

**Assessing the influence of eco-labelling on consumer purchasing behavior: a review**

**Avaliando a influência da rotulagem ecológica no comportamento de compra do consumidor: uma revisão**

**Evaluación de la influencia del etiquetado ecológico en el comportamiento de compra del consumidor: una revisión**

How to cite:

Nagar, Vivek & Verma, Priyanka. Assessing the Influence of Eco-Labelling on Consumer Purchasing Behavior: A Review. *Revista Gestão & Tecnologia*, vol. 25, no. 2 Special Edition, pp: 232-257

Vivek Nagar, Research Scholar, Department of Management Studies, Maulana Azad National Institute of Technology, Bhopal (M.P), India.

<https://orcid.org/0009-0005-8745-0112>

Priyanka Verma, Associate Professor, Department of Management Studies, Maulana Azad National Institute of Technology, Bhopal (M.P), India.

<https://orcid.org/0000-0001-6446-606X>

"The authors declare that there is no plagiarism or any conflict of interest of a personal or corporate nature, in relation to the topic, process and result of the research".

Scientific Editor: José Edson Lara  
Organization Scientific Committee  
Double Blind Review by SEER/OJS  
Received on 15/10/2024 Approved on 30/03/2025



This work is licensed under a Creative Commons Attribution – Non-Commercial 3.0 Brazil

## Abstract

Environmental sustainability awareness at a global level has made eco-labels and green marketing become essential tools for modifying consumer choices. The review investigates how eco-labels along with consumer trust and green marketing methods influence consumer buying choices. The research process adheres to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol for conducting a systematic review in a structured manner. Research has shown eco-labels have strong power to direct customer purchasing behavior because recognition of eco-label combined with environmental awareness and knowledge leads to more powerful purchase intentions. Consumers choose eco-labeled products by prioritizing prices and health benefits since they remain sensitive to both aspects when making purchases. Various demographics from populations such as gender, age and educational background influence how well eco-labels and environmental marketing strategies function. Consumer perceptions respond strongly to green advertising and branding through which corporate social responsibility and green trust function as important mediators that affect purchase intentions. Many challenges persist in putting eco-labels into practice because consumers remain doubtful about them while markets face restrictions and people need better information. The findings demonstrate the requirement for precise standardized eco-labeling methods and market-based education and identification strategies which will boost eco-conscious purchasing habits. The adoption of eco-labeled products depends on the solutions to these factors which enable businesses and policymakers to achieve better environmental sustainability results.

**Keywords:** Consumer Behaviour, Eco-labelling, Environmental Labels, Sustainable Consumption, Systematic Review.

## Resumo

A consciência da sustentabilidade ambiental a nível global fez com que os rótulos ecológicos e o marketing verde se tornassem ferramentas essenciais para modificar as escolhas dos consumidores. A revisão investiga como os rótulos ecológicos, juntamente com a confiança do consumidor e os métodos de marketing verde, influenciam as escolhas de compra do consumidor. O processo de pesquisa segue o protocolo Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) para conduzir uma revisão sistemática de maneira estruturada. A investigação demonstrou que os rótulos ecológicos têm um forte poder de direcionar o comportamento de compra dos clientes porque o reconhecimento do rótulo ecológico, combinado com a consciência e o conhecimento ambiental, conduz a intenções de compra mais poderosas. Os consumidores escolhem produtos com rótulo ecológico priorizando preços e benefícios para a saúde, uma vez que permanecem sensíveis a ambos os aspectos ao

fazerem compras. Vários dados demográficos das populações, como o género, a idade e o nível de escolaridade, influenciam o funcionamento dos rótulos ecológicos e das estratégias de marketing ambiental. As percepções dos consumidores respondem fortemente à publicidade e à marca verdes, através das quais a responsabilidade social corporativa e a confiança verde funcionam como importantes mediadores que afectam as intenções de compra. Persistem muitos desafios na aplicação dos rótulos ecológicos porque os consumidores continuam a ter dúvidas sobre os mesmos, enquanto os mercados enfrentam restrições e as pessoas necessitam de melhor informação. As conclusões demonstram a necessidade de métodos precisos e padronizados de rotulagem ecológica e de estratégias de educação e identificação baseadas no mercado, que impulsionarão hábitos de compra ecologicamente conscientes. A adopção de produtos com rótulo ecológico depende das soluções para estes factores que permitem às empresas e aos decisores políticos alcançar melhores resultados de sustentabilidade ambiental.

**Palavras-chave:** Comportamento do Consumidor, Rotulagem Ecológica, Rótulos Ambientais, Consumo Sustentável, Revisão Sistemática.

### **Resumen**

La concienciación global sobre la sostenibilidad ambiental ha convertido las ecoetiquetas y el marketing verde en herramientas esenciales para modificar las decisiones de compra de los consumidores. Este estudio investiga cómo las ecoetiquetas, junto con la confianza del consumidor y las estrategias de marketing verde, influyen en sus decisiones de compra. El proceso de investigación se basa en el protocolo PRISMA (Ítems de Informe Preferidos para Revisiones Sistemáticas y Metaanálisis) para realizar una revisión sistemática de forma estructurada. Diversas investigaciones han demostrado que las ecoetiquetas tienen un gran poder para orientar el comportamiento de compra del cliente, ya que su reconocimiento, combinado con la conciencia y el conocimiento ambiental, genera intenciones de compra más sólidas. Los consumidores eligen productos con ecoetiquetas priorizando el precio y los beneficios para la salud, ya que son sensibles a ambos aspectos al realizar sus compras. Diversos datos demográficos, como el género, la edad y el nivel educativo, influyen en el funcionamiento de las ecoetiquetas y las estrategias de marketing ambiental. Las percepciones del consumidor responden con fuerza a la publicidad y el branding ecológicos, a través de los cuales la responsabilidad social corporativa y la confianza verde funcionan como importantes mediadores que influyen en las intenciones de compra. Persisten muchos desafíos para implementar las ecoetiquetas, ya que los consumidores aún dudan de ellas, mientras que los mercados enfrentan restricciones y la gente necesita mejor información. Los hallazgos demuestran la necesidad de métodos de ecoetiquetado precisos y estandarizados, así como de estrategias de educación e identificación basadas en el mercado que fomenten hábitos de compra con conciencia ecológica. La adopción de productos ecoetiquetados depende de las

soluciones a estos factores, que permiten a las empresas y a los responsables políticos lograr mejores resultados en sostenibilidad ambiental.

**Palabras clave:** Comportamiento del consumidor, Ecoetiquetado, Etiquetas ambientales, Consumo sostenible, Revisión sistemática.

## 1. Introduction

Eco-labelling has become a significant tool in initiatives that are being undertaken worldwide towards environmental conservation and environmental sustainability (Yusiana et al., 2021). The compiled literature has marked the attention paid by researchers of industrial ecology and consumer behaviour to the interaction between eco-labelling and consumer behaviour (Yusiana et al., 2021). As a result of more environmental consciousness, consumers are now willing to incur a price premium in order to acquire environmentally suitable products (Ahmed et al., 2023). This evolution in the pattern of green purchases has pushed most governments of different nations to actively participate in the establishment and certification of environmental label programs rather than depending on market forces (Zhang et al., 2022). According to Shamini and Hariharan (2019), product labels indicate the environmental attributes of items to potential consumers because people's concern with such characteristics is becoming increasingly important. It has also been identified that eco-labels which inform consumers about the environmental characteristics of a certain product might benefit both consumer and producer (Shamini & Hariharan, 2019). In fact, there is little comprehension of how the media coverage that eco-labels receive shapes consumers' demand (Galati et al., 2022). Unfortunately, as stated by Ikonen et al. (2020), many consumers still have limited knowledge of the importance of these labels.

Eco-labelling is a technical market instrument that assists users in making correct choices by certifying and labelling the social environmental impact of purchased products (Sewwandi & Dinesha, 2022). In the 1990s, social organisations and research institutions in European Union member states developed eco-labels to inform consumers of products' environmental costs (Van't Veld, 2020). These labels provide data with respect to the environmental impact of a certain product in relation to other similar products that do not encompass such characteristics, so customers are in a position to make better decisions

**Revista Gestão & Tecnologia (Journal of Management & Technology), v. 25, n.2, Ed.Especial, p.232-257, 2025 235**

(Sewwandi & Dinesha, 2022). These are specific standards for labelling environmentally friendly products in these industries to meet set standards, such as energy use (Wurster & Ladu, 2020). Eco-friendly products are becoming a trend with societies shifting their focus towards environmental friendliness and health consciousness in today's business world. Today's consumers are highly conscious of the environmental and health impacts of products, making it necessary to provide assets such as an eco-labelling system (Galati et al., 2022; Jeong & Kim, 2014). Changes in green consumer expectations underscore the importance of eco-labelling as a way of promoting sustainable and healthy consumerism practices (Majeed et al., 2022).

Research has shown that there is a common interest in evaluating the effectiveness of eco-labelling on consumers. Eco-labels are vital in informing consumers about the effects of products on the environment and making the right decisions on products that will not harm the environment (Kim, 2023). Producers and marketers should not only launch products with eco-labels, but also, it is necessary to guarantee the reliability of information provided through such labels, which is why it is essential to focus on government regulation in this aspect (Kumar et al., 2021). Previous studies have also examined different antecedents of green purchasing behaviour, including environmental commitment, where policymakers and marketers hope to enhance consumers' purchases of green products (Gutierrez et al., 2020). By encouraging environmental commitment, governments and marketers can collaborate to establish a set of policies and strategies that would support green purchasing.

Eco-labels may affect consumers' attitudes and beliefs about using or purchasing eco-labelled products through psychological effects (Hasnain et al., 2020). Thus, it is crucial to identify and analyse how psychological factors drive consumers' intentions to purchase eco-labelled products to foster sustainable consumption (Sun et al., 2022). It is possible to motivate customers to make sustainable decisions by applying eco-labels (Bullock and Van Der Ven, 2020).

Various factors have affected the development of the eco-labelled products market in India and across the world, such as the growing adoption of environmentally labelled products by marketers. (Rahbar and Wahid, 2011). Eco-labelling is one way to address market failures due to information asymmetries in environmental products (Sammer and Wüstenhagen,

2006). In the Indian consumer market, such steps as the Bureau of Energy Efficiency's "BEE Star Label" have become popular as efficient stimuli for the sale of efficient energy products around the world, including India (Jaiswal et al., 2021). This suggests a positive trend in the increase in eco-labelled product usage in India.

Products carrying eco-labels are globally accepted as environmentally friendly products that go a long way toward environmental conservation (Kumar & Basu, 2023). These eco-labels not only convey information about the sustainability status of products but also create market signals, such as price premiums that reward producers to offer sustainable products (Kim and Lee, 2018). As certified signs, eco-labels are promotional tools adopted by organisations to market the sustainable characteristics of their goods. Where there is high competition in the market, factors such as the threat of global warming, energy crises, technological advancement, and globalisation create demand for eco-labelled products (Chen, 2021). The use of eco-labels makes it possible for producers to effectively signal their products, thus giving them a commanding market preference and making the market share a key to any business (Russel and Robidas, 2019). Eco-labels on green products indicate that the products comply with environmental sustainability standards in their production (Isharyadi et al., 2022). Eco-labels, eco-brands, eco-packaging, and environmental advertisements market green products, enhance the perception of eco-attributed products, and create market awareness (Ahmad et al., 2020). In a country like India, which is witnessing a dramatic shift in its economy and consumption patterns, consumers' readiness to buy apparel with eco-labels has created interest (Goswami, 2008).

Eco-labelling is one of the most highlighted market mechanisms used to evaluate the energy consumption rates and environmental friendliness of products and services in order to encourage sustainable consumption patterns among consumers (Kirschstein et al. 2022). When retailers highlight eco-labelled products, this escalates the level of competition among the chains, so the chains that are devoted to providing the eco-labelled products gain brand recognition as being sustainable to consumers, hence enhancing consumers' perceptions (Micu et al., 2018). Integrating consumer responses, especially during the COVID-19 pandemic, to advertisements focusing on eco-labelling and eco-brand products captures the increased

concern and receptiveness of consumers towards green products (Sharma and Kushwaha, 2019).

Consumer perception of green products can assist corporations in achieving sustainable growth by reducing the competitive threat potential (Pathak, 2023). According to the literature review of Santoso et al. (2016), eco-labelling has been found to enhance industrial climate, sustainable forestry, and corporate profile, leading to enhanced credibility, market share, and profitability among companies. Specific product eco-labels have been acknowledged as credible instruments for modulating agrobiodiversity, especially regarding industrial self-regulation and stages of regulation (Lay, 2012). The actualisation of eco-labelling schemes can assist in creating the necessary economic conditions for green economic development in outlined economic communities (Gocer & Oflaç, 2017).

An analysis of consumer behaviour toward eco-labelled products is essential for several reasons. First, as a contribution to the current theories and methodologies, gaining insight into consumers' evaluations of eco-labels can help uncover the sets of processes that consumers go through in the course of seeking out environmentally friendly products (Testa et al., 2013). Based on previous studies, the findings showed that eco-labels positively influenced consumer behavioural change by improving awareness of the environmental effects of labelled products (Testa et al., 2013). It is important for businesses to establish how to integrate their marketing strategies with regard to consumers' intentions to purchase eco-labelled products (Jin et al., 2019). Moreover, understanding consumer attitudes towards and willingness to pay for eco-labelled products assists in understanding the economic point of sustainable consumption (Liu et al., 2022). Various studies have examined consumer attitudes and behaviour as key factors that influence buying decisions; therefore, the present research underlines the possible causal interrelationships between variables and consumer responses concerning eco-labelled products. Marketing educators can focus more on consumer perceptions and attitudes towards eco-labels which can help businesses design appropriate marketing strategies that will help create demand for eco-friendly products (Shabbir et al., 2020). Studying the effects of eco-labels on consumer behaviour helps businesses gain reputation and credibility for environmentally conscious consumers (Waris & Ahmed, 2020). Based on these studies,

educating consumers on eco-labels and the impact of green trust, norms, attitudes, and perceived control can enhance the purchase intentions of eco-labelled products. This is because companies that help build trust can enhance their brand and end consumers' interest in eco-products (Delmas & Lessem, 2016).

In trying to make informed decisions to drive sustainable consumption practices, businesses and policymakers could consider how consumers view eco-labels (Kim, 2023). Eco-labels would enable manufacturers to differentiate their goods from others, in addition to informing people about the environmental qualities of the items, as has been argued by a study. By examining issues such as customer perceptions of eco-labelling and their comprehension, businesses can increase the transparency and reliability of this process, thereby enabling buyers to make better-informed choices (Taufique et al., 2019). Consequently, customer confidence in products with eco-labels increases, causing more demand from clients for sustainability (Gocer & Oflaç, 2017).

Eco-labelled products are environmentally friendly alternatives that help protect the environment. These products communicate sustainability and generate market incentives such as price premiums. Marketers use eco-labels as marketing tools to promote sustainable products. In a competitive market, factors such as global warming, energy shortages, technological innovations, and economic globalisation drive the demand for eco-labelled products, as they address threats such as global warming and energy shortages.

## **2. Research Methodology**

In accordance with PRISMA guidelines, this research protocol describes the systematic literature review methodology used to investigate the impact of eco-labelling on consumer behaviour and purchasing decisions. Eco-labels are effective tools for informing consumers about the environmental impact of products and influencing their purchasing decisions towards more sustainable options.

We used Boolean operators to locate relevant literature with the following search terms: "Eco-labeling OR Eco-Label OR Organic Labeling OR Green Labeling OR Green marketing OR Green Advertising) AND (Consumer Behavior OR Purchase Intention OR Green Consumption OR Buying Behaviour OR Sustainable Consumption" The initial search yielded *Revista Gestão & Tecnologia (Journal of Management & Technology)*, v. 25, n.2, Ed.Especial, p.232-257, 2025 239



73 results from Scopus database. After removing 23 duplicate records, 50 unique records remained for additional screening; for final screening, 19 articles that fulfilled the inclusion criteria were finalised.

### **Inclusion Criteria**

To guarantee the relevance and quality of the included studies, we established the following inclusion criteria.

**Study Focus:** Impact of eco-labelling or green labelling on consumer behaviour or purchasing behaviour.

**Study Design:** Empirical studies, including quantitative, qualitative, and mixed-method research and peer-reviewed journal articles.

**Publication Date:** Studies published between 2014 and 2024.

**Language:** The studies were published in English.

**Availability:** Full-text articles are available for review.

### **Exclusion Criteria**

The following exclusion criteria were applied to maintain a focus on consumer behaviour and eco-labelling:

**Study Focus:** Studies that did not specifically address eco-labelling or green labelling.

**Study Design:** Editorials, opinion pieces, letters to the editor, non-peer-reviewed articles, reviews, meta-analyses, and systematic reviews.

**Publication Date:** Studies published before 2024.

**Language:** Studies published in languages other than English, unless translated.

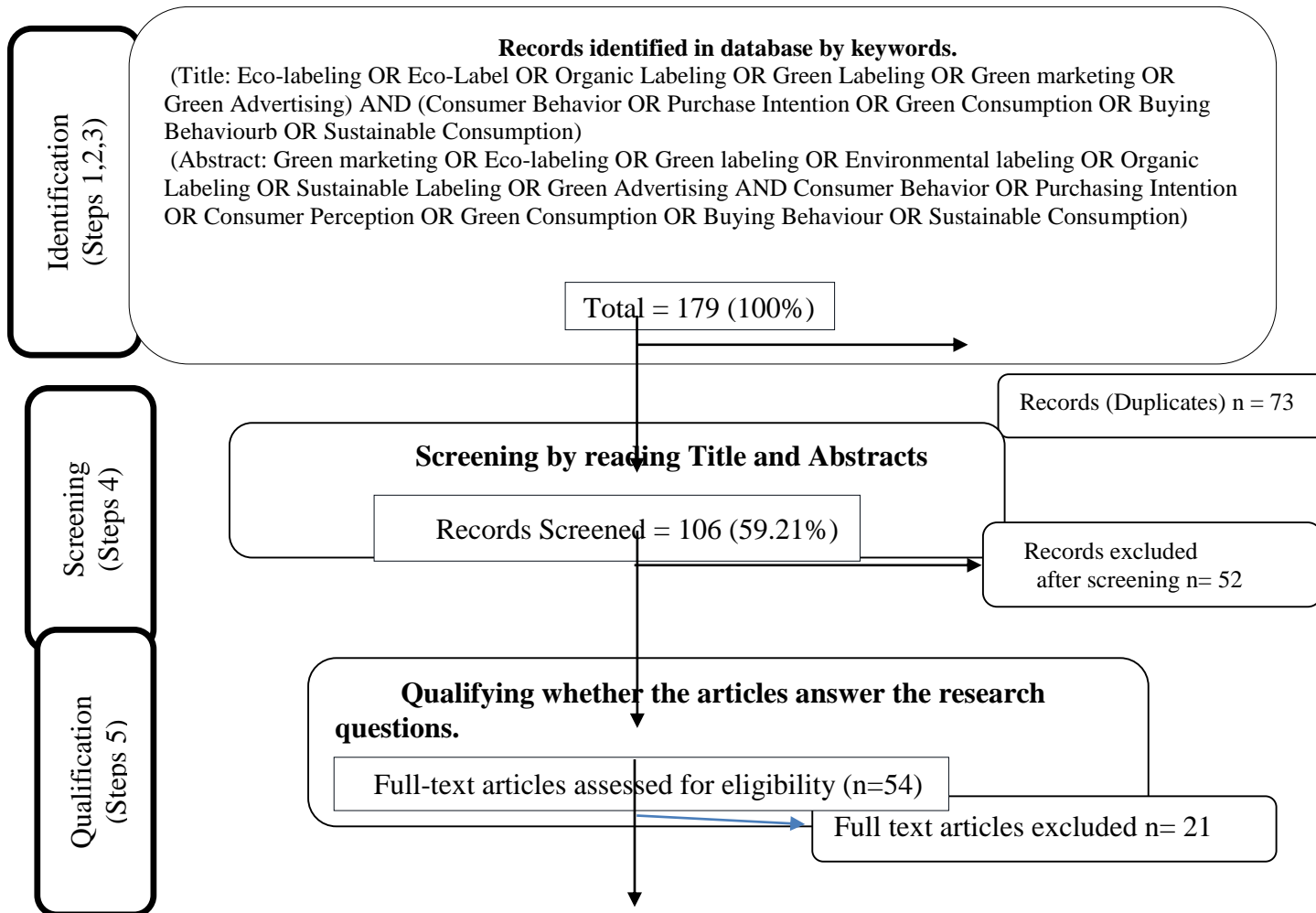
**Availability:** Abstract-only articles or inaccessible full-text

The following is the protocol for the systematic review to examine the effect of eco-labelling and green labelling on consumer behaviour and purchase intention. This systematic

review of research in the area of eco-labelling and green labelling intends to provide a synthesis of empirical studies published in the last ten years. Thus, the present study aims to improve knowledge of the impact of eco-labels on consumer behaviour by analysing and synthesising findings from different studies. This study confirms the normative impact of eco-labels as a positive influence which stimulates behavioural changes towards the improvement of sustainable and/or environmentally friendly consumption. However, the level of this influence depends on the poll of awareness, label credibility, and appropriateness of the delivered environmental information.

In addition, the review highlights a few limitations in the literature concerning the recognition of the importance of innovation. Notably, there is a quiet a lot of research that has been done in this area, however, there are certain areas that require more consideration, these include the effects of eco-labelling after the long run, with regards to consumer behaviour; the effects of different types of eco-labels in different categories of products; and the efficiency of eco-labels in different cultures or demographic status. There is also a research void that needs to be filled more about marketing and communication tools to increase the effectiveness of eco-labels. Alleviating these limitations in future research could enable further qualitative studies and offer policymakers a better comprehension of the factors that influence consumption patterns in the implementation of feasible and efficient eco-labelling strategies.

**Figure 1.**  
Search words and search method



### 3 Results

This study reviews systemic research on how environmental labels together with sustainable marketing techniques coupled with consumer faith influence purchasing choices. Multiple research studies have presented a detailed understanding of why eco-labels affect consumer behaviour alongside environmental considerations and variable effects from different demographic groups.

### **3.1 Eco-Labels and Consumer Purchasing Behaviour**

Numerous studies have demonstrated that eco-labels have positive effects on customer choice behaviour. Consumers regularly purchase eco-labelled seafood products due to heightened environmental consciousness, along with the recognition of eco-labels, according to Jonell et al. (2016). According to Nassivera and Sillani (2016), consumers are more interested in buying minimally processed products when eco-labels become available. Lehmann et al. (2020) proved that eco-label success depends on the simplicity of their information delivery to consumers. Jadudova et al. (2020) demonstrated that eco-labeling systems drive local producers to both boost product quality and raise market demand. Rizqiyana and Wahyono (2020) showed that eco-brands, along with eco-labels, drive favourable consumer purchasing actions, but eco-promotional messages work against purchase intentions through brand image as the link between them. The research done by Rachmi et al. (2022) demonstrated that elements of green products, as well as eco-label information, positively affect purchasing choices.

### **3.2 Consumer Knowledge, Attitudes, and Trust**

Understanding eco-labels held by consumers is a fundamental factor in developing their relationship with green products. The results from Taufique et al. (2016) reveal that people with eco-label knowledge exhibit better environmental awareness, together with pro-environmental behaviour, and green trust serves as a relationship medium between these variables. According to Taufique et al. (2018), such eco-label knowledge specifically leads to enhanced environmental awareness, combined with more sustainable attitudes. Hameed and Waris (2018) confirmed that green trust functions as a core mechanism explaining how eco-labels shape environmentally concerned behaviour among customers. Wong and Tzeng (2021) demonstrated that environmental product awareness leads to food security attitudes which then drive organic consumer behaviour, but not directly through purchase intentions.

### **3.3 Price Sensitivity and Health Considerations**

Research demonstrates that price factors, together with concerns for health, act as substantial drivers in customer preference decisions regarding eco-labelled products.

According to Witek (2017), consumers choose health-related values over environmental factors, yet prices affect their purchasing decisions. Kaur et al. (2022) demonstrated that educational background and income determine the green buying behaviour of consumers who react well to green pricing. Consumers' environmental concern, along with green perceived benefits and shopping intention for green purchases, play significant roles according to Nekmahmud and Fekete-Farkas's (2020) research, but green perceived quality has a negative influence.

### **3.4 Moderating Role of Demographics and Psychographic Variables**

The perception of eco-labels alongside purchasing habits requires multiple demographic characteristics such as age group, gender, and educational background. Calderon-Monge et al. (2020) showed that consumer responses to eco-labels depend on sex-related factors and age groups across the textile and food sectors. Nguyen Thi Khanh Chi (2021) established social media as the central force which leads to green consumption intentions yet motivation and environmental concern play an intermediary role. Alam et al. (2024) showed that consumer understanding of products strengthens the connection between social influences and their desire to buy eco-labels. The results obtained by Bandar Khalaf Alharthey (2019) demonstrated that age together with gender and qualification levels reinforce the link between buying decisions and green products and perception.

### **3.5 Influence of Green Advertising and Branding**

Strategies which combine green advertising with branding directly affect how consumers view products while determining their purchasing decisions. Dai and Sheng (2022) determined that accurate green advertising methods draw from consumer values to improve brand attitude perception. The relationship between eco-labels and purchase intentions is filtered through a green brand image, while perceived quality and trust also serve as mediators, according to Nguyen-Viet (2022). Environmental awareness serves as a principal mediator linking green advertising to buying decisions, according to Bosquez et al. (2024). Panopoulos et al. (2022) proved that environmental concern is a powerful determinant of how Generation

Z creates content and engages with eco-labels under the influence of social media users. Neiba and Singh (2024) established that organic purchase intentions are positively influenced by green advertisements together with green word of mouth, functional value, emotional value, and green organic products alongside eco-labelling. Researchers have also mentioned that consumer product attachment and environmental consciousness enhance these relationships. Majeed et al. (2022) found that environmentally friendly purchasing intentions are affected by green marketing methods though green brand image and consumer environmental attitudes function as moderators. According to Tih et al., the other-benefit appeal from green advertising creates a stronger impact on purchase intentions than the self-benefit appeal. (2016). The research conducted by Suki, Suki, and Azman (2016) showed corporate social responsibility as a partial mediator between green marketing awareness and purchase intentions and consumers now possess advanced environmental knowledge leading to positive green marketing awareness.

### **3.6 Role of Green Trust and Purchase Intention**

Green trust acts as an essential determinant of consumer choice decisions. Shah et al. (2023) demonstrated how green trust completely links attitude and perceived behavioral control (PBC) toward purchase intention for sustainable appliances. Nailatul and Magifoh (2024) demonstrated that green trust delivers strong mediation effects on the relationship between green marketing and green packaging and green purchase intention. Waris and Hameed (2020) determined that eco-label knowledge, together with environmental concerns and consumer effectiveness and their related attitudes, serve as fundamental drivers of purchase intention. According to Tan and Luh (2022), consumer selection preference for green products develops positively from both effective green marketing methods and advanced ecological product characteristics.

### **3.7 Barriers and Challenges in Eco-Label Implementation**

The positive aspects of eco-labels continue to face technical barriers during their deployment. Wojnarowska et al. (2021) revealed that eco-labels do not receive sufficient use in the market because people fail to recognise their true impact. According to Cai et al. (2017), eco-labels develop market prospects for green furniture through marketing and distribution

barriers. Ahmad et al. (2020) demonstrated that both eco-packaging solutions, combined with environmental marketing messages, drive customers to purchase. According to Usharani and Gopinath (2020), environmental product markets have become more prominent because consumers actively recognise the dangers of manufactured chemicals and their purchasing influence. Ecological beliefs, environmental concerns, product eco-labels, environment-friendly packaging and branding, and sustainable pricing structures from Zhang et al. (2023) promote positive consumer behaviour and attitudes.

### **3. Discussion**

This study systematically reviews the relationship between eco-labels and green marketing approaches and consumer trust in purchasing choices. The gathered research data provides extensive knowledge about eco-label effects on consumer behaviour and environmental consumption patterns, as well as individual specificity in response behaviour.

Various studies have demonstrated that eco-labels lead consumers to make positive decisions about their purchases. The purchase of eco-labelled seafood occurs primarily because consumers understand that these labels demonstrate environmental concerns. Products that receive eco-labels become more attractive to potential buyers when they are processed less often. Eco-labels function more efficiently when they simplify information presentation. The introduction of eco-labels has stimulated regional producers to boost their product quality standards and market performance. The adoption of eco-brands together with eco-labels promotes buying behaviour, but environmental advertisements produce a negative effect in which brand image serves as the linking factor. Consumers' purchasing choices become more favourable when products display green attributes together with eco-label insignia.

Consumers' understanding of eco-labels fundamentally influences their perceptions of green products and their trust in these products. Knowledge about eco-labels increases environmental awareness and pro-environmental actions, and green trust mediates these effects. People with eco-label knowledge develop a better environmental understanding while building sustainable conduct. Green trust functions as a crucial variable linking eco-labels to consumer behaviour that reflects environmental consciousness. Learning about eco-labels leads to people

developing stronger environmental care and trust in green products. Awareness of green products plays no direct role in purchase intentions, because it requires two steps: organic labelling awareness and food safety attitudes.

Eco-labelled products draw their preferences most heavily from price competencies and health-related aspects. People focus more on product health than environmental considerations when making purchases, while price remains a key determinant of their choices. People who earn more money and have better educational backgrounds tend to develop green buying intentions when faced with environment-friendly pricing approaches. Green purchase decisions become more significant because of consumers' environmental concerns, combined with their perception of green benefits and their willingness to purchase, along with their negative perception of green quality.

Consumer age, gender, and educational attainment strongly influence how people perceive eco-labels which in turn determine their purchasing choices. The interpretation of eco-labels differs based on gender and age in both the textile and food industry sectors. Social media functions as a leading factor driving green consumption intention and environmental concerns, together with motivation as an intermediate factor. The level of knowledge about specific products alters the relationship between customer beliefs about others' behaviours and their plans to buy eco-labels. Customer attributes, including age, gender, and qualification level, strengthen the relationships between green products, personal perception, and purchasing habits.

Consumer perceptions and purchasing decisions are significantly formed through the implementation of green advertising and branding techniques. The right type of green advertising touches customer value while improving how they feel about a brand. Consumer purchase intentions depend on green brand image, together with perceived quality and trust which connects eco-labels to purchase intentions. The level of environmental awareness affects how green advertising influences the buying decisions. Conscious care for the environment determines how Generation Z uses user-generated content and interacts with eco-labels, so influencers maintain their distinct importance. The combination of green advertising, green word of mouth, functional value, emotional value, green organic products, and eco-labelling enhances organic purchase intentions, and both product attachment and environmental



consciousness enhance these effects. The application of green marketing methods directly affects environmentally friendly purchasing intentions through the moderating influence of green brand image and consumers' environmental attitudes. Consumers tend to be more influenced to buy through advertisements when they focus on benefits that affect people other than themselves rather than self-benefit declarations. Corporate social responsibility serves as a partial mediator between green marketing awareness and purchase intentions, because people form better awareness by improving their environmental understanding.

Consumers' marketing decisions depend heavily on green trust relationships. The link between attitude and perceived behavioural control regarding purchase intention for sustainable appliances is fully mediated by green trust. Green trust mediates the relationship between green marketing, green packaging, and green purchase intention. Purchase intention relies heavily on eco-label knowledge, environmental concerns, purchase effectiveness, and consumer attitude. The use of practical green marketing methods and superior ecological product features drives consumers to select products in a positive manner.

The implementation of eco-labels produces positive outcomes; however, several implementation difficulties exist. Despite their potential, consumers do not utilise eco-labelling as much as they can because they discount its effectiveness. Eco-labels generate opportunities in the eco-friendly furniture market; however, their efficiency remains limited owing to information distribution and product distribution systems. Customers show lower or higher purchasing desires based on whether the products use eco-packaging combined with environmental advertising. Public understanding of green product markets continues to increase, as people understand the effects of man-made items on the environment. Consumer attitudes and behaviour are positively influenced by both their environmental awareness and reactions to eco-labels and environmental packaging, along with sustainable branding and environmentally friendly product costs.

## **4. Final Considerations**

### **4.1 Conclusion**

Eco-labelling is becoming increasingly important as a mechanism to foster sustainable consumption and steer consumer behaviour towards eco-friendly products. Eco-labelling enables consumers to understand the environmental implications of goods by increasing their awareness and understanding of sustainability. Accurate and easily comprehensible information about eco-labels has a great influence on consumer purchase decisions, which prioritise health benefits and environmental considerations of items bearing an eco-label. Additionally, eco-labelling enhances brand reputation, differentiates products, and increases market preference for firms, thereby promoting market dynamics. Nevertheless, obstacles remain to be overcome, including customer scepticism, poor labelling rules, and intense pricing competition. These challenges create opportunities for innovation expansion and regulatory interventions to improve ecological-labelling initiatives. However, future research should focus on the determinants of consumer attitudes across various demographics and geographies, the assessment of marketing tool effectiveness, and testing the impact of different ecological labels. To encourage sustainable consumerism and contribute to a more environmentally conscious market, interested parties or organisations should emphasise these specific aspects.

### **4.2 Implications**

Eco-label integration into marketing strategies allows businesses to build better brand credibility, trust, and product differentiation in markets in which sustainability becomes increasingly important. Businesses must run consumer education campaigns because they link information about eco-labels and create easily understood and reliable data presentations for consumers.

Standardised eco-labelling regulations receive an essential direction from policymakers, who also fulfil an essential role in regulatory enforcement. Authentic eco-labels gain consumer trust by improving certification standards in all industries. The adoption of sustainable business

practices by organisations increases through programmes that combine tax benefits and subsidies.

When consumers understand eco-labels better, they make more intelligent purchasing choices which increase the market demand for eco-friendly products. Non-governmental organisations, institutions, and public bodies should establish free awareness drives to showcase how eco-labelled goods create environmental and health advantages.

Price is a primary factor for the successful adoption of eco-labels, so businesses must establish competitive pricing strategies for these environmentally rated products. Price-conscious buyers from emerging markets require economic motivation, such as price discounts and loyalty rewards, to adopt sustainable consumer choices.

Stakeholder cooperation remains essential for developing an open, sustainable marketplace which effectively utilises eco-labels.

### **5.3 Limitations**

The review of eco-labelling and consumer behaviour is helpful, although it has some limitations. This could introduce bias into the review, limiting its scope and selection criteria that may exclude null or negative results. Studies ranged in quality which made the conclusions unreliable. The timeframe of the review may not be up to date or universally applicable. Concerns about generalising findings are also raised by most studies, which are of limited scope in particular countries or places. In addition, inherent biases related to eco-labelling could also be present in the studied articles. Different approaches have been employed in the evaluation, which could make it difficult for one to obtain holistic findings. These limitations must be addressed in future studies to improve our ability to conclude better how eco-labelling affects sustainable consumption patterns and consumer behaviour.

### **5.4 Future agenda**

Systematic review expansion provides a means to decrease bias while improving eco-label understanding. Existing research protocols need to be improved to maintain the consistent identification of vital variables and their measurement methods. The expanding scholarly work

on eco-labelling, together with consumer behaviour effects, contains essential research gaps which require additional scholarly attention. Future research should focus on three main areas. Consumers generally show limited knowledge about eco-labels because they face confusion and doubt about these labels. Scientists should investigate new strategies to boost eco-label understanding and evaluate how different designs, specific colour tones, and symbolic elements affect consumer trust together with their purchasing decisions. Research on eco-labels mainly uses cross-sectional data without tracking consumer attitudes and behavioural transformations over time. The investigation of consumer behaviour changes over time is possible through longitudinal studies which lead to a better understanding of how eco-labelling programs perform.

Eco-labelling Awareness Depends More Than Ever on Digital Platforms Because E-commerce and Social Media Have Taken Over Consumer Perception Dynamics. Future investigations should examine the effect of parallel eco-labelling on digital platforms and their marketing approaches and social media endorsements on consumer trust and purchase conduct.

Eco-label effectiveness demonstrates different behavioural patterns among customers based on their geographical culture and cultural traditions. The comparison of developed markets with emerging markets allows us to better understand which cultural factors affect trust levels in eco-label acceptance.

Research studies on eco-labels typically focus on measuring consumer purchase intentions, yet evidence of real purchasing behaviour remains scarce. Future research should use experimental and observational methods to overcome this deficiency. The uniformity of eco-label standards remains inconsistent as they differ among different industrial sectors and regional areas. The effects of regulatory policies together with third-party certifications and standardisation initiatives on how well eco-labels perform and how much trust consumers develop deserve thorough evaluation through research. Among the purchasing factors, price is key, but researchers must study the payment thresholds that consumers establish for purchasing eco-labelled goods while handling economic limitations. Studies related to eco-labelling in emerging product categories still lack comprehensive research because most investigations have concentrated on food items and textile products rather than on electronics, household

goods, and personal care products. An extensive analysis of additional product categories would enhance scientists' comprehension of the contributing elements of eco-labels.

The solution to recognised research gaps will help establish better eco-labelling plans with enhanced customer awareness and strengthen sustainability initiatives across global markets.

### **Acknowledgement**

Their contributions have significantly enriched our understanding of the factors that influence consumer choices and preferences in the context of eco-labelling. We would also like to express our gratitude to the Department of Management Studies at Maulana Azad National Institute of Technology, Bhopal, for their support and provision of resources during this research.

### **Funding Source**

The authors (s) received no financial support for the research, authorship, or publication of this systematic literature review.

### **Ethics Statement**

We adhered to ethical principles throughout the systematic literature review phase. We ensured the confidentiality and anonymity of all the participants, thereby preserving their privacy. We informed the participants of their right to withdraw from the study at any time without facing negative repercussions. This study was conducted with integrity, honesty, and the utmost respect for the rights and well-being of all participants, strictly adhering to the ethical principles governing research conduct.

## References

- Ahmad, N. (2020); Green Marketing and its Effect on Consumers' Purchase Behavior: An Empirical Analysis. *Journal of International Business, Economics and Entrepreneurship*, 5(2):46.
- Ahmad, N., Ghazali, N., Abdullah, M. F., Nordin, R., Nasir, I. N. M., & Farid, N. A. M. (2020). Green marketing and its effect on consumers' purchase behaviour: an empirical analysis. *Journal of International Business, Economics and Entrepreneurship*, 5(2), 46-46.
- Alam, S. S., Ho, Y.-H., Ahmed, S., & Lin, C.-Y. (2024). Predicting Eco-labeled Product Buying Behavior in an Emerging Economy through an Extension of Theory of Planned Behavior. *Revista De Gestão Social E Ambiental*, 18(9), e6220.
- Alharthey, B. K. (2019). Impact of green marketing practices on consumer purchase intention and buying decision with demographic characteristics as moderator. *International Journal of advanced and applied sciences*, 6(3), 62–71.
- Asif, M. H., Zhongfu, T., Irfan, M., Ahmad, B., & Ali, M. (2023). Assessing eco-label knowledge and sustainable consumption behavior in energy sector of Pakistan: an environmental sustainability paradigm. *Environmental Science and Pollution Research*, 30(14), 41319-41332.
- Bullock, G. and Van Der Ven, H. (2018); The Shadow of the Consumer: Analyzing the importance of consumers to the uptake and sophistication of ratings, certifications, and Eco-Labels. *Organization & Environment*, 33(1), 75–95.
- Cai, Z., Xie, Y., & Aguilar, F. X. (2017). Eco-label credibility and retailer effects on green product purchasing intentions. *Forest Policy and Economics*, 80, 200–208.
- Calderon-Monge, E., Redondo-Rodriguez, R.-G. and Ramirez-Hurtado, J.M. (2020) Narrowing the gap between consumer purchasing intention and behaviour through ecolabelling: a challenge for eco-entrepreneurism, *British Food Journal*, 123(10), 3293–3308.
- Chen, C.-H. (2021); Eco-labels marketing performance in Asian firms: shared vision, integration capability and team collaboration perspectives, *Journal of Asia Business Studies*, 15(5), pp. 710–731.
- Chi, N. T. K. (2021). Understanding the effects of eco-label, eco-brand, and social media on green consumption intention in ecotourism destinations. *Journal of Cleaner Production*, 321, 128995.
- Dai, J. and Sheng, G. (2022). Advertising strategies and sustainable development: the effects of green advertising appeals and subjective busyness on green purchase intention. *Business Strategy and the Environment*, 31(7), 3421-3436.
- Delmas, M.A. and Lessem, N. (2016); Eco-Premium or Eco-Penalty? Eco-Labels and quality in the organic wine market. *Business & Society*, 56(2), 318–356.
- Galati, A., Miret-Pastor, L., Siggia, D., Crescimanno, M., & Fiore, M. (2022). Determinants affecting consumers' attention to fish eco-labels in purchase decisions: a cross-country study. *British Food Journal*, 124(10), 2993-3013.
- Goswami, P. (2008); Is the urban Indian consumer ready for clothing with eco-labels? *International Journal of Consumer Studies*, 32(5), 438–446.
- Gutierrez, A.M.J., Chiu, A.S.F. and Seva, R. (2020); A proposed framework on the affective design of Eco-Product labels, *Sustainability*, 12(8), 3234.

- Hameed, I. and Waris, I. (2018); Eco labels and eco conscious Consumer behavior: the mediating effect of green trust and environmental concern. *Journal of Management Sciences*, 5(2), pp. 86–105.
- Hasnain, A., Raza, S.H. and Qureshi, U.S. (2020). The Impact of Personal and Cultural Factors on Green Buying Intentions with Mediating Roles of Environmental Attitude and Eco-Labels as Well as Gender as a Moderator. *South Asian Journal of Management Sciences*, 14(1), 1–27.
- Ikonen, I., Sotgiu, F., Aydinli, A., & Verlegh, P. W. (2020). Consumer effects of front-of-package nutrition labeling: An interdisciplinary meta-analysis. *Journal of the academy of marketing science*, 48, 360-383.
- Isharyadi, F., Ayuningtyas, U., Kiemas, R. A., Ulfah, F., Purnamasari, B. D., & Pratiwi, A. I. (2022). Analysis of eco-label certification implementation on eco-friendly products in Indonesia. In *IOP Conference Series: Earth and Environmental Science* (Vol. 1108, No. 1, p. 012002). IOP Publishing.
- Jadudova, J., Badida, M., Badidová, A., Marková, I., Ťahúňová, M., & Hroncová, E. (2020). Consumer behavior towards regional eco-labels in Slovakia. *Sustainability*, 12(12), 5146.
- Jaiswal, D., Singh, B., Kant, R., & Biswas, A. (2022). Towards green product consumption: Effect of green marketing stimuli and perceived environmental knowledge in Indian consumer market. *Society and Business Review*, 17(1), 45- 65.
- Jeong, G. and Kim, Y. (2014); The effects of energy efficiency and environmental labels on appliance choice in South Korea. *Energy Efficiency*, 8(3), pp. 559–576.
- Jonell, M., Crona, B., Brown, K., Rönnbäck, P., & Troell, M. (2016). Eco-labeled seafood: Determinants for (blue) green consumption. *Sustainability*, 8(9), 884.
- Kaur, B., Gangwar, V. P., & Dash, G. (2022). Green Marketing Strategies, Environmental Attitude, and Green Buying Intention: A Multi-Group Analysis in an Emerging Economy context. *Sustainability*, 14(10), 6107.
- Kim, B.-T. and Lee, M.-K. (2018); Consumer preference for Eco-Labeled seafood in Korea; *Sustainability*, 10(9), 3276.
- Kim, N. and Lee, K. (2023); Environmental consciousness, purchase intention, and actual purchase behavior of Eco-Friendly products: the moderating impact of situational context. *International Journal of Environmental Research and Public Health*, 20(7), 5312.
- Kirschstein, T., Heinold, A., Behnke, M., Meisel, F., & Bierwirth, C. (2022). Eco-labeling of freight transport services: Design, evaluation, and research directions. *Journal of Industrial Ecology*, 26(3), 801-814.
- Kumar, A. and Basu, R. (2023); Do eco-labels trigger green product purchase intention among emerging market consumers? *Journal of Indian Business Research*, 15(3), pp. 466–492.
- Kumar, P., Polonsky, M., Dwivedi, Y. K., & Kar, A. (2021). Green information quality and green brand evaluation: the moderating effects of eco-label credibility and consumer knowledge. *European Journal of Marketing*, 55(7), 2037-2071.
- Lay, K. (2012); Seafood ecolabels: for whom and to what purpose? *Dalhousie Journal of Interdisciplinary Management*, 8(2).
- Lehmann, N., Beikirch, P. (2020) eco-labelling of green energy tariffs analysis of the influence of eco-labels on consumer behavior, *IEEE*.

- Liu, C., Liu, X., Yao, L., & Liu, J. (2023). Consumer preferences and willingness to pay for eco-labelled eggs: a discrete choice experiment from Chongqing in China. *British Food Journal*, 125(5), 1683-1697.
- Usharani, M., & Gopinath, R. (2020). A Study on Consumer Behaviour on Green Marketing with reference to Organic Food Products in Tiruchirappalli District. *International Journal of Advanced Research in Engineering and Technology*, 11(9), 1235-1244.
- Majeed, A., Ahmed, I. and Rasheed, A. (2021); Investigating influencing factors on consumers' choice behavior and their environmental concerns while purchasing green products in Pakistan. *Journal of Environmental Planning and Management*, 65(6),1110–1134.
- Majeed, M. U., Aslam, S., Murtaza, S. A., Attila, S., & Molnár, E. (2022). Green Marketing Approaches and Their Impact on Green Purchase Intentions: Mediating Role of Green Brand Image and Consumer Beliefs towards the Environment. *Sustainability*, 14(18), 11703.
- Micu, A., Micu, A. E., Capatina, A., Cristache, N., & Dragan, B. G. (2018). Market intelligence precursors for the entrepreneurial resilience approach: The case of the Romanian eco-label product retailers. *Sustainability*, 10(1), 190.
- Nassivera, F. and Sillani, S. (2016); Consumer behavior toward Eco-Labeled minimally processed fruit product. *Journal of International Food & Agribusiness Marketing*, 29(1), pp. 29–45.
- Neiba, N., & Singh, N. T. (2024). Effect of Green Marketing, Green Consumption Values and Green Marketing Approaches on Organic Purchase Intention: Evidence from the Manipur. *International Review of Management and Marketing*, 14(5), 18–31.
- Nekmahmud, M., & Fekete-Farkas, M. (2020). Why not green marketing? determinates of consumers' intention to green purchase decision in a new developing nation. *Sustainability*, 12(19), 7880.
- Nguyen-Viet, B. (2022); Understanding the influence of eco-label, and green advertising on green purchase intention: the mediating role of green Brand equity; *Journal of Food Products Marketing*, 28(2), pp. 87–103.
- Nailatul Magfiroh N and Amelindha Vania (2024). We trust in green product: the impact of green marketing and packaging on purchase intention. *El-Mal: Jurnal Kajian Ekonomi ; Bisnis Islam*, 5(6), 3093-3108.
- Panopoulos, A., Poulis, A., Theodoridis, P., & Kalampakas, A. (2023). Influencing Green Purchase Intention through Eco Labels and User-Generated Content. (Flavio Boccia, Ed.), *Sustainability* 15, 764.
- Pathak, K. et al. (2023); Probing Reluctance to green Consumerism in an Emerging Economy: an Empirical evidence, *Gurukul Business Review/Gurukul Business Review*, 19(1).
- Rachmi, A., Wardani, Rr.T.I. and Sudjanarti, D. (2022); The effect of green product attributes and eco label information on green purchasing decision; in *Advances in economics, business and management research/Advances in Economics, Business and Management Research*, 109–117.
- Russel, A.H. and Robidas, L.C. (2019); Opportunities and Challenges of eco-label practices in Bangladesh for promoting environmentally conscious consumers, *European Journal of Business and Management Research*, 4(6).



- Sammer, K. and Wüstenhagen, R. (2006); The influence of eco-labelling on consumer behaviour – results of a discrete choice analysis for washing machines, *Business Strategy and the Environment*, 15(3), pp. 185–199.
- Santoso, H., Hadi, S. and Purwanto, P. (2016); Understanding and efforts of furniture industries facing Eco-Labeling in Central Java and Yogyakarta-Indonesia, *International Journal of Technology*, 7(5), p. 810.
- Sewwandi, J.P.N. and Dinesha, P.K.C. (2022); The impact of green marketing tools on green product purchase behavior: the moderation effect of consumer demographics, *Asian Journal of Marketing Management*, 1(01).
- Shah, R., Modi, A., Muduli, A., & Patel, J. D. (2023). Purchase intention for energy-efficient equipment appliances: extending TPB with eco-labels, green trust, and environmental concern. *Energy Efficiency*, 16(4).
- Shamini, H. and Hariharan, G. (2019); Factors affect to consumers green purchasing behavior: a study on Batticaloa District, *South Asian Journal of Social Studies and Economics*, pp. 1–8.
- Sharma, N.K. and Kushwaha, G.S. (2019); Eco-labels: A tool for green marketing or just a blind mirror for consumers, *Electronic Green Journal*, 1(42).
- Suki, N. M., Suki, N. M., & Azman, N. S. (2016). Impacts of corporate social responsibility on the links between green marketing awareness and consumer purchase intentions. *Procedia Economics and Finance*, 37, 262–268.
- Sun, X. et al. (2022); The impact of environmental commitment on green purchase behavior in China, *International Journal of Environmental Research and Public Health/International Journal of Environmental Research and Public Health*, 19(14), p. 8644.
- Taufique, K.M.R. et al. (2016); Integrating general environmental knowledge and Eco-Label knowledge in understanding ecologically conscious consumer behavior, *Procedia Economics and Finance*, 37, pp. 39–45.
- Taufique, K.M.R., Vocino, A. and Polonsky, M.J. (2016); The influence of eco-label knowledge and trust on pro-environmental consumer behaviour in an emerging market, *Journal of Strategic Marketing*, 25(7), pp. 511–529.
- 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.
- Van 't Veld, K. (2020); Eco-Labels: Modeling the consumer side; *Annual Review of Resource Economics*, 12(1), pp. 187–207.
- Waris, I. and Ahmed, W. (2020); Empirical evaluation of the antecedents of energy-efficient home appliances: application of extended theory of planned behavior; *Management of Environmental Quality*, 31(4), pp. 915–930.
- Waris, I., & Hameed, I. (2020). Promoting environmentally sustainable consumption behavior: an empirical evaluation of purchase intention of energy-efficient appliances. *Energy Efficiency*, 13(8), 1653–1664.
- Witek, L. (2017) Sustainable Consumption: Eco-labelling and its impact on consumer behavior - evidence from a study on Polish consumer, *Institute of Economic Research Working Papers*. No. 142/2017. Institute of Economic Research (IER), Toruń.

- Wong, W. M. and Tzeng, S. (2021). Mediating role of organic labeling awareness and food safety attitudes in the correlation between green product awareness and purchase intentions. *Sage Open*, 11(4).
- Wurster, S. and Ladu, L. (2020); Bio-Based products in the automotive industry: the need for ecolabels, standards, and regulations, *Sustainability*, 12(4), p. 1623.
- Yusiana, R., Widodo, A. and Sumarsih, U. (2021); Integration Consumer Response during the Pandemic Covid-19 on Advertising: Perception Study on Eco Labeling and Eco Brand Products Eco Care; *Inclusive Society and Sustainability Studies*, 1(2), pp. 45–56.
- Zhang, H., Xu, T. and Feng, C. (2022); Does public participation promote environmental efficiency? Evidence from a quasi-natural experiment of environmental information disclosure in China, *Energy Economics*, 108, p. 105871.
- Zhang, Z., Sami, F., Ullah, I., Khan, S. U., & Khan, S. (2023). Analyzing the green marketing approaches and their impact on consumer behavior toward the environment in China: a logistic regression approach. *Environment Development and Sustainability*, 26(11), 29453–29474.