1974). Green marketing practices in such cases act as stimuli, whereas artificial intelligence is used to enable consumer interaction and engagement. The ensuing response, through purchasing intention, illustrates the manner in which carbon labeling or AI-based chatbots can influence consumer behavior through the triggering of psychological processes.

#### 2.1.2 Artificial Intelligence (AI)

Artificial intelligence (AI) imitates human cognitive functions like learning, reasoning, and decision-making (Russell & Norvig, 2010). AI in marketing improves personalization, automates conversations with chatbots, and improves predictive analysis. Through analysis of customer feedback, browsing history, and social media activity, AI facilitates real-time decision-making (Wedel & Kannan, 2016; Bleier & Eisenbeiss, 2015). Such insights optimize campaigns, enhance segmentation, and predict consumer needs, thus improving engagement and predicting purchasing behaviour.

#### 2.1.3 Sustainable Marketing Practices

Green marketing helps in the marketing of products that are beneficial to society and the environment. Essential components of the plan include ethical sourcing, green packaging, and carbon footprint labeling. Carbon footprint labeling aids customers in making more eco-friendly purchases by providing information about a product's effect on the environment (Testa et al. 2015; Taufique et al. 2017). Ethical sourcing helps to increase brand loyalty and price competitiveness since it promotes fairness and transparency in the supply chain (Yamoah and Acquaye 2019; Carrington et al. 2010). Rokka and Uusitalo (2008) and Steenis et al. (2017) agree that green packaging increases brand image by responding to ecological issues through recyclable or biodegradable packaging materials. These green factors are vital in forming perceptions and emotional reactions among consumers.

Economic Sciences
ISSN: 1505-4683
Vol. 25, No. 1 (2025)
DOI: https://doie.org/10.10399/ES.2025128185

### 2.1.4 AI-Enabled Customer Experience

Artificial intelligence-based customer experience involves the utilization of sophisticated technologies in driving consumer engagement through personalization, chatbots, and predictive analytics. Personalization tailor's product suggestion based on customer behaviour and preference, thus driving satisfaction and loyalty (Bleier & Eisenbeiss, 2015). Chatbots are smart virtual assistants offering 24/7 assistance and rapid resolution of inquiries, thus improving perceived service quality (Araujo, 2018). Predictive analytics allows companies to foretell consumer demand and automate purchase reminders (Bose, 2009; Wedel & Kannan, 2016). The interventions together have a strong impact on consumer trust and guide decision-making.

### 2.1.5 Trust in AI Systems

Trust in artificial intelligence refers to the conviction of customers in the neutrality, dependability, and precision of AI-based systems. As customers believe that recommendations provided by AI-enabled apps are unbiased, customized, and moral, they will embrace and react favorably to such recommendations (Gefen et al. 2003; Wirtz et al. 2018). Trust serves a significant role in amplifying the impact of AI-enhanced experiences on customer purchasing behavior. It overcomes perceived risk and strengthens the relationship between AI interactions and positive customer behavior, e.g., the purchase of organic fast-moving consumer goods (FMCG).

### 2.1.6 Purchase Intention

Purchase intention is the likelihood of a consumer participating in the purchase of a product or influencing others to buy it. In the field of artificial intelligence and environmental marketing, the dependent variable is impacted by green practices and consumer happiness. People are willing to spend their money on eco-friendly items supported by reliable AI systems, according to several surveys (Yadav and Pathak 2017; Kushwah et al. 2019).

### Hypothesis Development

H1: Sustainable marketing practices significantly influence purchase intention of organic FMCG products.

Green marketing measures like carbon footprinting labeling, green packaging, and sustainable procurement are the focal elements of the Stimulus-Organism-Response (SOR) model. These measures elicit positive affective and cognitive responses from green-aware consumers. Growing awareness of a firm's environmental sustainability has a positive influence on consumers' willingness to buy. Empirical research shows that customers prefer those brands that offer information on their sustainability initiatives and reflect green values (Testa et al., 2015; Carrington et al., 2010; Rokka & Uusitalo, 2008). Sustainable practices are not only employed as information sources but also as affective stimuli that drive ethical consumption and enhances buying intentions.

H2: Sustainable marketing practices positively influence AI-enabled customer experience.

The development of AI services is founded on the pillars of sustainable marketing at its core. By combining the appropriate set of environmental variables, AI technologies like recommendation systems facilitate the personalization of communication for fulfilling

Economic Sciences
ISSN: 1505-4683
Vol. 25, No. 1 (2025)
DOI: https://doie.org/10.10399/ES.2025128185

consumers' ecological demands. This aspect significantly improves the quality of interaction. Specifically, to serve their customers better, AI systems can suggest low-carbon or sustainably sourced products according to the preferences of users (Bleier & Eisenbeiss, 2015; Wedel & Kannan, 2016). Further, to enhance the personalized AI-driven experience, stimuli of the Stimulus-Organism-Response (SOR) model are utilized for inducing a sense of perception and involvement for the consumers.

H3: AI-enabled customer experience significantly influences purchase intention.

Consumers' interactions with chatbots, personalization, and predictive analytics are examples of artificial intelligence technologies that fall within the "organism" category in the SOR model. Because of their ability to accurately predict user demands and provide immediate solutions—two major drivers of purchase intention these technical elements directly affect consumer satisfaction and trust building. Customers feel a greater sense of understanding and respect from the service when they have seamless experiences with the support of AI, hence leading to more intense behavioral reactions, such as repeat purchase or word-of-mouth transmission. As customers are exposed to frictionless experiences driven by AI, they are more comprehended and valued, thereby creating more intense behavior responses, i.e., repeat purchase or word-of-mouth transmission (Araujo, 2018; Chatterjee et al., 2021; Huang & Rust, 2018). More enhanced customer experiences driven by AI thus play a crucial role in propelling positive cognitive appraisals into tangible purchasing behaviors.

H4: AI-enabled customer experience mediates the relationship between sustainable marketing practices and purchase intention.

The mediated role prescribed by recent research implies that the effect of sustainable marketing on purchase intention is partially mediated by experience quality augmented by artificial intelligence. Although sustainability is a commitment of environmental and ethical values, it is through AI-enabled interactions—such as product recommendations emphasizing environmental value or chatbot-provided information on ethical sourcing—that these values are communicated to consumers. This is the "organism" component in the Stimulus-Organism-Response (SOR) model, in which the stimulus (sustainability) is affectively and cognitively changed by interaction with AI. With increasing substantive interaction with AI technologies, the effectiveness of sustainability messages is enabled, making them actionable and thus potentially increasing their ability to impact purchase intention. (Bleier & Eisenbeiss, 2015; Bose, 2009).

H5: Trust in AI systems moderates the relationship between AI-enabled customer experience and purchase intention, such that the relationship is stronger when trust is high.

Trust is a basic boundary condition of the consumer decision-making process, and while AI systems can be context-specific and personalized in their interactions, the degree to which consumers will respond positively to such interactions is highly contingent upon their trust in the system. Assuming consumers find AI to be fair, secure, and transparent, they will likely adopt its suggestions and be involved in purchasing behaviors. (Gefen et al., 2003; Wirtz et al., 2018). But when trust is low—because of data privacy or algorithmic manipulation concerns—consumers may choose to reject even best-fitting experiences. Therefore, trust in AI not only optimizes the conversion potential of AI-based experiences, but it is also a moderating variable in the SOR response stage.

## 3.Methods

Economic Sciences
ISSN: 1505-4683
Vol. 25, No. 1 (2025)
DOI: https://doie.org/10.10399/ES.2025128185

### 3.1 Procedures and Respondents

Consumer data for the study were obtained from frequent buyers of fast-moving consumer goods (FMCG), especially organic, online and offline in Karnataka, India. They include green consumers buying online on e-commerce websites like BigBasket, Amazon Pantry, and local organic shops. Data was obtained over 10 weeks. Respondents were chosen on the basis of having bought organic FMCG products in the previous three months.

A purposeful sampling approach, a non-probability approach, was employed to recruit participants with some experience of purchasing sustainable or organic products and hence achieving the study objectives (Bell & Bryman, 2007; Churchill, 1999). Two academic researchers who are fluent in both English and Spanish translated the survey from its original form to ensure cultural and contextual appropriateness, as the study was done in English. It was superfluous to use an English-speaking sample population for translation.

The researchers worked with local community groups and store managers to gather the survey, both in person and online by methods such as Google Forms. Customers were told about the research purpose, and participants were invited to volunteer to participate. All responses were gathered anonymously, and confidentiality was always upheld to ensure honest participation. With the accompanying consent form and explanation letter, 280 surveys were mailed. An 89.3% response rate was achieved from 250 legitimate surveys that were received and evaluated.

The remaining 30 responses were omitted as they were incomplete or invalid. Demographic profile of the participants is presented in Table 1.

## 3.2. Measures

On a five-point Likert scale, from 1 (Strongly Disagree) to 5 (Strongly Agree), all of the study's constructs were evaluated. We ensured reliability and construct validity by adapting the items from already validated scales in the current literature. Three sub-constructs Carbon Footprint Labels, Ethical Sourcing, and Eco-Friendly Packaging consisting of twelve items were used to evaluate sustainable marketing methods. For instance, participants provided responses to statements such as "I consider carbon footprint labels while buying FMCG products" (Testa et al., 2015), "I feel ready to pay extra for ethically sourced FMCG products" (Carrington et al., 2010), and "Eco-friendly packaging affects my buying decision" (Rokka & Uusitalo, 2008). AI-enabled customer experience was measured using four items that focused on personalization, chatbot support, and predictive analytics. Sample items were "I get product recommendations that suit my taste" (Bleier & Eisenbeiss, 2015), "Chatbots on the website/app answer my questions well" (Araujo, 2018), and "I get timely reminders to re-purchase products" (Bose, 2009). Trust in AI systems was assessed using four items that were modified from existing research, for example, "I trust AI to give me good product recommendations" (Gefen et al., 2003), "I believe AI systems are transparent and fair in suggesting products" (Beldad et al., 2010), and "I trust AI-generated insights when I am deciding to make a purchase" (Verma & Chandra, 2021). Lastly, the buying intention was measured through the utilization of four statements that reflected consumers' intention to buy and recommend organic fast-moving consumer goods (FMCG). The scale included the following items: "I plan to buy organic fast-moving consumer goods (FMCG) in the near future" (Yadav & Pathak, 2017), "I will choose organic FMCG products over their traditional counterparts" (Kushwah et al., 2019),

Economic Sciences
ISSN: 1505-4683
Vol. 25, No. 1 (2025)
DOI: https://doie.org/10.10399/ES.2025128185

and "I would like to recommend organic FMCG products to other people" (Verma & Chandra, 2021).

## Data Analysis and Results

### 4.1. Analytical Strategy

In order to analyze the hypothesized relationships between the constructs involved, SmartPLS version 3.2.9 was utilized. SmartPLS is a variance-based structural equation modeling (VB-SEM) software that allows for the analysis of complex path models with relatively fewer distributional assumptions and smaller sample sizes (Hair et al., 2017). Since the sample size was 250 participants, the use of SmartPLS was found appropriate for model estimate reliability and stability.

Partial Least Squares Structural Equation Modeling (PLS-SEM) offers a robust capability if the research model includes hierarchical or higher-order constructs, like in the reflective-formative measurement model of Sustainable Marketing Practices used in the current research (Sarstedt et al., 2014). Data collection on the study was carried out in two stages: the first stage was focused on the measurement model evaluation of validity and reliability, whereas the second stage examined the structural model for hypothesis testing.

A single-factor test developed by Harman was employed in order to evade common method bias (CMB). Podsakoff et al. (2003) found that common method variance was not a big concern since no single element explained a large amount of the variance. This made the variable correlations more credible by preventing the data from being skewed by a single source.

SmartPLS allowed us to look at the direct effects as well as the moderating effects, which are described as the connection between AI-enabled customer experience and purchase intention, and trust in AI systems. The path coefficients' statistical significance was determined using a bootstrapping procedure that requires 5,000 resamples.

For assessing the validity and reliability of the measurement model, the study employed Cronbach's alpha (α), Composite Reliability (CR), and Average Variance Extracted (AVE) recommended by Hair et al. (2019). The results indicated that all the constructs met the minimum criterion of 0.70 for Cronbach's alpha and CR, which indicates high internal consistency reliability (Nunnally & Bernstein, 1994). Also, the AVE scores for all the constructs were over the 0.50 threshold, which shows sufficient convergent validity (Fornell & Laracker, 1981).

Convergent validity was measured through factor loadings, average variance extracted (AVE), and composite reliability (CR). Standardized loadings of all indicator items were greater than the acceptable value of 0.70, except for CESM1, which was eliminated since it had a poor factor loading of 0.401. After its removal, the constructs had acceptable convergent validity. High reliability ($\alpha = 0.886$, CR = 0.892, AVE = 0.572) was noted for Sustainable Marketing Practices, especially for its subdimensions like Carbon Footprint Labels (CR = 0.81, AVE = 0.623), Ethical Sourcing (CR = 0.773, AVE = 0.668), and Eco-Friendly Packaging (CR = 0.742, AVE = 0.562) as well, which had good internal consistency as well as construct validity.

Economic Sciences
ISSN: 1505-4683
Vol. 25, No. 1 (2025)
DOI: https://doie.org/10.10399/ES.2025128185

The AI Customer Experience construct was also found to possess sufficient measurement properties as attested by a Cronbach's alpha of 0.834, a Composite Reliability (CR) of 0.841, and an Average Variance Extracted (AVE) of 0.751. Similarly, Purchase Intention also exhibited good internal consistency (α = 0.855, CR = 0.871), with a satisfactory AVE of 0.699. Furthermore, Trust in AI Systems also exhibited satisfactory reliability and validity measures (α = 0.766, CR = 0.826, AVE = 0.676). These findings show that the measurement items are good indicators of their respective constructs and can be used as reliable indicators for subsequent analysis.

**Table 2 Confirmatory factor analysis (CFA).**

| Constructs | Cronbach's α | CR | AVE | Factor loading |
|---|---|---|---|---|
| **Sustainable Marketing Practices** | 0.886 | 0.892 | 0.572 | |
| **Carbon Footprint Labels** | 0.795 | 0.81 | 0.623 | |
| CAR_1 | | | | 0.831 |
| CAR_2 | | | | 0.88 |
| CAR_3 | | | | 0.754 |
| **Ethical Sourcing** | 0.748 | 0.773 | 0.668 | |
| ETH_1 | | | | 0.703 |
| ETH_2 | | | | 0.899 |
| ETH_3 | | | | 0.838 |
| **Eco-Friendly Packaging** | 0.74 | 0.742 | 0.562 | |
| ECO_1 | | | | 0.713 |
| ECO_2 | | | | 0.782 |
| ECO_3 | | | | 0.731 |
| ECO_4 | | | | 0.771 |
| **AI-enabled Customer Experience** | 0.834 | 0.841 | 0.751 | |
| AIECS_1 | | | | 0.892 |
| AIECS_2 | | | | 0.879 |
| AIECS_3 | | | | 0.828 |
| **Purchase Intention** | 0.855 | 0.871 | 0.699 | |
| PI_1 | | | | 0.866 |
| PI_2 | | | | 0.873 |
| PI_3 | | | | 0.871 |
| PI_4 | | | | 0.725 |
| **Trust in AI Systems** | 0.766 | 0.826 | 0.676 | |
| TAI_1 | | | | 0.856 |
| TAI_2 | | | | 0.882 |
| TAI_3 | | | | 0.719 |

The study measured discriminant validity using the Fornell-Larcker criterion. According to Fornell and Larcker (1981), this criterion evaluates the inter-construct correlations by comparing the square root of each construct's Average Variance Extracted (AVE). The results

Economic Sciences
ISSN: 1505-4683
Vol. 25, No. 1 (2025)
DOI: https://doie.org/10.10399/ES.2025128185

indicated discriminant validity since the square root of each construct's AVE was bigger than its correlations with other components. For example, compared to AI-enabled Customer Experience (0.867), certain latent variables, like Purchase Intention (0.739) and Carbon Footprint Labels (0.607), exhibited bigger square roots of AVE. Similarly, Trust in AI Systems had the lowest inter-construct correlations (e.g., TAI–PI = 0.299; TAI–CAR = 0.199) yet still had an acceptable square root of AVE at 0.822.

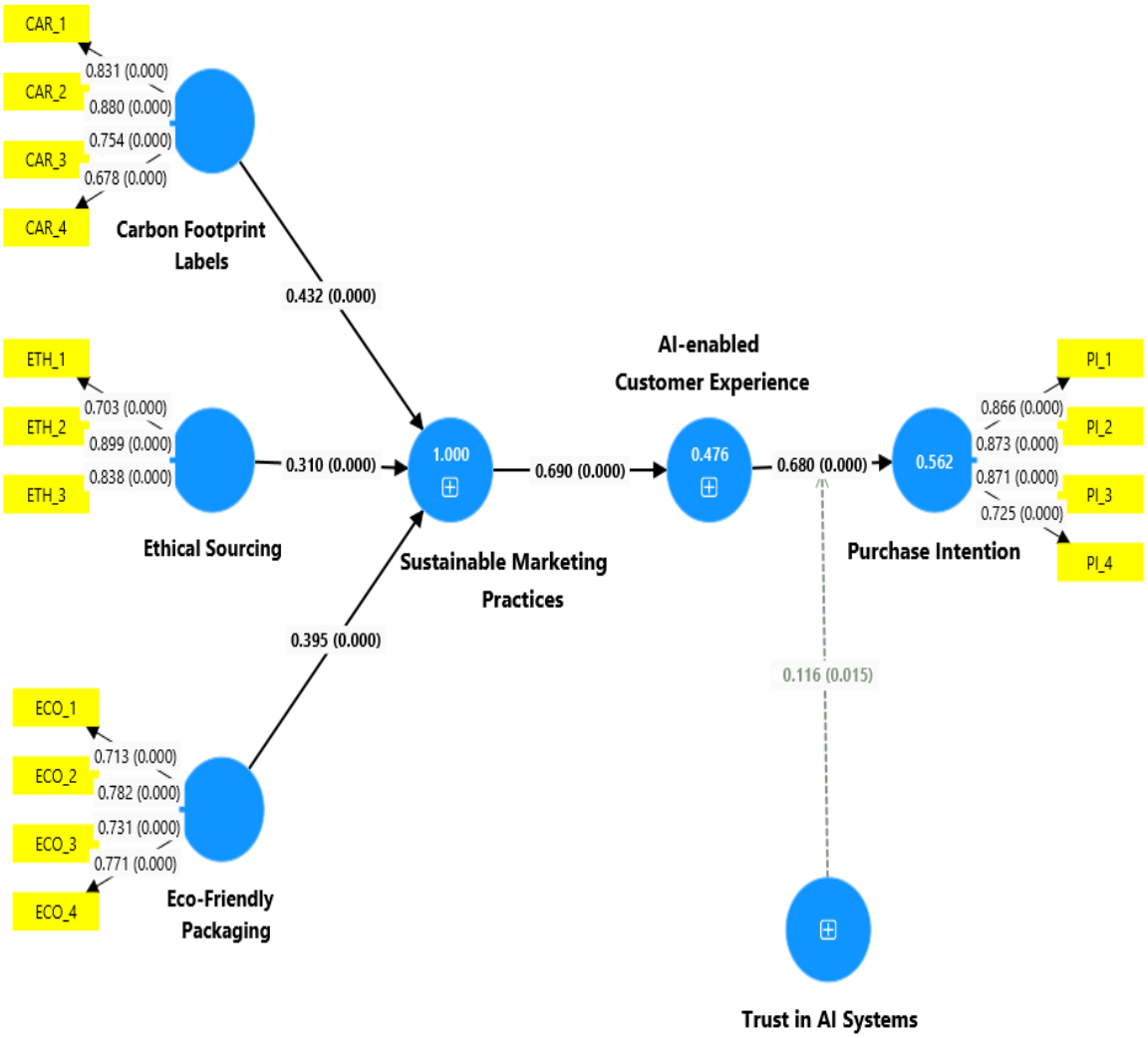
**Table 3 Fornell & Larcker discriminant validity**

| | AIECS | CAR | ECO | ETH | PI | TAI |
|---|---|---|---|---|---|---|
| **AIECS** | 0.867 | | | | | |
| **CAR** | 0.607 | 0.789 | | | | |
| **ECO** | 0.664 | 0.688 | 0.75 | | | |
| **ETH** | 0.528 | 0.631 | 0.632 | 0.818 | | |
| **PI** | 0.739 | 0.597 | 0.611 | 0.545 | 0.836 | |
| **TAI** | 0.343 | 0.199 | 0.256 | 0.251 | 0.299 | 0.822 |

**AIECS:**AI enabled Customer Experience; **CAR:** Carbon Footprint Label; **ECO:** Eco-Friendly Packaging; **ETH:** Ethical Sourcing; **PI:** Purchase Intention; **TAI:** Trust in AI Systems

Measurement model evaluation results show that all constructs are valid in terms of discriminant validity, internal consistency, and convergent validity. This validation provides support for the reliability and validity of the measurement scales utilized, so we can proceed to examine the structural model.

Economic Sciences
ISSN: 1505-4683
Vol. 25, No. 1 (2025)
DOI: https://doie.org/10.10399/ES.2025128185



Economic Sciences
ISSN: 1505-4683
Vol. 25, No. 1 (2025)
DOI: https://doie.org/10.10399/ES.2025128185

**Table 4 Standardized regression estimation structural model.**

| Path | Standardized Coefficient | T value | P-Value |
|---|---|---|---|
| **Direct effect** | | | |
| Carbon Footprint Labels -> Sustainable Marketing Practices | 0.432 | 26.597 | 0.000 |
| Eco-Friendly Packaging -> Sustainable Marketing Practices | 0.395 | 26.356 | 0.000 |
| Ethical Sourcing -> Sustainable Marketing Practices | 0.310 | 18.125 | 0.000 |
| Sustainable Marketing Practices -> AI-enabled Customer Experience | 0.690 | 15.648 | 0.000 |
| AI-enabled Customer Experience -> Purchase Intention | 0.680 | 14.425 | 0.000 |
| **Indirect Effect** | | | |
| Sustainable Marketing Practices -> AI-enabled Customer Experience -> Purchase Intention | 0.469 | 9.271 | 0.000 |
| **Moderating effect of Trust in AI between AI-enabled Customer Experience and Purchase intention** | | | |
| Trust in AI Systems x AI-enabled Customer Experience -> Purchase Intention | 0.116 | 2.431 | 0.015 |

## Hypothesis Testing and Structural Model Evaluation

To verify the postulated relationship, path analysis was conducted with SmartPLS version 3.2.9.

The results derived from the structural model show that there exist direct and strong relationships between different constructs. In particular, Carbon Footprint Labels strongly influence Sustainable Marketing Practices ($\beta = 0.432$, $t = 26.597$, $p < .001$), thus confirming the respective hypothesis. Likewise, Eco-Friendly Packaging ($\beta = 0.395$, $t = 26.356$, $p < .001$) and Ethical Sourcing ($\beta = 0.310$, $t = 18.125$, $p < .001$) also strongly influence Sustainable Marketing Practices, thus confirming the respective hypotheses in the case of the sustainability dimensions.

In addition, Sustainable Marketing Practices strongly relate to AI-mediated Customer Experience ($\beta = 0.690$, $t = 15.648$, $p < .001$), suggesting that consumer-directed sustainability practices positively influence artificial intelligence-supported interactions. Subsequently, AI-mediated Customer Experience is a valid predictor of Purchase Intention ($\beta = 0.680$, $t = 14.425$, $p < .001$), which confirms the hypothesis that personalized AI features and automated support influence consumers' purchase intentions of organic fast-moving consumer goods (FMCG).

Economic Sciences
ISSN: 1505-4683
Vol. 25, No. 1 (2025)
DOI: https://doie.org/10.10399/ES.2025128185

The indirect effects were also examined for mediation testing. Interaction between Purchase Intention and Sustainable Marketing Practices, as a mediator by AI-powered Customer Experience, was significant ($\beta = 0.469$, $t = 9.271$, $p < .001$). Such a finding confirms that AI-powered interactions influence the way sustainable practices influence consumer purchasing behaviour by serving as a mediator, signifying the importance of online interactions.

Furthermore, the moderating effect of Trust in AI Systems was examined. The findings revealed that Trust in AI substantially moderated the relationship between Customer Experience induced by AI and Purchase Intention ($\beta = 0.116$, $t = 2.431$, $p = .015$). It shows that greater trust in AI amplifies the positive influence of AI experiences on consumers' buying intentions. Therefore, organizations investing in responsible, secure, and transparent AI systems will get an increased return on investment through increased trust and customer loyalty.

Collectively, in summary, all the proposed paths for mediation and relationships were found to be statistically significant and hence lending strong support to the proposed theoretical model as well as exhibiting the combined effect of artificial intelligence and sustainability on customer behaviour.

## Discussion

The aim of this study was to explore the influence of Sustainable Marketing Practices on Purchase Intention of consumers for organic Fast-Moving Consumer Goods (FMCG) with AI-powered Customer Experience as a mediating variable and Trust in AI Systems as a moderating variable. Relying on the Stimulus–Organism–Response (SOR) model, the study aimed to explore how sustainability-oriented stimuli affect consumer behavioural responses mediated through AI-powered experience in the context of ethical consumption.

The results indicate that Sustainable Marketing Practices, i.e., Carbon Footprint Labels, Ethical Sourcing, and Eco-Friendly Packaging, exert a strong and positive influence on AI-aided Customer Experience. This aligns with earlier research that considers consumers' increasing demands for open environmental information and ethical brand action along their shopping processes (Testa et al., 2015; Carrington et al., 2010). Brands, thus, that embed sustainability into their core product communication i.e., through the application of tangible signals such as carbon labels and recyclable packaging are liable to create more customer participation, if these efforts are augmented by AI technology, such as chatbots, recommendation systems, or predictive analytics.

The findings of the research also confirm that Artificial Intelligence-based Customer Experience is a strong determinant of Purchase Intention. This is consistent with the study by Bleier and Eisenbeiss (2015), which stressed that AI-driven personalization, AI-driven predictive recommendations, and chatbot conversations enable frictionless and informed shopping experiences. By embedding AI technologies in customer interactions, organizations are in a position to convert sustainability value propositions into concrete consumer behaviours. Here, artificial intelligence also plays a role of not merely facilitative technology but also a necessary bridge between sustainable behaviour and consumer inclinations.

The mediating function of AI-driven Customer Experience on the statistically significant association between Sustainable Marketing Practices and Purchase Intention highlights the

Economic Sciences
ISSN: 1505-4683
Vol. 25, No. 1 (2025)
DOI: https://doie.org/10.10399/ES.2025128185

central role of artificial intelligence technologies in shaping consumers' cognitive and affective assessments of sustainable brands. This study provides novel scholarly evidence to prove that AI can operate effectively enough to fill the gap to which consumers perceive higher augmented value, trust, and relevance. (Wedel & Kannan, 2016; Bose, 2009).

Furthermore, the moderating effect of Trust in AI Systems in the relationship between AI-based Customer Experience and Purchase Intention has been confirmed. This evidence suggests that customers' intention to engage with offers made available through AI or tailored recommendations depends to a large degree on their trust in AI systems. Consistent with earlier research (Gefen et al., 2003; Beldad et al., 2010), this evidence highlights the necessity of organizations establishing a sense of credibility, security, and fairness in their AI systems to guarantee maximization of their influence on customers' behavior. Surprisingly, with trust in AI being established as a foundation, its potential to convert interest into tangible purchase intention is significantly boosted.

Issues like green marketing, AI adoption, and consumer confidence are brought to light in this research. With AI-based firms becoming more environmentally conscious, such firms are likely to establish long-term relationships with environmentally conscious consumers. Furthermore, during and after the COVID-19 pandemic's unprecedented e-commerce growth, the combination of artificial intelligence and sustainable branding is a likely strategy for enabling ethical consumption.

In short, the research suggests that sustainability behavior alone cannot influence consumer intention without being complemented by intelligent, reliable, and interactive digital communications. Organisations, therefore, that seek to drive environmentally conscious Fast-Moving Consumer Goods must embrace an integrated strategy that fuses sustainability communications with high-end artificial intelligence technology, and build trust on these platforms to drive consumer uptake and build brand loyalty.

## Theoretical Implications

This study is a good addition to literature as it combines artificial intelligence with green marketing using the Stimulus–Organism–Response (SOR) model. First, this study extends the SOR theory because it shows that green marketing stimuli (such as carbon labelling, ethical sourcing, and green packaging) produce organism responses that are facilitated using AI-enabled experiences, which consequently drive purchasing decisions This integration model provides an account of the SOR model applicability in the case of green consumer behavior and digital marketing.

Second, this study situates artificial intelligence customer experience as a mediating variable, and therefore adds to the mechanisms in new theoretical ways in which AI systems, specifically those designed to deal with personalization and predictive analytics, transform perceived value into behavioral intention. There is largely dominant scholarship that has theorized AI as an enabling technology; yet, this study situates AI as a driver of behavior in sustainability contexts, and therefore expands the conceptual frameworks of AI in consumer psychology.

Third, the trust moderating role of trust in AI systems brings the new variable into customer trust models. While the majority of the trust research has centered on website or brand trust,

Economic Sciences
ISSN: 1505-4683
Vol. 25, No. 1 (2025)
DOI: https://doie.org/10.10399/ES.2025128185

this research makes an important contribution in bringing to the table the idea that smart system trust is a boundary condition linking the experience and purchase intention relation to AI.

Overall, this study adds to the body of theory that links sustainability, digital experience, and trust in emerging technologies. This study is certain that a combined model of environmental sensitivity, artificial intelligence potential, and system trust must be adopted in order to be able to predict customer behaviour towards intelligent, sustainable business.

**Practical and Managerial Implications**

Sustainable marketing and business strategy of FMCG and artificial intelligence (AI) professionals will find the present research to have several practical and applicable implications.

In the wake of the epidemic, for example, there has been a marked change in consumer behaviour toward digital media and AI-based systems in Karnataka and elsewhere. Business owners need to show how AI can make customer service easier and more tailored since more people are using AI-powered interfaces, such as chatbots and recommendation engines. Artificial intelligence (AI) with predictive analytics and real-time personalization can boost consumer engagement and conversion rates, particularly among environmentally conscious consumers.

Aside from this, customers need to be digitally activated; however, this activation does not always translate to higher purchases. Based on this research, environmental value propositions like carbon labeling, green packaging, and sustainable sourcing are critical in shaping the emotional and cognitive condition of consumers. Therefore, managers need to effectively integrate these environmental value propositions into stories and AI initiatives to build trust and shape behavioral consequences.

Third, the research additionally emphasizes the role of trust in artificial intelligence systems as the intervening variable of paramount significance. Not only do firms need to invest significant resources in transparency, protecting customers' data privacy, and ensuring ethical use of AI, but they need to stress focusing on building customers' trust as well.

Marketing professionals can be convinced to invest in consumer education initiatives that present facts regarding issues related to the performance of AI-based systems utilized in product recommendations. The initiatives bridge perceived risk and build credibility in the digital environment. Initial contact and campaigns also play an important part in the formation of this trust.

The structural context facilitates the thesis that customer interaction with artificial intelligence-based applications is the most significant driver between consumer buying behaviors and sustainable marketing strategies. It is recommended that organizations invest in the creation of smart service ecosystems that combine digital efficiency and sustainability. This can be achieved through platforms that can measure the carbon footprint of products, trace history of sourcing, or provide sustainability scores with the aid of artificial intelligence.

Finally, the research shows the role of repeat-purchase behavior in determining repurchase intention. Brand managers can utilize artificial intelligence in a way to identify patterns with

repeat purchasing behavior, thus utilizing retention techniques like personalized offers, green loyalty programs, and repeat price discounts for repeat buyers. These techniques can convert high-frequency, habitual buyers into brand champions, thus ensuring the long-run viability of fast-moving consumer goods brands in Karnataka.

**Limitations and Future Research**

In the wake of the epidemic, for example, there has been a marked change in consumer behavior toward digital media and AI-based systems in Karnataka and elsewhere. Business owners need to show how AI can make customer service easier and more tailored since more people are using AI-powered interfaces, such as chatbots and recommendation engines. Artificial intelligence (AI) with predictive analytics and real-time personalization can boost consumer engagement and conversion rates, particularly among environmentally conscious consumers. Finally, the cross-sectional design restricts causal inference and disregards temporal patterns of behaviour. Future longitudinal studies could more clearly uncover the long-term impact of AI-driven experiences and sustainability on loyalty and repurchase behaviour.

## References

1. Araujo, T. (2018). Living up to the chatbot hype: The influence of anthropomorphic design cues and communicative agency framing on conversational agent and company perceptions. *Computers in Human Behavior, 85*, 183–189. https://doi.org/10.1016/j.chb.2018.03.051
2. Beldad, A., De Jong, M., & Steehouder, M. (2010). How shall I trust the faceless and the intangible? A literature review on the antecedents of online trust. *Computers in Human Behavior*, 26(5), 857–869. https://doi.org/10.1016/j.chb.2010.03.013
3. Bleier, A., & Eisenbeiss, M. (2015). Personalized online advertising effectiveness: The interplay of what, when, and where. *Marketing Science*, 34(5), 669–688. https://doi.org/10.1287/mksc.2015.0930
4. Bleier, A., & Eisenbeiss, M. (2015). The importance of trust for personalized online advertising. *Journal of Retailing, 91*(3), 390–409. https://doi.org/10.1016/j.jretai.2015.04.001
5. Bose, I. (2009). Enhancing the scope of customer relationship management in the banking sector through data mining. *Expert Systems with Applications*, 36(6), 8772–8779. https://doi.org/10.1016/j.eswa.2008.11.026
6. Bose, R. (2009). Advanced analytics: Opportunities and challenges. *Industrial Management & Data Systems, 109*(2), 155–172. https://doi.org/10.1108/02635570910930073
7. Carrington, M. J., Neville, B. A., & Whitwell, G. J. (2010). Why ethical consumers don't walk their talk: Towards a framework for understanding the gap between the ethical purchase intentions and actual buying behaviour of ethically minded consumers. Journal of Business Ethics, 97(1), 139–158.
8. Carrington, M. J., Neville, B. A., & Whitwell, G. J. (2010). Why ethical consumers don't walk their talk: Towards a framework for understanding the gap between the ethical purchase intentions and actual buying behaviour of ethically minded consumers. *Journal of Business Ethics, 97*(1), 139–158. https://doi.org/10.1007/s10551-010-0501-6
9. Carrington, M. J., Neville, B. A., & Whitwell, G. J. (2010). Why ethical consumers don't walk their talk: Towards a framework for understanding the gap between the

ethical purchase intentions and actual buying behaviour of ethically minded consumers. *Journal of Business Ethics*, 97(1), 139–158. https://doi.org/10.1007/s10551-010-0501-6
10. Chatterjee, S., Rana, N. P., Tamilmani, K., & Sharma, A. (2021). The role of artificial intelligence on customer engagement in the era of digital transformation. Information Systems Frontiers, 23, 135–152.
11. Dangelico, R. M., & Vocalelli, D. (2017). Green marketing: An analysis of definitions, dimensions, and relationships with stakeholders. Business Strategy and the Environment, 26(4), 457–475.
12. Davenport, T. H., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. Journal of the Academy of Marketing Science, 48(1), 24–42.
13. Floridi, L., & Cowls, J. (2019). A unified framework of five principles for AI in society. Harvard Data Science Review, 1(1).
14. Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39–50. https://doi.org/10.1177/002224378101800104
15. Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly, 27*(1), 51–90. https://doi.org/10.2307/30036519
16. Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, 27(1), 51–90. https://doi.org/10.2307/30036519
17. Gursoy, D., Chi, C. G., Lu, L., & Nunkoo, R. (2019). Consumers' acceptance of artificially intelligent (AI) device use in service delivery. International Journal of Information Management, 49, 157–169.
18. Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Sage Publications.
19. Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2019). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Sage Publications.
20. Huang, M. H., & Rust, R. T. (2018). Artificial intelligence in service. Journal of Service Research, 21(2), 155–172.
21. Islam, J. U., & Rahman, Z. (2016). The transpiring journey of customer engagement research in marketing: A systematic review of the past decade. *Management Decision, 54*(8), 2008–2034. https://doi.org/10.1108/MD-01-2016-0028
22. Kumar, A., & Ayodeji, S. (2022). Artificial intelligence in marketing: A systematic literature review and research agenda. Technological Forecasting and Social Change, 174, 121278.
23. Kushwah, S., Dhir, A., & Sagar, M. (2019). Ethical consumption intentions and choice behavior towards organic food. *Journal of Cleaner Production, 236*, 117519. https://doi.org/10.1016/j.jclepro.2019.117519
24. Li, F., Larimo, J., & Leonidou, L. C. (2021). Social media marketing strategy: Definition, conceptualization, taxonomy, validation, and future agenda. Journal of the Academy of Marketing Science, 49(1), 51–70.
25. Mariani, M., & Borghi, M. (2021). Industry 4.0: A bibliometric review of its managerial intellectual structure and implications for marketing. Journal of Business Research, 129, 902–921.
26. Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology*. The MIT Press.

27. Nazir, S., Kaur, R., & Sharif, A. (2023). AI-based consumer engagement on social media and repurchase intention: The mediating role of satisfying consumer experience. *Technology in Society, 72*, 102190. https://doi.org/10.1016/j.techsoc.2022.102190
28. Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill
29. Pandita, D., Mishra, H. G., & Chib, S. (2021). Impact of social media interactions and customer engagement on consumer purchase intention: A S-O-R framework. *International Journal of Internet Marketing and Advertising, 15*(2), 144–167. https://doi.org/10.1504/IJIMA.2021.113258
30. Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879–903.
31. Rokka, J., & Uusitalo, L. (2008). Preference for green packaging in consumer product choices – Do consumers care? International Journal of Consumer Studies, 32(5), 516–525.
32. Rokka, J., & Uusitalo, L. (2008). Preference for green packaging in consumer product choices – Do consumers care? *International Journal of Consumer Studies, 32*(5), 516–525. https://doi.org/10.1111/j.1470-6431.2008.00710.x
33. Russell, S. J., & Norvig, P. (2010). *Artificial intelligence: A modern approach* (3rd ed.). Prentice Hall.
34. Sarstedt, M., Ringle, C. M., & Hair, J. F. (2014). Partial least squares structural equation modeling. In H. Baumgartner (Ed.), *Handbook of Market Research* (pp. 1–40). Springer.
35. Shaw, D., Hogg, G., Wilson, E., Shui, E., & Hassan, L. (2006). Fashion victim: The impact of fair trade concerns on clothing choice. Journal of Strategic Marketing, 14(4), 427–440.
36. Steenis, N. D., van Herpen, E., van der Lans, I. A., Ligthart, T. N., & van Trijp, H. C. M. (2017). Consumer response to packaging design: The role of packaging materials and visual elements in consumer evaluation of environmentally friendly packaging. *Journal of Cleaner Production, 162*, 286–298. https://doi.org/10.1016/j.jclepro.2017.06.036
37. Taufique, K. M. R., Vocino, A., & Polonsky, M. J. (2017). The influence of eco-label knowledge and trust on pro-environmental consumer behaviour in an emerging market. *Journal of Strategic Marketing, 25*(7), 511–529. https://doi.org/10.1080/0965254X.2016.1240218
38. Taufique, K. M. R., Vocino, A., & Polonsky, M. J. (2017). The influence of eco-label knowledge and trust on pro-environmental consumer behaviour in an emerging market. *Journal of Strategic Marketing*, 25(7), 511–529. https://doi.org/10.1080/0965254X.2016.1148763
39. Testa, F., Iraldo, F., Vaccari, A., & Ferrari, E. (2015). Why eco-labels can be effective marketing tools: Evidence from a study on Italian consumers. Business Strategy and the Environment, 24(4), 252–265.
40. Testa, F., Iraldo, F., Vaccari, A., & Ferrari, E. (2015). Why eco-labels can be effective marketing tools: Evidence from a study on Italian consumers. *Business Strategy and the Environment, 24*(4), 252–265. https://doi.org/10.1002/bse.1811
41. Testa, F., Iraldo, F., Vaccari, A., & Ferrari, E. (2015). Why eco-labels can be effective marketing tools: Evidence from a study on Italian consumers. *Business Strategy and the Environment*, 24(4), 252–265. https://doi.org/10.1002/bse.1821

42. Wedel, M., & Kannan, P. K. (2016). Marketing analytics for data-rich environments. *Journal of Marketing, 80*(6), 97–121. https://doi.org/10.1509/jm.15.0413
43. Wedel, M., & Kannan, P. K. (2016). Marketing analytics for data-rich environments. *Journal of Marketing*, 80(6), 97–121. https://doi.org/10.1509/jm.15.0413
44. Wirtz, J., Zeithaml, V. A., & Gistri, G. (2018). Technology-mediated service encounters. *Journal of Service Management, 29*(5), 674–698. https://doi.org/10.1108/JOSM-04-2018-0115
45. Yadav, R., & Pathak, G. S. (2017). Determinants of consumers' green purchase behavior in a developing nation: Applying and extending the theory of planned behavior. *Ecological Economics, 134*, 114–122. https://doi.org/10.1016/j.ecolecon.2016.12.019
46. Yamoah, F. A., & Acquaye, A. (2019). Toward a framework for food retailers' engagement in the marketing of ethical food. *Journal of Business Ethics, 154*(4), 1033–1051. https://doi.org/10.1007/s10551-017-3451-0
47. Yamoah, F., & Acquaye, A. (2019). Toward a framework for sustainable consumption behavior in the UK: The role of trust, uncertainty and ethical preferences. *Journal of Cleaner Production*, 238, 117917. https://doi.org/10.1016/j.jclepro.2019.117917
48. Zhai, Y., Wang, Y., & Liu, Q. (2020). How social media usage affects Chinese consumers' green consumption intentions: The mediating role of psychological factors. *Sustainability, 12*(16), 6601. https://doi.org/10.3390/su12166601