Examining the antecedents of GenY's purchase intentions and consequent consumption behaviour towards Eco-labelled food Products

Thesis Submitted for the Award of the Degree of

DOCTOR OF PHILOSOPHY

in

Management

By

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2024

DECLARATION

I, hereby declared that the presented work in the thesis entitled "Examining the antecedents of GenY's purchase intentions and consequent consumption Behaviour towards Eco-labelled food Products" in fulfilment of degreeof **Doctor of Philosophy (Ph. D.)** is outcome of research work carried out by me under the supervision Dr. Pawan Kumar, working as Professor, in the Mittal School of Business of Lovely Professional University, Punjab, India. In keeping with general practiceof reporting scientific observations, due acknowledgements have been made whenever work described here has been based on findings of other investigator. This work has not been submitted in part or full to any other University or Institute for the award of any degree.

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CERTIFICATE

This is to certify that the work reported in the Ph. D. thesis entitled "Examining the antecedents of GenY's purchase intentions and consequent consumption behaviour towards Eco-labelled food Products" submitted in fulfillment of the requirement for the reward of degree of **Doctor of Philosophy (Ph.D.)** in the Mittal School of Business of Lovely Professional University, Punjab, India is a researchwork carried out by Deeksha Sharma, 12014460, is bonafide record of his original work carried out under my supervision and that no part of thesis has been submitted for any other degree, diploma or equivalent course.

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ABSTRACT

INTRODUCTION

Millennials have already surpassed the boomer population and are contributing considerably to businesses across the globe. For a developing nation like India, millennials hold a significant role in shaping the country's consumer markets. Millennials, also known as Gen Y, spend comprehensively on necessities, making it one of the most profitable and challenging market segments for marketers. Gen Y is known to prioritise sustainability and is committed to paying a premium for green products, services, and brands (Deloitte, 2021). Research on millennials' purchase decisions has underlined their propensity to balance their purchases' environmental and social impacts.

This research explored determinants of millennials' purchase behaviour towards eco-labelled food products. Behavioural Reasoning Theory (BRT) by Westaby (2005) was used as a base to elucidate the complex associations between reasons, beliefs, motives, and intentions. The study assessed variables like perceived eco-label credibility, past green experiences, green environmental knowledge, and green communication as precedents of consumers' attitudes. To gauge the attitude intention relationship, the research examined the moderating roles of brand attachment, brand green image and attitude towards logo. Furthermore, the study also examined the moderating roles of trust, reward process and institutions in determining the intention-behaviour gap. To test the impact of millennials' information on green food labels, the study measured the influence of choice uncertainty and choice difficulty on the eco-labelled purchase behaviour of millennials. Utilising questionnaires as the research instrument, the study gained insights from extensive literature to measure millennials' purchase of eco-labels.

Study findings revealed eco-label credibility's positive effect on consumer attitudes, emphasising the need for precise, transparent information and continuous improvement of eco-labelling strategies to match emerging market trends. The study also highlighted the significant role of past experiences with eco-labelled products, indicating that positive experiences increase trust and preference for eco-friendly food

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options. Millennials' environmental knowledge significantly impacted their attitudes, underlining the importance of awareness efforts and compelling motivation towards green purchases. Furthermore, the study revealed that green communication is critical to positively influencing consumer attitudes with clarity and consistency. In addition, factors like strong brand attachment, a positive green brand image, and attractive eco-label logos had a significant role in translating attitudes into intentions. Trust was also a critical moderator in the link between purchase intention and behaviour, with trust in eco-labels deriving eco-labelled food purchases. The study also highlighted the importance of reward processes and institutions in building consumer confidence towards eco-labelled food purchases. It underlined the interaction of various factors in shaping attitudes towards eco-labelled products, focusing on the role of communication and branding.

The research suggested further investigation into the evolving eco-labelling landscape, online behaviour, social media's impact, and consumer challenges with eco-labels. The study offered insights into improved eco-labelling strategies and apprised policymakers on crafting favourable regulations and communication campaigns. Understanding consumer attitudes and behaviours is vital for creating effective eco-labels and promoting environmentally conscious purchasing, thereby advancing sustainable consumption.

OBJECTIVES

To assess the above-discussed theoretical underpinnings, the following objectives were framed:

1. To evaluate the factors affecting a consumer's attitude towards eco-labels in the food products category.

2. To examine the role of ecolabel attitude, brand attachment, green image, and attitude towards logo and consumer purchase intentions toward ecolabel food products.

3. To measure the intention behaviour gap towards purchasing ecolabel food products and evaluate the moderating effects of trust, reward and institutional role.

4. To evaluate the effect of choice difficulty and choice uncertainty on actual buying behaviour of ecolabel food products.
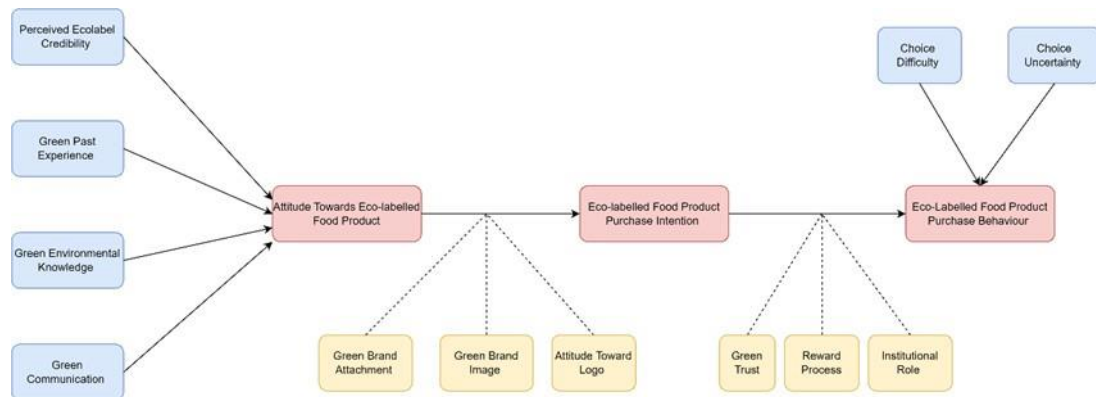

Fig 1: Research Framework

Source: Adapted from Westaby (2005)

RESEARCH HYPOTHESES

The research proposes a series of hypotheses to explore the complex relationship between consumer attitudes, experiences, knowledge, intentions and behaviour. Each hypothesis is framed to explore separate aspects of consumer behaviour and their decision-making process, focusing on their specific role in purchasing eco-labelled food products. The study proposed the following hypotheses:

$H_0 1$: Perceived Ecolabel credibility positively influences attitude towards Eco-labelled Food Products.

$H_0 2$: Consumers' Green past experience positively influences attitudes towards Eco-labelled Food Products.

$H_0 3$: Consumers' green environmental knowledge positively influences attitudes towards Eco-labelled Food Products.

$H_0$4: Green communications positively influence attitudes towards Eco-labelled Food Products.

$H_0$5: Brand attachment moderates the relationship between consumers' attitude towards Eco-labelled Food Products and their intention to purchase Eco-labelled Food Products.

$H_0$6: Green image moderates the relationship between consumers' attitude towards Eco-labelled Food Products and their intention to purchase Eco-labelled Food Products.

$H_0$7: Attitude towards logo the relationship between consumers' attitude towards Eco-labelled Food Products and their intention to purchase Eco-labelled Food Products.

$H_0$8: Trust moderates the relationship between consumers' intention to purchase eco-labelled food products and their purchase behaviour.

$H_0$9: Reward moderates the relationship between a consumer's intention to purchase eco-labelled food products and their purchase behaviour.

$H_0$10: Institutional role moderates the relationship between consumers' purchase intentions and their behaviour towards ecolabels.

$H_0$11: Choice uncertainty negatively influences ecolabel purchase behaviour.

$H_0$12: Choice difficulty negatively influences ecolabel purchase behaviour.

$H_0$13: Attitude towards Eco-labelled food products positively influence the Intention towards Eco-labelled food products.

$H_0$14: Intention Towards Eco-Labelled food products positively influence the Eco-labelled product purchase behaviour

RESEARCH METHODOLOGY

The research followed a descriptive and quantitative design to conduct the survey. The study population comprised millennials (Gen Y) who are aware of ecolabels and green food products, either consumers or non-consumers of these products, living in Punjab, Himachal Pradesh, Chandigarh and Delhi NCR. Data was collected through a

survey in North India to test the hypothesis. The data was collected online and offline. The data was collected using a purposive sampling technique. The study involved the collection of 50 samples, each from the identified 12 districts of Punjab, Himachal Pradesh and Haryana, and 100 each from Chandigarh and Delhi NCR, thereby totalling the number to 800. The respondents were approached at the sales outlets/point of sales to fill out a questionnaire for data. In addition, the online method of approaching respondents was also considered, as well as using keywords on social media platforms. The study used SPSS and Smart PLS 4.0 for data analysis. The analysis involved describing demographic data followed by convergent and discriminant validity assessment using PLS. Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE) were also used to assess convergent validity. Structural Equation Modelling was employed to test the hypothesised relationships.

MAJOR FINDINGS

The significant findings of the research are as follows:

- Ecolabels carry the image of a significant source of information to assess the quality and reliability of food products. An ecolabel's perceived effectiveness results from its credibility among consumers. If the ecolabel is trusted, it will likely be a base for purchase decisions.

- Past experiences of buying green products significantly shape millennials' purchase decisions. Past experience has a positive influence on attitudes towards eco-labelled food products.

- Environmental Knowledge significantly influences attitudes. This indicates that there is an urgent need to strengthen knowledge-based initiatives and awareness campaigns about the benefits and impact of eco-labelled products.

- Green Communication significantly influences attitudes towards eco-labelled food products. Messages highlighting a product's benefits are more persuasive, emphasising the importance of benefit-focused and emotion-rich

communication strategies in enhancing consumer engagement with eco-labelled products.

- Positive Attitudes reflect consumers' orientation towards their personal values and purchasing decisions. The finding emphasises the importance of reinforcing the environmental benefits and the authenticity of eco-labels to develop a favourable consumer attitude.

- Brand Attachment and Brand Green Image failed to significantly moderate attitude and intention. Due to the lack of scientific information and validation of eco-friendly claims, millennials find it difficult to associate themselves with eco-labelled food purchases. Furthermore, greenwashing also reduces brand attachment and creates a positive brand image for eco-labelled food products.

- Attitude towards logos plays a moderating role in increasing the strength of the relationship between attitude and intentions. This implies the role of a brand's visual appeal and its significance for millennials. For Gen Y, logos serve as visual signals that guide their brand perceptions and strengthen brand identity.

- Millennials' decisions to purchase eco-labelled food products are driven by their attitudes towards these products rather than their trust in the brands. This highlights the unique nature of eco-labelled products, indicating the importance of concerns and personal values over trust.

- External rewards constitute a substantial choice in making eco-friendly products more attractive options for millennials. This highlights the significant role of external motivation as a decisive factor in driving sustainable consumer behaviour.

- External compliance plays an important role in strengthening the relationship between intention and behaviour. This finding enhances the existing understanding of the role of external pressures in influencing behaviour towards environmentally friendly purchase options.

- Choice uncertainty and difficulty positively affect behaviour. Faced with uncertainty, millennials seek information on eco-labelled products, perceiving them as safer choices. Furthermore, results revealed that millennials can effectively handle a wide range of eco-friendly choices and have a greater propensity to navigate complex decision-making with ease.

CONCLUSION, IMPLICATIONS AND FUTURE SCOPE

This study examined millennials' purchase of eco-labelled food products. The research highlighted the importance of extrinsic, intrinsic factors in determining pro-environmental food purchases. The research highlighted the moderating role of brand attachment, green brand image, logo attitudes, trust, and rewards. Furthermore, the study emphasised the influence of external factors, such as regulations and competitive forces, in managing marketing strategies. Additionally, the study accentuates the significance of addressing choice uncertainty and difficulty, offering practical implications for marketers and policymakers. The research also emphasised the need for clear communication strategies addressing consumers' apprehensions about eco-labels. Overall, the research provides valuable insights for businesses and policymakers looking to promote sustainable consumption among millennials. The study's findings have several limitations as they accentuated Indian millennials' eco-labelled food purchases, so these findings cannot be generalised. Also, the cross-sectional research design limits the study regarding demographics, age, and location. A longitudinal study can be designed in future to track consumers' preferences over time. Studies can consider other factors, such as the impact of influencers and social media type, on consumer choices.

ACKNOWLEDGEMENT

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SPSS	Statistical Package for Social Sciences
PLS-SEM	Partial Least Squares Structural Equation Modelling
ATE	Attitude towards Eco-labelled food Products
ATL	Attitude towards Logo
BA	Brand Attachment
BGI	Brand Green Image
CD	Choice Difficulty
CU	Choice Uncertainty
GC	Green Communication
GEK	Green Environmental Knowledge
IR	Institutional Role
PB	Purchase Behaviour
PC	Perceived Credibility
PGE	Past Green Experience
PI	Purchase Intention
RW	Reward Process
TR	Trust

CHAPTER 1

INTRODUCTION

A continuous rise in the global population increases the risk of causing damage to ecosystems (Weber & Sciubba, 2019). The constant demand for products and services seriously harmed the environment due to excessive carbon footprints. The greenhouse gases increase alarmingly (Lakhani, 2023), putting the whole ecosystem under stress. As a result, organisations offering products and services are expected to shift their strategies to address their stakeholders' ever-evolving needs and safeguard society's long-term interests. Therefore, these firms are facing a growing demand to adopt sustainable practices. Additionally, consumers are getting more inclined towards green or sustainable offerings than ever before. It has been reported that products and brands with sustainability claims grow more rapidly than their traditional counterparts (White et al., 2019). Due to the increasing prominence caused by growing concerns about sustainability-related issues, there is an urgent demand for environmentally friendly and credible practices.

Consumerism has evolved over the years, and in response, marketers have developed products that incorporate novel features, improved quality, enhanced design, and superior service. Hence, buyers today can live a life filled with affluence, health and entertainment that were previously inaccessible even to the wealthiest individuals (Dole, 2020). Also, it has given rise to intense market competition for a better share of the pie. A perfect example of the dynamic nature of consumers is available in the form of green marketing which got its attention during the 1970s, but it was in the late 1980s the idea of green marketing emerged. It is widely accepted that sustainable products or services are crucial to reducing the negative impact of production-related activities. But, it is also essential that these environment-friendly products or services get extensive attention in the market. Thus, marketing of green products and services is vital to nurturing sustainable consumption. According to the American Marketing Association (AMA), Green marketing refers to the development and marketing of products that are acknowledged to be ecologically harmless.

In the modern-day world, the concept of sustainability is at its peak. The imperative for corporations around the world to adopt sustainable business practices is attributed to the overall rise in consumer awareness regarding environmental protection and social inequalities (Saini & Jain, 2024). Marketers and consumers have changed their marketing and consumption preferences to achieve better sustainability of products and the environment. Now, marketers are using green marketing strategies to develop a positive image and establish a sustainable entity in the market. Research revealed that customers are willing to pay a premium for green products (Biswas & Roy, 2016; Shi & Jiang, 2023), further establishing that consumers are more willing to shift towards sustainable consumption practices. The green marketing concept is used across diverse sectors, including textiles, apparel, tourism, the food industry, etc. Making a product more environmentally friendly occurs throughout its life cycle, starting from product design and raw material acquisition through manufacturing, storage, transportation, usage, and post-usage activities (Kumar & Ghodeswar, 2015). Greening the business is vital in developing the business-level strategy for competitive advantage and further strengthening the brand image (Sharma & Kushwaha, 2019). In Green Marketing, Green Supply Chain Management (GSCM) is imperative. Green supply chain management helps reduce waste and maintain the quality of the environment. (Kuei et al., 2015; Sugandini & Susilowati, 2020). Hence, it can be stated that green marketing includes an array of interconnected and harmless activities to the environment.

To recognise green marketing and ensure a sustainable future, governments worldwide have emphasised the labelling of green products. These labels have emerged in the market as "eco-labels". Eco-labels comprise a distinguishable marketing instrument to communicate a product's ecologically friendly and socially desired features to the customers (Zhen et al., 2017). It has been noted that consumers often find themselves in great confusion while identifying the green product in the market (Cai et al., 2017). To end such confusion among consumers, the eco-label was introduced in 1978 (Sharma et al., 2019). The primary objectives of eco-labels encompass communication (Tang et al., 2004), fostering trust (Potts & Haward, 2007), enhancing knowledge (Taufique et al., 2015) and growing purchase intention

(Thøgersen et al., 2010; Sörqvist et al., 2016) towards the green products. The Government of India and several other organisations have made efforts to promote green marketing in the past. In 1991, the government of India initiated a voluntary program to label consumer products as environmentally friendly and green products. This program introduced the "Ecomark" symbol to designate green products (Singh et al., 2012). Previous studies have criticised eco-label schemes in India and focused on shady clouds such as consumer scepticism, insufficient awareness among consumers, and the absence of reputable eco-labelling agencies (Van Amstel et al., 2007; Simi, 2009). A recent study further claimed that ecolabels fail to serve their purpose (Sharma et al., 2019). The eco-label adopted in the early 90s in India failed to make its mark and, hence, is considered ineffective.

The developing nations are witnessing a shift in the sustainable consumption patterns. Specifically, regarding India, people are changing their perceptions and paying attention towards pro-environment purchases. Figure 1.1 depicts that customers are ready to pay more for sustainable products. As per the survey, almost one-third of customers are willing to pay for environmentally friendly products (Statista, 2023). This also has the potential for marketers to target customers with premium prices for green products. Furthermore, people assign more importance to sustainable products (Statista, 2023). Figure 1.2 highlights the preference of customers towards green products in India, representing customers' preference for sustainable consumption.
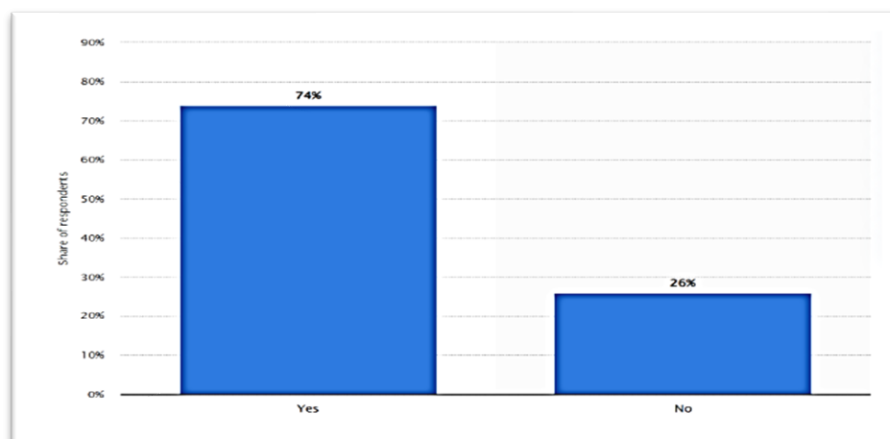
Figure 1.1: Consumers' Willingness to Pay for Green Products

Source: Statista

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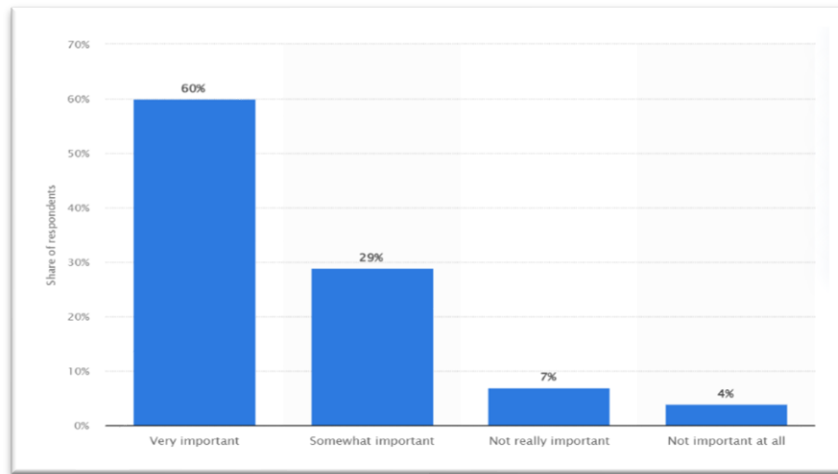
Figure 1.2: Consumers' Perception towards Green Products

Source: Statista

The above discussion portrays the importance of eco-friendly initiatives and their role in shaping green consumerism. Across the world, these initiatives have opened new prospects for the marketers. One of these initiatives, known as "ecolabel' has been explained in the next section.

1.1   Ecolabel Concept

Ecolabeling, a crucial aspect of modern environmental and consumer policies, can be defined as the practice of marking products with specific labels that communicate the efforts made by manufacturers to minimise their ecological impact (Zaman et al., 2010). This intended certification process is crucial in identifying and promoting products based on environmental performance (Svikruhova et al., 2023). It acts as a badge of honour, signifying a product's superior environmental qualities within its category (Uberoi, 2003). Sharma & Kushwaha (2019) defined eco-labels as symbols or logos indicating a product's ecological safety and its classification as a green product. These labels are not just markers of environmental friendliness; they also guide consumers seeking to make responsible purchasing decisions. The simplicity and clarity of eco-labels enable shoppers to easily distinguish sustainable products from others, reducing the confusion often associated with green shopping. Globally implemented, eco-labelling is a powerful instrument that instructs consumers and guides them towards sustainable purchasing habits (Plakantonaki et al., 2023). Ecolabels offer a transparent and trustworthy insight into a product's ecological

footprint, assisting consumers in making eco-friendly buying decisions. The criteria for these labels are stringent and encompass various environmental aspects, including efficient use of resources, lower emissions, reduced environmental impact, and adoption of sustainable production practices. Manufacturers looking to obtain ecolabels must adhere to standards, thereby encouraging the combination of environmental responsibility in all stages of a product's life.

Furthermore, eco-labelling is a strategic tool for businesses, offering them a competitive edge. Companies that showcase their commitment to sustainability through ecolabels attract a segment of environmentally conscious consumers and enhance their brand reputation and market position (Huang et al., 2024). In conclusion, eco-labelling is a dynamic and influential approach to promoting environmental responsibility. It enables informed consumer choices and stimulates companies to embrace eco-friendly practices. This self-regulated ecological certification and labelling method reflects a deepening global resolve to protect and preserve the environment.

Table 1.1 presents several interpretations and definitions of eco-labels to clarify their significance and impact on consumer purchase decisions:

Table 1.1: Definitions of Ecolabel

Definitions	Source
"An Ecolabel is defined as an environmental claim on a product. Eco-labelling is a system for consumer products (excluding foods and medicine) that are made in a fashion that avoids detrimental environmental effects. An ecolabel logo identifies a product or company that has met an environmentally preferable standard."	Shingrup (2013)
"One constituted of materials and associated with production practices along its entire life cycle recognised for being socially and environmentally responsible."	Cai et al., (2017); Wijekoon & Sabri (2021)
"An eco-label is a label which identifies overall environmental preference of a product or service within a particular product/service category based on life cycle consideration."	Singh et al., (2012)
"Ecolabels represent a holistic view, giving an overall assessment of a product's impact on the environment relative	EIACP PC (2023)

to other products in the same category. The criteria follow a cradle-to-grave approach – from raw material extraction to manufacturing and disposal. Any product with the Ecomark will be the right environmental choice."	
"Ecolabelling is a voluntary method of environmental performance certification and labelling that is practised around the world. An ecolabel identifies or services proven to be environmentally preferable within a specific category."	Global Ecolabelling Network (2024)

Source: Author's Compilation

1.2   Ecolabels in Indian Context

Introduced in 1991 through the Ministry of Environment & Forests (MoEF), India's EcoMark scheme represents a significant stride in eco-labelling initiatives. Developed by the Center for International Trade, Economics & Environment (CUTS), Eco Mark distinguishes itself from other eco-labels by emphasising environmental sustainability and product quality. This focus was set to have high standards for certification, ensuring the products meet stringent environmental and quality standards. Despite these high standards, as of now, only a select group of 12 manufacturers in diverse sectors such as pulp, leather, wood particle board, and paper have managed to earn the Eco Mark license. This individuality underscores the rigorous nature of the certification process and the commitment required from manufacturers to meet these criteria. The Eco Mark logo, featuring an earthen pot, summarises the program's ethos. The earthen pot, a symbol of sustainability, represents using renewable resources, minimal hazardous waste production, and low energy consumption in the manufacturing process. Its design embodies the balance and resilience of natural ecosystems, reinforcing the environmental values at the core of the Eco Mark scheme.

The Central Pollution Control Board (CPCB) has recognised 16 product categories under Eco Mark's scope, including diverse products such as Aerosol Propellants, Batteries, and Food Items like Edible Oils, Tea, and Coffee. Thirteen of these categories have successfully integrated Eco Mark standards into their Bureau of Indian Standards (BIS) specifications, indicating a growing adoption. However, despite the comprehensive nature of the Eco Mark criteria, which covers the entire lifecycle of a product, from raw material extraction to disposal, the scheme has struggled to gain

widespread acceptance. Highlighting sustainability, Chakravarthy et al. (2016) emphasised the depth of the "cradle-to-grave" approach, which ensures products are environmentally friendly at every stage of their lifecycle. Panda & Goswami (2009) linked limited response from manufacturers as a significant barrier to the scheme's success. This limited popularity might be due to manufacturers' challenges in meeting such stringent criteria, including potentially high costs and complex compliance processes.

1.3   The Indian Ecolabel- Eco Mark

The Eco Mark scheme, established by the Ministry of Environment and Forests, Government of India in 1991, is a pioneering initiative to promote environmentally friendly consumer products nationwide. This program functions nationally, accrediting and labelling domestic and other consumer products that meet defined environmental norms and adhere to the quality standards established by Indian regulations for each product category. (Singh et al., 2012; Khan et al., 2023). As Bhole et al. (2013) emphasised, the eco-labelling initiative is a significant step towards sustainable consumerism in India. The Eco-Mark scheme functions through a structured mechanism, which involves three critical stages that collectively contribute to developing criteria for each product category and the eventual awarding of the Eco-mark. These stages are integral to the scheme's effectiveness and widespread acceptance (Panda & Goswami 2009).

The first stage involved determining product categories under the Eco Mark scheme. This decision is based on various factors, including the products' environmental impact, consumer demand, and potential for significantly improving sustainable consumption. The second stage focused on creating mass awareness about the scheme. This involved extensive promotional activities to teach consumers learn about the advantages of selecting environmentally friendly products and the significance of the Eco Mark label. The goal was to foster a culture of eco-friendly purchase decisions among the general population. The final and third stages are dedicated to formulating strategies for the future development of the Eco Mark scheme. This includes regularly updating the criteria based on evolving environmental

standards, exploring new product categories, and enhancing the scheme's overall efficacy.

Overall, the Eco Mark scheme represents a comprehensive approach to encouraging sustainable consumption practices in India. By setting stringent ecological standards for products and educating the public about the importance of eco-friendly choices, the scheme aims to drive a significant shift towards more sustainable consumer behaviour, thereby contributing positively to environmental conservation and sustainable development. In brief, Eco Mark's future lies in balancing maintaining high ecological and quality standards and making the certification process more accessible and appealing to a broader range of manufacturers.

1.4   Implementation Eco Mark Scheme

India's Central Pollution Control Board (CPCB) has established comprehensive guidelines to identify and certify environmentally friendly products. To qualify for environmental labelling from the Government of India, products must adhere to the criteria laid down by Indian ecological laws. These comprise the Water (Prevention and Control of Pollution) Act of 1974, the Air (Prevention and Control of Pollution) Act of 1981, the Water (Prevention & Control of Pollution) Cess Act of 1977, and the Environment (Protection) Act of 1986.

The Eco Mark is granted to consumer goods that not only fulfil the applicable standards of the Bureau of Indian Standards but also meet specific environmental criteria. To be eligible, manufacturers must provide proof of consent clearance in compliance with the stipulations of Indian ecological laws. Additionally, product packaging plays a crucial role; it must not only display environment-friendly criteria briefly but also incorporate eco-friendly packaging materials, which could be reusable, recyclable, or biodegradable. This holistic approach ensures that products bearing the Eco Mark contribute positively to environmental sustainability, encouraging responsible manufacturing and informed consumer choices.

1.5   Eco Mark Logo

The Eco Mark scheme, an initiative in India symbolised by an earthen pot, represents a profound message about environmental conservation and sustainable

living. The earthen pot, chosen by the Central Pollution Control Board (CPCB) as the logo for this scheme, is not just an object but a symbol of sustainability and ecological balance. It is made from a renewable resource – earth – and its production process is aligned with environmental consciousness, as it neither generates hazardous waste nor requires excessive energy consumption. The choice of the earthen pot for the Eco Mark scheme, deeply inherent in Indian culture, is familiar to the masses, thereby making the environmental message of the scheme more accessible and relatable. The earthen pot's simplicity and utility speak volumes about the importance of using resources wisely, minimising waste, and living in harmony with nature. Furthermore, the earthen pot symbolises a powerful duality; it is solid and delicate, much like the ecosystem it represents. It emphasises the need for careful responsibility for natural resources, urging individuals and industries alike to adopt practices that are not only eco-friendly but also sustainable in the long run.

The Eco Mark scheme aims to foster greater environmental awareness among consumers through its earthen pot symbol. It encourages them to choose environmentally friendly products, promoting a sustainability culture. The scheme also sets standards for various products, ensuring they meet specific environmental criteria before they can bear the Eco Mark label.

In essence, the earthen pot logo of the Eco Mark scheme is more than just a symbol; it is a call to action. It urges society to be mindful of the environmental impact of their choices and behaviours. Promoting products that align with ecological balance and sustainability principles, the Eco Mark scheme is crucial in paving the way towards a more environmentally conscious and sustainable future.

Figure 1.3: Eco Mark logo

1.6　Ecolabels around the World

The increasing prevalence of eco-labels globally reflects a growing consumer desire for environmentally friendly products. Originating with Germany's Blue Angel scheme in 1978, the world's first eco-label, this movement spread rapidly, with Canada introducing its Environmental Choice Program. These pioneering efforts have inspired a broader adoption of eco-labelling worldwide, including in developing countries, to adopt sustainable production and consumption patterns. These eco-friendly product labels denote devotion to environmental sustainability standards, making it easier for consumers to identify such products Mufidah et al. (2018).

The growth of eco-labels has been outstanding and encompasses various sectors. According to Hicks (2013), there were around 377 eco-labels active worldwide, covering a wide range of industrial sectors. This number has since expanded to over 500, with eco-label presence in 199 nations (UNFSS, 2018). The expansion within three decades reflects the increasing global commitment to environmental sustainability. Despite being less than 30 years old, these eco-labels have made a significant impact in reaching out to a large number of people across the world. Additionally, eco-labels have made substantial inroads in various markets, with notable shares in global coffee, tea, cocoa, and banana. This reveals eco-labels growing influence in guiding production and consumption towards more sustainable practices.

As the world becomes more aware of environmental issues, it is essential to be mindful of our impact on the planet; eco-labels significance in shaping consumer behaviour and manufacturing practices becomes ever more crucial. The challenge for marketers is to maintain the integrity and trustworthiness of these labels, ensuring they continue to represent genuine environmental responsibility and sustainable practices. The success of eco-labels reflects a change in consumer preferences and signifies a significant shift towards a more sustainable and environmentally conscious global economy.

Table 1.2: Ecolabels across the world

Countries	European Union	Nordic Countries	Germany	China	India
Name of Scheme	European Flower	Nordic Swan	Blue Angle	Ten Circle Mark	Eco Mark
Year of Establishment	1992	1989	1977	1993	1992
Logo					
Number of labelled products	103	453	11,700	43	0
Number of product categories	19	60	125	6	16

Source: Chakravarthy et al. (2016)

1.7 Ecolabelling Schemes Worldwide

Ecolabeling schemes are initiatives established across the globe to certify and promote environmentally responsible products and services. These initiatives offer consumers a reliable way to recognise products that meet specific environmental standards. Due to various constraints, this study cannot provide an exhaustive list of every ecolabeling scheme worldwide. Still, the research can highlight some well-known and prominent ecolabeling programs from multiple regions:

1.8 Importance of Ecolabels

The importance of eco-labels in today's market is becoming increasingly significant, as various reports and studies prove. The "Global Green Marketing Market" Research report (2022) revealed that green market revenue stood at 45596 million USD in 2019, with expectations to rise to 56050 million USD in 2025. This growth trajectory offers marketers, regulators, and policymakers a valuable opportunity to capitalise on the rising demand among environmentally conscious consumers. Furthermore, Statista (2024) estimated the Indian food market to reach 1.4 trillion U.S. dollars by 2028. This indicates a robust potential for growth in the food sector, especially as consumers

increasingly seek eco-friendly food products. The current market scenario presents an ideal opportunity for the food industry to focus on green marketing, supply chain management, and developing eco-friendly products. Utilising eco-labels in marketing strategies can play a vital role in reducing consumer confusion, building trust, and achieving a competitive edge. However, studies indicate that approximately 40% of firms worldwide have been accused of misleading consumers by falsely claiming their products are eco-friendly (ICPEN, 2021). Addressing these concerns requires enhanced certification processes and increased public awareness about the authenticity and significance of eco-labels. Academic research in this field also suggests more in-depth studies on eco-labels across different product categories (Liobikien & Bernatoniene, 2017). Moreover, there is a call for research that goes beyond self-reported attitudes and examines actual consumer behaviours (Wijekoon & Sabri, 2021).

This research seeks to address these deficiencies by analysing the different aspects of eco-labels and their impact on consumer behaviour and market trends. The insights gained from this research could be instrumental in shaping future strategies for green marketing and sustainable business practices.

1.9 Ecolabels in food Products:

Eco-labels play a crucial role in helping consumers make sustainable food selections. (Proi et al., 2023). As a result, when making purchases, consumers are increasingly considering the environment. (Darnall et al., 2018). Food labels are designed to reduce information asymmetry and aid consumers in making improved food choices. However, these labels might yield unexpected outcomes, especially when they possess common characteristics that may introduce confusion in making food choices (Chen et al., 2023). In addition, the tagged food products address consumers' concerns and lead larger "green segments" with a high value towards sustainability and give more importance to green attributes during a purchase (Sigurdsson et al., 2022). A few prominent ecolabels are mentioned below:

1.9.1 Demeter Biodynamic

Biodynamics is a comprehensive approach that focuses on all aspects of agriculture in such a way that they strengthen and support each other. The "Demeter

Biodynamic®" Farm Standard administers the accreditation of farms, thereby enabling them and their agricultural products to get certified with "Demeter®" and Demeter Certified Biodynamic®. These standards serve as a legal and agricultural framework for biodynamic practices globally. Biodynamic® farming, similar to certified organic agriculture, abstains from synthetic pesticides and fertilisers.

Figure 1.4: Demeter Biodynamic® logo

1.9.2 *Indian Organic Certification*

Indian Organic Certification is granted by The Agricultural and Processed Food Products Export Development Authority (APEDA), a government export promotion agency under the Ministry of Commerce and Industries. APEDA is responsible for Indian businesses' exports of agricultural and processed food products. The organisation sets national standards for organic products through its National Programme for Organic Production (NPOP). This program ensures organic certification programs meet international criteria and promotes organic farming and processing in India.

Figure 1.5: Indian Organic Certification logo

1.9.3 Fair for life

Fair for Life is a unique third-party certification program that verifies social responsibility and fair-trade practices across agriculture, manufacturing, and trade. It goes beyond existing systems by offering independent verification for businesses that might not qualify for traditional fair-trade certifications. The program employs external experts who are neutral to the brand to review the practices and ensure high social and fair-trade standards while adapting to specific local contexts.

Figure 1.6: Fair for Life logo

1.9.4 Food Alliance Certified

Food Alliance is a non-profit organisation that certifies farms, food processors and distributors for sustainable agricultural and facility management practices. Food Alliance Certification works for the safe and fair treatment of humans and animals. Food Alliance Certified agricultural operations focus on food handling facilities with better working conditions for farm-based workers, less use of toxic and unsafe materials, healthier soil, cleaner water, and wildlife habitat conservation on farmlands.

Figure 1.6: Food Alliance Certified logo

1.9.5 IFS Food

The IFS Food Standard, part of the International Featured Standards (IFS), is a globally recognised auditing standard for food safety and quality. It's accredited by the Global Food Safety Initiative (GFSI) and focuses on assessing food manufacturers'

processes and products. IFS Food applies to companies engaged in processing and packaging unpackaged food items, especially when there is a potential risk of product contamination during initial packaging. This standard encompasses various requirements for meeting specifications, supporting brand safety, and ensuring product quality. Since it gets updated occasionally, its latest version is developed with active collaboration from accreditation bodies, retailers, industry stakeholders, and catering companies worldwide. Certification under IFS Food is offered in two levels: Foundation level denotes scores ranging from 75% to 95%, while Higher level indicates scores surpassing 95%. Companies failing to achieve a score of at least 75% do not qualify for certification.

Figure 1.8: IFS Food logo

1.9.6 KRAV

KRAV is a Swedish environmental labelling system primarily focused on food products rooted in organic principles. It strongly emphasises various factors such as promoting animal welfare, social responsibility, and addressing climate impact. The KRAV standards serve as a comprehensive guide for conducting a sustainable business aligning with the objectives of organic production. Notably, KRAV actively participates as a member of the International Federation of Organic Agriculture Movements (IFOAM). This global umbrella organisation brings together various entities, including farmers, scientists, educators, and certifiers worldwide. KRAV's involvement in IFOAM reflects its commitment to promoting and advancing organic agriculture principles globally. Furthermore, KRAV plays a pivotal role in influencing the regulatory framework for organic production within the European Union (EU). Its efforts are geared toward shaping EU regulations to align with organic and sustainable

practices, emphasising the organisation's dedication to fostering environmentally responsible and socially conscious food production.

Figure 1.9: Krav logo

1.9.7 Rainforest Alliance

The Rainforest Alliance, headquartered in New York, is an example of conservation and sustainable practices in the agricultural and forestry sectors. This organisation is strongly dedicated to converting land-use practices, business approaches, and consumer behaviour. Its fundamental mission is to work collaboratively with farmers, forest managers, and communities worldwide, guiding and supporting them in their efforts to meet comprehensive standards that benefit the environment, the people, and the economy. The scope of the Rainforest Alliance's certification is broad and impactful. It encompasses a range of essential agricultural products, including coffee, bananas, cocoa, palm oil, and citrus and forest management. The farms and forests under its certification are not just production facilities but ecosystems and communities that require careful, sustainable management. The criteria set by the Rainforest Alliance for certification are both stringent and holistic. These criteria are accurately designed to achieve multiple objectives: to conserve wildlife and their habitats, safeguard the health and quality of soils and waterways, and safeguard the rights and welfare of employees, their families, and nearby communities. The Alliance's multi-fold vision goes beyond environmental responsibility. It also focuses on enhancing livelihoods, ensuring that the economic aspects of sustainability are not overlooked. This comprehensive approach ensures that certified farms and forests are managed in a way that is ecologically sustainable, socially fair, and economically feasible. Through its certification program, the Rainforest Alliance empowers producers and consumers alike. It offers a pathway for farmers and forest managers to

adopt more sustainable practices while also providing consumers with a reliable way to make environmentally and socially responsible choices. By fostering sustainable practices in agriculture and forestry, the organisation plays a crucial role in preserving our planet's biodiversity, ensuring the rights and welfare of workers and communities, and contributing to a more sustainable future.

Figure 1.10: Rainforest Alliance logo

1.9.8   *RSPO Certified Sustainable Palm Oil*

The Roundtable on Sustainable Palm Oil (RSPO) emerges as a vital global initiative, symbolising a collective commitment from multiple stakeholders to the sustainability of palm oil production. This organisation go beyond geographical boundaries, uniting various parties from across the globe in a shared mission to foster and uphold sustainable practices in the palm oil industry. At the heart of RSPO's operations is its certification system, a hallmark of sustainability. This certification is not just a symbol; it is a tangible assurance to consumers that the palm oil used in a product has been produced in an environmentally responsible and sustainable manner. Moreover, it guarantees that palm oil volumes are fully traceable, providing transparency and accountability in the supply chain. RSPO relies on a network of accredited certifying agencies to maintain these high standards. These agencies are tasked with conducting rigorous inspections and audits of palm oil producers. They verify every aspect of the production process against RSPO's stringent standards. This certification process is dynamic and thorough; it ensures compliance but also holds the provision for withdrawal of accreditation at any moment should there be any infringement of the rules and standards set by RSPO. Operational oversight of the RSPO is concentrated in its Secretariat, based in Kuala Lumpur, Malaysia. The RSPO's

approach underscores a comprehensive and collaborative effort towards sustainable palm oil production. By bringing together producers, consumers, and other key stakeholders, the RSPO embodies a holistic approach to sustainability. Its certification process promotes environmentally friendly practices and encourages social responsibility and economic viability, facilitating a more sustainable future for the palm oil industry.

Figure 1.11: RSPO Certified Sustainable Palm Oil logo

1.9.9 *Non-GMO Project Verification*

The non-GMO Project stands as a beacon of commitment to food safety and consumer choice, operating as a non-profit organisation with a resolute mission to preserve and expand the non-GMO food supply. This organisation is pivotal in enlightening consumers about GMOs (genetically modified organisms) and their impact, simultaneously offering them verified non-GMO choices to align with their dietary preferences and values. It involves a rigorous verification process to ensure the integrity of non-GMO claims. This process is meticulously carried out by independent, third-party technical administrators (TAs). These TAs are responsible for scrutinising products and their production processes against the stringent criteria outlined in the Non-GMO Project Standard. SCS (Scientific Certification Systems) plays a vital role among these third-party certifiers. As a certifier, SCS brings expertise and fairness, ensuring that the Non-GMO Project's standards are upheld with the utmost rigour and transparency. This ensures that when consumers choose a product bearing the non-GMO Project verification mark, it can be done confidently, knowing that it has undergone thorough scrutiny by competent and unbiased professionals. The Non-GMO Project's efforts thus represent a significant stride in the journey towards a more transparent and health-conscious food industry. By offering verified non-GMO choices

and educating the public, they empower consumers and encourage producers to adopt practices that align with a growing demand for non-GMO products. This synergy between consumer education, product verification, and the role of third-party certifiers like SCS is a testament to the project's comprehensive and multi-faceted approach to fostering a non-GMO food landscape.

Figure 1.12: Non-GMO Project Verification logo

1.9.10 USDA Organic

As certified by the USDA National Organic Program, organic foods adhere to stringent federal standards emphasising environmentally sustainable and health-conscious agricultural practices. The labelling of these foods signifies the absence of synthetic chemicals; it represents a comprehensive approach to farming that encompasses a blend of cultural, biological, and mechanical methods. These methods are specifically designed to enhance the recycling resources, foster ecological balance, and proactively preserve biodiversity, thereby contributing to a healthier and more sustainable food system. The standards for organic farming are rigorous and explicitly prohibit the use of synthetic fertilisers and sewage sludge. Moreover, they disallow practices such as irradiation and genetic engineering. This ensures that organic products are cultivated in a manner that maintains the integrity of the soil and the surrounding ecosystem. By choosing organic foods, consumers not only opt for products that are free from harmful chemicals but also support farming methods that are in harmony with nature, safeguarding both their health and the environment. This approach to agriculture is increasingly recognised as vital in the face of global environmental challenges and the growing demand for sustainable food sources.

Figure 1.13: USDA Organic

1.10 Scope of the study

The green marketing market is expanding exponentially, as highlighted by the Green Marketing Market Size Report (2021), which is a significant indicator of the shifting consumer and business focus towards sustainability. This surge in green marketing reflects an increasingly environmentally conscious consumer base, providing an opportunity for businesses to align their strategies with these values. In line with these trends, India's growing green customer signals a massive potential for growth in sectors focused on eco-friendly products. This shift presents a favourable moment for the food industry to transform towards green marketing and sustainable supply chain management. As discussed in the sections above, ecolabels play a crucial role in this transition, reducing consumer confusion and enhancing trust in eco-friendly products. Additionally, these labels also offer a competitive edge to businesses that genuinely commit to sustainable practices.

However, challenges in the form of greenwashing are severe threats to sustainable consumption. Studies suggest that some brands mislead consumers on their green activities (Hellweger, 2022). Brands involved in greenwashing depict a quick escape from sustainability (Yildirim, 2023). This practice underscores the need for strict compliance and heightened consumer education regarding the importance and authenticity of ecolabels. Additionally, one-third of consumers are prepared to spend up to 25 per cent on more sustainable products. This indicates that more and more consumers are inclined to buy greener products. From an academic standpoint, this situation calls for detailed research into the application and impact of ecolabels across various product categories. It is crucial to distinguish between self-reported consumer attitudes and actual purchasing behaviours to get a more realistic picture of the

effectiveness of green marketing strategies. This study aims to comprehensively address emerging issues, offering insights and solutions that could reshape the landscape of green marketing, especially within the rapidly evolving food industry. The research endeavours to provide a thorough analysis that highlights the current state of green marketing and draws a course for future sustainable practices; this initiative can potentially help both customers and the environment.

1.11   Problem Statement

The growing concept of green consumerism, or eco-friendly consumer behaviour, directly responds to the increasingly apparent overexploitation of natural resources. Previous studies have emphasised how this awareness has been amplified globally, particularly in food consumption (Moisander, 2007; Chekima et al., 2019). This initiative aims to reduce carbon footprints and encompasses broader concerns such as environmental impact, individual health, public health, and economic implications (Reisch et al., 2013). The transformation in consumer behaviour is more significant in developing nations, which account for a substantial portion of the world's food consumption. India has seen a rise in the preference for green products, reflecting a deeper understanding and commitment to green consumerism (Greendex, 2012). In response to these shifting consumer preferences, the Indian government has introduced various food labelling and certification systems. These initiatives aim to promote environmental sustainability and support public health standards by directly addressing the concerns of the environmentally-conscious consumer. The study aims to explore the dynamics persuading consumer behaviour towards the purchase of eco-labelled food products. The study seeks to comprehend the nature of the relationship between a consumer's preference for eco-friendly products and their emphasis on brand credibility and past experiences. Current research examines existing studies and reports on food eco-labels by assessing variables (internal and external to an organisation) in consumer purchasing decisions.

Generation Y, commonly known as millennials, represents a group of customers who are more concerned about the environment (Deloitte, 2021). It is also notable that millennials are socially conscious, rank sustainability and ethical production on a higher side, and are ready to invest more in green products (Blazovich et al., 2013).

Furthermore, India has the largest millennial population (Deloitte, 2021), thereby asking for a comprehensive study that examines their behaviour towards eco-friendly purchases. Therefore, it is reasonable to gauge millennials' green purchase behaviour by understanding food eco-labels.

1.12   Rationale of the Study

The world is witnessing an overall increase in consideration towards eco-friendly consumer behaviour, commonly called green consumerism (Garbyal & Gupta, 2024). With the ever-increasing environmental exploitation and overuse of natural resources, it is imperative to address sustainability issues (Chekima et al., 2019; de Andreis et al., 2024). This increase in sustainability awareness has gained significant attention worldwide across various sectors, particularly in food consumption (Kristia et al., 2023; Kydyrbekova et al., 2024). As one of the most significant contributors to emissions, addressing food-related challenges is a critical avenue for reducing carbon footprints (Lorek, 2013; Liu et al., 2023). In addition, the shift in consumption patterns among consumers in developing nations highlights the growing awareness and adoption of green consumerism (Greendex, 2012; Haba et al., 2023). At par with global standards, the Indian government has implemented food labels and certification systems to improve the environment and public health (Kaladharan et al., 2023). This study seeks to explore the factors that impact consumer behaviour regarding the purchase of eco-labelled food products. It seeks to explore whether consumers are inclined towards eco-friendly products and prioritise personal, organisational, and market-related factors in purchasing eco-labelled foods. The study also aims to explore the existing literature on food eco-labels and provide insights into the influence of these variables on consumer buying behaviour. In addition, the rise in revenue generation from the food industry in India indicates a vast potential for growth in eco-friendly food products (Statista, 2021). This presents an excellent opportunity for the food industry to invest in green marketing, sustainable supply chain management, and eco-friendly products. Leveraging eco-labels can help reduce consumer ambiguity, build trust, and attain a competitive advantage in the market. However, addressing concerns regarding misleading green claims is crucial to implementing better certification systems and raising consumer awareness about eco-labels. This study aims to address these issues

and contribute to meaningfully understanding eco-labels and their impact on consumer behaviour, underlining the urgency and necessity of ensuring eco-labels' credibility.

1.13   Summary

This chapter began with an in-depth exploration of green marketing and eco-labelled food products, which are increasingly pivotal in the contemporary consumer market. This is followed by an insightful examination of the global market trends, with a particular emphasis on the Indian market, highlighting its unique characteristics and growth potential. Furthermore, the introduction presents a well-structured description of the scope and relevance of this study. Building upon this foundation, the chapter details the specific research objectives, each carefully crafted to guide the investigation towards meaningful and actionable insights. In the end, the chapter attempts to elucidate the study's problem statement and the research's rationale.

CHAPTER 2

REVIEW OF LITERATURE

2.1 Introduction

This chapter comprises ten sections. The first section introduces the conceptual framework of the study. The subsequent section explores the literature review concerning eco-labelled food products. Following this, the next part emphasises the research gap and objectives. The subsequent parts elaborate on the research model. The last part concentrates on the literature regarding variables under study.

2.2 Theoretical Background of the study

Behavioural theories have been widely referenced in consumer behaviour literature to comprehend the factors influencing customer intentions and behaviour (Ali et al., 2023). These theories provide frameworks and models that help researchers and marketers understand specific reasons underlying consumers' decisions. Some prominent theories of general human behaviour are added in the next sub-sections:

2.2.1 Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB) was originally devised as the Theory of Reasoned Action (TRA) (Ajzen & Fishbein,1980). The aim of this theory is to envisage an individual's intention to be involved in a specific behaviour. Primarily, this theory was designed to reveal behaviours within an individual's control. Due to this, the foundation of this model is behavioural intention. As per this model, behavioural intentions are formed by one's attitude toward the anticipated outcomes and a subjective evaluation of the related risks and benefits. Successfully applied in various contexts, the TPB has established its predictive power in determining diverse behaviours and intentions (Conner & Sparks, 2005; Van Gelderen, 2008; Kautonen et al., 2013; McDermott et al., 2015). More recently, TPB has seen its application across different research areas (Sok et al., 2021; Ashaduzzaman et al., 2022; Zheng et al., 2022; Adabre et al., 2023; Tunji-Olayeni et al., 2023). The theory posits that behavioural accomplishment depends on both motivation (intention) and ability (behavioural control), differentiating among three types of beliefs: behavioural, normative, and control.

2.2.2 *Health Belief Model*

The Health Belief Model (HBM) is a psychological framework that explains and forecasts health-related behaviours by analysing individuals' beliefs and attitudes toward specific health issues (Rosenstock,1966). Over the years, HBM has emerged as a highly validated conceptual model and has played an essential role in understanding health behaviour and articulating strategies for health promotion interventions. Subsequently, the Health Belief Model has undergone various adaptations in the context of various public health concerns. Its application has extended across diverse areas of health and health-related behaviours (Jose et al., 2021; Daragmeh et al., 2021; Al-Sabbagh et al., 2022), making it a versatile framework for understanding and influencing health-related decision-making and actions.

2.2.3 *Unified Theory of Acceptance Use of Technology (UTAUT)*

The Unified Theory of Acceptance and Use of Technology (UTAUT) is a model for technology acceptance introduced to formulate a unified theory of technology that predicts behavioural intention and usage (Venkatesh et al., 2003). The UTAUT is one of the most inclusive technology acceptance models, integrating several prominent acceptance models, including the Theory of Planned Behaviour (Ajzen, 1985) and the Technology Acceptance Model (TAM) (Venkatesh & Davis, 2000). UTAUT aims to reveal users' intentions to adopt an information system or technology and their usage behaviour. The theory proposes four fundamental constructs: 1) Performance Expectancy, 2) Effort Expectancy, 3) Social Influence, and 4) Supporting Conditions. The first three factors directly influence intentions and behaviour, whereas the fourth directly determines behaviour. The UTAUT was developed by consolidating factors from earlier models on Information systems behaviour.

2.2.4 *Cognitive Dissonance Theory*

Cognitive dissonance refers to the conflict arising from incompatible thoughts rooted in inconsistent information and the ensuing mental tension experienced by an individual. Cognitive dissonance theory (Festinger, 1957) is considered one of the most essential theories in social sciences. According to the theory, the discrepancy between attitude and behaviour creates an unpleasant state of emotions called 'cognitive dissonance'; due to an unfavourable state of mind, people try to reduce this undesired

mindset by modifying their attitudes. In the context of consumer behaviour, CDT has been extensively explored (Kassarjian & Cohen, 1965; Telci et al., 2011; Barta et al., 2021; Weingarten & Lagerkvist, 2023).

The study is based on an extensively validated theory known as Behavioural Reasoning Theory (BRT) by Westaby (2005). BRT proposes the relationship between motives and beliefs and covers attitudes and intentions towards technology or innovation under research (Westaby, 2005). This theoretical framework contributes to a clearer psychological understanding of individuals' decision-making. Also, it sheds light on the motivations prompting individuals to accept a specific role in executing a behaviour. As depicted in Figure 2.1, the theory has variables that determine values, reasons, attitudes, and intentions towards a behaviour.
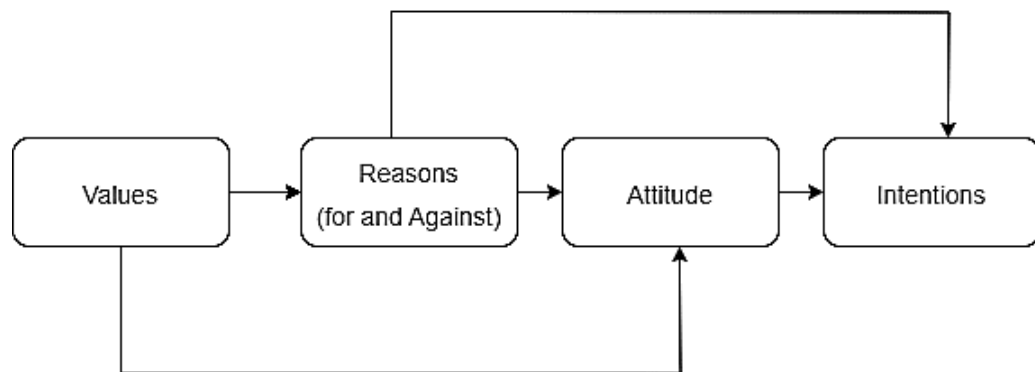
Figure 2.1: Behavioural Reasoning Theory

(Source: Westaby, 2005)

2.2.5   *Behavioural Reasoning Theory (BRT)*

Behavioural Reasoning Theory (BRT) is a theoretical framework that seeks to understand the relationship between beliefs, reasons, motives, intentions, and behaviour (Sahu et al., 2020). BRT provides a framework for predicting and explaining human behaviour across various contexts by gauging the relationship between beliefs, reasons, motives, intentions, and behaviour such as health behaviours (Hajiheydari et al., 2021; Yadav et al., 2022; McNeil, 2023) consumer decision-making (Diddi, 2019; Tandon et al., 2020; Dhir et al., 2021; Acikgoz et al., 2023) and organisational behaviour (Panda,

2023; Martey et al., 2023). BRT offers insights into the cognitive processes that influence human actions and helps develop strategies to endorse a desired behaviour or alter existing behaviours (Habib et al., 2024). The origins of Behavioural Reasoning Theory (BRT) can be traced to the foundational theories of the Theory of Reasoned Action (TRA) and the Theory of Planned Behaviour (TPB) (Phogat et al., 2022). TRA focuses on the linkages between behavioural beliefs, normative beliefs, attitudes (ATT), subjective norms (SN), perceived behavioural control (PBC), and behaviour (Aslan, 2023). TPB extends TRA by considering three types of beliefs: behavioural, normative, and control beliefs, which influence ATT, SN, and PBC, respectively (Passarelli et al., 2023). These beliefs collectively influence behavioural intention (BI), predicting behaviour (Ajzen, 1991). BRT builds upon these theories and examines the association between different types of beliefs, behavioural intentions and behaviour while introducing the construct of reasons.

The beliefs, values, and reasons in BRT are context-specific, distinguishing it from TRA and TPB. The reasons for and against constructs are crucial components of BRT; hence, these two factors hold the key to the implications and generate further generalisations. According to Westaby (2002), reasons are specific cognitive processes that people use to make judgments and justify their actions or intents confidently. Reasoning theories, including reasons theory (Westaby & Fishbein, 1996) and explanation-based decision-making theory (Pennington & Hastie, 1993), are responsible for including reasons in BRT. Reasons offer distinctive insights in various decision-making scenarios by supporting and legitimising certain behaviours, thereby supporting the acceptability of judgments. Psychological theories support the dichotomous classification of reasons for and against. This classification aligns with theories like the health-belief model (Janz & Becker, 1984), sense-making (Thomas et al., 1993), cost-benefit models (Thaler, 1999), field theory (Lewin, 1951), functional theorising (Snyder, 1992), psychological coherence (Nowak et al., 2000), and decisional balance theory (Janis & Mann, 1977). These theories highlight opposing motivational forces, such as costs and benefits, facilitators and barriers/obstacles, pros and cons, and similar constructs. By studying reasons for and reasons against, an

interaction of these conflicting forces in decision-making processes can be well determined.

Furthermore, BRT aims to explain how these cognitive processes influence and guide human behaviour. BRT proposes that individuals engage in a systematic and rational decision-making method, resulting in a behaviour involving a series of interconnected cognitive steps. According to BRT, behaviour is driven by a person's underlying beliefs and values. These beliefs are shaped by various factors such as personal experiences, social norms, and cultural influences. Individuals then generate reasons or justifications for their beliefs, providing a rational basis for their actions. Motives have an essential role in BRT. Motives refer to the underlying goals or desires that drive behaviour. They can be intrinsic (personal fulfilment) or extrinsic (rewards or social approval). BRT suggests that motives influence behaviour by aligning with an individual's beliefs and reasons, motivating them to act. Similar to previous theories, intentions bridge motives and behaviour in BRT (Sahoo et al., 2022). Intentions reflect a person's commitment and willingness to engage in a specific behaviour (Patwary et al.,2023). Intentions develop due to an individual's beliefs, reasons, and motives. In BRT, intentions are a direct antecedent to behaviour, indicating an individual's likelihood of engaging in a particular action (Talwar et al., 2023). Behavioural Reasoning Theory emphasises the importance of the cognitive processes that precede behaviour (Karimi et al., 2023). It suggests that individuals carefully evaluate their beliefs, generate reasons for actions, consider underlying motives, and form intentions before translating them into observable behaviour.

2.3   Literature on Eco-labelled foods

Eco-labelled foods or Food ecolabels are symbols or logos placed on products to designate their efficiency to meet specific environmental standards or criteria. The primary purpose of eco-labelling is to provide consumers with information about a product or service's environmental performance, allowing them to make more informed and environmentally friendly choices. Ecolabels are awarded to a specific product to signify its various detailed performance underlining life cycle analysis, resource use, energy consumption, and other environmental impacts. There are specific criteria that products must meet to receive the ecolabel. A review of the literature revealed that

reasoning theories have been extensively explored in determining user's ecolabel choices (Nadlifatin et al., 2016; Riskos et al., 2021; Waris et al., 2021; D'Souza et al., 2022). Available literature further suggests that credibility and quality of food choices have a pivotal role to play in ecolabel purchases (Nilsson et al., 2004). Additionally, food eco-labels are also known to have an association with consumer perceptions (Donato & D'Aniello, 2022), cultural influences (Manta et al., 2022), Word of Mouth (Moon et al., 2017), Sustainable Practices (Miranda-Ackerman et al., 2017) and Attitudes (Grymshi et al., 2022). Based on extensive literature, this section attempts to develop arguments based on literature available on ecolabels.

A significant problem associated with eco-labels is related to low awareness. Singh et al. (2023) outlined various factors influencing consumers' willingness to pay for eco-labelled food products within consumer awareness of eco-labels. The study highlighted the pivotal roles of environmental concerns, awareness of eco-labels, and the belief in ecological efficacy as the primary drivers of consumers' willingness to pay for eco-labelled products. The research identifies these antecedents and elucidates their nature and significance. The study unveiled that the strength of consumers' belief in the environmental benefits of eco-labels serves as a crucial mediator between their environmental considerations and their recognition of eco-labels. Furthermore, the research findings underscore the importance of consumers' trust in the ecological capabilities of eco-labels as a cornerstone of their willingness to pay.

Moreover, attitudes also play a vital role in determining intentions towards ecolabels (Paul et al., 2023). The findings from the research provide intriguing insights into the interplay between individuals' attitudes regarding green product purchases and their perceptions of eco-labels, along with the significance they ascribe to eco-labels. This observation unveiled a crucial link in consumer behaviour, which links it with trust towards ecolabels. The study results find similarities with previous studies linking attitudes with trust and underline the pivotal role of personal preferences in influencing consumer choices in green marketing (Biswas & Roy, 2015; Kim & Chung, 2011).

Previous research has also attempted to draw attention to a compelling transformation in consumer behaviour within the Indian market. This shift carries implications that resonate with the broader literature on market dynamics and consumer

behaviour. As Indian consumers are moving away from conventional shopping patterns and embracing new preferences and habits, this shift substantially changes how the market is perceived and managed. This phenomenon aligns with the previous research (Kotler & Armstrong, 2010; Schiffman & Wisenblit, 2018), where attempts to explore the interaction between consumer behaviour and market dynamics extensively were discussed.

Self-efficacy plays a crucial role as a determinant of consumer behaviour in the context of eco-labels, thus contributing to the expanding body of knowledge on factors influencing environmentally responsible consumption (Bandura, 1997; Thøgersen, 2006). Alam et al. (2023) provide valuable insights into the role of self-efficacy in shaping the relationship between perceived value and the intention to purchase eco-labelled food products. The observation explored the multifaceted dynamics of consumer behaviour in the context of eco-labels and environmentally friendly products. Furthermore, the authors find that study results corroborate with earlier research by Bandura (1997) and Ajzen (1991), thus emphasising the importance of self-belief and perceived control in influencing individuals' intentions and actions. Also, the study suggests that individuals with higher levels of ethical self-efficacy are more likely to translate their perception of value into the intention to purchase food items with eco-labels. In applying behavioural theories to understand environmentally friendly consumer behaviour, researchers have attempted to gauge multiple factors underlining behaviour (Chan & Lau, 2000; Stern, 2000; Bamberg & Möser, 2007). These findings from earlier studies indicate that individuals with higher levels of environmental concern are more likely to develop favourable attitudes towards eco-labelled food products, perceive more significant control over their purchase decisions, and be influenced by subjective norms within their social networks. These factors, in turn, mediate their intention to purchase eco-labelled food products. The literature provides valuable contributions as a base to the existing understanding of eco-labels by highlighting the moderating role of ethical self-efficacy in the association between perceived value and intention to purchase eco-labelled food products, as well as by identifying and substantiating the mediating roles of attitude, perceived behavioural control, and subjective norms in linking environmental concern to eco-labelled food

product buying intention. These insights develop a firm understanding of the multifaceted factors influencing eco-friendly consumer behaviour and underscore the importance of considering self-belief, attitudes, perceived control, and social influences in designing effective strategies to promote environmentally responsible consumption.

A growing body of literature on eco-labels and their role in promoting sustainable consumption has seen considerable attention from scholars (Magnusson et al., 2001; Vermeir & Verbeke, 2006). This aspect of sustainable consumption aligns with the broader literature on the importance of carbon footprint information in eco-labelling (Grankvist et al., 2004; Haws et al., 2014). Matser (2023) explored the impact of a comprehensive ecolabel designed to guide consumers towards more sustainable choices. The study highlighted the factors that influence consumers' willingness to buy products with this ecolabel, with a specific focus on the role of the Climate Score and price. The research reconnoitred how the Climate Score indicator influences consumers' willingness to buy products. The Climate Score likely reflects the environmental impact of a product, especially concerning its carbon footprint. In addition to the Climate Score, the research investigated the impact of price on consumers' willingness to buy eco-labelled products. Moreover, ecolabels find a significant impact of price sensitivity on consumer choices. Price sensitivity is a critical factor that often shapes consumer choices, and it is essential to understand how it interacts with environmental considerations (Magnusson et al., 2001; Vermeir & Verbeke, 2006). Therefore, it becomes crucial to understand how consumers respond to comprehensive ecolabels, as it has the broader discourse on sustainability and consumer behaviour (Stern, 2000; Thøgersen, 2006).

The research on sustainable foods has further emphasised understanding how the intention of young consumers is affected by ecolabels (Nekmahmud et al., 2020). Researchers have identified the perceived benefits of green products as a crucial factor influencing the purchasing decisions of young consumers (Joshi & Rehman, 2015). This implies that when young, educated consumers believe that green products offer tangible advantages, such as environmental sustainability or personal health benefits, they are more inclined to make green purchasing decisions (Nekmahmud et al., 2020). The research on intention development added that environmental concern played a

significant role in shaping the purchase decisions of young, educated consumers (Wierzbiński et al., 2021). This implies that consumers are more likely to choose green products because of their genuine environmental concerns. Studies covering young consumers provide detailed insights into the preferences and motivations of various consumer groups' green product purchasing decisions. Thus, there is an urgent need to study environmental concerns and perceived benefits in influencing the purchasing decisions of young, educated consumers. As these studies suggest, there is a need to emphasise understanding consumer behaviour across different demographic groups and cultural contexts.

Consumer trust influences buying intentions, further impacting purchase behaviour (Akter et al., 2023). Trust in eco-labels has gained more prominence due to widespread recognition of climate change. In the context of emerging economies, health benefits associated with eco-labelled products and increased awareness about climate change are persuasive determinants driving the desire for environmentally friendly food items. More recently, Lim et al. (2023) gauged the impact of eco-labels on consumer perception and market dynamics. The study highlighted the primary role of eco-labels in indicating environmentally sustainable practices in food production and the potential for their misinterpretation as symbols of food safety. They further evaluated the willingness of consumers to pay more for products bearing these labels based on presumed safety benefits. Hence, it can be established that consumers with health concerns are more likely to pay more for food eco-labels. The research presented the results in a two-fold manner: Research on the role of trust emphasises congruity between purchase decisions and consumers' beliefs (Akter et al., 2023), which advocates a strong approval of consumers for these labels.

Consumer scepticism has advanced further due to claims made by labels. As the claims grow further, consumers remain vigilant about the realities of the brands and their claims. In an attempt to gain insights into the sceptical nature of consumers, Rossi and Rivetti (2023) scrutinised consumer scepticism toward eco-friendly food labels and their subsequent effect on consumer buying behaviour. The study considered variables including socio-environmental concern, scepticism towards these labels and the purchasing behaviour concerning sustainably-labelled food products. The study's

findings discovered that consumer purchase behaviour is significantly and positively influenced by socio-environmental concerns and the consumers' perceptions of producers' socio-environmental commitments. The results of the study proved a deviation from previous research, which predominantly advocated scepticism as a precursor to purchasing behaviour, suggesting that scepticism may help as a mediating factor within the complex web of influences on consumer behaviour.

Furthermore, Donato et al. (2022) revealed eco-labels' influence on consumer perceptions of food quality and safety. The study reviewed existing literature and examined the gap related to food evaluations in the context of the presence or absence of ecological claims. Studies indicated that consumers may intrinsically associate certain eco-labels with product quality, independent of any additional eco-friendly information. Also, the research related its findings of eco-label-linked apprehensions to packaging. The literature suggested the role of enhanced feelings of pride consumers experience when making environmentally friendly purchases. This pride acts as a psychological reward, reinforcing the product's perceived value not just in terms of its environmental credentials but also its quality and safety. Research further added that the presence of eco-labels combined with ecological claims could catalyse a more favourable evaluation of food products, as consumers feel a sense of pride in making choices that align with their values.

A significant aspect of eco-labels is the acceptance of consumers. An environment-friendly product or service can find its way into the market only if there is enough willingness to pay. Research on consumers' Willingness to Pay (WTP) for eco-labelled foods has revealed that WTP is significantly impacted by the environmental concerns of consumers and their awareness of eco-labels WTP. This relationship was found to be partially mediated by belief (Singh et al., 2023). The findings underscore the importance of consumers' beliefs in the actual environmental efficacy of eco-labels, suggesting that belief is a pivotal factor in determining their WTP. The review also highlighted that simply raising awareness of eco-labels is not sufficient; consumers must also be convinced of the tangible environmental benefits these labels represent. The study also advocated for improved communication strategies

that not only inform consumers about eco-labels but also robustly demonstrate their environmental impact.

A review of existing studies on eco-labelled food purchases suggested that research should delve deeper into the psychological mechanisms that underpin the observed relationships and explore how different factors may influence these antecedents. The ultimate aim would be to develop more targeted and practical strategies to promote eco-labelled food products, thereby advancing sustainable consumption.

Table 2.1: Recent Research on Eco-labels

Author (s)	Research Area	Major Findings
Tiboni-Oschilewski et al. (2024)	Food Eco-labels	Eco-labels influence consumers when clear and well-promoted.
Pathak et al. (2024)	Green Marketing, Eco-labels	Eco-labels can be considered a feasible green business strategy, clarifying ambiguity and promoting environmental responsibility.
Cao & Zhang (2024)	Eco-friendly Food products	Credible eco-labels for top-tier, health-conscious products positively influenced consumers' perceptions.
Lou et al. (2024)	Self-labelling	Contradictions between supplier and manufacturer preferences in eco-label strategies.
Alam et al. (2023)	Sustainable Foods	Ethical self-efficacy has a significant impact on purchase intent.
Singh et al. (2023)	Eco-labelled Food Products	Environmental concerns, label awareness, and trust drove willingness to pay.
Rossi & Rivetti (2023)	Sustainability Labels	Consumer skepticism hampers sustainable buying, stressing the need for credibility efforts.
Kumar et al. (2023)	Eco-labels	Perceived control, attitude, subjective norms, and consumers' readiness to pay premium prices for environmentally friendly products are significantly associated with purchase decisions.

Yahya et al. (2022)	Eco-labels	Marketing strategies for the young generation should enhance benefits, segment health-conscious consumers, and leverage Instagram, Twitter, and TikTok. Future plans involve diversifying samples and perceptions.
Zainab et al. (2022)	Sustainability Labels	The interest in eco-labels has gained prominence and is expected to rise in the coming decade.
Nguyen (2022)	Green Advertising, Ecolabel	Eco-labels and green advertisements positively influence green buying intent, mediated by adaptive green brand equity.
Panopoulos et al. (2022)	Eco-label	Gen Z's green buying intent is influenced by user-generated content, guiding targeted marketing.
Calderon-Monge et al. (2021)	Eco-entrepreneurship, Ecolabel	Consumers select eco-labelled products with an excellent quality-price relationship.
Wojnarowska et al. (2021)	Eco-labelling and Sustainable development	Sustainable development involves social, technical, and economic ties with respect for the environment.
Ateş et al. (2021)	Eco-labelled food	Attitude, perceived behavioural control, self-identity, and willingness to pay influence intentions.
Neumayr & Moosauer (2021)	Sustainable food	Low-engagement shoppers are critical towards sustainable choices.
González (2020)	Green consumerism, Eco-labelling	Product offers, recycling, and environmental consciousness are vital in intention development.
Song et al. (2020).	Eco-label, environmentally friendly product	Gen Z purchases attributes and perceived consumer effectiveness mediate effectively, enhancing awareness and purchase intention.
Nyremo & Widerberg (2020)	Eco-label, Sustainable Consumption	Eco-label awareness affects sustainable actions through perceived control; trust impacts via attitude and subjective norms.
Nguyen (2020)	Green Consumption, Ecolabel	There is a strong association between value, eco-concern, attitude, and green buying intention of consumers.

2.4   Research Gap

A review of existing research on Indian consumers has consistently shown that they exhibit a rational but sceptical attitude towards green products. Specifically, young consumers were more sceptical (Witek & Kuźniar, 2020). A study by Gupta and Pirsch (2006) found that Indian consumers evaluate green products critically and are cautious about green claims made by companies. This scepticism can be attributed to greenwashing, where companies exaggerate their environmental claims (Delmas & Burbano, 2011). However, despite this scepticism, Indian consumers are increasingly aware of eco-friendly products and services.

According to a survey by Nielsen (2019), 73% of Indian consumers claimed to be aware of eco-friendly products, and 64% expressed a willingness to pay a premium for such products. This willingness to pay more for green products has also been confirmed by a study by Biswas and Roy (2015). However, one notable gap in consumer knowledge is related to ecolabels, which are certifications or logos that indicate a product's environmental credentials. Most consumers lack a comprehensive understanding of the significance of ecolabels (Paul et al., 2023). Taking advantage of the lack of complete understanding, some firms provide customised information about their products' environmental benefits. This raises concerns about the accuracy of the information provided and the potential for greenwashing (Luthra et al., 2016). To address this gap in understanding, the present study aims to gain insights into consumer attitudes towards eco-label information and how it influences their purchasing decisions.

Furthermore, studies in green products and sustainability have often taken a broad approach, encompassing various product categories and services in their research methodologies. However, it is essential to recognise that consumer behaviour can vary significantly across different product categories and services. Therefore, generalising results from studies covering diverse product types may not clearly understand consumers' decision-making processes in specific contexts. In the context of food products, the prevalence and impact of eco-labels can be different compared to other product categories. Therefore, it is crucial to examine in the context of eco-labels and their influence on consumer behaviour within the specific domain of food products to

obtain a more nuanced understanding of consumer preferences and choices. Many empirical studies in eco-friendly purchasing have relied heavily on customers' self-reported attitudes and intentions rather than examining their actual behaviours. This approach has limitations, as consumers may not always act according to their stated intentions. As highlighted by Wijekoon and Sabri (2021), there can be a discrepancy between what consumers claim they will do and what they do.

As already discussed, within the context of the global food industry, a diverse array of eco-labels is present, attributing environmental, ethical, and sustainability qualities to a broad spectrum of products. Given the existing literature supporting the impact of environment-friendly labels on purchase decisions, a comprehensive study to assess the factors influencing millennials or Generation Y in purchasing eco-labelled food products would add to the existing understanding of researchers, academicians and policymakers.

The present study aims to investigate both purchase intentions and actual behaviours to address this limitation and provide a more comprehensive picture of consumer behaviour. By comparing what consumers say they intend to do with their actual choices and actions, the study can provide valuable insights into the alignment or divergence between consumer attitudes and behaviours in the context of ecolabels in India. In conclusion, previous research has shed light on Indian consumers' rational but sceptical nature towards green products, their awareness of eco-friendly options, and the gaps in their understanding of ecolabels. The research seeks to contribute to this body of knowledge by examining the prevalence and impact of ecolabels in the specific context of food products while also addressing the gap between consumer intentions and actual behaviours in the eco-friendly purchasing domain.

2.5   Research Questions

This study seeks to enhance the existing understanding of the environment-friendly food domain by examining Gen Y consumers' purchase behaviour. This research intends to explore the role of eco-labels in determining the purchase behaviour of millennials. Therefore, the research gauged factors such as the impact of product credibility, knowledge, consumers' prior experiences, the difficulty and uncertainty of choice and communication processes on different phases of consumer purchase

decisions. Additionally, the study examined attributes considered significant across different stages of consumer purchase decisions. It examined the moderating roles of attachment, company image, logo trust, rewards processes, and institutional role in the relationship between attitude intention and intention-behaviour. To investigate these factors, the following research questions have been formulated:

1.   *What are the influencing factors of consumers' attitudes towards eco-label food purchases?*

2.   *Is the relationship between attitude towards ecolabels and intention to purchase significant, and do brand attributes moderate the relationship between attitude and consumers' purchase intentions?*

3.   *Is the "Action gap" prominent among millennials, and do trust, rewards, and institutional roles moderate it?*

4.   *How do the choice difficulty and choice uncertainty affect millennials' purchase decisions?*

2.6   Objectives of the Research

To report these research questions in this study, the following objectives were framed:

1.   *To evaluate the factors affecting a consumer's attitude towards eco-labels in the food products category.*

2.   *To examine the role of ecolabel attitude, brand attachment, green image, and attitude towards logo and consumer purchase intentions toward ecolabel food products.*

3.   *To measure the intention behaviour gap towards purchasing ecolabel food products and evaluate the moderating effects of trust, reward and institutional role.*

4.   *To evaluate the effect of choice difficulty and choice uncertainty on actual buying behaviour of ecolabel food products.*

2.7   Research Model

A research model was developed using the behavioural reasoning theory to investigate the factors associated with eco-labelled purchase behaviour. Considering literature encompassing behavioural reasoning, the following attributes are finalised: Perceived Ecolabel Credibility, Green Past Experience, Green Environmental Knowledge and Green Communication are independent variables that effects the Attitude towards eco-labelled food products. There are two more independent variables namely Choice Difficulty and Choice Uncertainty that effects the dependent variable namely Eco-labelled Product Purchase Behaviour. Furthermore, several moderators influence both Intention Towards Eco-Labelled Food Products and Eco-Labelled Product Purchase Behaviour. These moderators include Brand Attachment, Green Brand Image, Attitude Towards the Logo, Trust, Reward Process, and Institutional Role.
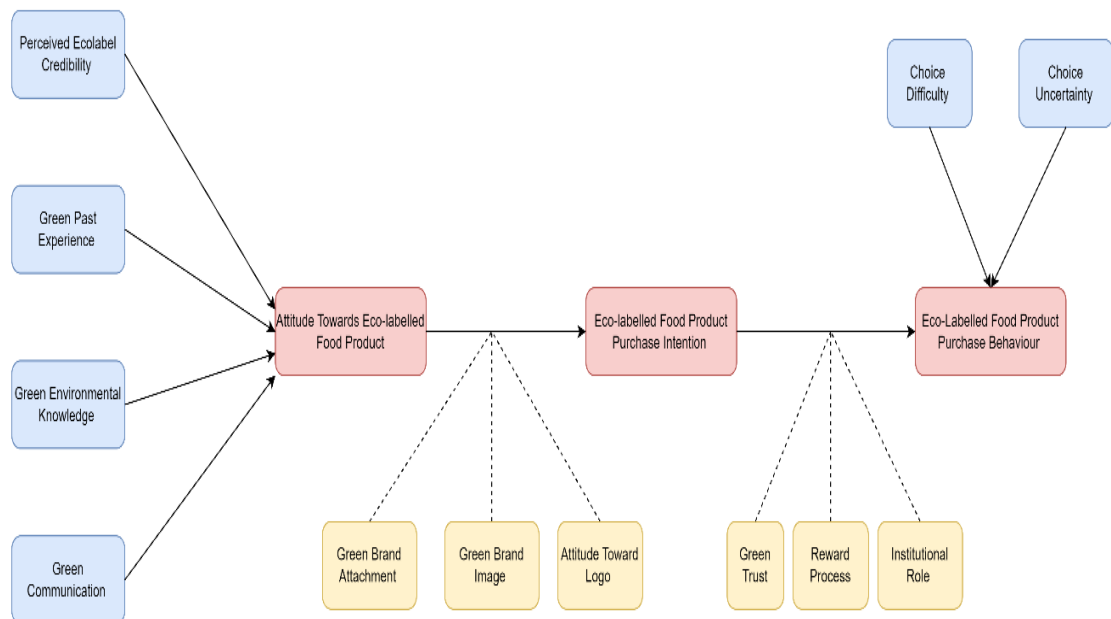
Figure 2.2: Research Framework

Source: Adapted from Westaby (2005)

2.8 Hypothetical Underpinnings

2.8.1 *Perceived Ecolabel Credibility*

Source credibility refers to information providers perceived as expert and trustworthy (Kelman, 1961). Earlier studies have highlighted the substantial impact of source credibility on attitude toward a message (MacKenzie & Lutz, 1989) and purchase intentions (Wang & Doong, 2010). This further translates into purchase behaviour. Consumer's perceived credibility toward certifying agencies and their labels is not uniform.

The presence of numerous eco-labels issued by different certifiers, both private and public, can negatively impact the credibility of the claimed benefits of green products (Cai et al., 2017). Consumer trust in eco-labels varies among certification agencies and across domestic markets. Studies have shown that consumers in different countries perceive eco-labels differently (Sønderskov et al., 2011). The research claims that government involvement in eco-labelling systems could help improve consumer-perceived credibility (Taufique et al., 2014). For example, in the United States, consumers perceived eco-labels issued by non-government organisations as more trustworthy than those issued by private and federal certification companies (Ozanne et al., 2023). However, the case is reversed in the Singaporean context (Atkinson & Rosenthal, 2014). This indicates a huge shift in consumers' perceptions. Besides certifying agencies, consumers also pay attention to environmental or social claims made through eco-labels (Forleo et al., 2023). The information disclosed through eco-labels can be perceived as incomplete, misleading, or unable to fully capture a product's green attributes, which may reduce its value to consumers (Nguyen-Viet, 2023). The credibility of eco-labels can also be influenced by the retailer where the product is sold (Guo et al., 2020). Consumers perceive retailers with a higher reputation for ethics, honesty in product information disclosure, and carrying high-quality products as more credible (Chu & Chu, 1994). Retailers can significantly influence consumers' evaluation of product quality and preferences (Girard et al., 2002). Previous research has established a positive relationship between consumers' perceived credibility of eco-labels and their preferences for green products in various contexts, such as electronic goods, organic food, and furniture (Zhang & Dong, 2020). Consumer motivations for

seeking green products include environmental concerns and self-oriented motivations, such as personal health (Naderi & Van Steenburg, 2018). Health-related factors, like the absence of chemicals or concerns about human health and safety, influence consumer preferences for green products (Yiridoe et al., 2005).

A review of the literature on eco-label credibility revealed that consumers' motivations to purchase green products can influence their choices, as can their perceptions toward eco-labels and retailers (Cai et al., 2017). Hence, there is enough literature support to establish the role of eco-label credibility in the green purchase decisions of millennials.

2.8.2 Green Past Experience

The concept of "green experience" refers to consumers' previous purchase experiences with green or environmentally friendly products (Gulzari et al., 2022). This experience can play a significant role in shaping consumer behaviour and their perceptions of value (Zolkepli et al., 2021). However, one key factor that influences consumer purchasing behaviour is their historical behaviour or previous purchase experience (Young et al., 2010). When consumers perceive the same value in energy-saving products, those who have previously purchased such products are more likely to be convinced of their utility due to their past experience (Luo et al., 2020). This previous positive experience can lead to higher levels of satisfaction with the products. Essentially, consumers who have had successful green experiences are more likely to trust the benefits and value of energy-saving products, which can positively influence their future purchase behaviour and satisfaction levels (Zhao & Chen, 2021). Customers often rely on their past experiences when making purchasing decisions, especially when it comes to green products (Young et al., 2010). While marketers may make claims about the environmental safety and quality of their products, customers may be sceptical and prefer to base their judgments on their own experiences (Kumar & Ghodeswar, 2015). Green products often promote their environmental benefits, such as being eco-friendly, sustainable, or made from recycled materials (Chi et al., 2021). However, the information provided on product labels may not always be clear or easily understood by consumers (Grunert et al., 2007). This lack of clarity can lead to confusion and uncertainty. In such cases, customers may turn to their experiences with

the product to form their perceptions. If they have used a green product in the past and found it to be effective, environmentally friendly, and of high quality, they are more likely to trust that brand and consider purchasing from them again in the future (Chi et al., 2021).

On the other hand, consumers' negative experiences with green products may drive hesitation to trust similar products in the future. These negative experiences can shape their perceptions and influence future purchase intentions (Yoon, 2013). Therefore, the customer's own experience with green products plays a crucial role in forming their perceptions. (Pickett-Baker & Ozaki, 2008). Marketers should attempt to provide clear and accurate information on product labels to avoid confusion (Mitchell et al., 1999). Indeed, many researchers have emphasised the significance of considering consumers' past behaviours when predicting their future behavioural intentions. This approach is rooted in the assumption that consumer behaviours are influenced by learning processes. By examining consumers' previous actions and experiences, researchers can gain insights into their decision-making processes and better understand their intentions. When researching green purchasing behaviours, consumers' past experiences with green products are considered particularly important. These experiences play a vital role in shaping consumers' product-specific perceptions, which, in turn, influence their future purchase intentions. If consumers have had positive experiences with green products in the past, it is more likely that they will develop a favourable perception of such products. Consequently, this positive perception increases the likelihood of their intention to purchase green products in the future. Moreover, consumers' past experiences influence their purchases or use of green products. If individuals have had satisfactory encounters with green products, they are more inclined to continue purchasing and using them. These positive experiences serve as a foundation for building trust and loyalty towards green products, reinforcing the consumers' commitment to making environmentally friendly choices. In summary, considering consumers' past behaviours and experiences is crucial for understanding and predicting their future intentions, especially in the context of green purchasing behaviours. By acknowledging the influence of previous encounters with green

products, researchers and marketers can develop more accurate models and strategies to encourage sustainable consumption.

2.8.3   Green Environmental Knowledge

Environmental knowledge can be defined as a collection of information, ideas, and connections related to the environment and its primary ecosystems. (Fryxell & Lo, 2003). Green knowledge refers to the understanding, applying, and integrating knowledge related to environmental sustainability and its role in economic and social development processes. It is also the understanding of facts and relationships concerning the environment that can foster individual environmental responsibility (Maichum et al., 2016). Green Knowledge further advocates recognising the interconnections between environmental, economic, and social factors and achieving a balance that promotes long-term ecological stability, economic growth, and social well-being. The concept of green knowledge recognises that environmental conditions and natural resources are essential for the functioning of economies and societies. It emphasises the importance of sustainable practices and strategies to address environmental challenges such as climate change, pollution, resource depletion, and biodiversity loss. Environmental knowledge enables understanding the decision-making and information-searching processes that influence a consumer's level of trust in a product (Hossain & Lim, 2016). When consumers possess adequate environmental knowledge, they are better equipped to evaluate the sustainable aspects of a product. This knowledge empowers consumers to make informed decisions and influences their perception of a product's trustworthiness. Indeed, the relationship between environmental knowledge and green purchase behaviour is a complex and debated topic within research. While some studies suggest a positive correlation between environmental knowledge and green purchasing behaviour, others have found mixed or inconclusive results (Joshi & Rahman, 2015).

2.8.4   Green communication

Green communication is a specialised form that focuses on exchanging information, ideas, and messages about the environment and environmental problems. It involves using common symbols, signs, and behaviour to convey meaning. Verbal activities in green communication refer to using spoken or written language to discuss

environmental issues, share knowledge, and raise awareness. This can include conversations, public speeches, presentations, articles, reports, and other written or spoken communication forms. Non-verbal activities in green communication involve using visual cues, gestures, images, and other non-linguistic forms of communication to convey messages about the environment. This can include using symbols, logos, photographs, infographics, videos, and other visual or multimedia elements. Green communication promotes environmental awareness, fosters sustainable behaviours, and influences public opinion and policy (Taufique, 2022). It is utilised by various actors, including environmental organisations, government agencies, businesses, and individuals, to educate, inform, and mobilise people towards environmentally responsible actions and decisions. Green communication is also crucial in promoting environmentally friendly products and initiatives (Nguyen & Mogaji, 2022). Companies recognise the importance of communicating their environmental efforts to attract the attention of well-informed green consumers and encourage sustainable consumer behaviour (Correia et al., 2023). Green communication aims to inform consumers about a company's environmental initiatives and its commitment to environmental responsibility.

By highlighting these aspects, companies aim to influence consumer behaviour positively and encourage the purchase of green products. Green communication can take various forms, including advertising, corporate public relations, and visual identification (Mercade Mele et al., 2019**).**

2.8.5 *Green Brand Attachment*

Brand attachment is a psychological characteristic that reflects an individual's emotional connection and loyalty to a brand (Aureliano-Silva et al., 2018; Li et al., 2019). "Attachment is the degree of perceptive connection between an individual and a specific object" (Schultz et al.,1989). Brand attachment results from a long-term relationship between oneself and the brand (Esch et al., 2006). The study by Park et al. (2006) identifies three distinct types of green brand attachment about consumer behaviour. These types shed light on consumers' motivations for purchasing green products and their emotional connections to environmentally-friendly brands and buying green products for self-gratification and expressing concern for the environment

and buying green products for self-enrichment and association with the future ideal self and buying green products as a problem-solving mechanism. Brand attachment in this research refers to "the strength of the emotional link that connects the consumer and the brand, involving feelings toward the brand" (Japutra et al., 2018). It refers to the inclination for a long-lasting connection between an individual and the brand. The tighter the connection, the stronger the brand attachment grows. (Esch et al., 2006). Therefore, it can be assumed that brand attachment tends to derive a green purchase. Hence, the research added this factor to underline its role in green product purchases. There is a growing belief that consumers' emotional connections to brands play a significant role in revealing their behaviours, including consumer advocacy (Hudson et al., 2015; VanMeter et al., 2015), brand loyalty, and performance (Thomson et al., 2005; Park et al., 2010). However, recent studies have highlighted the influence of trustworthiness on consumer brand attachment (Namrata & Parmar, 2021). Despite the initial research highlighting the role of emotional brand attachments in purchase decisions, there is limited understanding of how attachment to eco-friendly brands impacts purchase behaviour.

2.8.6 *Brand green Image*

The concept of brand image in the context of green products is "the customers' consolidation of perceptions, notions, and emotions associated with a brand in terms of sustainability and eco-friendliness" (Chen, 2010; Bashir et al., 2020). Generally, consumers tend to develop an inclination towards certain brands and tend to prioritise them (Young et al., 2010). Furthermore, consumer trust in a green brand is pivotal in influencing their decisions to purchase green products (Rahbar & Wahid, 2011). The existing research on the impact of brand image on consumers' preferences for green products is somewhat limited, thereby opening a scope for further exploration to yield more conclusive findings. Brand image is the cornerstone of a brand's value and benefit (Aaker, 1991; Guede et al., 2021), shaping consumers' perceptions and associations with the brand. A robust brand image can significantly convey a more convincing brand message than competitors (Hsieh et al., 2008; Watson et al., 2024). A product with a robust brand image is typically linked with higher quality and enhanced value in consumers' perceptions (Richardson et al., 1994; Wang et al., 2018). In the context of a

green brand, the brand image summarises how consumers view the brand's commitment to environmental sustainability and eco-friendliness. Consumers often associate a brand with higher quality and a more environmentally conscious image when a company claims to offer eco-friendly products (Ng et al., 2014).

2.8.7 *Attitude towards Logo*

Attitudes play a vital role in decision-making and always remain central to purchase decisions. In an attempt to measure the impact of attitudes on environmentally friendly products, Maheshwari (2014) revealed that attitude is instrumental in determining a green purchase. Moser (2016) explored the role of hidden obstacles that make it difficult to convert attitude and behavioural tendencies into practice. Septianto and Paramita (2021) revealed the role of logos in developing favourable attitudes. Furthermore, logos are also known to influence consumer's cognitive and affective responses, which also make up consumers' attitudes (Costa, 2021). Based on available literature and the role of logos in impacting consumer purchases, this study proposes to measure the moderating role of attitude in revealing the strength of the relationship between attitude and intention towards eco-labels.

2.8.8 *Green Trust*

The green trust of the consumer in connection to the environment refers to the level of confidence and belief that consumers have in a company's commitment to environmental sustainability and responsible practices. It is based on the perception that the company is credible, reliable, and consistently performs by recognised environmental standards. Researchers have investigated the fact that green trust includes reliability, dependability, meeting consumer expectations, trustworthiness, and a product's ability to ensure environmental safety. (Chen & Chang, 2013). Trust is fundamental in building strong customer relationships, fostering loyalty, and enhancing the organisation's reputation (Horppu et al., 2008). when customers possess a robust ecological consciousness, they are more likely to prioritise environmental conservation. Additionally, when customers are environmentally aware, their trust in a company or brand increases, enhancing their intention to purchase (Punyatoya, 2014).

2.8.9 Reward Process

Offering rewards is a standard strategy companies use to incentivise existing customers to promote their products or services to others in their social network. The specific form of rewards can vary depending on various factors, including the company's resources, target audience, and overall marketing objectives. The rewards can take various forms, such as discounts, vouchers, cash incentives, loyalty points, or exclusive perks. Monetary and donation rewards are distinct rewards that can be used to incentivise referrals or other desired behaviours (Zhu, 2014). Modern day marketers use various strategies to inspire customers to become more socially responsible. In return, adopting these strategies can increase brand image of the organizations. Research has established the role of rewards in increasing sustainability practices (Zhang, 2019; Kuang, 2021), but failed to prove its role in environmental sustainability (Mandago, 2018).

2.8.10 Institutional Role

The relationship between institutional roles and consumer behaviour in the context of eco-labelled food products has garnered considerable academic attention, with studies explaining the nuanced ways institutional frameworks guide consumer choices. Saidi et al. (2022) underscore the pivotal role of government oversight and certification mechanisms in cultivating consumer trust, which steers purchasing patterns towards environmentally conscious options. It has been widely argued that institutions help in reducing the intention-behaviour gap. Specifically, institutions' regulatory nature helps realign consumer behaviour with pro-environmental intentions (Berkhout et al., 2000; Bansal, 2005; Young et al., 2010). Due to changing roles and requirements, the institutions adopt a multi-functional approach to evaluate the impact of institutional actors on sustainable consumption practices (Xu et al., 2023).

2.8.11 Choice uncertainty

Consumer decision-making involves constructing and expressing preferences based on their considered options. However, when choosing between alternatives, especially in the context of green or eco-labelled products, it is often challenging to make decisions solely based on attribute trade-offs (Dhar, 1994). This is because consumers may have limited information about environmentally friendly purchases.

Limited information can lead to choice uncertainty, where consumers are uncertain about the outcomes of their choices. Previous research on uncertainty in consumer choices has been somewhat limited in scope. For example, Kingsley and Brown (2013) focused on uncertainty in preferences between goods with known attributes versus unknown attributes. Bateman et al. (2009) emphasised the significance of providing consumers with more viable information to reduce uncertainty in their decision-making processes. McGranaghan and Otto (2022) discussed the relevance of choice uncertainty in trading and valuation contexts. Given the existing literature's relatively limited exploration of choice uncertainty in the context of eco-label purchases, the present study aims to bridge this gap by examining how uncertainty influences consumers' decisions when choosing eco-labelled products.

2.8.12 Choice Difficulty

The available literature claims that larger product varieties bring consumers advantages (Scheibehenne et al., 2010), as they can easily select and buy. From a marketing perspective, it is believed that large assortments of products help to satisfy the needs of even dissimilar sets of customers. Furthermore, it gives enough Flexibility in the purchasing process, as noted by Simonson (1990), which is essential. Additionally, the range of products a particular brand provides is seen as an indicator of its quality, as suggested by Berger et al. (2007). Essentially, more extensive selections are frequently deemed more appealing. However, compared to choice uncertainty, consumers often arrive at choice situations with no clear idea of their preferences and often find it challenging to face multiple options without becoming confused. In the case of eco-labels, often one does not know which of the two eco-labels one wants, while not being confident that one wants them equally. Hence, a difficulty in choosing arises. Based on scholarly studies citing the role of uncertain choices in purchase decisions, the current study proposes to assess the impact of choice uncertainty on consumers' eco-label purchases.

2.8.13 Attitude towards Eco-Labelled Food Products

Attitudes are vital in decision-making and always remain central to purchase decisions (Gazi et al., 2024). In an attempt to measure the impact of attitudes on environmentally friendly products, Maheshwari (2014) revealed that attitude is

instrumental in determining a green purchase. As the barriers hinder the conversion of behaviour into practice, Moser (2016) uncovered barriers that lead to the attitude–behaviour gap. A study by Mufidah et al. (2018) indicated that attitude is the most vital factor, more than subjective norms, that fundamentally affects individual behaviour intention towards green purchases. From the scholarly literature, it can be concluded that attitude drives an individual towards a purchase (Galati et al., 2022; Williams et al., 2023). Similarly, consumers' attitude towards an ecolabel is instrumental in executing a purchase decision (Alam et al., 2023; Shehawy et al., 2024). Several studies have found that consumers' attitudes towards eco-friendly food purchases are closely associated with their purchase intentions (Chu, 2018; Eberle et al., 2022; Parashar et al., 2023; Bazhan et al., 2024). Based on theoretical underpinnings, this study proposes to measure consumers' attitudes towards eco-labelled food products.

2.8.14 Purchase Intention

Purchase intention refers to consumers' anticipated buying behaviour, as outlined by Blackwell et al. (2006). Green purchase intention is the inclination of consumers to purchase environmentally friendly products, reflecting a desire to protect or minimise environmental harm (Chen & Chang, 2013). Brown (2003) suggested that consumers intending to purchase a specific product are likelier to follow through with their purchase than those without such intentions. The presence of nutritional information and health claims on packaged food labels significantly influences consumers' attitudes and purchase intentions (Rana & Paul, 2017). The intention to purchase is often seen as a precursor to actual purchases (Sarwar et al., 2023). A more recent set of scholarly studies investigated consumers' intentions to predict their actual behaviour (Arli et al., 2018; Harikrishnan et al., 2024). Green purchase intention is crucial in assessing customers' present and future decisions to buy green or eco-friendly products and helps estimate consumer demand for such products (Zhuang et al., 2021).

2.8.15 Purchase Behaviour

Attitudes toward the purchase of eco-labelled food products positively influence eco-labelled food product purchasing behaviour, both directly and indirectly (Riskos et al., 2021), mediated by other factors and contextual conditions (Taufique et al., 2017; Keuschnigg et al., 2018). For example, when consumers focus on energy

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efficiency indicators, such as eco-labels, the gap between attitude and behaviour closes, resulting in an attitude-behaviour consistency regarding eco-labelled food product purchasing behaviour (Zhang et al., 2021). This implies that several appealing factors can narrow this gap (Mainieri et al., 1997; Jung et al., 2020). The purchase of green products positively impacts consumer intentions to buy these products and enhances ethical food consumption. Previous studies support the idea that the impact of attitude on eco-labelled food product purchase behaviour may be context-specific (Ajzen et al., 1977; Best et al., 2011). Consumer attitude may accurately predict actual behaviour only when contextual conditions are met (Zsóka et al., 2008). For example, consumer knowledge could be a crucial factor indicating the influence of consumer green attitudes on eco-labelled food product purchase behaviour (Polonsky et al., 2012). However, in the available literature, research on the influence of ecolabels on the relationship between green attitudes and purchasing behaviour is limited (Cheung et al., 2019), and no prior research has examined the impact of ecolabel credibility in this context. The current study gauged the impact of ecolabel credibility on consumer attitudes and actual behaviour related to the purchase of eco-labelled food products.

2.9 Hypothesis Development

2.9.1 *Perceived Ecolabel credibility, Green Past Experience, Green Environmental Knowledge and Green communication with Attitude towards Eco-Labelled Food Products.*

Consumers adopting an environmentally conscious lifestyle are more inclined to purchase green products (Galil et al., 2013). Research indicates that customers tend to engage with ecolabels when they lean toward pro-environmental behaviours (Thøgersen, 2000; Thøgersen et al., 2010). This implies that for consumers to engage with eco-labelled products, they should develop a positive attitude toward environmental issues. As discussed in the above section, attitudes significantly determine the information about green products (Ewoldsen et al., 1992). Chen & Chai (2010) define attitudes as expressions of one's preferences or dislikes, and attitudes toward responding to various environmental issues reflect the extent to which someone desires involvement in environment-linked behaviours. Attitudes influence consumer behaviour by guiding selective attention toward objects that align with those attitudes

(Fazio,1986). A person's attitude results from psychological processes that cannot be observed directly but must be inferred from their words and actions. The credibility or believability of ecolabels substantially impacts the product evaluation process (Nilsson et al., 2004). All types of ecolabels must maintain credibility and robustness (Taufique et al., 2014). Also, Ecolabels are recognised to have the potential to increase sales and improve a product's reputation, but only if consumers view them as credible. (Georgakarakou et al., 2020). Credible ecolabels effectively indicate the superiority of the product when compared to non-labelled alternatives. Recent surveys conducted by the Swedish organic certification body, KRAV, revealed that consumers who regularly purchase organic food exhibit loyalty to the label even though they may feel somewhat lacking in information.

Furthermore, past purchase experience is typically described as a result of a customer's cognitive, affective, and emotional reactions to direct or indirect interactions with the service provider, brand, or product. This experience can occur before, during, and after a purchase. Although past experience has not been a recent focal point in marketing literature, its application to understanding green product purchases is still emerging. Also, environmental knowledge has been known to influence attitude significantly, as is evident in several studies (Smith & Paladino, 2010; Wulandari et al., 2015; Saichao, 2016). A well-informed customer possesses fundamental knowledge about organic food, which can shape and alter individual perceptions of the product (Nguyen et al., 2019). However, this perception is still strongly influenced by individual interests. Literature shows that those firms who emphasise green practices are able to maintain their reputation in the industry (Zhu et al., 2013). Furthermore, in green marketing literature, it has been suggested that consumers hesitate to embrace green products due to the unclear and untrustworthy nature of green claims associated with them. However, certain studies have shown that green advertising and marketing do have an impact on consumer attitudes and intentions. (Paço et al., 2019). Therefore, individual receptivity to green communication can potentially influence individual attitudes. Investigating this relationship is critical, as the conveyed message will significantly impact individual interest (Bailey et al., 2016; Paço et al., 2019). Based on previous studies, this study proposes to hypothesise as:

H₀1: Consumers' Perceived Ecolabel credibility positively influences attitudes towards Eco-labelled Food Products.

H₀2: Consumers' Green past experience positively influences attitudes towards Eco-labelled Food Products.

H₀3: Consumers' Green environmental knowledge positively influences attitudes towards Eco-labelled Food Products.

H₀4: Green communications positively influence consumers' attitudes towards Eco-labelled Food Products.

2.9.2 *Green Brand Attachment, Brand Green Image and Attitude toward logo as moderators between Attitude and Intention.*

Consumers' attachment to a brand plays a significant role in shaping their purchasing behaviour and perceptions. This attachment represents a deep emotional connection, and individuals with solid brand attachments tend to trust a brand's commitment towards the environment (Brown & Dacin, 1997). Brand attachment can be linked with a long-term relationship between individuals and a specific brand. (Thomson et al., 2005). The study by Li et al. (2023) suggested that managers should create a solid emotional bond with environmentally conscious users and stress the firm's commitment to environmental responsibility and sustainable products and services. Consumers' positive perceptions of a firm's eco-friendly practices strengthen purchase intentions (Thomson et al., 2005).

However, it is crucial to note that brand attachment can be reduced if the brand is not perceived as ethical (Chaudhuri & Holbrook, 2001). On a similar note, it can be depicted that consumers' purchase intentions are influenced by their confidence in a company, which includes their emotional perception of the brand (Malik et al., 2012). The green brand image, representing the brand's environmentally friendly identity, can act as a moderator between consumer attitudes and purchase intentions. When consumers hold positive attitudes toward a brand with a strong green image, their purchase intentions are reinforced, driven by their belief that buying from such a brand contributes to environmental sustainability (Pickett-Baker & Ozaki, 2008). The

moderating role of green brand image is known to positively influence green purchase intentions (Qomariah & Prabawani, 2020).

In addition, attitude toward a brand's logo can serve as a moderating factor in the relationship between consumer attitudes toward the brand and their purchase intentions. A positive logo attitude enhances the influence of overall brand attitudes on purchase intentions, as logos often function as visual cues that shape consumers' perceptions and reinforce brand identity (Keller, 1993). Based on the understanding developed on previous studies, the research would like to test the moderating effects of these variables on the relationship between consumers' attitudes towards Eco-labelled food products and their intention to purchase:

> H_05: *Consumers' Brand attachment moderates the relationship between their attitude and intention to purchase Eco-labelled Food Products.*

> H_06: *Brands' Green image moderates the relationship between consumers' attitudes and intention to purchase Eco-labelled Food Products.*

> H_07: *Consumers' Attitude towards the logo moderates the relationship between their attitude and intention to purchase Eco-labelled Food Products.*

2.9.3 *Green Trust, Reward Process and Institutional Role as moderators between Intention and Purchase Behaviour.*

Consumer trust plays a crucial and dominant role in the success of green products (Dutta & Bhat, 2016). End users are more likely to purchase these products when they perceive that producers and all stakeholders in the supply chain are credible and consistent with green attributes (Chard et al., 2013). Chen (2010) defined green purchase intention as the likelihood of a consumer buying a particular product due to its pro-environment orientation. Regarding green consumption, previous research has consistently shown associations between trust in green products and purchase intention (Kang & Hur, 2011; Chen & Chang, 2013). Companies commonly use rewards to encourage their existing customers to promote their products or services within their social networks. The specific type of rewards can vary based on factors such as the company's resources, target audience, and overall marketing goals. These rewards may

take various forms, including discounts, vouchers, cash incentives, loyalty points, etc. Notably, monetary rewards and other rewards represent distinct strategies green marketers adopt for incentivising referrals or desired behaviours (Zhu, 2014). Previous research has examined the influence of institutional roles on eco-labelled food purchase behaviour, as government regulations and certifications significantly shape consumer behaviour towards eco-labelled food products (Saidi et al., 2022). This research highlights the pivotal role of regulatory bodies and certification programs in building consumer trust and confidence in eco-friendly food products, ultimately impacting purchasing decisions. Based on the results of prior studies, the study would like to assess the moderating impact of these variables. The study proposes:

$H_0$8: Consumers' Trust moderates the relationship between their intention and behaviour to purchase eco-labelled food products.

$H_0$9: Reward moderates the relationship between consumer's intention and behaviour to purchase eco-labelled food products.

$H_0$10: Institutional role moderates the relationship between consumers' intention and their behaviour to purchase eco-labelled food products.

2.9.4 *Choice Uncertainty and Choice Difficulty with Eco-labelled food product purchase behaviour.*

Consumer decision-making involves constructing and expressing preferences based on the options they have considered. However, when choosing between alternatives, especially in the context of green or eco-labelled products, making decisions solely based on attributes can be challenging due to consumers' limited information (Dhar, 1994). This limited information often leads to choice uncertainty, where consumers are unsure about the outcomes of their choices. At the same time, previous research on uncertainty in consumer choices has been somewhat narrow in scope. Research by Kingsley and Brown (2013) focused on uncertainty in preferences between goods with known versus unknown attributes, highlighting how uncertainty influences consumer choices. It has been established that providing consumers with more information reduces uncertainty in decision-making (Bateman et al., 2009). Given the limited exploration of choice uncertainty in the context of eco-label purchases in the

existing literature, the current research aims to address this gap by examining how uncertainty influences consumers' decisions when choosing eco-labelled products.

In the context of choice difficulty, the literature suggests that a broader range of products offers advantages to consumers (Scheibehenne et al., 2010), making selection and purchase more manageable. From a marketing perspective, a wide assortment of products is believed to satisfy the needs of diverse customer sets, which assist flexibility (Simonson, 1990) and signal brand quality (Berger et al., 2007). However, compared to choice uncertainty, consumers often face situations where they lack clear preferences and become overwhelmed when presented with multiple options. In the case of eco-labels, individuals may be uncertain about their preference between two eco-labels, further complicating the decision-making process. This situation results in choice difficulty, and drawing from scholarly research on the role of uncertain choices in purchase decisions, the present study aims to assess the impact of choice uncertainty on consumers' eco-label purchases. Based on theoretical understanding, the research proposes the following:

> $H_0$11: Consumers' Choice uncertainty negatively influences eco-labelled food purchase behaviour.

> $H_0$12: Consumers' Choice difficulty negatively influences eco-labelled food purchase behaviour.

2.9.5 Attitude towards Ecolabels and Intention to purchase Eco-labelled food products.

Attitudes represent beliefs regarding a specific object or action, which can subsequently translate into an intention to carry out that action. Intention, conversely, denotes a firm determination to act in a particular manner (Ramayah et al., 2010). Attitudes encompass the favourable or unfavourable evaluations that individuals form about a specified behaviour. These attitudes significantly influence individuals' intentions, with more favourable attitudes resulting in stronger intentions to perform the behaviour. Furthermore, attitudes serve as predictors of purchase intentions and, consequently, purchase behaviour. Additionally, consumers need an understanding of their attitudes and motivations to overcome perceived barriers to purchases (Smith & Paladino, 2010). Many studies have indicated that the relationship between attitudes

and behaviour is particularly robust when it pertains to specific environmentally friendly behaviours. In general, empirical research has shown a substantial positive correlation between pro-environment intentions and behaviour (Chan, 2001). The more positive the attitudes, the higher the likelihood of forming an intention to make a purchase, leading to an increased probability that consumers will choose green products over conventional alternatives (Alam et al., 2023). Grounded on the understanding developed on literature, the following hypothesis is proposed:

> *$H_0$13: Consumers' Attitude positively influences their Intention towards Eco-labelled food products.*

2.9.6 *Intention toward Eco-labelled food and Eco-labelled food Purchase Behaviour.*

It has been recognised that purchase intention plays a crucial role in comprehending, interpreting, predicting, and influencing consumer behaviour (Zhang et al., 2021). However, in context of the context of green consumerism, there exists a gap in the extent to which purchase intention or actual purchase behaviour remains less explored (Riskos et al., 2021).

In the context of pro-environmental consumption, consumers have favourable intentions toward green products, but they do not perform green purchase behaviours (Cheung & To, 2019; Munerah et al., 2021), known as the "intention-behaviour gap" in pro-environmental consumption (ElHaffar et al., 2020). The "Intention-behaviour" gap is one notable and recurring theme in this stream of research, reflects the fact that "intentions frequently fail to translate into green purchasing and other pro-environmental behaviour in practice" (Peattie, 2010; Ceglia et al., 2015; Hanss et al., 2016). Evidence for the gap has been recorded in different countries. (Lee, 2008; Young, Hwang, McDonald, & Oates, 2009; Durif, Roy, & Boivin, 2012; Tawde et al., 2023).

Therefore, to gain insights into consumers' purchasing behaviour concerning eco-friendly products, it becomes imperative to understand the paradox between purchase intention and subsequent purchase behaviour. Considering Planned behaviour as a base, researchers attempted to reveal the relationship between intention and green purchase behaviour (Hajiheydari et al., 2021; Dhir et al., 2021; Yadav et al., 2022;

Acikgoz et al., 2023; Martey et al., 2023; Habib et al., 2024). Furthermore, it is noteworthy that consumer buying behaviour is substantially shaped by socio-demographic factors, including gender, age, income, education, and location. Research has unveiled diverse relationships between these socio-demographic factors and the consumption of eco-labelled food products. Thus, the hypothesis is proposed as follows:

> *H_014: Consumers' Intention positively influences their purchase behaviour towards eco-labelled food products.*

2.10 Summary

This chapter began by presenting the theoretical foundation underpinning this study. It then highlighted a comprehensive literature review on eco-labelled food products, encompassing various studies related to eco-labels. Subsequently, this chapter focused on the research gap that motivates this study. Furthermore, basic grounded theory with the research model and the hypotheses proposed for this research have been highlighted.

CHAPTER-3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter defines various methods employed to fill the research gap, as discussed in the earlier chapter. The essential purpose of this research is to determine millennials' purchase decisions related to ecolabel food products. The data collection description outlines the approach and process of data collection. The population and sampling methods highlight consumer survey criteria and cover data analysis techniques, summarising survey validity and reliability considerations.

3.2 Research Strategy

The main objective of this research is to comprehensively understand the numerous factors associated with eco-labelled food products and how these details influence consumers' purchasing decisions across different stages of their buying journey. By using a descriptive research approach added with a robust survey methodology, this study seeks not just to have a brief idea but also to provide detailed insights that can significantly enhance the current body of knowledge surrounding eco-labelled food products and the complex factors determining millennials' purchase behaviour. The research analysis begins by examining important factors.

Firstly, this study examined how millennials' perceptions of the credibility of eco-labels, in terms of their authenticity and trustworthiness, influence their purchasing choices. This research also explored the weightage consumers, in general, give to their past interactions and experiences with eco-labelled food products. Beyond experimental factors, the study measured the role of consumers' environmental knowledge, how well they understand ecological issues, their implications, and the role of sustainable products in improving these concerns.

Additionally, this research revealed the role of green communication, essentially how effectively the benefits of eco-friendly products are communicated to potential buyers in influencing their attitudes.

Furthermore, the research evaluated the role of a brand's eco-friendly image, the design, the recognisability of eco-label logos, and the depth of a consumer's (millennials) emotional and psychological attachment in moderating or influencing purchase decisions. These factors are essential as they can either strengthen or weaken the link between a consumer's overall positive attitude toward eco-friendly goods and their subsequent purchase intent.

To add more, trust emerged as a key factor in the analysis of collected data. This research also explored the significance of trust in a brand or label and its association with past experiences, brand reputation, and the appeal of rewards, such as loyalty points or discounts, to shape purchasing decisions. By adding these elements, this study addressed certain instinctive elements (e.g., rewards and discounts) that consumers often rely on, especially when other decision-making parameters are not clear.

Lastly, the research acknowledged the complexities and uncertainties associated with the purchase of eco-labelled purchases. The two variables, choice uncertainty and difficulty, were directed to understand the nature of complex decisions in the consumer's journey. It's critical to recognise how these challenges either act as restrictions or motivators for consumers in deciding to purchase eco-labelled food products. This is particularly relevant in a market that is full of numerous options, where distinguishing between various eco-labels and understanding their implications can be overwhelming for consumers.

The study aimed to provide insights into these dynamics, offering a complete view of the factors persuading the purchase of eco-labelled foods. The research process is presented as a flow chart in figure 3.1. The figure depicts the steps involved in the research process. With a detailed description, the whole process entails the research journey undertaken while carrying out the research.
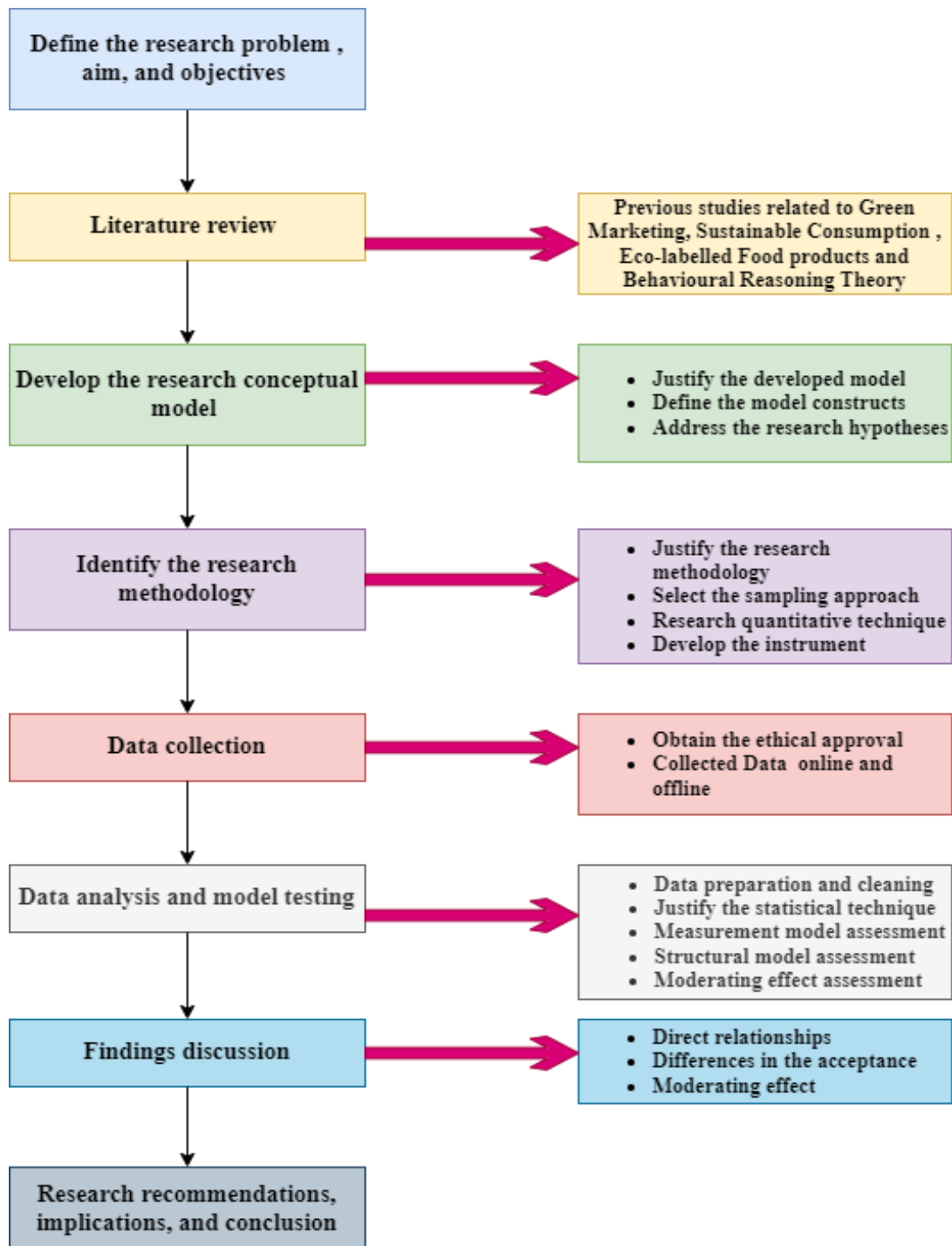
Figure 3.1: Research Process

Source: Author's compilation

3.3 Research Philosophy

A research philosophy is an underlying belief about the best way to gather, analyse, and utilise data concerning a particular phenomenon. This concept is central to the process of scientific inquiry, as it guides researchers in their approach to developing knowledge. The concept of 'epistemology' concerns what is recognised as true, as opposed to 'doxology,' which deals with what is believed to be true. The core objective of science is to transform beliefs into knowledge. Within the Western tradition, two major research philosophies have been predominantly recognised: the positivist (or scientific) and the interpretive (or anti-positivist), as identified by Galleries (1991). However, the scope of research philosophies has expanded, as highlighted by Saunders et al. (2018), with four fundamental approaches: positivism, realism, Interpretivism, and pragmatism. Each philosophy carries distinct characteristics and implications for research design and knowledge development. Smith et al. (1999) also emphasised the importance of understanding these foundational philosophies in choosing an appropriate research design, underscoring the dynamic and evolving nature of research methodologies and the perception of knowledge within various academic disciplines.

3.3.1 Positivism

According to Levin (1988), positivists believe that reality is stable and can be objectively observed and described, meaning that their study does not interfere with the phenomena. They argued for isolating phenomena and ensuring that observations are repeatable, often involving the manipulation of reality with changes in just one independent variable used for identifying patterns and establishing relationships among elements within the social world. Predictions in positivism are based on previously observed realities and their interrelationships. Hirschheim (1985) noted that positivism's long and rich historical tradition has led to non-positivist knowledge claims being dismissed as unscientific and invalid. This is indirectly supported by Alavi & Carlson (1992), who found that all empirical studies in a review of 902 Information Systems (IS) research articles were positivist. Despite its success, especially in physical and natural sciences, the suitability of the positivist paradigm for social sciences has been debated, as Hirschheim (1985) and others (Kuhn, 1970; Remenyi & Williams,

1996) have called for a more pluralistic approach to IS research methodologies. This debate is relevant to the current study, as IS, involving the interaction of people and technology, is part of the social sciences. Some inconsistencies in IS research results and unexplored variables might be due to the limitations of positivism in this field (Galliers, 1991). Morgan (2014) expanded on the positivist philosophy, underscoring its aim to provide explicit, specific knowledge based on observable facts, which is vital in social research. Conversely, as detailed by Denzin (2017), interpretation highlighted the need to understand and explain the nuances of human and societal behaviours, acknowledging business scenarios' dynamic and unique nature.

3.3.2 *Realism*

Realism, as a research philosophy, is deeply rooted in scientific inquiry and posits that an objective reality exists independent of human perceptions and thoughts. This perspective, extensively discussed by Bhaskar and Danermark (2017), suggested that the world is composed of natural structures and phenomena that persist regardless of whether individuals are aware of them or not. Realism argues that these structures might not be directly observable, but they have a tendency to influence and shape the outcomes and experiences observed in empirical research. In realism, the goal of scientific inquiry is to uncover and understand these underlying structures and mechanisms. This approach stands in contrast to positivism, which focuses primarily on observable phenomena, and interpretivism, which emphasises subjective experiences and social constructs. Realist researchers often use a combination of qualitative and quantitative methods to explore these deeper underlying forces and structures. They acknowledged that while human perceptions and interpretations play a role in understanding the world, these perceptions are influenced by natural, existing phenomena. Moreover, realism supported the idea that scientific research can reveal truths about these structures, enabling us to understand better and predict the workings of the natural and social world. It thus provided a balanced approach, acknowledging the complexities of the world and the limitations of human perception while still asserting the presence of an objective reality that can be studied and understood.

3.3.3 Interpretivism

Interpretivism, as a research philosophy, holds that a thorough comprehension of reality can only be attained through subjective interpretation and intervention. Adherents of interpretivism argue that phenomena must be studied within their natural environments to grasp their essence truly. This approach fundamentally differs from positivist methodologies, which often rely on objective observation and quantification. A fundamental tenet of interpretivism is the recognition that scientists inevitably influence the phenomena they are studying. Unlike positivist approaches that strive for detachment and objectivity, interpretivists acknowledge and embrace their impact on their research subjects. This interaction is seen not as a contaminant but as an integral part of the research process. Furthermore, interpretivists accept the existence of multiple interpretations of reality, arguing that these varied perspectives contribute to scientific knowledge. They maintain that understanding the diverse ways different individuals and groups perceive and make sense of the world is crucial to comprehensively understanding that world. The tradition of interpretivism is as rich and longstanding as that of positivism. It emphasised the importance of subjective experience, cultural and social context, and the co-construction of knowledge between the researcher and the subjects. This approach is particularly prevalent in the social sciences, where the complexity and variability of human behaviour and societal structures often elude simplistic, quantifiable analysis. Interpretivism offers a framework for exploring these complexities, valuing the depth and richness of qualitative data and their insights into the human experience.

3.3.4 Pragmatism

Pragmatism, the last philosophy, offers a different perspective. Asserting that reality exists independently, pragmatism also acknowledges the objective nature of science. As Saunders et al. (2003) outlined, this philosophical stance employs objective and subjective criteria to provide explanations and interpretations within scientific research. Pragmatism thus acts as a bridge between positivism and interpretivism, suggesting that researchers do not need to confine themselves to a single philosophical approach. Instead, it posits that embracing multiple research philosophies can be beneficial, offering a more holistic and versatile approach to scientific inquiry. This

versatility is instrumental in complex research scenarios where different methodologies might be required to understand the subject matter comprehensively. Pragmatism's inclusive approach integrates diverse perspectives and methodologies, enriching the research process and the knowledge it produces. In the current study, focused on understanding consumers' decision-making concerning eco-labelled food products, the hypotheses and frameworks presented in Chapter 2 are in harmony with these philosophies, ensuring a structured and well-grounded approach to the research.

3.4   Research Approach

This study is based on a deductive approach; by Gratton & Jones (2010), the deductive method involves formulating an idea or hypothesis based on existing theory, which is subsequently subjected to empirical testing through data collection. This approach is primarily employed when laws can effectively characterise, illuminate, and forecast phenomena. When a substantial sample size is available, the deductive approach is valuable in explaining the interrelationships among variables. Deductive research methods are typically linked to Positivism and quantitative research methodologies. Considering this study's positivist and quantifiable orientation, the deductive approach arises as the most suitable choice.

3.5   Research Design & Instrument Development

Research design plays a pivotal role in all research processes, transforming inquiries into meaningful endeavours. As meaningfully described, it serves as "a structured framework designed to meet objectives and answer questions" (Cooper & Schindler, 2003; Bryman, 2016). The architecture of research design stands as a foundational pillar, surrounding crucial elements like research strategies, methodologies, and sampling techniques (Robson, 2002; Creswell & Poth, 2018).

This study employs a descriptive research approach. This approach is specifically designed to address questions of 'who,' 'what,' 'where,' 'when,' or 'how much,' a sentiment that echoes the perspectives of Cooper & Schindler (2003) and Neuman (2014). The heart of descriptive research lies in elaborating on or examining a particular set of research goals or hypotheses in-depth. Confronted with a broad and expansive population, survey methodologies often stand out as a more viable tool than alternatives like interviews or group discussions (Field, 2018). It's relevant to highlight

the increasing inclination of social science research towards leveraging questionnaires, solidifying the survey method as a dominant avenue (Fowler, 2013; Bell et al., 2018).

3.5.1 Instrument Development

A comprehensive literature review was undertaken to develop a structured questionnaire, emphasising the pillars of usability, functionality, and sociability. This in-depth review yielded fifteen specific constructs, each pivotal to understanding eco-labelled food products. The constructs include Perceived Ecolabel Credibility with five items, Green Past Experience with five items, Green Environment Knowledge with four items, and Green Communication with five items. Further, the questionnaire addressed attitudes towards Ecolabel Food Products, Brand Attachment, Brand Green Image, and Attitude Towards Logo, each with five items. It also incorporated the Intention to Purchase eco-labelled Food Product with four items, Trust and Institutional Role each with five items, Reward Process with four items, Ecolabel Choice Uncertainty and Ecolabel Choice Difficulty each with four items, and lastly, Ecolabel Product Purchase Behaviour with four items. Each item within these constructs was selected with precision, ensuring both relevance and comprehensive coverage of the domain of eco-labelled food products.

3.5.2 Content Validity

In the study's second phase, the survey tool underwent a rigorous pre-testing process to ascertain its content validity. A panel of experts evaluated and ranked each survey item on a scale from one (least significant) to five (most important). Based on the collective feedback and recommendations from the experts, adjustments were made to various components of the survey items to better align with the research objectives.

3.5.3 Profile of Panel Members

The expert panel was comprised of six professionals. Five of the members were male, and one was female. Their years of experience ranged widely, from a minimum of 3 to 30 years. Three panellists were distinguished academicians affiliated with educational institutions, including Dr YSP University of Horticulture & Forestry Solan, Himachal Pradesh-India, JAIN University, Karnataka-India and the University of Allahabad, Uttar Pradesh, India. The corporate set of panellists were from the FMCG sector, representing companies like Food and Beverage, Confectionery, and Branded

Packaged Foods. The diverse group of panellists was ensured to obtain a blend of academic insights and practical industry knowledge, thus enhancing the content validity of the survey tool.

Table 3.1: Details of Expert Panel

Sn	Gender	Experience	Designation and Organization	Industry
1	Male	30 years	Professor, Faculty of Management Studies, JAIN (Deemed to be University) Bangalore	Education
2	Male	19 years	Assistant Professor, Dept. of Business Administration, University of Allahabad, Prayagraj, Uttar Pradesh	Education
3	Male	10 years	Assistant Professor, Dept. of Business Administration, Dr.YSP Parmar university of Horticulture & Forestry Solan, Himachal Pradesh	Education
4	Male	12 years	Area Manager, Nestle	Food and Beverage
5	Female	3 years	Territory Sales Manager, Perfetti Van Melle	Confectionery
6	Male	6 years	Business development Executive ITC foods limited	Branded Packaged Foods

Source: Author's compilation

3.5.4 Content Validity Index

The content validity of a questionnaire was measured using a comprehensive panel review. Each panellist evaluated 76 items related to eco-labelled food products, scoring them on a scale where 1 indicated agreement and 0 signified non-agreement.

The results indicated a high consensus among experts for most items, with an average content validity index (I-CVI) of 0.83 across all items (Lynn,1986; Polit & Beck 2006; Polit et al., 2007; Yusoff, 2019).

Table 3.2: CVI Score

Sr. No	Items	E:1	E:2	E:3	E:4	E:5	E:6	Number in Agreements	I-CVI
1	I am positive towards the use of eco-labelled food products.	1	1	1	1	1	1	6	1
2	Eco-labelled food products are good for the environment.	1	1	1	1	1	1	6	1
3	I like the idea of purchasing eco-labelled food products.	1	1	1	1	1	1	6	1
4	I have a favourable attitude toward purchasing an eco-labelled food product.	0	1	1	1	1	1	5	0.83
5	Given a choice, I will prefer an eco-labelled product over a conventional one.	1	1	1	1	1	1	6	1
6	I believe products endorsed by eco-labels comply with quality environmental standards.	0	1	1	1	1	1	5	0.83
7	Eco-labels are a reliable source of information about the environmental quality and performance of a product.	1	1	1	1	1	1	6	1
8	Eco-labels are genuinely committed to environmental protection.	1	1	1	1	1	1	6	1
9	I think most of what eco-labels claim about a product is true.	1	1	1	1	1	1	6	1
10	I believe food eco-labels are true to their environment friendly claims.	1	1	1	1	1	1	6	1
11	I believe products endorsed by eco-labels comply with quality environmental standards.*	0	0	0	0	0	0	0	0
12	I think eco-labelled food products support sustainable development.	1	1	1	1	1	1	6	1
13	The image of eco labelled food products is superior and true as per the claims.	1	1	1	1	1	1	6	1
14	I have the impression that eco labelled food products are great source for environmental protection.	1	1	1	1	1	1	6	1
15	I prefer to give positive feedback on eco labelled food products.	0	0	0	0	0	0	0	0
16	I believe food product carrying an ecolabel can be trusted. *	1	1	1	1	1	1	6	1

17	I believe eco-labelled food products are produced in a socially conscious way.	0	0	0	0	0	0	0	0
18	I think eco labelled food products match well with my personality.	1	1	1	1	1	1	6	1
19	I feel personally connected to eco-labelled food products.	1	1	1	1	1	1	6	1
20	I am emotionally bonded to eco-labelled food brands.	1	1	1	1	1	1	6	1
21	I have different thoughts and beliefs about eco-labelled food products	1	1	1	1	1	1	6	1
22	Feeling towards eco-labelled products comes to my mind so naturally and instantly that I can't resist buying them.	1	1	1	1	1	1	6	1
23	I think a food product with an ecolabel logo ensures its right selection	1	1	0	1	1	1	5	0.083
24	I believe in purchasing a product with an ecolabel logo is important.	1	1	1	1	1	1	6	1
25	I think purchasing of food product having an eco-labelled logo reflects a wise decision.	1	1	1	1	1	1	6	1
26	I prioritize purchase of food product with an ecolabel logo.	1	1	1	1	1	1	6	1
27	I believe food product carrying an ecolabel can be trusted.	1	1	1	1	1	1	6	1
28	I have a firm belief about the benefits of eco-labelled products.	0	1	1	1	1	1	5	0.83
29	Eco-labelled food product hold integrity and commitment towards environment	1	1	1	1	1	1	5	0.83
30	Environment protection can be ensured if consumption of eco-labelled product increases.	1	1	1	1	1	1	5	0.83
31	Eco labelled products can contribute in saving the Environment. *	0	0	0	0	0	0	0	0
32	Eco labelled products can contribute in reducing environment degradation.	1	1	1	1	1	1	6	1
33	Eco-labelled products are true to their environment friendly claims	1	1	1	1	1	1	6	1
34	I believe green communication involving sustainability, eco-friendly	1	1	1	1	1	1	6	1

	nature of products affects consumer response.								
35	I clearly understand the intentions of eco-label brands using the verbal messages through packaging, websites, newsletters, social media etc.*	0	0	0	0	0	0	0	0
36	I think an effective communication should provide an opportunity for customers to give feedback about eco-labelled products.	1	1	1	1	1	1	6	1
37	The content of messages conveyed by eco-labelled food brands are effective in developing awareness.	1	1	1	1	1	1	6	1
38	The initiatives taken by eco-labelled brands are understood properly by the customers.	1	1	1	1	1	1	6	1
39	I believe green communication involving sustainability, eco-friendly nature of products affects consumer response.*	0	0	0	0	0	0	0	0
40	I clearly understand the intentions of eco-label brands using the verbal messages through packaging, websites, newsletters, social media etc.	1	1	1	1	1	1	6	1
41	I believe an effective communication should provide an opportunity for customers to give feedback about eco-labelled products.*	0	0	0	0	0	0	0	0
42	I am proficient in purchasing green products.	1	1	1	1	1	1	6	1
43	I always identify green products with ease and convenience either online or offline.	1	1	1	1	1	1	6	1
44	I usually repurchase green products because I consider the price charged in each purchase was a fair offer.	1	1	1	1	1	1	6	1
45	In relation to the last purchase of green products, the benefit offered by the product was a decisive factor for the repurchase.	1	1	1	1	1	1	6	1
46	My experience of using green products matches equally with my expectations.	1	1	1	1	1	1	6	1

47	I am familiar about emerging environmental issues linked to food products.	0	1	1	1	1	1	5	0.83
48	I am aware that food product manufacturing has a negative impact on the environment.	1	1	1	1	1	1	6	1
49	Compared to an average person, I am more familiar with environment related issues.	1	1	1	1	0	1	5	0.083
50	I know how to select products that are less harmful for the nature.	1	1	1	1	1	1	6	1
51	I feel rewarded every time when purchase eco-labelled products.	1	1	1	1	1	1	6	1
52	Most of my eco-labelled purchases come with a reward.	1	1	1	1	1	1	6	1
53	The rewards that I receive for a purchase carry a high cash value.	0	1	1	1	1	1	5	0.83
54	I believe that regulatory norms in the country encourage the use of eco-labelled food product.	1	1	1	1	1	1	6	1
55	I believe I am being rewarded in equal proportion of the amount I spend in buying eco-labelled food products.	1	1	1	1	0	1	5	0.83
56	I think firms involved in manufacturing of eco-labelled food products always act with the highest level of ethical standards.	1	1	1	1	1	1	6	1
57	A firm with eco-labels strengthen the organization position toward innovation and creative processes.	1	1	1	1	1	1	6	1
58	It really pleases me to find out that a firm I buy from follows the perceived norms and regulations.	1	1	1	1	1	1	6	1
59	I think firms which are socially and environmentally responsible should be given more incentives.	1	1	0	1	1	1	5	0.83
60	I have enough information about eco-labelled food products available in the market.	1	1	1	1	1	1	6	1
61	I am aware about ingredients and quality of eco-labelled food products that I purchase.	0	1	1	1	1	1	5	0.83

62	I am able to compare performance of different eco-label brands.	1	1	1	1	1	0	5	0.83
63	I visit more than one store/website/app before purchasing an eco-labelled food product.	1	1	0	1	1	1	6	1
64	I feel confident about what to choose amongst eco-labelled food products.	1	1	1	0	1	1	5	0.83
65	I know the benefits of each option available while selecting eco-labelled food products.	1	0	1	1	1	1	5	0.83
66	I always make an informed choice while selecting eco-labelled food products.	1	1	1	1	1	1	6	1
67	The selection of eco-labelled purchases reflects my commitment to environment protection.	1	1	1	1	1	1	6	1
68	I would consider buying Ecolabels in the near future.	1	1	1	1	1	1	6	1
69	The probability that I would buy eco labelled food products is high	1	1	1	1	1	1	6	1
70	I am determined to prioritize the purchase of eco-labelled food products.	1	1	1	1	1	1	6	1
71	I have got firm intention to buy products which carry an eco-label.	1	1	1	1	1	1	6	1
72	I have been purchasing eco labelled food products on regular basis.	1	1	1	1	1	1	6	1
73	I have eco labelled purchasing behaviour for my needs. *	0	0	0	0	0	0	0	0
74	I carry a strong inclination towards the purchase of eco labels for my daily needs.	1	1	1	1	1	1	6	1
75	I would buy eco-labelled food products regardless of their price.	1	1	1	1	1	1	6	1
76	I will make special efforts to buy eco-labelled food product.	1	1	1	0	1	1	5	0.83
								63.76	
	Mean CVI							**0.83**	

Source: Feedback from Expert Panel

Table 3.3: Acceptable Cut-off scale of CVI

Expert Count	CVI Recommendation	Reference
Two	≥ 0.80	Davis (1992)
Three to Five	1.00	Polit & Beck (2006), Polit et al. (2007)
Six or More	≥ 0.83	Polit & Beck (2006), Polit et al. (2007)
Six to Eight	≥ 0.83	Lynn (1986)
Nine or More	≥ 0.78	Lynn (1986)

Out of the 76 items, seven were distinctly marked with asterisk (*), indicating they did not meet the desired content validity standards. As a result, these items were excluded from the final questionnaire, leaving 69 items that effectively measure the perceptions and behaviours towards eco-labelled food products. The robust content validity process ensured that the questionnaire is well-balanced to gather relevant and accurate insights into consumer attitudes towards eco-labelled food products.

3.5.5 Pilot Survey

The purpose of a pilot study is to evaluate the validity and reliability of the suggested and updated research instrument before moving on with a full-fledged investigation. The items utilized to measure the specified constructs in this study were drawn from existing literature on attitudes, purchase intentions, and product purchase behaviour related to eco-labelled food products, both independently and in combination. Pilot study was conducted to check various abnormalities and for the assessment of various scale properties.

A sample of 100 respondents was chosen from the defined area. Overall, 124 respondents were approached for data collection and out of which 100 responses which were accurately filled by respondents were considered for pilot study. The respondent included millennials with graduation as a qualifying criterion. Furthermore, for equal representation, the pilot sample was evenly distributed across various groups including Gender, Age, and Education.

In order to select samples for pilot study, recommendations of Connelly (2008), was taken into consideration suggesting that sample should be 10% of the sample

projected that is 80 respondents. However, due to large sample size and number of items the study further considered the suggestions given in the extant literature (Isaac & Michael, 1995; Hill, 1998; Hertzog, 2008; Ratner et al., 2021) and reached the appropriate sample size of 100 for the pilot study. The next sections address the overall reliability of the preliminary research's results through various revisions. The data gathered during the pilot study was subjected to statistical testing for the assessment of various scale attributes. The statistical tools used for the analysis of data at this stage included SPSS.

3.6 Assessment of Scale Properties (Preliminary Phase)

Evaluating scale properties is pivotal at both the initial and main stages of research. Prior to data collection, it is imperative to ensure the reliability and validity of the chosen instrument on a smaller scale. This initial assessment acts as a checkpoint, confirming that the instrument consistently measures what it intends to determine in the research process.

3.6.1 Reliability

During the pilot study, the reliability of the questionnaire was gauged using three primary methods: Overall Cronbach Alpha, Item total Statistics, and Construct Reliability. Each of these methods offers a unique perspective through which the questionnaire's consistency and robustness can be understood.

3.6.2 Overall Cronbach Alpha

The pilot study reported a Cronbach Alpha value of 0.619, analysed using SPSS. This value significantly exceeds the threshold typically considered acceptable in social science research, as suggested by Hair et al. (1998).

3.6.3 Item-total Statistics

This method evaluated the performance of individual items in relation to the entire scale. For each item, the method examined if the scale's reliability increased or decreased when a specific item is excluded. Items that, when removed, significantly improve the scale's reliability might be considered for revision or removal. This approach ensured that each item contribute positively to the overall reliability of the questionnaire. According to Ferketich (1991), for a scale to be considered good, the

corrected item-total correlations should fall between 0.30 and 0.70. Table below depicts the correlation coefficients after removal of items to enhance reliability of the scale.

Table 3.4: Item- total Statistics

Construct	Item Label	Correlation Coefficient
Perceived Eco-label Credibility	PC1	.598
	PC2	.589
	PC3	.573
	PC4	.596
	PC5	.612
Past Green Experience	PGE1	.540
	PGE2	.520
	PGE3	.486
	PGE4	.510
	PGE5	.522
Green Environment Knowledge	GEK1	.511
	GEK2	.578
	GEK3	.555
	GEK4	.555
Green Communication	GC1	.507
	GC2	.555
	GC3	.539
	GC4	.563
	GC5	.507
Green Brand Attachment	BA1	.542
	BA2	.519
	BA3	.538
	BA4	.483
	BA5	.501
Brand Green Image	BGI1	.529
	BGI2	.474
	BGI3	.506
	BGI4	.510
	BGI5	.502
Attitude Towards Logo	ATL1	.547
	ATL2	.563
	ATL3	.513
	ATL4	.525
	ATL5	.505

Attitude towards Eco-labelled Food Product	ATE1	.625
	ATE2	.477
	ATE3	.575
	ATE4	.531
	ATE5	.524
Eco-labelled Food Product Purchase Intention	PI1	.541
	PI2	.489
	PI3	.546
	PI4	.525
Trust	TR1	.537
	TR2	.490
	TR3	.555
	TR4	.461
	TR5	.531
Reward Process	RW1	.522
	RW2	.565
	RW3	.573
	RW4	.424
Institutional Role	IR1	.617
	IR2	.516
	IR3	.514
	IR4	.525
	IR5	.527
Ecolabel Choice Uncertainty	CU1	.502
	CU2	.531
	CU3	.483
	CU4	.507
Ecolabel Choice Difficulty	CD1	.596
	CD2	.507
	CD3	.484
	CD4	.507
Purchase Behaviour	PB1	.517
	PB2	.507
	PB3	.485
	PB4	.496

Source: Author's compilation

All items presented in the table 3.4 fall within the threshold range set by Ferketich (1991), indicating their reliability. This underscores the scale's robustness and consistency, aligning well with the research objectives.

Table 3.5: Construct-wise Reliability

Items	Reliability	No. of Items
ATE_01 ATE_02 ATE_03 ATE_04 ATE_05	.774	5
PC_01 PC_02 PC_03 PC_04 PC_05	.808	5
BGI_01 BGI_02 BGI_03 BGI_04 BGI_05	.742	5
BA_01 BA_02 BA_03 BA_04 BA_05	.752	5
ATL_01 ATL_02 ATL_03 ATL_04 ATL_05	.762	5
TR_01 TR_02 TR_03 TR_04 TR_05	.774	5
GC_01 GC_02 GC_03 GC_04 GC_05	.765	5
PGE_01 PGE_02 PGE_03 PGE_04 PGE_05	.751	5
GEK_01 GEK_02 GEK_03 GEK_0	.754	4
RW_01 RW_02 RW_03 RW_04	.730	4
IR_01 IR_02 IR_03 IR_04 IR_05	.769	5
CU_01 CU_02 CU_03 CU_04	.718	4
CD_01 CD_02 CD_03 CD_04	.733	4
PI_01 PI_02 PI_03 PI_04	.734	4
PB_01 PB_02 PB_03 PB_04	.715	4

Source: Author's compilation

Note(s): *ATE- Attitude towards Eco-labelled food products, PC-Perceived Credibility, BGI- Brand Green Image, BA- Brand Attachment, ATL- Attitude towards logo, TR-Trust, GC- Green Communication, PGE-Past Green Experience, GEK-Green Environmental Knowledge, RW- Reward Process, IR-Institutional Role, CU- Ecolabel Choice Uncertainty, CD-Ecolabel Choice Difficulty, PI-Eco-labelled food product Purchase Intention, PB-Eco-labelled product Purchase Behaviour.*

Table 3.5 presents the adopted scale's construct-wise reliability. Overall, these constructs exhibited reliability values considered satisfactory for research, indicating the questionnaire's robustness and consistency.

3.7 Validity

According to Bhandari (2023), construct validity is essential in determining the effectiveness of a test in accurately measuring its intended concept. This aspect is crucial for ensuring a measurement method's overall credibility and reliability. Further, Swerdlick (2005) explained that construct validity involves a two-step process: initially, it requires using theoretical knowledge and logical reasoning for designing a test that aligns with the concept; subsequently, it consists in using data and statistical methods to verify that the test indeed measures the intended concept effectively. This

methodology is crucial in ensuring the accuracy and relevance of psychological measurements. In the context of the study mentioned, the validity analysis of various constructs revealed consistent and impressive reliability scores. Each construct comprised a specific number of items, typically ranging from four to five per construct, providing a clear structure for analysis. To ensure validity of the constructs, content validity was determined through panel of experts and obtaining a CVI score (Table 3.2). Furthermore, through panellists' ratings, the subsequent CVI score was found within threshold limits, thereby further strengthening the content validity of the scale.

3.8 Sample Size and Location

The millennial generation is getting the attention of researchers and managers (Molinillo et al., 2020). According to the American Marketing Association, the Millennial generation, also known as Generation 'Y' are consumers born between 1981 and 1996. The study focused on Millennials' (GenY's) purchase intentions and consumption behaviour towards eco-labelled food products. The population for the study included individuals from Punjab, Himachal Pradesh, Chandigarh, Haryana, and Delhi NCR who were 25 to 39 years old. As per the 2011 census, the number of people from Punjab under Generation Y was 6,569471; from Himachal Pradesh, 1,653,483, Likewise 5,887,413 from Haryana, 284,712 from Chandigarh and 4,422,269 in Delhi NCR.

The samples for the study were collected from the urban areas of these four districts, which have the highest population in both Punjab and Himachal Pradesh. As per the 2011 census, the four districts with the highest population in Punjab are Ludhiana, Amritsar, Gurdaspur and Jalandhar from Punjab. Considering the same logic, data was collected from Kangra, Mandi, Shimla and Solan districts in Himachal Pradesh. Likewise, data from Haryana was collected from Faridabad, Hisar, Bhiwani, and Gurgaon. The reason for adding Chandigarh and Delhi NCR can be attributed to the shift in Indian urban consumers 'willingness towards more socially responsible and sustainable consumption (Capgemini, 2020).

The data was collected using a purposive sampling technique. The Krejcie and Morgan table (Krejcie & Morgan, 1970) is well known for sample size determination among behavioural and social science researchers. The table suggested that a sample of 384 is sufficient for a population of 1,000,000 or more. For this reason, 384 has been regarded as the 'magic' number in research and has consequently been used in social sciences. For this reason, the current study considered a sample size of 384 as appropriate. Keeping an upper limit for the sampling, the study collected 50 samples each from the identified 12 Punjab, Himachal Pradesh and Haryana districts, and 100 each from Chandigarh and Delhi NCR, totalling the number 800. Initially, respondents were approached at the sales outlets/point of sales to fill out a questionnaire.

In addition, the online method of approaching respondents was also considered using keywords on social media platforms like LinkedIn, Facebook and Instagram. The rationale for choosing an online methodology for engaging millennials is deeply rooted in the understanding that the internet and social media are a significant part of their everyday lives. As per Molinillo et al. (2020), the internet is the "natural habitat" for millennials, making it a highly effective medium for interaction and data collection. This approach aligned well with this demographic's behavioural and lifestyle patterns, ensuring higher engagement and relevance.

3.9   Quantitative Analysis-Survey

Surveys primarily utilise questionnaires, which are systematic methods for gathering information through well-organized queries. They are instrumental in providing insights into the demographics, preferences, behaviours, and quantities. Their appeal in research often stems from their cost-effective capability to collect data rapidly, as Saunders et al. (2009) emphasised. Essentially, questionnaires serve as the medium through which surveys extract responses from participants, as highlighted by Chen and Hirschheim (2004).

In research, a questionnaire is a vital tool to extract data from respondents. As Jupp (2006) elucidates, it is a compilation of methodically framed questions consistent with the research's thematic concerns. Researchers can gather structured and standardised data by presenting these questions uniformly to a defined group. The

strength of using questionnaires lies in their ability to obtain quantifiable and actionable insights, especially when addressing large and diverse groups (Bryman, 2016). Furthermore, as highlighted by Creswell (2014), the versatility of questionnaires allows for both face-to-face and distant data collection, catering to varied research needs and contexts. This methodological approach facilitates systematic data gathering and enhances the reliability and validity of the research outcomes (Fowler, 2013).

The methodology for this research revolved around utilising a semi-structured questionnaire to serve the objectives. The questionnaire's beginning was marked by an introductory segment that explained the study's aims to the participants and assured them of the exclusive academic application of their responses. Within this same section, demographic parameters like gender, age, education, region, and profession were recorded. The second section assessed participants' sentiments on the credibility of ecolabels. This was followed by sections assessing their past experiences with green products, their environmental knowledge, and their perceptions of green communication strategies. Subsequent sections investigated more complex domains like brand attachment, the green image of brands, and their attitude towards logos. The latter segments of the questionnaire aimed to capture insights into participants' purchase intentions, trust levels, reward processes, and the perceived role of institutions. Furthermore, the instrument also tapped into areas like choice uncertainty, choice difficulty, and, ultimately, the overarching purchase behaviour of the participants.

3.10 Data Analysis

The data collection phase was succeeded by an analysis stage centred on the research questions and objectives. Parametric tests can only be employed when the data follows a normal distribution (Jupp, 2006; Faizi & Alvi, 2023). Moreover, data attains normality, or a bell-shaped distribution, through a normality test. However, a normality test was deemed unnecessary in this study as non-parametric tests were employed. Data was gathered through a survey employing a questionnaire as the primary instrument, and it was subsequently coded using Smart PLS 4.0. Demographic data about the target respondents, such as gender and age, was presented in frequency and percentage. Before conducting the PLS analysis through Smart PLS, the research model's constructs underwent convergent and discriminant validity tests. Convergent validity suggested a

strong association among items within the same construct. Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE) values were employed to assess convergent validity.

To meet the first objective of investigating the determinants influencing consumer attitudes toward eco-labels in the food product category, the research employed the Partial Least Squares Structural Equation Model (PLS-SEM) as the primary analytical tool. This method, executed using the Smart PLS 4.0 software, enabled a thorough examination of the proposed model and its related hypotheses. PLS-SEM was particularly advantageous due to its flexibility with sample distributions and measurement scales (Guo & Barnes, 2011). This characteristic sets it apart from other analytical methods, allowing for more inclusive and varied data analysis.

Additionally, its proficiency in managing complex models (Hajli, 2014; Kante et al., 2023) makes it an ideal tool for conducting path and factor analyses crucial for this study. This research established a significance level (P-value) of less than 0.05 as the threshold for statistical significance. By employing the PLS-SEM approach, a nuanced comparative analysis between the dependent and independent variables was achieved, thereby providing a robust framework to uncover the relationships between consumer attitudes towards eco-labelled food products. This methodological approach ensured a rigorous and comprehensive analysis, aligning closely with the study's objectives and research questions.

The second objective of this study was to examine the impact of factors such as attitude, brand attachment, green image, and attitude towards the logo on consumer purchase intentions towards eco-labelled food products. The research employed the Partial Least Squares Structural Equation Model (PLS-SEM), a powerful tool for modelling complex relationships in data. Through this approach, the study aimed to uncover the underlying dynamics between consumer perceptions and their subsequent purchasing decisions. Furthermore, applying PLS-SEM provided insights into how these variables interact, thereby offering a comprehensive understanding of the factors driving consumer choices in the context of eco-labelled food products.

The research's third objective was to delve into the intention-behaviour gap regarding the purchase of eco-labelled food products. This gap refers to the difference between what consumers intend to do and what they do, a phenomenon often observed in the context of sustainable purchasing. To assess this, the study also considered the moderating effects of trust, reward, and institutional role, which are believed to influence consumer decision-making processes significantly. Employing the Partial Least Squares Structural Equation Model (PLS-SEM) again for this purpose provided a robust framework for analysing these complex interactions, including these moderating factors aimed to provide a more comprehensive understanding of the barriers and facilitators in the transition from intention to purchase. For example, trust could be crucial in determining whether a consumer's positive attitude towards eco-labelled food translates into actual buying behaviour.

Similarly, the presence of rewards for purchasing eco-friendly products might bridge the intention-behaviour gap. Moreover, the study explored how institutional roles, such as regulations and public policies, impact consumer choices. Understanding these dynamics is essential for policymakers and businesses to devise strategies that effectively encourage sustainable purchasing behaviours.

To address the fourth objective of the study, the focus was on assessing the influence of choice difficulty and choice uncertainty on the actual buying behaviour of eco-labelled food products. The Partial Least Squares Structural Equation Model (PLS-SEM) was again utilised for the objective. This part of the study revealed the complexity of choices and the uncertainty associated with final purchase decisions. By exploring these factors, the study sought to provide insights into how to simplify decision-making processes for consumers and reduce uncertainty. Ultimately, this investigation was expected to contribute to a deeper understanding of the challenges in promoting sustainable consumer behaviour and offer practical solutions to overcome them.

3.11 Statistical Tools and Techniques

In this research, the following inferential statistical tools and techniques have been employed:

3.11.1 Cross Tab in SPSS

In quantitative research methodologies, cross-tabulation plays a crucial role in examining the relationships between demographic characteristics like age, gender, education, and profession. This technique was utilised in SPSS to conduct such analyses. Additionally, cross-tabulation in SPSS was employed for reverse coding and to assess the reliability of the pilot testing. Furthermore, the study also involved using linear regression in SPSS to analyse the influence of all variables under consideration, especially in the presence of moderating factors.

3.11.2 Structural Equation Modelling (SEM)

Structural Equation Modelling (SEM) is a statistical approach encompassing two key components: regression and factor analysis. These components are often represented diagrammatically to facilitate the conceptualisation of theories. SEM primarily employs Covariance-based SEM (CB-SEM) and Partial Least Squares SEM (PLS-SEM). These methods are particularly effective in predicting complex models involving many constructs, measurement items, and structural paths. CB-SEM is ideally suited for estimating the observed covariance matrix, while PLS-SEM is commonly used to explain endogenous construct variances (Hair et al., 2014).

The study followed the recommendation to use PLS-SEM as it has been used in similar research (Hair et al., 2019). PLS-SEM is particularly recommended for complex structural models with a high number of constructs and indicators. This method is versatile as it supports reflective and formative models and provides estimates of latent variables, which are essential for follow-up studies and research involving control variables. In the current study, PLS-SEM has been employed using Smart-PLS software version 4.0.

3.11.3 Assumptions of PLS-SEM

The three significant concerns related to the application of PLS-SEM (Hair et al., 2017; 2019) are:

a. Data Requirements

b. Model Properties

c. Model Evaluation

a. Data Requirements:

    (I) *Sample Size*: The thumb rule of 10 is applied, indicating a minimum ratio of 10 respondents per variable.

    (II) *No Assumption of Normality*: The method does not require the data to follow a normal distribution, allowing for more flexibility in data types.

    (III) *Robustness to Missing Values*: The technique is highly robust and can effectively handle datasets with missing values.

    (IV) *Compatibility with various Measurement Scales*: It can work with metric measurements (such as interval data), ordinal data, and binary coded variables.

b. Model Properties: This assumption for PLS –SEM holds:

    (I) *Applicability to both Reflective and Formative Models*: The model is capable of working with both reflective and formative constructs.

    (II) *Suitability for Single Statement Factors*: It can handle factors represented by a single statement.

    (III) *Restricted to Recursive Models*: The approach is limited to recursive models, meaning it does not accommodate feedback loops.

    (IV) *Inability to Operate Solely on Measurement Models*: This model cannot function exclusively with measurement models; it requires more comprehensive structures.

    (V) *Necessity for Structural Models*: The model consistently operates on structural models, i.e., models that have clearly defined independent and dependent variables (IDVs and DVs).

c. Model Evaluation: This Includes:

    (I) *No global Goodness of Fit Indicator*

    (II) *Measurement Models*: The measurement model deals with the relationship between a latent variable and its indicators. It can be of following types:

- *Reflective Model*: This includes assessing convergent validity through construct reliability, internal consistency, and Average Variance Extracted (AVE). Discriminant validity is evaluated using cross-loading, ensuring AVE is greater than the Maximum Shared Variance (MSV), and using the Heterotrait- Monotrait ratio (HTMT).

- *Formative Model*: Focuses on content validity and convergent validity, along with assessing the significance value, which can provide insights into multi-collinearity.

(III) *Path Model (Structural Part):* This involves examining the significance of path coefficients to understand the strength and significance of the relationships in the structural model. It Includes:

- *Coefficient of Determination*: This involves assessing the R-squared value, which indicates the proportion of variance in the dependent variable that is predictable from the independent variables.

- *Effect Size*: The effect size is measured using f-square, which quantifies the impact of a predictor variable on the dependent variable.

- *Predictive Relevance*: This is evaluated using Q-square and the effect size of Q-square, which assesses the model's predictive accuracy for the endogenous constructs.

- *Multi-Collinearity Analysis*: This involves checking for multi-collinearity among sets of constructs to ensure the independence of predictors.

(IV) Higher Order Effects:

- *Mediation Analysis*: This examines the mediator variables that might explain the relationship between independent and dependent variables.

- *Moderation Analysis*: This includes exploring interaction effects and conducting Partial Least Squares Multi-Group Analysis (PLS-MGA) to

understand how the relationship between variables changes across different groups or conditions.

3.12 Moderation

A moderator, or moderating variable, is a third variable that influences the strength or direction of the relationship between exogenous and endogenous variables (Dawson, 2014). Technically, this means that the impact of the independent variable (X) on the dependent variable (Y) is affected by a third variable (M), which is the moderator (as illustrated in Figure 3.2). This moderator has the potential to either strengthen or weaken the relationship between X and Y. In studies involving moderation, two key aspects must be addressed. The first is to ascertain the existence of a moderator. Following this, the strength of the moderator's effect needs to be reported, as outlined by Henseler and Fassott (2010). Smart-PLS uses the interaction effect to evaluate the moderator's impact on a specific path. At the same time, multi-group analysis examines its influence on the overall model.
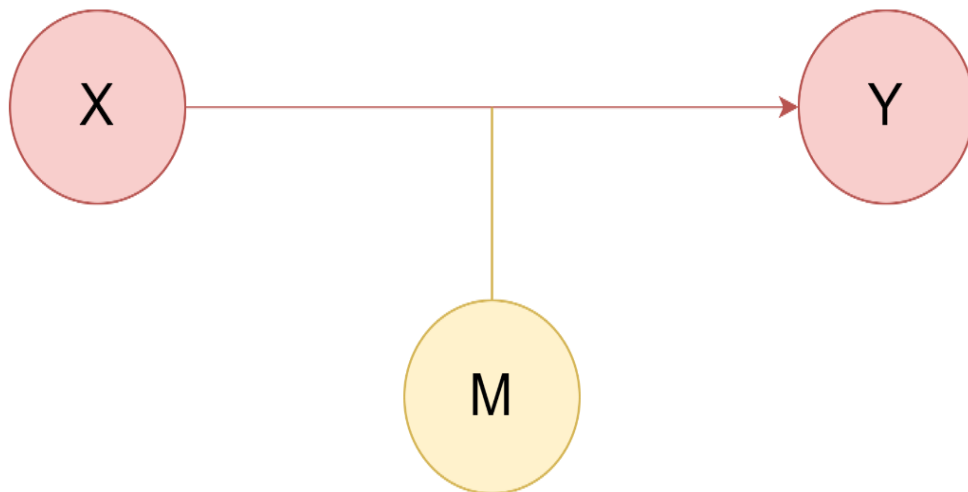
Figure 3.2: Moderation Effect

3.14 Conclusion

This chapter highlighted a detailed explanation of the methodology employed in the study. This comprehensive discussion covered various aspects, including the research strategy, underlying philosophy, methodological approaches, and experimental design and sampling plan details. The chapter elaborated on the research methods adopted, the sampling techniques used, and the rationale for choosing specific quantitative approaches. Furthermore, the chapter depicted the process undertaken to develop survey tools, an essential data collection component. It also included insights and findings from a preliminary study, providing a foundational understanding of the research context. This methodological groundwork established the groundwork for the next set of investigations in Chapter 4, which provides a detailed analysis of the results. By moving to the next chapter, the current study ensured a coherent and logical progression from the methodology to the empirical findings, establishing a strong linkage between the theoretical framework and the practical outcomes of the research.

CHAPTER- 4

DATA ANALYSIS

4.1 Introduction

This chapter is organised into distinct sections, including an overview of descriptive statistics, the reasoning for choosing PLS-SEM over other potential methods for this research, an assessment of construct measure validity and reliability in the suggested model, and a scrutiny of structural connections within the proposed framework.

4.2 Descriptive Statistics

Descriptive analysis involves techniques for gathering, assessing, classifying, computing, displaying, and making sense of numerical information. Descriptive Statistics offers both numeric and graphic methods to effectively depict a set of data (Jaggi, 2003). The purpose of presenting data in this form is to describe and summarise the collected data. Data description involves using tables and graphs or the computation of an index or number designed to summarise a specific characteristic of a variable or measurement. In the following sections, collected data is presented in tabular form, and relevant pictures of models depicting complex inter-relationships between observed and latent variables are presented.

4.2.1 Demographic Characteristics
Gender

Gender significantly influences the decision-making process when it comes to purchasing green products, with multiple studies emphasising its prominent impact. Previous research has found that women tend to favour eco-friendly products more than men (Witek & Kuźniar, 2020) and generally make more ethical purchases (Zelezny et al., 2000). A study by Irianto et al. (2015) confirmed that women have a positive attitude towards eco-friendly purchases and show a significant difference from males. In contrast, men are often found to better understand environmental issues and eco-friendly food products than women (Lyons & Breakwell, 1994). Considering the differences between selection choices across genders, it can be assumed that gender as

a demographic variable has a determining role in the context of millennials' purchase decisions.

Age

Age significantly influences the preference for green products. Studies have revealed that the millennial generation tends to be more engaged with green products than older generations. Ivanova et al. (2019) observed that millennials are more likely to undertake eco-friendly purchases as compared to Generation X. Furthermore, it has also been observed that millennials grew up during a period where there was a strong emphasis on environmental issues. Though millennials often display an attitude that favours environmentally friendly products, their purchasing decisions may still prioritise convenience, price, and quality over eco-friendliness (Naderi & Van Steenburg, 2018; Rodrigo & Mendis, 2023). Due to the significant role of millennials as an important consumer group for eco-friendly purchases, this study has pre-determined the age group for respondents. For this reason, the research included respondents born between 1981 and 1996.

Education Qualification

People with higher levels of education are inclined to buy green products more often than those with less education (Dimitri & Dettmann, 2012). Previous research has shown that educated consumers are more aware and responsive to environmental issues (Banyte, 2010). Researchers unearthed a positive link between the level of education and eco-friendly behaviour (Sidique et al., 2010). Generally, a higher educational background is associated with more excellent knowledge, influencing purchasing choices. In this study, the minimum level of education is set at graduation to gain more insights into eco-labelled product purchasing behaviour.

Profession

Profession is one of the important demographic variables that have influenced purchase behaviour (Srinivasan et al., 2014). In this study, four professions were included to measure purchase behaviour: Service, Self-employed, Students and Housewives. Based on literature focused on demographics and food purchases, current

research attempted to include the most relevant categories of professions to unveil insights on ecolabel purchases.

Table 4.1: Demographic Information of Respondents

Category	Sub-Category	Count	Percentage
Gender	Male	529	66.1
	Female	490	33.8
	Transgender	01	0.1
Age in years	26-30	408	51.0
	30-35	256	32.0
	36-40	120	15.0
	41-45	16	2.0
City	Ludhiana	50	6.3
	Amritsar	50	6.3
	Gurdaspur	50	6.3
	Jalandhar	50	6.3
	Kangra	50	6.3
	Mandi	50	6.3
	Shimla	50	6.3
	Solan	50	6.3
	Faridabad	50	6.3
	Hisar	50	6.3
	Bhiwani	50	6.3
	Gurgaon	50	6.3
	Chandigarh	100	12.5
	Delhi NCR	100	12.5
Education Qualification	Graduate	415	51.9
	Post Graduate and above	385	48.1
Profession	Service	520	65.0
	Student	80	10.0
	Housewife	31	3.9
	Self- Employed	169	21.1

Source: Author's Compilation (Primary Data)

Figure 4.1: Graphical Representation of Demographic Information
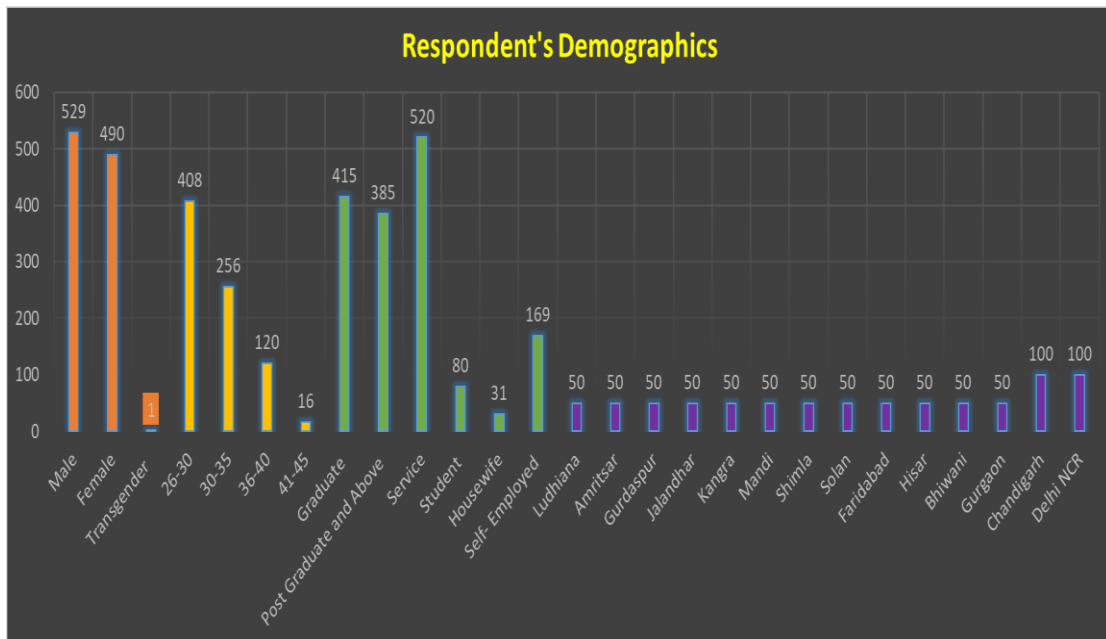
Source: Author's Compilation (Primary Data)

The research study's descriptive statistics were produced using SPSS version 25, which gave an overview of the sample's characteristics. The sample includes 529 (66.1%) male, 490 (33.8%) female respondents, and 1(0.1%) were transgender. Table 4.1 shows age-wise sample frequency, wherein the age group (26-30 Years) consists of 408 (51.0%) respondents, the age group (31-35 Years) consists of 256 (32.0%), the age group (36-40 Years) consists of 120 (15.0%) responses and, age group (41-45 Years) consist of 16 (2%) respondents. Out of the total participants, 520 (65%) came from a Service Profession, 80 (10%) were students, 31 (3.9%) were housewives, and 169 (21.1%) were self-employed.

4.3   Statistical Method: Selection Criteria for PLS-SEM

Partial Least Squares Structural Equation Modelling (PLS-SEM) is a robust statistical method validated by scholarly research. PLS-SEM fits well in scenarios with small sample sizes and models comprising many constructs and several items (Fornell & Bookstein, 1982; Willaby et al., 2015; Hair et al., 2017). Due to the emergence of various statistical techniques, PLS-SEM is differentiated in terms of its unique benefits. For instance, when dealing with complex models that comprehend a wide range of constructs and variables, PLS-SEM demonstrates adaptability, ensuring it remains

effective and precise even in these contexts (Chin, 1998; Hair et al., 2017). This flexibility of PLS-SEM, combined with its capability to handle intricate datasets, makes it a preferred choice for navigating complex theoretical frameworks. Considering the above-mentioned points, the selection of PLS-SEM is grounded on the mentioned arguments (Rigdon, 2012; Rigdon et al., 2017). The application of PLS-SEM is considered, as the current research:

- Attempts to test a theoretical framework from a predictive perspective.

- Deals with complex structural models involving multiple constructs, indicators, and model relationships.

- Explores theoretical extensions of established theories.

- Has a large sample size (N=800).

Therefore, it can be said that PLS-SEM not only permits the examination of a number of constructs simultaneously but also handles situations where CB-SEM might find limitations. Hence, due to the complex research landscape and nature of the investigation, PLS-SEM was identified to gain meaningful and accurate insights.

4.4   Measurement Model

The primary step in evaluating PLS-SEM results involves a careful examination of the measurement models. The measurement model investigates the relationships between latent variables and their corresponding indicators. The purpose of the measurement model is to assess the outer model's reliability and validity. Hair et al. (2019) have provided suggestions on the elements that should be included in the reporting of the measurement model. Since all scales are reflective in nature in the context of the current study, outer loadings, Convergent Validity, and Discriminant Validity were assessed before examining the structural model.

4.4.1   *Outer Loadings*

Factor loadings are a fundamental concept in the field of structural equation modelling (SEM). Factor loadings play a crucial role in understanding the relationships between latent constructs and their observed indicators. They also help to assess the strength and direction of these relationships, ultimately contributing to the assessment

of the measurement model's validity and the structural model's overall quality. The strength of the association between latent variables (constructs) and the associated observable indicators is represented by the factor loadings. These loadings are essentially the path coefficients that link the latent variables to the observed variables in the measurement model. A higher absolute value of a factor loading suggests a more significant association between the observed variable and the latent factor.

Table 4.2 presents factor loadings for various latent constructs in a structural equation model analysed through the Smart PLS method. The loadings for ATE were found strong ranging between 0.822 and 0.858, suggesting that all the observed variables for ATE closely align with the latent variable.

The ATL construct's indicators show fairly strong loadings, ranging between 0.746 and 0.773. This indicates a good association between these observed variables and the ATL. The indicators for BA have loadings that vary from 0.722 to 0.827. While most indicators demonstrate a strong relationship with the BA construct, BA_05= 0.722 reflects a weak relationship.

The loadings for BGI fluctuate between 0.698 and 0.757. This means that there is a good relationship between the BGI indicators and their underlying latent variable, though BGI_01 was found weak as compared to other items.

Further variables of the construct were observed to have strong loadings with a range from 0.750 to 0.781. The CU indicators showcase loadings between 0.776 and 0.788. For GC, the loadings range from 0.779 to 0.810, indicating a strong relationship between these indicators and the latent construct.

Table 4.2: Outer Loadings

	ATE	ATL	BA	BGI	CD	CU	GC	GEK	IR	PB	PC	PGE	PI	RW	TR
ATE_01	**0.841**														
ATE_02	**0.845**														
ATE_03	**0.832**														
ATE_04	**0.858**														
ATE_05	**0.822**														
ATL_01		**0.746**													
ATL_02		**0.767**													
ATL_03		**0.762**													
ATL_04		**0.773**													
ATL_05		**0.752**													
BA_01			**0.739**												
BA_02			**0.769**												
BA_03			**0.827**												
BA_04			**0.763**												
BA_05			**0.722**												
BGI_01				**0.698**											
BGI_02				**0.751**											
BGI_03				**0.744**											
BGI_04				**0.709**											
BGI_05				**0.757**											
CD_01					**0.767**										
CD_02					**0.750**										

	1	2	3	4	5	6	7	8	9	10	11	12	13
CD_03				**0.753**									
CD_04				**0.781**									
CU_01					**0.776**								
CU_02					**0.777**								
CU_03					**0.787**								
CU_04					**0.788**								
GC_01						**0.786**							
GC_02						**0.810**							
GC_03						**0.791**							
GC_04						**0.792**							
GC_05						**0.779**							
GEK_01							**0.796**						
GEK_02							**0.819**						
GEK_03							**0.797**						
GEK_04							**0.804**						
IR_01								**0.748**					
IR_02								**0.785**					
IR_03								**0.761**					
IR_04								**0.718**					
IR_05								**0.721**					
PB_01									**0.858**				
PB_02									**0.871**				
PB_03									**0.878**				
PB_04									**0.845**				
PC_01										**0.796**			

PC_02										**0.785**					
PC_03										**0.790**					
PC_04										**0.801**					
PC_05										**0.754**					
PGE_01											**0.760**				
PGE_02											**0.792**				
PGE_03											**0.784**				
PGE_04											**0.810**				
PGE_05											**0.767**				
PI_01												**0.842**			
PI_02												**0.853**			
PI_03												**0.855**			
PI_04												**0.854**			
RW_01													**0.805**		
RW_02													**0.730**		
RW_03													**0.768**		
RW_04													**0.772**		
TR_01															**0.756**
TR_02															**0.749**
TR_03															**0.744**
TR_04															**0.766**
TR_05															**0.735**

Source: Author's Compilation (Primary Data)
Note(s): *ATE- Attitude towards Eco-labelled food products, PC-Perceived Credibility, BGI- Brand Green Image, BA- Brand Attachment, ATL- Attitude towards logo, TR-Trust, GC- Green Communication, PGE-Past Green Experience, GEK-Green Environmental Knowledge, RW- Reward Process, IR-Institutional Role, CU-Ecolabel Choice Uncertainty, CD-Ecolabel Choice Difficulty, PI-Eco-labelled food product Purchase Intention, PB-Eco-labelled product Purchase Behaviour.*

Loadings for GEK indicators vary between 0.796 and 0.819. The IR construct has indicators with loadings ranging between 0.718 and 0.785. While the overall relationship is strong, IR_04 and IR_05 are slightly weaker compared to the other indicators. The loadings for PB are particularly high, ranging from 0.845 to 0.878, suggesting an excellent relationship between these observed variables and the latent constructs for PB. The PC indicators show strong loadings, lying between 0.754 and 0.801, indicating a firm association with the PC construct. For the PGE construct, the indicators have loadings ranging between 0.760 and 0.810, reflecting a strong association with the PGE latent construct. The PI indicators are consistently strong, with loadings between 0.842 and 0.855, showcasing a close alignment with the PI latent construct.

Loadings for the RW indicators vary from 0.730 to 0.805, suggesting a good but slightly varied relationship with the RW construct. The TR construct has indicators with loadings that range from 0.735 to 0.766, indicating a good relationship with the TR latent variable. To sum up, all constructs demonstrate substantial relationships with their observed indicators. The validity of the model was established as loadings above the suggested threshold.

4.4.2 *Internal Consistency Approach to Test Constructs*

This study assessed the internal consistency of constructs before employing structural equation modelling, as recommended by Hair et al. (2014). Cronbach's alpha was used to determine outer loadings across all indicators. Due to the sensitive nature of this method to the number of items within a scale, previous studies suggested that this limitation can be addressed by employing composite reliability (Hair et al., 2014).

Researchers have established specific benchmarks for acceptable CR values. As outlined by Nunnally & Bernstein (1994) and Hair et al. (2014), CR values ranging from 0.60 to 0.70 are considered suitable, whereas Bagozzi & Yi, 1988 comprehended values exceeding 0.70 as acceptable. In this study, all the CR and Cronbach's alpha (α) values for constructs surpassed the acceptable standard. The CR values for constructs in this study fall within the range of 0.763 to 0.895. The values of Cronbach's alpha (α) ranged from 0.761 to 0.895 for every attribute in the research. The Attitude towards Eco-labelled food products (ATE) had the highest CR value of 0.895, and the Reward

Process had the lowest CR value of 0.763. The Attitude towards Ecolabel (ATE) had the highest Cronbach's alpha (α) value of 0.895, and the Reward Process had the lowest Cronbach's alpha (α) value of 0.77.

4.4.3   Convergent Validity

Convergent validity depicts the degree of positive correlation between different measures (Hair, 2014). Convergent Validity was assessed using the average variance extracted (AVE) to demonstrate the—close associations among items within a construct. The study by Fornell & Larcker (1981) suggested α values above 0.7, CR values above 0.8, and AVE values exceed 0.5 as threshold. This criterion was further reinforced by Hair et al. (2014), asserting that an AVE value above 0.50 is a threshold for establishing convergent validity. All of the attributes' AVE values were higher than 0.50, thereby establishing convergent validity per the criteria Hair et al. recommended (2014).

ATE (Attitude towards Ecolabels): ATE (α =0.895), established internal consistency. The reliability of ATE is further demonstrated by its high composite reliabilities of rho_a (0.895) and rho_c (0.923). Convergent validity, as indicated by an AVE of 0.705, is also established, suggesting that items within this construct closely associate with one another.

ATL (Attitude towards Logo): ATL reflected decent internal consistency, as evidenced by its alpha (α =0.817). Reliability metrics, rho_a (0.818) and rho_c (0.872), further highlight its robustness. An AVE value of 0.578 confirms satisfactory convergent validity for ATL.

BA (Green Brand Attachment): BA (α=0.822) illustrated a high degree of internal consistency. Its rho_a (0.83) and rho_c (0.875) values reinforce the construct's reliability. Convergent validity for BA is well-established, as suggested by its AVE of 0.585.

BGI (Brand Green Image): BGI reflected good internal consistency (α =0.784) and good reliability, as indicated by rho_a (0.787) and rho_c (0.853). The AVE of 0.536 signifies acceptable convergent validity.

CD (Choice Difficulty): CD revealed good internal consistency (α=0.761) and reliability (rho_a=0.763, rho_c=0.848). Its convergent validity is confirmed with an AVE value of 0.582.

CU (Choice Uncertainty): CU reflected (α =0.788), indicating high consistency. Its rho_a and rho_c values, 0.789 and 0.863, respectively, established its reliability. The AVE value of 0.612 further depicted its strong convergent validity.

GC (Green Communication): GC exhibited strong consistency (α =0.851) and high reliability (rho_a=0.852, rho_c=0.894); the GC convergent validity is further established as the AVE=0.627 was found to be within the threshold limits.

GEK (Green Environmental Knowledge): GEK reflected an internal consistency (α =0.818) and reliable metrics (rho_a=0.818, rho_c=0.88), GEK's AVE = 0.647 indicated that convergent validity was established.

IR (Institutional Role): IR (α =0.804) maintained high internal consistency. Its reliability is evident from the values rho_a (0.813) and rho_c (0.863) values. An AVE value of 0.558 established its convergent validity.

PB (Purchase Behaviour): PB highlighted (α=0.886), indicating excellent internal consistency. Its high-reliability metrics (rho_a=0.887, rho_c=0.921) combined with an AVE value of 0.745 highlighted its importance and validity.

PC (Perceived Credibility): PC showcased a strong internal consistency (α=0.845) and robust reliability, as evidenced by its rho_a (0.847) and rho_c (0.889) values. Its AVE of 0.617 accentuates its convergent validity.

PGE (Past Green Experience): PGE (α =0.842), highlighted internal consistency. Reliability metrics (rho_a=0.846, rho_c=0.888) further support the internal consistency. AVE = 0.613 confirms its strong convergent validity.

PI (Purchase Intention): PI (α =0.873) indicated internal consistency. Its reliability is established by rho_a (0.873) and rho_c (0.913) values, and its AVE of 0.724 further reinforced its convergent validity.

RW (Reward Process): RW showcased good internal consistency (α= 0.77) and reliability (rho_a=0.776, rho_c=0.853). Its AVE =0.591 underlines its convergent validity.

TR (Green Trust): TR (α = 0.806) revealed decent internal consistency. Its reliability is confirmed by rho_a (0.809) and rho_c (0.865) values. AVE =0.563 established satisfactory convergent validity.

Based on the values listed in Table 4.3 and discussed above, it can be gauged that these constructs collectively provide a comprehensive view of internal consistency of constructs along with the average variance extracted (AVE). Hence, the study established strong convergent validity as per the threshold values.

Table 4.3: Reliability Statistics

Constructs	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)	Average Variance Extracted (AVE)
ATE	0.895	0.895	0.923	0.705
ATL	0.817	0.818	0.872	0.578
BA	0.822	0.83	0.875	0.585
BGI	0.784	0.787	0.853	0.536
CD	0.761	0.763	0.848	0.582
CU	0.788	0.789	0.863	0.612
GC	0.851	0.852	0.894	0.627
GEK	0.818	0.818	0.88	0.647
IR	0.804	0.813	0.863	0.558
PB	0.886	0.887	0.921	0.745
PC	0.845	0.847	0.889	0.617
PGE	0.842	0.846	0.888	0.613
PI	0.873	0.873	0.913	0.724
RW	0.77	0.776	0.853	0.591
TR	0.806	0.809	0.865	0.563

Source: Author's Compilation (Primary Data)

Note(s): *ATE- Attitude towards Eco-labelled food products, PC-Perceived Credibility, BGI- Brand Green Image, BA- Brand Attachment, ATL- Attitude towards logo, TR-Trust, GC- Green Communication, PGE-Past Green Experience, GEK-Green Environmental Knowledge, RW- Reward Process, IR-Institutional Role, CU- Ecolabel Choice Uncertainty, CD-Ecolabel Choice Difficulty, PI-Eco-labelled food product Purchase Intention, PB-Eco-labelled product Purchase Behaviour.*

4.4.5 *Discriminant Validity*

Discriminant validity is a critical aspect of construct validation that ensures measurement instruments effectively differentiate between theoretically distinct constructs (Fornell & Larcker, 1981). Discriminant validity pertains to the degree to which distinct concepts are truly distinct. The underlying idea is that when two or more concepts are genuinely distinct, valid measures of each should not exhibit excessively high correlations with one another. Rasoolimanesh (2022) outlined two primary methods for evaluating discriminant validity using HTMT. As per recommendations, HTMT should be below the specified threshold (0.85 or 0.90) (Henseler et al., 2015; Sarstedt, 2019). To reinforce the validity, the study determined the discriminant validity of the constructs using both measures: 1. Fornell-Larcker criterion (Fornell & Larcker, 1981) and 2. Heterotrait-Monotrait ratio (Henseler et al., 2015).

Fornell - Larcker Criterion

According to Fornell & Larcker (1981), discriminant validity is a crucial concept in construct validation, particularly in structural equation modelling, and it is evaluated by comparing the shared variance between constructs to the variance that each construct individually explains. This approach helps researchers ensure that their measurement instruments effectively distinguish between distinct constructs. Based on the Fornell-Larcker criterion, discriminant validity is achieved when the square root of the Average Variance Extracted (AVE) of a particular construct exceeds its correlations with all other constructs in the model (Lotfi, 2023). Discriminant validity using the Fornell-Larcker criterion is depicted in Table 4.4.

Table 4.4 shows that all constructs in this study achieved discriminant validity based on this criterion. This reflects that the constructs are distinct from each other in the measurement model.

Table 4.4: Discriminant Validity Analysis: Fornell - Larcker Criterion

	ATE	ATL	BA	BGI	CD	CU	GC	GEK	IR	PB	PC	PGE	PI	RW	TR
ATE	**0.840**														
ATL	0.428	**0.760**													
BA	0.358	0.384	**0.765**												
BGI	0.325	0.381	0.337	**0.732**											
CD	0.300	0.331	0.291	0.341	**0.763**										
CU	0.327	0.346	0.293	0.310	0.333	**0.782**									
GC	0.527	0.425	0.371	0.358	0.299	0.323	**0.792**								
GEK	0.497	0.404	0.281	0.330	0.292	0.299	0.362	**0.804**							
IR	0.299	0.349	0.298	0.352	0.285	0.292	0.344	0.341	**0.747**						
PB	0.433	0.341	0.305	0.383	0.384	0.373	0.265	0.281	0.352	**0.863**					
PC	0.544	0.432	0.366	0.367	0.285	0.317	0.347	0.343	0.302	0.300	**0.785**				
PGE	0.355	0.135	0.227	0.139	0.176	0.244	0.144	0.229	0.248	0.246	0.191	**0.783**			
PI	0.592	0.452	0.393	0.434	0.287	0.294	0.391	0.380	0.291	0.604	0.403	0.287	**0.851**		
RW	0.228	0.255	0.204	0.234	0.270	0.239	0.231	0.236	0.294	0.333	0.222	0.226	0.245	**0.769**	
TR	0.234	0.226	0.220	0.253	0.246	0.285	0.233	0.182	0.218	0.310	0.264	0.290	0.242	0.213	**0.750**

Source: Author's Compilation (Primary Data)

Note(s): *ATE- Attitude towards Eco-labelled food products, PC-Perceived Credibility, BGI- Brand Green Image, BA- Brand Attachment, ATL-Attitude towards logo, TR-Trust, GC- Green Communication, PGE-Past Green Experience, GEK-Green Environmental Knowledge, RW- Reward Process, IR-Institutional Role, CU- Ecolabel Choice Uncertainty, CD-Ecolabel Choice Difficulty, PI-Eco-labelled food product Purchase Intention, PB-Eco-Labelled Product Purchase Behaviour.*

Table 4.5: Discriminant Validity Analysis: Heterotrait-Monotrait ratio (HTMT)

	ATE	ATL	BA	BGI	CD	CU	GC	GEK	IR	PB	PC	PGE	PI	RW	TR
ATE															
ATL	0.500														
BA	0.417	0.468													
BGI	0.387	0.478	0.420												
CD	0.364	0.423	0.369	0.439											
CU	0.389	0.433	0.364	0.397	0.429										
GC	0.602	0.508	0.443	0.439	0.371	0.393									
GEK	0.580	0.492	0.343	0.410	0.372	0.374	0.433								
IR	0.351	0.431	0.369	0.440	0.364	0.365	0.418	0.420							
PB	0.485	0.400	0.356	0.456	0.466	0.445	0.304	0.329	0.408						
PC	0.623	0.522	0.441	0.449	0.356	0.386	0.407	0.412	0.368	0.344					
PGE	0.407	0.161	0.270	0.172	0.216	0.299	0.168	0.275	0.298	0.283	0.223				
PI	0.669	0.533	0.461	0.522	0.351	0.354	0.453	0.449	0.345	0.686	0.467	0.334			
RW	0.275	0.322	0.256	0.301	0.351	0.309	0.286	0.296	0.371	0.399	0.272	0.279	0.299		
TR	0.272	0.277	0.267	0.318	0.311	0.353	0.278	0.221	0.270	0.363	0.320	0.348	0.286	0.268	

Source: Author's Compilation (Primary Data)

Note(s): *ATE- Attitude towards Eco-labelled food products, PC-Perceived Credibility, BGI- Brand Green Image, BA- Brand Attachment, ATL-Attitude towards logo, TR-Trust, GC- Green Communication, PGE-Past Green Experience, GEK-Green Environmental Knowledge, RW- Reward Process, IR-Institutional Role, CU- Ecolabel Choice Uncertainty, CD-Ecolabel Choice Difficulty, PI-Eco-labelled food product Purchase Intention, PB-Eco-Labelled Product Purchase Behaviour*

Heterotrait-Monotrait ratio (HTMT)

The Heterotrait-Monotrait Ratio (HTMT) is a statistical measure used in structural equation modelling (SEM) to assess the discriminant validity of latent constructs in a measurement model (Henseler et al., 2015).

In conclusion, based on the Heterotrait-Monotrait ratio (HTMT) values provided for each construct in relation to others, every single construct demonstrates strong discriminant validity. As can be seen in table 4.5, all the HTMT values are well below the recommended thresholds of 0.85 or 0.9. This helped to bring out the distinction between the constructs and suggested that they measure distinct phenomenon.

4.4.6 Model Fit

Model fit is a critical concept in assessing relationships, particularly in structural equation modelling (SEM) and confirmatory factor analysis (CFA). It measures how well a statistical model aligns with the observed data. The primary goal of evaluating model fit is to determine whether the model adequately represents the relationships and patterns in the data.

Table 4.6: Model Fit

Indices	Saturated model	Estimated model
SRMR	0.034	0.036
d_ULS	2.870	3.121
d_G	0.843	0.835
Chi-square	3971.655	3881.617
NFI	0.840	0.844

Source: Author's Compilation (Primary Data)

This research used several metrics to assess model fit, including the standardised root mean square residual (SRMR), unweighted least squares discrepancy (dULS), geodesic discrepancy (dG), and the Normed Fit Index (NFI) (Ringle et al., 2024). Furthermore, an adapted Bollen and Stine bootstrapping procedure was executed (Bollen & Stine, 1992; Yuan & Hayashi, 2003; Dijkstra & Henseler, 2015) to create confidence intervals.

A model demonstrates a good fit when its SRMR value is under 0.08, and its NFI value is above 0.9 (Hair et al., 2014; Henseler et al., 2015). Evaluating the models using these criteria, both the saturated and estimated models present recommended SRMR values of 0.034 and 0.036, respectively, which were well below the 0.08 threshold, indicating a perfect fit. The computed dULS values were found to be 2.870 for the saturated model and 3.121 for the estimated model.

4.5   Structural Model

After the analysis of the measurement model, the research carried out the subsequent phase involving the analysis of the structural model. Validating the structural model plays a crucial role in data analysis to determine support for hypotheses (Urbach & Ahlemann, 2010). In the context of Smart-PLS, the evaluation of the structural model relies on metrics such as the coefficient of determination (R2) and path coefficients.

It is recommended that the R2 should exceed 0.19, and the path coefficients between latent variables should surpass 0.1. These path coefficients can assume either positive or negative values, depending upon the relationship between the underlying constructs. A significant relationship is established when the p-value is less than 0.05 at a 95% confidence level. To ascertain the significance of these relationships, bootstrapping is executed, with a suggested K value of 5000 (Nitzl et al., 2016).

4.5.1   Testing of Hypothesis

The structural model is analysed after assessing the measurement model. The process of analysing the structural model includes checking the collinearity of data, evaluating of the statistical significance of regression path coefficients, R^2 values of dependent variables. All sixty-nine pathways that were evaluated using SEM were significant at 95% confidence levels of less than 0.05.

4.5.2   Collinearity statistics (VIF)

The Variance Inflation Factor (VIF) is a statistical tool employed to evaluate multi-collinearity within regression analysis. Multi-collinearity arises when independent variables within a regression model exhibit strong correlations, potentially resulting in unstable coefficient estimates and challenges in interpreting the impact of

individual predictors (Hair et al., 2011). The VIF serves to measure the extent to which multi-collinearity elevates the variance of estimated regression coefficients.

The VIF (Variance Inflation Factor) values for constructs serve as indicators of collinearity within the dataset. They reflect the presence of points or clusters of points aligned in a similar direction (Hair et al., 2011). The presence of collinearity within the data can have an impact on the outcomes of the study. The ideal VIF value is below 3, though values between 3 and 5 can be deemed acceptable to a certain degree (Hair et al., 2011). A VIF exceeding 5 suggests potential collinearity problems (Hair et al., 2017). As per Table 4.7, the values fall within the recommended threshold limits (Hair et al., 2017).

Table 4.7: Collinearity Statistics (VIF)

Items	VIF
ATE_01	2.226
ATE_02	2.287
ATE_03	2.168
ATE_04	2.457
ATE_05	2.096
ATL_01	1.571
ATL_02	1.697
ATL_03	1.610
ATL_04	1.627
ATL_05	1.516
BA_01	1.591
BA_02	1.666
BA_03	1.856
BA_04	1.615
BA_05	1.477
BGI_01	1.384
BGI_02	1.490
BGI_03	1.441
BGI_04	1.430
BGI_05	1.583
CD_01	1.473
CD_02	1.427
CD_03	1.466
CD_04	1.474

CU_01	1.519
CU_02	1.553
CU_03	1.586
CU_04	1.563
GC_01	1.739
GC_02	1.895
GC_03	1.745
GC_04	1.813
GC_05	1.758
GEK_01	1.618
GEK_02	1.790
GEK_03	1.688
GEK_04	1.695
IR_01	1.437
IR_02	1.605
IR_03	1.564
IR_04	1.551
IR_05	1.527
PB_01	2.182
PB_02	2.442
PB_03	2.538
PB_04	2.188
PC_01	1.725
PC_02	1.707
PC_03	1.783
PC_04	1.890
PC_05	1.646
PGE_01	1.678
PGE_02	1.753
PGE_03	1.714
PGE_04	1.816
PGE_05	1.675
PI_01	2.032
PI_02	2.144
PI_03	2.202
PI_04	2.215
RW_01	1.569
RW_02	1.437
RW_03	1.521
RW_04	1.462

TR_01	1.525
TR_02	1.586
TR_03	1.595
TR_04	1.588
TR_05	1.446

Source: Author's Compilation (Primary Data)

Note(s): VIF- Variance Inflation factor; ATE- Attitude towards Eco-labelled food products, PC-Perceived Credibility, BGI- Brand Green Image, BA- Brand Attachment, ATL- Attitude towards logo, TR-Trust, GC- Green Communication, PGE-Past Green Experience, GEK-Green Environmental Knowledge, RW- Reward Process, IR-Institutional Role, CU- Ecolabel Choice Uncertainty, CD-Ecolabel Choice Difficulty, PI-Eco-labelled food product Purchase Intention, PB-Eco-labelled product Purchase Behaviour.

As Table 4.7 shows, VIF values for all constructs were below the recommended limits, indicating no multi-collinearity issues.

4.5.3 Coefficient of Determination (R^2)

The primary criterion for evaluating the structural model is the R^2, which measures the relationship between the explained variance and the total variance. It signifies the proportion of variance in the endogenous variable accounted for by the exogenous variables (Henseler et al., 2009; Hair et al., 2017).

Table 4.8: Coefficient of Determination (R^2)

Variables	R-square	R-square adjusted
ATE	0.52	0.517
PB	0.485	0.479
PI	0.48	0.476

Source: Author's Compilation (Primary Data)

Note(s): ATE- Attitude towards Eco-Labelled Food products, PB- Eco-Labelled Product Purchase Behaviour, PI; Eco-labelled food Product Purchase Intention.

Using suggestions provided by Henseler et al., (2009) and Hair et al., (2017), it was observed that the values for ATE, PB, and PI all indicate a moderate relationship amongst their respective variables (Figure 4.2). Specifically, this suggests that for constructs ATE, PB, and PI, the external factors moderately influence the variations in the main variables.

4.5.4 *Blindfolding (Q^2)*

The next step involves assessing the Q^2 value, which serves as an indicator of the predictive accuracy of the PLS path model (Stone, 1974). This metric is based on the blindfolding technique, which entails the removal of individual data points from a dataset, replacing them with the mean, and estimating model parameters accordingly (Rigdon, 2014). Consequently, Q^2 encompasses both out-of-sample and in-sample explanatory power (Shmueli et al., 2016). A Q^2 value of zero suggests an absence of a significant connection. Hair et al. (2019) categorizes the predictive accuracy of the PLS path model as small, medium, and large, corresponding to values greater than 0, 0.25, and 0.50, respectively.

Table 4.9: Blindfolding (Q^2)

Variables	Q²predict	RMSE	MAE
ATE_0	0.511	0.701	0.549
PB_0	0.324	0.823	0.651
PI_0	0.369	0.796	0.63

Source: Author's Compilation (Primary Data)

Note(s): *ATE- Attitude towards Eco-Labelled Food products, PB- Eco-Labelled Product Purchase Behaviour, PI; Eco-labelled food Product Purchase Intention.*

Based on the Q^2 values and guided by the criteria established by Hair et al. (2019), the PLS path model's predictive accuracy can be determined. Specifically, ATE_0, with its Q^2 predict of 0.511, falls within the 'large' predictive accuracy bracket, signifying a substantial ability to forecast outcomes. In contrast, both PB_0 and PI_0, with Q²predict values of 0.324 and 0.369 respectively, are categorized as having 'medium' predictive accuracy. This classification indicates a decent predictive power for these constructs. To sum up, ATE_0 exhibited a noticeable predictive strength in the model, while PB_0 and PI_0 hold moderate forecasting capabilities.

Figure 4.2: Coefficient of Determination (R²)
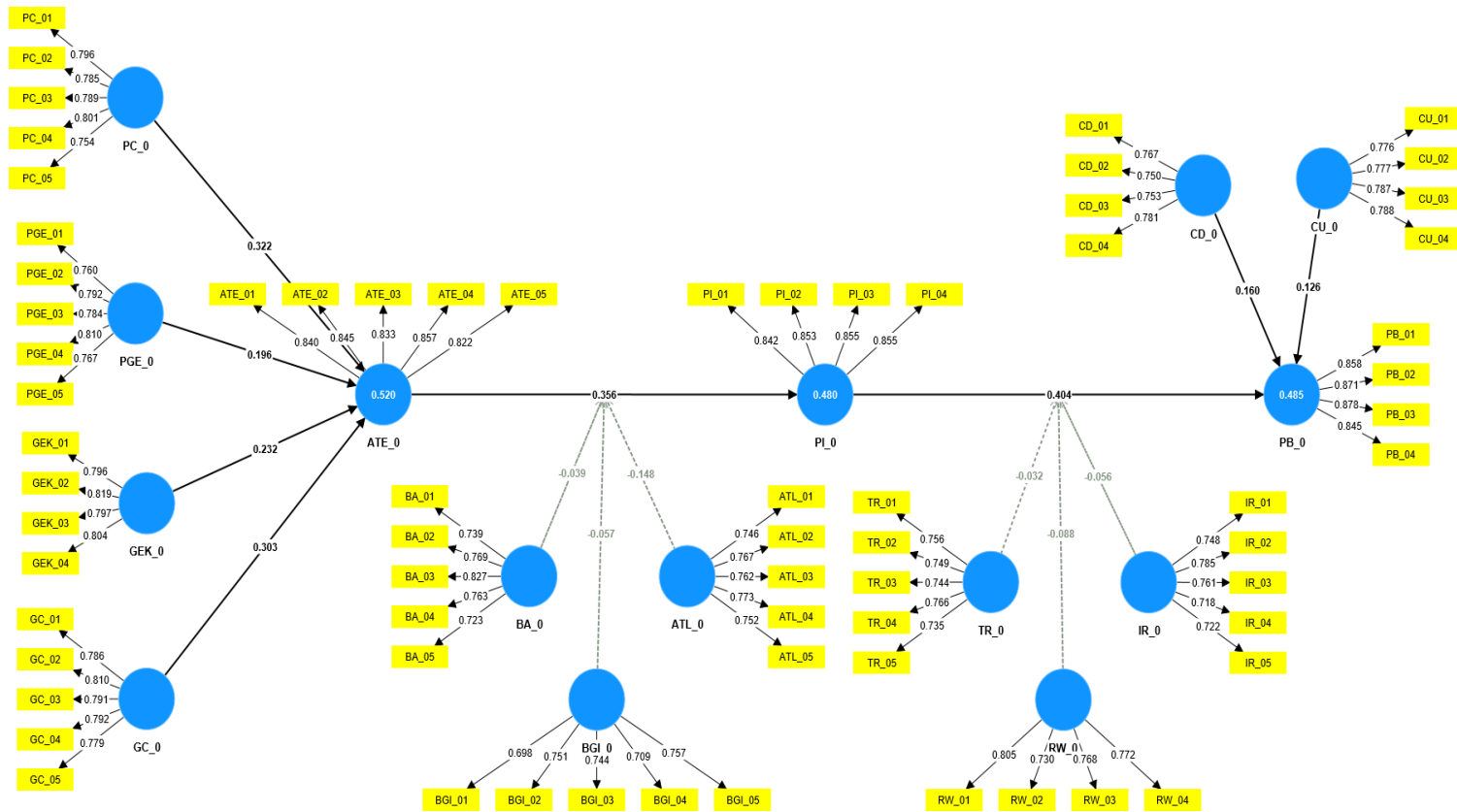
4.5.5   *PLS Predict*

The research employed the "PLS predict" technique to evaluate the model's capacity to make accurate predictions on out-of-sample data (Shmueli et al., 2016; Shmueli et al., 2019). This step is aimed at evaluating how well the model can generalize and forecast outcomes when applied to data that it hasn't been trained on.

The initial reporting step involves verifying the Q^2 predictions for all items. The research revealed that predictions for all items consistently exceed zero, ranging from 0.168 to 0.503. Subsequently, an assessment is made regarding the data's symmetry. Given that the data demonstrates symmetry, the next step was undertaken to compare the Root Mean Square Error (RMSE) values of the Partial Least Squares (PLS) model with those of the Linear Regression model (LM). Positive differences specify that PLS outperforms LM, whereas negative differences imply that PLS underperforms LM. A lower PLS value indicates stronger predictability.

Table 4.10: PLS Predict

	Q^2 Predict	PLS-SEM (RMSE)	PLS-SEM (MAE)	LM (RMSE)	LM (MAE)
ATE_01	0.376	1	0.803	1.063	0.839
ATE_02	0.375	1.029	0.84	1.101	0.881
ATE_03	0.334	1.034	0.841	1.09	0.876
ATE_04	0.373	1.03	0.849	1.088	0.891
ATE_05	0.34	1.019	0.828	1.075	0.858
PB_01	0.279	1.088	0.879	1.149	0.92
PB_02	0.23	1.114	0.902	1.2	0.979
PB_03	0.243	1.085	0.877	1.169	0.947
PB_04	0.209	1.094	0.874	1.164	0.924
PI_01	0.274	1.049	0.835	1.133	0.901
PI_02	0.273	1.029	0.794	1.114	0.873
PI_03	0.264	1.05	0.828	1.108	0.884
PI_04	0.257	1.079	0.856	1.16	0.922

Source: Author's Compilation (Primary Data)

Note(s): *ATE- Attitude towards Eco-labelled Food products, PB- Eco-labelled Product Purchase Behaviour, PI; Eco-labelled food Product Purchase Intention.*

Across the constructs ATE_01 to PI_04, the PLS-SEM model consistently outperforms the Linear Regression (LM) model in terms of predictive accuracy (Hair et al., 2017). For constructs ATE_01 to ATE_05, the PLS-SEM model not only yielded

lower RMSE values but also had more favourable MAE scores, indicating a more precise prediction (Henseler et al., 2009). Specifically, in ATE_01, the difference in RMSE between the two models was notable, suggesting the considerable superiority of the PLS-SEM model (Ringle et al., 2015). Similarly, in constructs PB_01 to PB_04, the PLS-SEM model consistently showed better predictive performance with both RMSE and MAE metrics, Specifically, in case of PB_02 the RMSE difference was quite significant (Chin, 1998). For PI_01 to PI_04, the PLS-SEM model consistently demonstrated better predictive accuracy (Tenenhaus et al., 2005).

Hence, it can be concluded that these observations confirm the consistent and superior predictive capability of the PLS-SEM model across various constructs compared to the Linear Regression model (Fornell & Bookstein, 1982).

4.5.6 *Path Coefficient*

The research established the model's explanatory and predictive power in the previous step. Now, the study has moved towards the final phase, which involves scrutinising the relevance and significance of the path coefficients to gauge the strength of the relationship between two latent variables. To execute this step, it is imperative to examine various aspects, including the path coefficient, T-statistics, and significance level.

In addition, the measurement model and the structural model provide path coefficient values. The primary distinction lies in the structural model's utilisation of bootstrapping, which generates t-values and p-values for assessing the significance level. In the structural model, T-values for all constructs and items should exceed 1.96 for a relationship to be considered significant at a 95% confidence level (Kim & Yoon, 2003; Kamranfar et al., 2023; Mohammadi et al., 2023). Furthermore, for an effect to be deemed appropriate within the model, the path coefficient must surpass 0.100 and be statistically significant at the 0.05 level (Firmansyah et al., 2023; Cheah et al., 2023). The results of the hypotheses test are represented in Table 4.11, which was obtained after the model was assessed using 5000 bootstrapping of the samples. Table 4.11 and Figure 4.3 represent all the direct effects of independent variables on dependent variables.

After bootstrapping, the results of the path coefficient along with T-values and P-values are listed in the Table 4.11. Analysis revealed that independent variables Perceived Credibility (PC) had positive influence on Attitude toward Eco-Labelled Food Products (ATE) (O=0.322; t=9.99; p=0), hence the hypothesis H_01 is accepted.

Past Green Experience (PGE) was found to have positive influence on Attitude toward Eco-Labelled Food Products (ATE) (O=0.196; t=7.014; p=0), which led to the acceptance of hypothesis H_02.

Green Environmental Knowledge (GEK) had positive influence on Attitude toward Eco-Labelled Food Products (ATE) (O=0.232; t=7.018 and p=0). Based on the statistics obtained, hypothesis H_03 was accepted.

Green Communication (GC) was found to have positive influence on Attitude toward Eco-Labelled Food Products (ATE) (O=0.303; t=10.02 and p=0), therefore hypothesis H_04 was also accepted.

Furthermore, analysis revealed that Choice Uncertainty (CU) had positive influence on Eco-Labelled Food Product Purchase Behaviour (PB) (O=0.126; t=7.014), and p=0), which led to the rejection of hypothesis H_011. Also, Choice Difficulty (CD) was found to have positive influence on Eco-Labelled Food Product Purchase Behaviour (PB) (O=0.16; t=5.137 and p=0), hence hypothesis H_012 was also rejected.

Attitude towards Eco labelled food products (ATE) was found to have a significant and positive influence on Purchase Intentions (PI) (O=0.356; t=9.868 and p=0). This led to the acceptance of hypothesis H_013.
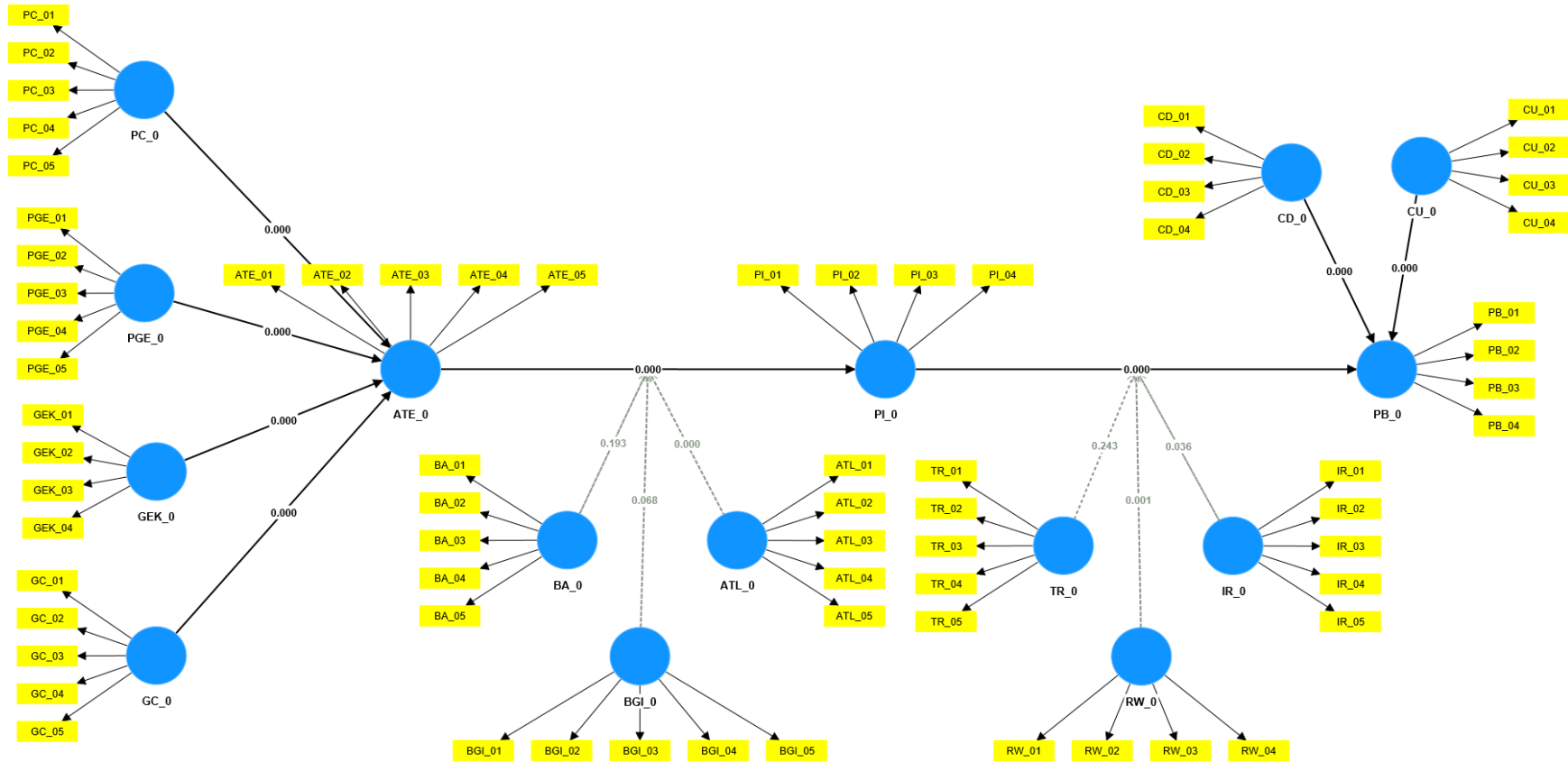
Figure 4.3: Path Coefficients

Table 4.11: Path Coefficients

Hypothesis	Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Value	Results
H_01	PC -> ATE	0.322	0.323	0.032	9.99	0.00	Accepted
H_02	PGE -> ATE	0.196	0.197	0.028	7.014	0.00	Accepted
H_03	GEK -> ATE	0.232	0.231	0.033	7.018	0.00	Accepted
H_04	GC -> ATE	0.303	0.303	0.03	10.02	0.00	Accepted
H_011	CU -> PB	0.126	0.126	0.033	3.786	0.00	Rejected
H_012	CD -> PB	0.16	0.16	0.031	5.137	0.00	Rejected
H_013	ATE -> PI	0.356	0.354	0.036	9.868	0.00	Accepted
H_014	PI -> PB	0.404	0.402	0.034	11.786	0.00	Accepted

Source: Author's Compilation (Primary Data)

Note(s): ATE- Attitude towards Eco-labelled food products, PC-Perceived Credibility, BGI- Brand Green Image, BA- Brand Attachment, ATL- Attitude towards logo, TR-Trust, GC- Green Communication, PGE-Past Green Experience, GEK-Green Environmental Knowledge, RW- Reward Process, IR-Institutional Role, CU- Ecolabel Choice Uncertainty, CD-Ecolabel Choice Difficulty, PI-Eco-labelled food product Purchase Intention, PB-Eco-labelled product Purchase Behaviour.

The impact of Purchase Intentions (PI) on Eco labelled food products purchase behaviour (PB) was also significant and positive (O=0.404; t=11.786 and p=0), therefore hypothesis $H_0 14$ was also accepted. On the basis of table 4.11 and subsequent discussion based on statistics thus obtained, eight of the hypotheses listed above were accepted and two were rejected. The succeeding discussion on the underlying corroborations of the relationships with scholarly studies is discussed in chapter 5.

4.5.7 Moderating Effects

The moderating effects were assessed by first standardising the indicator values to their means before multiplying the moderator variable with the predictor variables, which are also referred to as interaction terms. (Suki & Suki, 2019). In this research, six moderators were used to analyse their impact on dependent variables. Therefore, in this study, moderating effects are depicted under two headings. The first three moderators, named green brand attachment, brand green image, and attitude towards logo, moderate the effect between attitude and intention towards eco-labelled food products. The next three moderators, named green trust, reward process, and institutional role, moderate the effect between purchase intention and eco-labelled product purchase behaviour.

Table 4.12: Moderating Effects-I

$H_0 5$	BA x ATE -> PI	-0.039	-0.039	0.03	1.303	0.193	Rejected
$H_0 6$	BGI x ATE -> PI	-0.057	-0.058	0.031	1.856	0.063	Rejected
$H_0 7$	ATL x ATE -> PI	-0.148	-0.148	0.029	5.068	0	Accepted

Source: Author's Compilation (Primary Data)

Figure 4.4 represents the PLS slope analysis for the moderator Brand Attachment (BA). As evident in the figure, there are three lines corresponding to varying levels of Brand Attachment: low (-1 SD), mean, and high (+1 SD). The horizontal axis represents the Attitude towards Eco-labelled (ATE), while the vertical axis depicts the interaction term of Brand Attachment (BA) and ATE. The slope provides insight into the moderating effect of Brand Attachment on the relationship between Attitude towards Eco-labelled and Purchase Intention.
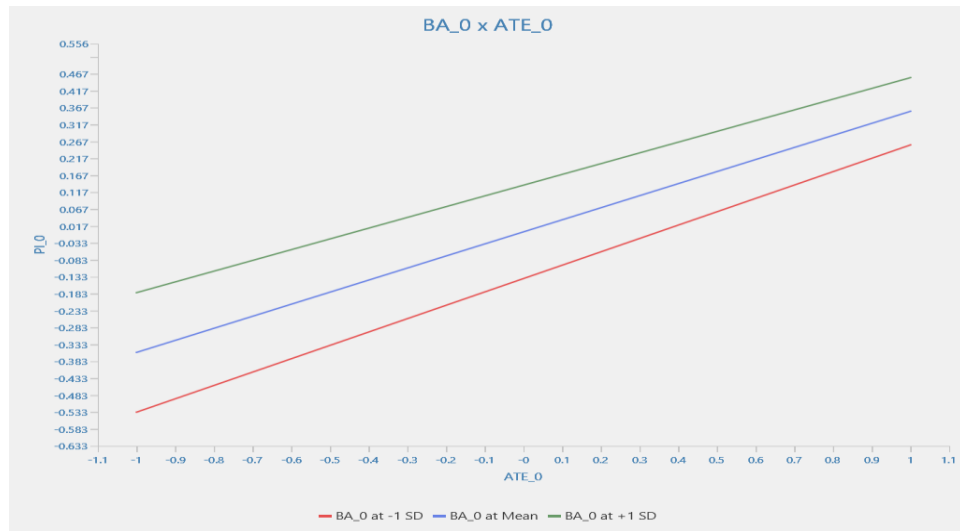
Figure 4.4: Moderating Effect of Brand Attachment

As can be seen in figure 4.5, the lines move roughly in parallel without showing significant divergence or convergence. This lack of significant change in slopes helped in reaching the conclusion that Brand Attachment does not significantly moderate the relationship between the Attitude towards Eco-labelled food products and Purchase Intention. Supporting this observation in the figure, the statistical values presented in Table 4.12 further reaffirmed this interpretation: with an interaction term value of $0 = -0.039$, a t-value of 1.303, and a p-value of 0.193 (which is greater than the threshold of 0.05), it is evident that Brand Attachment failed to show a significant moderating effect. Consequently, based on the graphical representation and the statistical evidence provided, the hypothesis H_05 on moderating effect of Brand Attachment is rejected.

Figure 4.5 and related statistics suggested that Brand Green Image does not significantly moderate the relationship between Attitude towards Eco-labelled products and Purchase Intention. As visible in the figure above, there's a slight negative trend indicated by the O value of -0.057, but the value failed to meet the statistically significant threshold based on the p-value. Therefore, the hypothesis H_06 postulating a moderating effect of BGI is rejected.
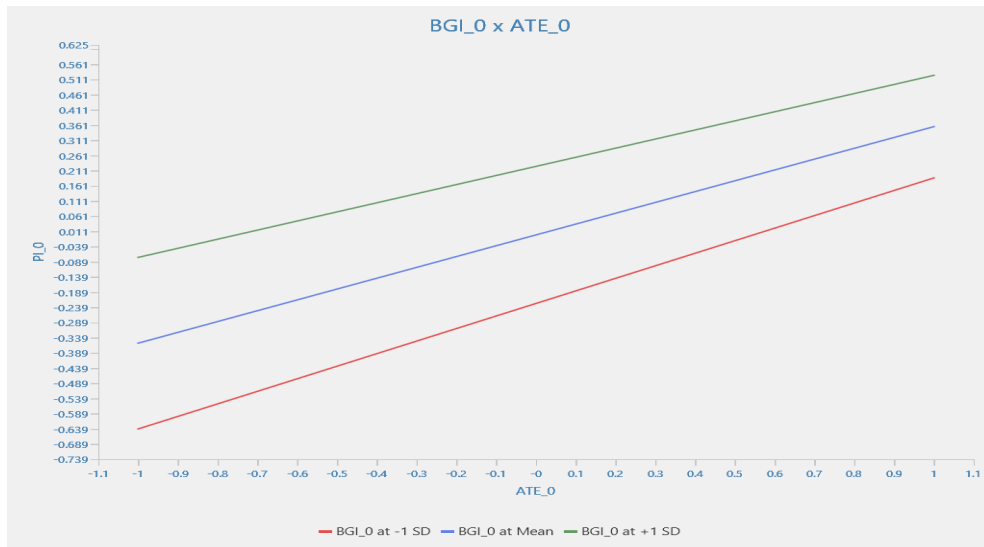
Figure 4.5: Moderating Effect of Brand Green Image

The discussion above implies that regardless of millennials' perception of a brand's environmental image, it doesn't significantly change the influence of their attitudes on their intention to purchase.

Figure 4.6: Moderating Effect of Attitude Towards Logo

Figure 4.6 represents the moderating role of Attitude Towards Logo on the relationship between Attitude and Purchase Intentions. As it can be observed in the image above and combined with the given statistical values, it strongly suggests that Attitude toward Logo (ATL) does indeed have a significant moderating effect on the

relationship between millennials' Attitude towards Eco-labelled products (ATE) and their Purchase Intention. Table 4.12 further reaffirms that ATL plays a moderating role. Furthermore, the negative O value s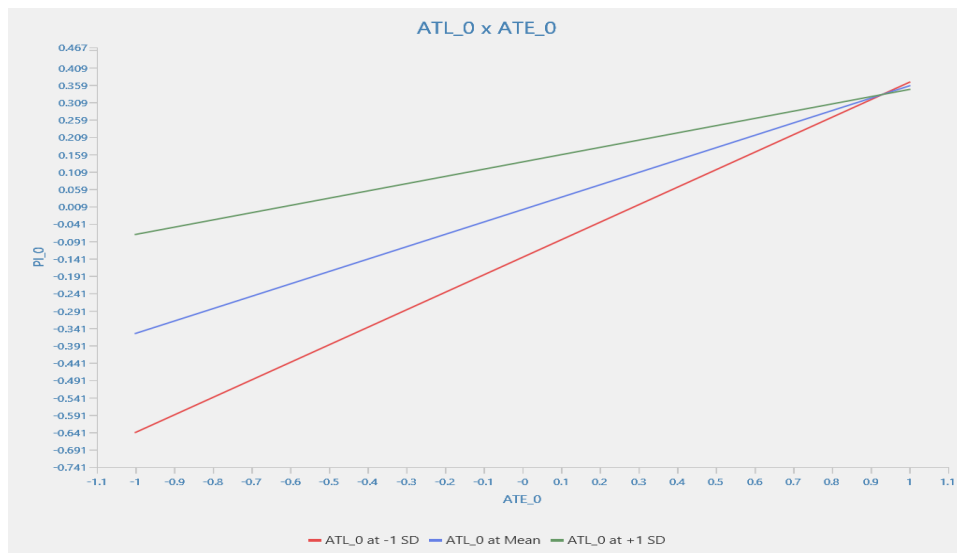uggested a general trend of decreasing purchase intention with a more positive attitude towards eco-labelled products. However, the effect was notably influenced by the individual's attitude towards the logo.

To sum up, it can be stated that logos play a pivotal role in shaping intention to purchase. Given the insights discussed above, hypothesis H_07 postulating a moderating effect of ATL is accepted.

Table 4.13: Moderating Effects-II

H_08	TR x PI -> PB	-0.032	-0.033	0.028	1.155	0.248	Rejected
H_09	RW x PI -> PB	-0.088	-0.089	0.026	3.369	0.001	Accepted
H_010	IR x PI -> PB	-0.056	-0.056	0.027	2.08	0.038	Accepted

Source: Author's Compilation (Primary Data)
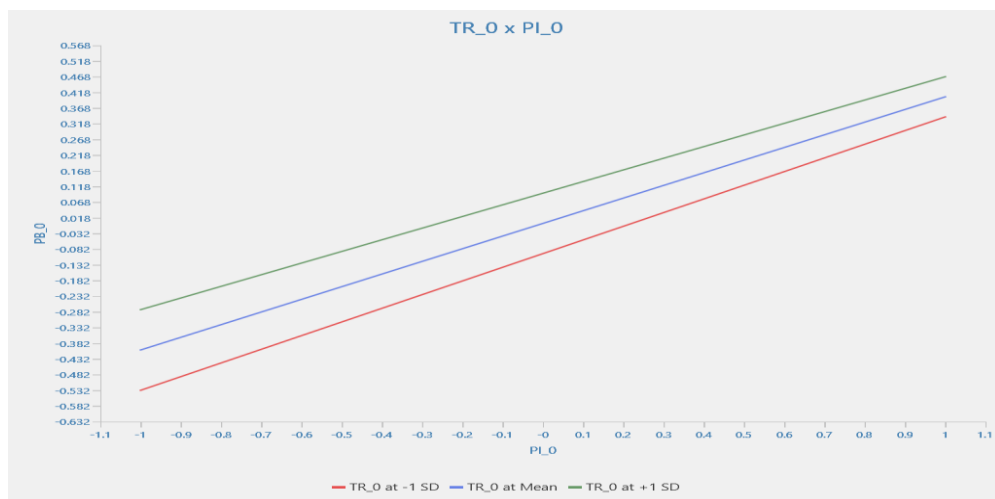

Figure 4.7: Moderating Effect of Green Trust

Based on Figure 4.7 and statistics in Table 4.13, it can be observed that Trust does not significantly moderate the relationship between millennials''' Attitudes towards Eco-labelled products and their Purchase Intention. As discussed in the section above, the nearly parallel lines and the statistical values (especially the p-value)

highlight these findings. This further implies that regardless of the level of trust a consumer has, it does not significantly change the effect of their eco-labelled attitudes on their intention to purchase. Therefore, based on the data and interpretation, hypothesis H_08, asserting a moderating effect of Trust, is rejected, as there is no significant evidence supporting Trust's role as a moderator between Attitude (ATE) and Purchase Intention (PI).
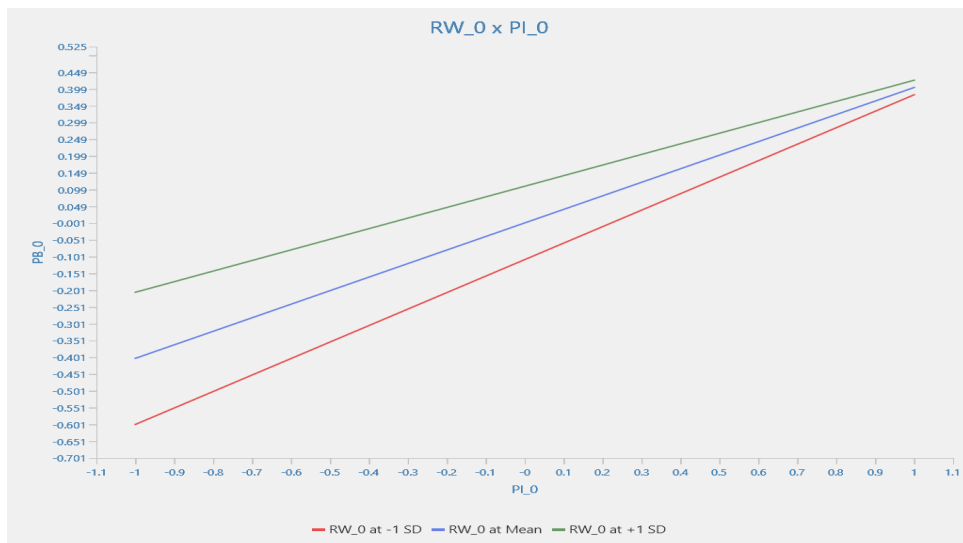
Figure 4.8: Moderating Effect of Reward Process

Figure 4.8, with statistical observations highlighted in table 4.13, strongly suggests that the reward process plays a significant moderating role in the relationship between millennials' attitudes towards eco-labelled products and their purchase intention. The negative beta value implies that a positive change in attitude towards eco-labelled products brings a negative effect on purchase intention. However, as can be seen, this effect is moderated by the Reward Process. Additionally, it can be said that rewards or incentives provided by brands or sellers can significantly influence how the eco-labelled attitude impacts purchase intention.

This complex relationship further infers that brands should pay close attention to the rewards or incentive mechanisms, as these can notably direct consumer behaviour. Based on these insights, hypothesis H_09, suggesting a moderating effect of the Reward Process, is accepted.

Figure 4.9: Moderating Effect of Institutional Role

Figure 4.9 depicts the nature of the relationship between Attitudes towards eco-labelled food products and Purchase Intentions. The figure further depicts the moderating effect of the Institutional Role. As can be see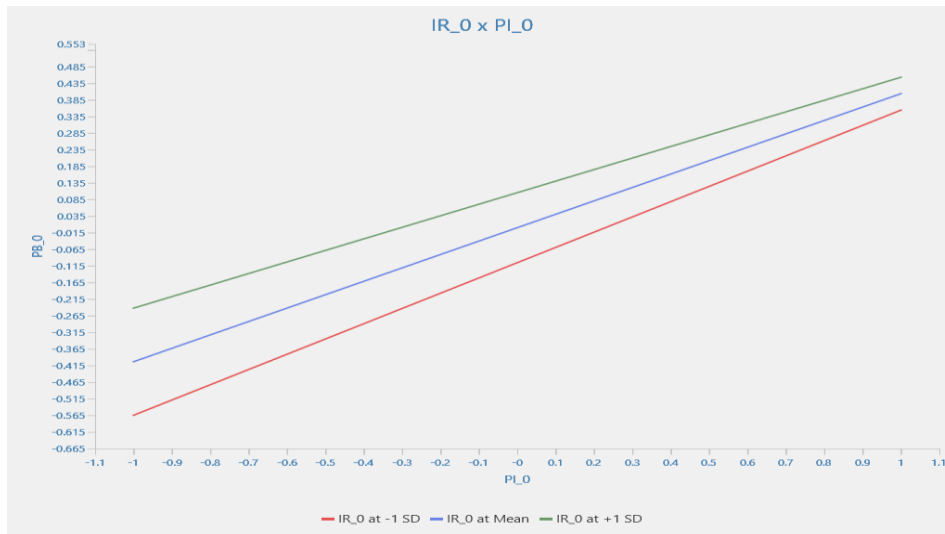n, the institutional role moderates the link between millennials' attitudes towards eco-labelled foods and their purchase intention. This implies that the institutional role of regulatory bodies, certifications, or other institutional frameworks can significantly form the way consumers' attitudes translate into buying intentions. More specifically, the negative coefficient implies that as consumers have a more favourable attitude towards eco-labelled items, there can be a drop in the intention to purchase. However, this relationship is moderated by the institutional role.

Therefore, it can be said that robust certifications or institutional backing can raise trust, whereas uncertainty or lack of transparency can lead to a decrease in purchase intentions. From a strategic perspective, it can be gauged that understanding and leveraging institutional roles is important for firms engaged in green marketing, especially in the food sector. Also, aligning with credible institutions or ensuring clarity in certifications can play a vital role in bridging the attitude-intention gap. Given these insights, it's logical to accept the hypothesis H_010 postulating a moderating effect of the Institutional Role.

4.6 Summary

This chapter provides an overview of the descriptive statistics extracted from the survey data. Subsequent sections discuss the underlying reasons for opting for PLS-SEM over other SEM techniques for this research. The measurement model and structural model are then presented. Moreover, the chapter emphasizes the results derived from SEM, in line with the study's objectives.

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1   Introduction

The growing emphasis on sustainable consumption practices in both academic and industrial sectors is one of the prime drivers of this study. Specifically, the research investigated the determinants influencing millennials' purchasing decisions towards eco-labelled food products. As the awareness towards environmentally friendly practices among consumers is increasing, a noticeable shift in consumer behaviour is evident in eco-friendly choices, offering encouraging prospects for the future of the food industry. This shift is pertinent in response to the rising demand for environmentally friendly food products, a market segment that is rapidly expanding (Statista, 2024).

The study employed behavioural reasoning theory as its theoretical framework to investigate the emerging area of sustainability in food choices. This approach was selected to increase a deeper understanding of the cognitive processes and motivations associated with millennials' food choices and preferences. By exploring the rationale behind these decisions, the research attempted to uncover the key factors that drive consumers to purchase eco-labelled products. Furthermore, this research was designed to identify and analyse the factors influencing consumer behaviour towards eco-labelled food products.

This research provided valuable insights for the food industry through its findings, particularly in framing green marketing strategies, adopting green labelling practices, and identifying future prospects associated with eco-friendly food choices. These insights are essential for businesses seeking to align with the changing preferences of environmentally conscious consumers. By considering millennials as respondents, the implications of this research gained importance beyond academic interest and incorporated practical relevance for the food industry. By understanding the determinants of consumer choices, businesses can streamline the dissemination of eco-labels, thereby reducing consumer confusion.

Furthermore, the study also required the underscore of the significance of trust in eco-labelled products and, in turn, offer a competitive advantage to brands that successfully integrate sustainability into their product offerings and marketing strategies. Overall, the study contributed to a more sustainable and environmentally conscious approach in the food industry, aligning with broader societal trends towards sustainability.

5.2 Major findings

The study built upon the foundational insights from the behaviour reasoning theory (BRT), which focuses on understanding and predicting behaviour. BRT was selected as a grounded theory for the research because it emphasises specific reasons for and against a particular behaviour. This was reflected by Westby (2005), who listed reasons as crucial factors in behaviour. Furthermore, the model was validated across various contexts (Mitrofanova et al., 2021; McNeil, 2023; Acikgoz et al., 2023; Panda, 2023; Martey et al., 2023). In addition, BRT highlighted social values and personal inclinations as critical influences on the specific reasons that motivate behaviour.

As discussed in the previous chapter, an initial set of hypotheses (H_01, H_02, H_03, H_04, H_011, H_012, H_013, H_014) had statistically significant relationships. The study further attempted to determine the role of moderators through (H_05, H_06, H_07, H_08, H_09, H_010). The results and implications have been discussed in the next sections.

5.2.1 Reflecting on Research Questions:

Research Question 1. What are the factors influencing consumers' attitudes towards eco labels in the food products category?

This research employed quantitative analysis to answer the research question. The study performed descriptive statistics, and the proposed model with its hypothesised relationships was tested using SEM-PLS. The analysis yielded positive results, and hence, all hypotheses were accepted. This implies that all factors listed in the model contribute to attitude formation.

The research findings indicated that millennials perceive ecolabels as a significant source of information to assess the quality and trustworthiness of food products. The study found its relevance through an array of scholarly works highlighting the crucial role of ecolabels in the marketplace, not only as indicators of environmental friendliness but also as comprehensive signals of the overall credibility of FMCGs (Paul et al., 2023). More recently, the credibility of eco-friendly attributes has emerged as a critical factor in food purchases (Riskos, 2021; Potter et al., 2022). The study underscored that the effectiveness of an ecolabel is highly dependent on its perceived credibility among consumers. If the ecolabel was trusted, it was more likely to be used as a basis for purchasing decisions. This trust in ecolabels translated into consumer confidence in the product's environmental claims and sustainability. Further substantiating this perspective, Riskos et al., (2021) validated that the perceived credibility of an eco-label positively impacts consumer attitudes. The study finds its relevance with literature, hence corroborating the effectiveness of results (Testa et al., 2015; D'Souza et al., 2021; D'Souza et al., 2022). The acceptance of the hypothesised relationship implies consumers see ecolabels as a source of transparency, reliability, and scientific credibility. This not only validates the theoretical framework but also empowers consumers to make food choices that are eco-friendly. The result provides empirical support for the theoretical framework, emphasizing the importance of ecolabel credibility in the decision-making processes of consumers, with special reference to sustainable products.

Past experience, defined as previous interaction consumers had in purchasing green products, plays a crucial role in shaping their future purchase decisions (Xu et al., 2020; Gulzari et al., 2022). The results of the present study highlighted the significant role of experience in deciphering consumer attitudes towards eco-labelled food products. This influence has its impact through the quality, satisfaction, and perceived effectiveness of these products, fostering a sense of loyalty and trust towards eco-friendly choices. Scholarly studies further suggest that past experiences can have a significant impact on consumer behaviour, thereby guiding future actions and preferences (Kor & Mullan, 2011; Kim & Chung, 2011; Zolkepli et al., 2021). These experiences are further strengthened by

psychological theories like cognitive dissonance theory (Festinger,1962) and the theory of planned behaviour (Ajzen, 1985), explaining the tendency of consumers to align their future purchases with their past experiences. In line with this understanding, the current study validates these findings, indicating that past experience positively impacts attitudes towards eco-labelled food products (Chi et al., 2021). The empirical data, reflecting trends in consumer loyalty and changes in purchasing patterns over time, corroborates the significant impact of past experiences on the present and future consumer choices in purchasing green products.

Product knowledge refers to consumers' ability to differentiate specific products (Philippe & Ngobo, 1999). In the context of green products, this knowledge comprises consumer's familiarity with available eco-friendly options and their perception towards product features (Sun & Wang, 2020). Scholarly studies suggest that the more consumers learn and understand about a product through past experiences, the higher the likelihood of purchasing it (Kang et al., 2013). Prior knowledge is key in influencing green purchasing decisions (Nekmahmud et al., 2024). This study attempted to gauge the role of environmental knowledge in determining millennials' attitudes towards eco-labelled food products. Consumers' knowledge of their environment is driven by opinions and shaped by several personal, social, and cultural factors. A significant association between consumers' knowledge and their attitude reflect inclinations towards purchase behaviour. This relationship is particularly evident in the context of environmentally conscious consumerism, where environmental knowledge plays a pivotal role.

The results of this study are consistent with earlier research (Smith & Paladino, 2010; Wulandari et al., 2015; Saichao, 2016; Chaihanchanchai & Anantachart, 2023), indicate that Environmental Knowledge significantly influences Attitudes towards eco-friendly products and practices. This is also validated by recent studies depicting knowledge of environmental issues as a significant factor in shaping consumers' environmentally friendly attitudes (Chaihanchanchai & Anantachart, 2023; Asif et al., 2023; Tan, 2023). The acceptance of hypothesis H_03 suggests that knowledge-based initiatives and awareness campaigns about the benefits and impact of eco-labelled products

can further enhance positive consumer attitudes. Furthermore, the results also highlighted the need for a personalised approach in promoting eco-labelled food products. Marketers can engage consumers through personalised messages through in-app advertising or other digital marketing initiatives. As millennials are more inclined towards social media influencers, awareness strategies can be designed with the influencers' impact in mind. This understanding could guide marketers and policymakers in developing strategies that resonate with consumers' values and beliefs, fostering a more sustainable consumption pattern across diverse consumer segments.

Green Communications significantly influences the attitude towards eco-labelled food products (Paco et al., 2019). Green communication is known to be decisive in endorsing eco-friendly products and services. Being at the centre of any customer-linked initiatives, marketers recognise the importance of communicating their environmental efforts to attract the attention of well-informed green consumers. As the role of green communication is already established, current research also endorses the role of green communication in determining positive attitudes. In the case of millennials, who are known to have more concerns towards the environment (Deloitte, 2021), this finding is highly relevant. Also, these results align well with previous findings demonstrating the importance of messages in highlighting the benefits of a product through effective communication (Xu et al., 2019). This approach to green communication, focusing on the practical and emotional advantages of eco-labelled products, targets customers' desire for products that fit well with their values and lifestyle choices. This outcome aligns well with the earlier studies (Graeff, 1997; Nguyen & Mogaji, 2022; Taufique,2022; Correia et al., 2023), conveying tangible benefits and contributions to personal and environmental well-being.

In green communications, it is also relevant to note that consumers today possess extensive knowledge, as information on sustainable development and eco-friendly practices is readily available and widely disseminated (Markkula & Moisander, 2012). Access to increased information has heightened consumer awareness and expectations, making effective green communication a crucial factor in shaping attitudes towards eco-labelled products. Therefore, acceptance of hypothesis ($H_0 4$) conveys a positive influence

of green communication on attitudes towards eco-labels, thus indicating the importance of environment-focused campaigns. This finding has further implications for environment promoters and policymakers. It suggests that developing clear, benefit-focused, and emotion-rich communication strategies is critical to enhancing consumer engagement with eco-labelled products. As discussed above, modern-day digital media platforms can be used to develop a suitable strategy for the millennials. Furthermore, understanding the changing nature of consumer knowledge and expectations in environmental sustainability can help craft more targeted and impactful marketing strategies. Study results, therefore, can help to facilitate a deeper connection between consumers and eco-friendly brands, developing a more sustainable and pro-environment consumer culture.

The attitude towards eco-labelled food products plays a crucial role in influencing consumers' intention to purchase (Balaskas et al., 2023; Asif et al., 2023). Recent studies have collectively highlighted a significant trend in consumer behaviour towards eco-labelled food products (Riskos, 2021; Hossain, 2022; Galati et al., 2022; Williams, 2023). The hypothesis ($H_0 13$) examined this relationship and found a positive influence of attitude towards eco-labelled food products on the intention to purchase. This relationship signifies the importance of cultivating a positive brand image and consumer perception towards eco-friendly products. This finding is pivotal as it highlights the importance of consumer perception in the rapidly growing market for sustainable goods. A favourable attitude toward eco-labels is identified as a critical factor driving consumers' intent to buy eco-labelled food products (Alam, 2023). It also reflects a degree of trust in the eco-labelling system itself, suggesting that consumers rely on these labels as reliable indicators of a product's environmental impact (Williams, 2023). Furthermore, the positive attitude reflects an alignment between consumers' personal values and their purchasing decisions. It suggests that marketers and brand managers should focus on reinforcing the environmental benefits of their products and the authenticity of their eco-labels to foster a favourable consumer attitude. Moreover, this finding indicates the growing significance of pro-environment consumerism in shaping market trends. It highlights the need for businesses to adapt their marketing strategies not to meet environmental standards.

There is a disconnect between consumers expressing environmental concern and their actual sustainability actions (ElHaffar, 2020). Within sustainability research, a persistent challenge is the "intention-behaviour gap", which refers to the discrepancy between what consumers say about their environmental concerns and the actions they take to address them (Groening et al., 2018; Viglia & Acuti, 2023). Building on these insights, the study attempted to gauge the intention-behaviour gap through hypothesis ($H_0$14). Results depict a robust positive influence of the intention to purchase eco-labelled food products on the actual purchase behaviour. The result contributed to the existing understanding of consumer behaviour towards green products. The findings corroborate the previous findings indicating the role of intention as a strong predictor of the consumer's actual behaviour (Qureshi et al., 2023). More specifically, in the context of eco-label purchases, the intention to purchase green products also has a positive influence on the actual purchase behaviour (González, 2020; Calderon-Monge, 2022).

This implies that when millennials exhibit a clear and positive intention towards purchasing eco-labelled products, they are more likely to follow through with their purchase, as revealed by previous research (Wang et al., 2022). This connection between millennials' intentions and behaviour reflects a deeper alignment between their commitment and the number of personal resources in executing eco-labelled food purchases. This association is crucial for marketers and green product developers, as it highlights the potential of targeting and nurturing these positive intentions to boost the sales of eco-labelled products. Furthermore, these findings shed light on the broader implications of consumer awareness and concerns towards environmental issues. As consumers become more informed about the environmental impact of their consumption choices, their intentions to purchase sustainable products are likely to strengthen, subsequently influencing their purchasing behaviour. The research contributes to the growing body of literature that emphasises the importance of intention in predicting consumer behaviour, particularly in the context of sustainable consumption. By understanding the factors that influence consumers' purchase intentions, businesses can

develop more targeted marketing strategies that resonate with environmentally conscious consumers, thereby encouraging a shift towards more sustainable purchasing patterns.

Research Question 2: How do ecolabel attitude, Green brand attachment, Brand green image, and Attitude towards logos impact consumers' purchase intentions towards eco-labelled food products?

To answer this question, the quantitative study focused on determinants of purchase intentions. The analysis was conducted using descriptive statistics. The proposed model and hypothesized relationships were tested using IBM SPSS 25 statistical software, while SEM-PLS was employed for further analysis. The results depicted a significant role of attitude on intention and also revealed the role of attitude towards logo as a moderator between attitude and intention. Moreover, the study failed to establish the role of brand attachment and brand green image as moderators.

The proposed model of the study and the hypothesized relationships were then validated using partial least squares structural equation modelling (SEM-PLS) in Smart PLS, thereby accomplishing the primary aim of the research question. The findings of this study indicated that hypothesis H_05 and H_06 were rejected and H_07 is accepted. This study investigated the dynamics of consumer-brand relationships in the context of eco-labelled food products in depth. The research revealed an interesting understanding on insignificant role brand attachment as moderator in determining relationship between attitude and intention towards eco-labels. Brand attachment acts as a psychological trait that links an individual's emotional connection and loyalty to a brand (Aureliano-Silva et al., 2018; Li et al., 2019).

On the contrary, the study failed to establish the role of brand attachment, which implies that millennials have an unfavourable or negative emotional bond or connection with eco-labelled foods. The results corroborate with previous findings (Tsai & Men, 2017), thereby validating the claim. As a moderator, brand attachment failure to create an impact can be due to various reasons, including poor experiences, poor quality, poor customer service and unmet expectations. As millennials are experience driven, any

deviation in the promise and actual delivery of product's performance could lead to negative brand image.

In the case of eco-labels, it can be attributed to the greenwashing by various brands. In light of this, the hypothesis (H_05) posits that brand attachment failed to act as a moderator in the relationship between consumer attitudes and their intention. Additionally, this hypothesis is grounded in the understanding that when consumers feel a strong attachment to a green brand, their positive attitudes are more likely to translate into actual purchase behaviour. Furthermore, results suggested that brand attachment can be reinforced through consistent demonstration of environmental commitment and social responsibility by the brand. This infers that for eco-labelled food products, it is essential for brands to maintain transparency, authenticity, and consistent efforts to strengthen this attachment.

Previous research has demonstrated that consumers develop an emotional connection with brands they perceive as aligning with their self-concept. However, inconsistencies in prior literature highlight the need to re-evaluate the role of brand attachment in the relationship between attitude and purchase intention. By reconsidering the dynamics of this relationship, researchers and marketers can gain a more nuanced understanding of the factors that influence eco-labelled food purchases. Such insights could lead to more effective branding strategies and help companies develop stronger emotional connections with their target audiences across various product categories and levels of consumer involvement.

A positive brand image significantly impacts consumer purchase decisions (Bashir et al., 2020; Sharma et al., 2023; Watson et al., 2024). The importance of a green image is key in green marketing scenarios, as affirmed by scholarly studies. (Wang et al., 2018; Sarmiento-Guede et al., 2021). Contrary to the previous findings, the study results revealed that the green image of a brand failed to act as a moderator between attitude and intention. The results support the findings of Doszhanov and Ahmad (2015), which imply that the perceived image and sustainability of a brand are not just external attributes but should be

developed in a way that shapes an individual's attitude toward that brand. The insignificant role of a brand's green image also underscores the urgent need for a positive perception of a brand's environmental commitment in driving consumer intentions related to green or sustainable products. Furthermore, this insignificant moderating effect of Brands' Green Image could be due to the evolving expectations of consumers, as they look beyond product attributes and also consider the broader environmental ethos of the brand.

In line with the arguments presented above, this research has extended the line of inquiry and confirmed Hypothesis (H_06), indicating that the relationship between Attitude and Purchase Intention remains stable and Green Brand Image does not moderate the relationship. The results corroborate with previous findings (Doszhanov, 2015; Chen et al., 2020). This implies that there is an urgent need to ensure that green brand image is not only appealing but also genuinely reflects their commitment to sustainability, as modern consumers are well informed in identifying brands' environmental commitment. Since millennials are more inclined towards social media, brands can leverage these digital platforms to shape and disseminate a brand's green image. Also, marketers can focus on maintaining a positive online presence and engaging in transparent communication regarding sustainability efforts. Hence, if companies would like to enhance their customers' inclination to buy green products, they need to elevate their green brand image through green brand associations. By integrating these insights, this research aims to provide a nuanced understanding of the dynamics between green brand image, consumer attitudes, and purchase intentions, offering strategic directions for businesses aiming to enhance their appeal to environmentally conscious consumers.

Consumer attitude toward a logo, especially when associated with an eco-friendly or sustainable food brand, plays a crucial role in the purchase decision (Bossel et al., 2019). This relationship between overall attitude toward green food products and their intention to purchase environment-friendly food items is an area of research that has already been explored by researchers (Septianto & Paramita, 2021). This concept is grounded in the understanding that a logo is not merely a visual symbol but a tool that conveys the brand's values and ethos. A favourable attitude toward a logo strengthens the impact of a brand's

overall image on purchase intentions. Logos serve as visual signals that provide direction to consumer perceptions and strengthen brand identity (Keller, 1993). In this context, a logo becomes a visual identity for the brand's commitment to sustainability and environmental responsibility, acting as a key influencer in the consumer decision-making process. The journey of a logo and its visual elements, as perceived and interpreted by a customer, shape their attitude towards the brand (Adir et al., 2015). Based on the discussion and statistical validation, the hypothesis (H_07) confirmed the moderating effect of attitude towards the logo on the relationship between attitude and intention towards eco-labelled food products. The results of the study are corroborated by the previous findings, emphasising the role of visuals in affecting customer attitude and behavioural intention (Park et al., 2013; Lieven et al., 2015; Huang et al., 2021; Peng et al., 2022; Peng et al., 2023). This indicates that when consumers have a positive perception of a brand's logo, this positivity extends to the brand itself, enhancing the likelihood of purchasing its eco-labelled products. A well-designed logo that resonates with pro-environmental values can serve as a critical touchpoint for consumers, further reinforce the brand's green credentials, and facilitate a stronger connection with millennials.

Moreover, in the digital age, where visual communication is paramount, the role of logos in online marketing and social media branding is increasingly important. Brands must ensure that their logos are not only visually appealing but also align with and effectively communicate their commitment to sustainability. In addition, to serve millennials as a target segment, the brand should involve thoughtful design choices that reflect eco-friendliness and sustainable design practices. By strategically leveraging the power of logos, food brands can significantly enhance their market presence and appeal to millennials.

Research Question 3: What is the extent of the intention-behaviour gap concerning the purchase of eco-labelled food products, and what are the moderating effects of green trust, rewards, and institutional roles?

To address this question, quantitative analysis was conducted to examine the proposed model and hypothesised relationships through SEM-PLS. The results revealed the significance of the rewards process and institutional role as moderators between intention and purchase behaviour. However, the study failed to establish the significance of trust as a moderator. The results of this study revealed that hypothesis H_08 was rejected, and H_09 and H_010 were accepted.

The hypothesis (H_08) revealed that the association between attitude and the intention to purchase eco-labelled food products remains stable, unaffected by varying levels of trust. This finding suggested that in the context of eco-labelled food products, consumers' purchasing decisions are driven by their attitudes towards the products rather than their trust in the brands. In simpler terms, the study indicates that trust does not significantly influence the strength or direction of the relationship between attitude and purchase intention. This could imply that for eco-labelled food products, the products' intrinsic appeal and perceived benefits are more influential than the consumer's trust in the brand. The study results find its corroboration with previous research (Zaidi et al., 2019; Tarabieh, 2021; Mabkhot, 2024). However, this finding stands in contrast to most of the previous studies (Chiu et al., 2012; Dost et al., 2015; Rehman et al., 2019; Deng & Yang, 2022), which have highlighted that trust plays a vital role in the link between attitude and behaviour (Shah et al., 2023). These studies suggest that in many consumer contexts, trust significantly influences how consumers feel about a product and their consequent actions (Haq et al., 2023).

This inconsistency can be attributed to the unique nature of eco-labelled products, where environmental concerns and personal values may dominate the usual trust considerations. The current study's divergence from previous research raises interesting questions about the specific factors driving consumer behaviour in eco-labelled food purchases. Interestingly, consumer trust is negatively associated with green-washing practices (Tarabieh, 2021). So, it can also be one of the reasons that consumer trust failed to establish itself as a mediator. It suggested that while trust is a crucial element in many consumer-brand relationships, its role may be more complex in the context of green

purchase decisions. This finding could imply that marketers of eco-labelled products should focus more on highlighting the environmental and personal benefits of their products rather than just relying on building brand trust.

Additionally, this revelation opens further avenues for research to explore the nuanced ways in which trust interacts with other factors in influencing consumer behaviour, especially in sectors characterised by ethical and environmental considerations. An understanding of these dynamics can provide deeper insights into consumer psychology and help food brands develop more effective strategies for millennials in the rapidly growing market for sustainable and eco-friendly products.

External rewards, like coupons or discounts, play a vital role in bridging the price gap for consumers, making both traditional and eco-friendly products more attractive choices (Pham et al., 2021). Previous research suggests a limited link between intrinsic motivation and eco-friendly purchases; other studies highlight the significant influence of external motivation in the form of rewards as a crucial factor in driving sustainable consumer behaviour (Duong et al., 2023). This insight is crucial in understanding consumer behaviour, especially in eco-labelled food products, where personal recommendations and shared experiences play a pivotal role in influencing purchasing decisions. In the case of millennials, this holds multi-fold value as referral rewards significantly impact loyalty (Zhang et al., 2019). Reward processes in referral programs not only incentivise the act of recommending but also strengthen the recommender's positive associations with the brand or product. In eco-labelled products, where ethical and environmental factors are key purchasing drivers, such rewards can further validate the recommender's choice to support sustainable brands, enhancing their loyalty and advocacy.

Based on these understandings, the hypothesis (H_09) found a moderation effect of the reward process between the intention and behaviour towards purchasing eco-labelled food products. This implies that when consumers are part of a reward-based referral program, their intent to buy eco-labelled products is more likely to translate into actual purchasing behaviour, thereby finding its similarity with previous scholarly research (Jin,

2014; Zhang, 2019; Kuang, 2021). The reason behind the significant role of rewards as moderators is twofold. First, the reward reinforces the positive attitude towards the brand and provides a solid base for a firm intention. Secondly, it strengthens the connection between the brand and the consumer and further helps bridge the gap between intention and actual behaviour.

Furthermore, this finding highlights the effectiveness of extrinsic motivation in the form of monetary rewards in enhancing the adoption of eco-labelled products. By integrating reward systems into marketing strategies, brands can leverage the power of word of mouth. Such strategies are particularly effective in the context of millennials as they are driven by values and the desire to make a positive impact (Patel et al., 2021). Current research contributes to the growing body of knowledge on the dynamics of consumer behaviour towards eco-labelled foods, suggesting that reward-based referral programs can be a powerful tool in strengthening millennials' positive attitudes and intentions and influencing actual purchasing behaviours.

A robust regulatory environment is crucial for achieving sustainable development and environmental well-being. To accomplish sustainable growth of green practices, an institution that promotes resource efficiency and fulfils required conditions is needed (Ahmed et al., 2022). Regulations and institutional quality are key factors affecting economic growth (Williamson, 1989). Institutions' responsible certification mechanisms drive consumer trust, which steers purchasing patterns towards environmentally conscious options (Saidi, 2022). Building on these theoretical foundations, this research investigated the moderating effects of these external pressures on consumer behaviour, particularly in the context of eco-labelled food products. The hypothesis, $H_0 10$, found that these external pressures, including regulatory frameworks and competitive dynamics, influence consumer behaviour. This suggests that when companies adopt green manufacturing practices under these pressures, their operational processes are affected, and consumer perceptions and purchase intentions are positively impacted. In line with previous findings (Bansal, 2005; Young et al., 2010; Ahmed et al., 2022; Xu et al., 2023), the result is significant as it highlights the interconnectedness of organisational practices and consumer behaviour in

environmental sustainability. It further resonates that consumers are responsive to the efforts made by companies in adopting green practices. This insight is crucial for marketers as it highlights the importance of compliance in enhancing brand image and appeal. This study contributes to understanding how external pressures on organisations, specifically in the context of green practices, indirectly influence behaviour towards eco-labelled food products.

Research Question 4: How does the level of choice difficulty and uncertainty affect consumers' buying behaviour of eco-labelled food products?

The analysis revealed the role of choice difficulty and choice uncertainty in the purchase of eco-labelled foods. Though the choice difficulty and choice uncertainty act as constraints, the study revealed their importance as they contribute to product variety and product assortment. The proposed model and hypothesized relationships were rejected using structural equation modelling in Smart PLS, thereby providing vital insights into the research's objective. The findings rejected the hypothesis as choice uncertainty and choice difficulty were found to impact purchase decisions.

Consumer behaviour towards green products has seen a significant shift in recent years. Many food buyers are becoming more conscious of their consumption habits. This trend can be witnessed more amongst young consumers as they are increasingly inclined towards eco-friendly choices (Khare et al., 2020). The change in consumer behaviour is acting as a firm base for green marketers to adopt more sustainable practices. As a result, more offerings are disposed towards environment conservation and sustainability. Due to the varied nature of eco-labels, consumers find it difficult to perceive product greenness directly (Duckworth et al., 2022). With numerous manufacturers in the market labelling their food products with eco-friendly claims, trusting the quality of the product is a huge task for consumers (Gao & Wei, 2023). Previous literature has emphasised product and product fit uncertainty that impacts consumer behaviour (Chen, 2020). Consumers' choice uncertainty is associated with greenwashing, where marketing dominates actual environmental impact. Results also indicate that consumers lack access to clear,

standardised metrics to compare products, and interpreting terms like "eco-friendly" or "natural" requires significant effort. Also, the volume of green options in the food category creates information overload, making it time-consuming and adding to their choice uncertainty. The hypothesis (H_011) builds upon this understanding and explores the relationship between choice uncertainty and eco-labelled food product purchase behaviour. Results revealed that choice uncertainty positively affects the purchasing behaviour for eco-labelled food products, corroborating the claims of previous studies (Okada, 2010; Chen, 2020). Study revealed an interesting aspect associated with green purchase behaviour. When faced with uncertainty, consumers committed to eco-friendly choices are more inclined to collect information regarding eco-labelled products and evaluate them as safer or more reliable choices during ambiguity. Therefore, to reduce uncertainty, consumers focus more on pre-purchase planning and seeking additional information (Wang, 2017).

This finding is essential for marketers to have clear, transparent, and direct communication about the environmental benefits of eco-labelled products. This insight further suggests that there is an opportunity for brands to educate consumers about eco-labelled products, including their environmental impact, production processes, and benefits. The significance of the relationship further depicts that if buyers are well-informed about their preferences but cannot associate the attributes with their preferences, it leads to uncertainty (Chen, 2020). Marketers can leverage educational efforts to build consumer trust and loyalty, mitigating choice uncertainty's impact.

Customers often find themselves in a state of confusion when they have to decide on several product options (Pappas, 2017). In the case of challenging choices, the relationship between choice difficulty and consumer purchase behaviour was found to be significant (Barta et al., 2023). This understanding is crucial in the context of eco-labelled products, where consumers often face a range of choices and claims. Building upon this foundation, the hypothesis (H_012) examined how choice difficulty impacts eco-labelled purchase behaviour. Current research discovered that choice difficulty has a significant

impact on purchase behaviour, influencing the likelihood of consumers engaging with eco-friendly products.

However, it is widely argued that too much choice brings complexity, which is further influenced by the number of other features of the choice set (Greifeneder et al., 2010). Moreover, more choices might lead to a decrease in purchases, but research has contended the role of variety-seeking behaviour of consumers determines the role of choice difficulty in purchase behaviour (Greifeneder et al., 2010). Furthermore, businesses are motivated by profit, and they aim to expand their offerings by providing customers with variety. However, researchers have claimed that increased options can lead to hindrance of purchases (Iyengar & Lepper, 2000). Contradicting the claim of hindrance in purchase decisions, Bech (2011) revealed that consumers can manage different choice sets effectively. The study findings are relevant in the context of millennials as the group is known for variety-seeking (Hanifawati et al., 2021). This implies that although bigger choice sets create difficulty for consumers, they are able to navigate through it.

The implications of these findings are relevant for marketers and policymakers aiming to promote eco-friendly products to millennials. By recognising the challenges that millennials face in making choices among eco-labelled products, strategies can be developed to simplify the decision-making process. This includes streamlining product information, providing clear and concise labelling, and offering comparative guides that help consumers easily assess the environmental impact of their choices. Moreover, factors such as the choice sets of almost similar products and the use of technical jargon in product descriptions can have a negative impact on the consumer experience. Simplifying these aspects can reduce cognitive overload, thereby making it easier for consumers to process information and arrive at a decision. Therefore, the approach revealed by this research will not only benefit the environment but also align with the growing consumer demand for transparent, simple, and meaningful choices in their journey towards a more sustainable lifestyle.

5.3 Theoretical Contributions

This research provides valuable insights that can empower marketers and policymakers in India to effectively promote sustainable behaviours among millennials. In the context of green consumerism, this study has attempted to provide several significant contributions and has real-world applications. The research is one of its kind, focused on the attributes of behavioural reasoning theory that underlines how BRT attributes and other extrinsic factors affect consumer decisions towards eco-labelled food purchases. While most research on green consumerism is dedicated to uncovering intrinsic factors in green products and sustainability, little attention has been paid to extrinsic attributes, which play an important role in purchase decisions. As a result, this study adds to the current literature by identifying external factors impacting millennials' purchase decisions. Additionally, most scholarly studies have adopted a general approach across various categories of products and services. This research has uncovered the vital aspects of consumer behaviour associated with eco-labelled food purchases. Second, prior studies on green product adoption have mainly focused on acceptance levels and ignored its operational aspects. Most scholarly studies have adopted models like TRA, TPB, and SDT, but these models cannot measure the role of market-based factors. The research, therefore, contributes to the theory by enhancing the understanding of market-related factors that impact green buying behaviours. Additionally, the study contributes to the theory by uncovering the bigger role of attitude in the green purchase milieu. While attitude has already been tested, this study attempted to reveal how the attitude towards tangible aspects of a green product directly influences overall attitude development.

Nevertheless, the research found the moderating role of logos, rewards and the role of institutions in determining eco-labelled food product purchases. The study adds to the theory by establishing the role of institutions in regulating sustainable development. This work converges on the premise that institutional pressures narrow the intention-behaviour gap that frequently characterises consumer interactions with eco-labelled foods.

5.4   Managerial implications of the study

The findings of this study indicate that customers' attitudes are significantly influenced by their environmental concerns, the credibility of ecolabels, their knowledge about sustainability, and the green image of a brand. These insights offer valuable guidance for businesses seeking to penetrate the growing green consumer market. Companies can leverage these findings across stages, such as product development, communication, and product extension. Specifically, the study suggests framing detailed tactics to foster millennials' green attitudes. Marketers should identify the relevant traits and attitudes highlighted in this research and address these concerns through targeted marketing campaigns. Furthermore, analysis revealed that consumers have a positive attitude towards eco-labelled foods when the information on eco-label credibility and other aspects is presented clearly. Eco-labels can be most effective when the information is clear, concise, and easy for consumers to understand. Hence, product packaging and other supplementary information should be concise.

In addition, past experience was found to significantly impact attitude of millennials. As an antecedent of attitude, previous experience associated with green product purchase is substantial. It holds the pre-purchase, during a purchase and post purchase experience of the consumers. Specifically, from millennials point of view, any deviation from the promised product associated characteristics, availability, delivery or its quality would lead to a greater dissatisfaction. The dissatisfaction could further amplify if brand fails to address the issues in the experience. Marketers should keep a close watch on feedback and suggestions to prevent customer churn and drive loyalty. This research further revealed that unlike previous generations, millennials value those brands that speak their language with a consistent voice across all interactions. Marketers should prioritize transparency and genuine communication to avoid any backlash from experience-centric generation like millenials.

From a business perspective, it is crucial to capitalise on consumers' prioritisation of health. Firms can adopt communication strategies that promote health while emphasising the importance of environmental protection. As millennials are health-

conscious, marketers can present green consumption as a critical method of enhancing personal health. This health-centric approach can be a dominant theme for future millennial marketing strategies. Given millennials' prevalent use of social media, marketers can utilise these platforms to make green products more appealing to millennials' consideration set. Actively engaging with reviews, especially negative ones, can help reduce uncertainty for potential customers. Businesses can build trust and encourage green product adoption by addressing concerns and fostering open communication.

Furthermore, the study provides a novel understanding of choice difficulty and uncertainty, emphasising the need for clear branding and crisp communication when targeting millennials. This understanding is based on the observation that millennials often find it challenging to navigate the vast array of eco-labelled food products in the market, leading to decision unresponsiveness. Marketers can create well-defined choice sets to facilitate millennials' decision-making regarding eco-labelled foods. Simplifying the decision-making process and reducing choice overload could enable millennials to choose sustainable products confidently. The study emphasizes the importance of continuous awareness about the environmental impacts of consumer choices. Through relevant content covering themes on: environment, food ingredients, labelling and rewards, marketers can make effective use of millennials centric platforms like podcasts, blogs, webinars, and social media. By employing youth role models from sports or entertainment, businesses can enhance consumer knowledge and reinforce the importance of sustainable practices. Interestingly, study results point that awareness regarding role and coverage of eco-labels hold key for millennials. Marketers can also leverage the impact of micro-influencers in disseminating relevant information as millennials consider these influencers as a part of society and aspire to become one of these influencers. This approach focused on content, platform and right person can boost the perceived credibility of the brand and holds a strong tendency to empower consumers to make informed choices that align with their environmental values.

Moreover, collaborations with influencers and environmentally-conscious celebrities can amplify the reach and impact of green marketing campaigns. These

partnerships involve influencers and celebrities known for their environmental activism or lifestyle choices that align with sustainability. Marketers can effectively communicate the benefits of green products making them more relatable and desirable. These partnerships can also address misconceptions and provide authentic testimonials about the effectiveness and advantages of eco-labelled products. Lastly, the research implications provide a comprehensive understanding of the factors influencing consumer behaviour in the eco-labelled food product market. The study emphasises the need for credibility, knowledge, effective communication, strong branding, and the simplification of choice in guiding consumer decisions. Businesses can enhance their success by incorporating these insights into their marketing strategies. Results can help to improve their overall effectiveness and reach a wider audience. It can effectively engage with the environmentally-conscious millennial demographics and drive the adoption of sustainable consumption habits, making a significant positive environmental impact. Incorporating educational initiatives and strategic influencer partnerships further enhances the potential for a positive environmental impact, making green products a staple in consumers' daily lives.

5.5 Limitations, Future Scope and Prospects for Research

This study is subject to certain limitations. The research focuses explicitly on Indian millennials purchasing eco-labelled food products. This limits the generalizability of the findings to other countries or demographics. Consumer preferences and behaviours concerning eco-labels can vary significantly across cultures, age groups, and other food categories. Future research could encompass a broader range of demographics to expand the scope of generalising study results. Secondly, the study employs a cross-sectional design, making it difficult to establish cause-and-effect relationships. Future research could incorporate longitudinal studies that track participants over time to provide more substantial evidence for cause-and-effect relationships.

Third, while the study effectively explores several key factors influencing consumer attitudes and behaviours toward eco-labelled food products, it does not encompass all possible variables. Consumer choices are multidimensional and are influenced by several factors, which this study ignores. Future research should investigate

these additional factors to understand consumer decision-making comprehensively. Fourth, the study concentrates on a specific set of hypotheses., and fails to include other unexplored variables or interaction effects that could significantly influence the relationships between attitudes, intentions, and behaviours. Future research could broaden the scope to include these additional variables and interactions, uncovering new insights into consumer behaviour in the eco-labelled food products sector. Future studies can also benefit from exploring new dimensions or adapting existing theories to align with green consumerism.

5.5 Conclusion

Environmental sustainability has become a crucial concern for numerous millennials, who are showing a growing preference for purchasing eco-labelled products. The primary objective of this study is to gain insights into millennials' attitudes and behaviours regarding eco-labelled food products. This study offers new insights into the complex interaction of factors influencing sustainable consumption choices, highlighting the critical roles of ecolabel credibility, past experiences, environmental knowledge, effective communication, and branding in shaping consumer attitudes and intentions. This stresses on millennials' pivotal role in shaping sustainable consumption's future. Study findings highlighted the presence of care about the environment and social issues in millennials. Since, millennials are inclined towards environmental conservation, issues like climate change are at the center of their concern and they want to fix these issues through their actions.

The study also highlights the moderating influence of factors such as brand attachment, green brand image, logo attitudes, trust, institutional role and referral rewards. It sheds light on the impact of external factors, such as regulations and competitive forces, on marketing strategies. Furthermore, the research emphasises the importance of dealing with this issue. Choice uncertainty and difficulty, offering practical implications for marketers and policymakers.

The research findings contribute significantly to the existing understanding of ecolabel adoption and also highlight the need for continued exploration of various aspects

of consumer decision-making. This study delves into the motivation behind green product purchases, offering valuable insights for businesses aiming to position their offerings for millennials. By focusing on the elements that influence consumer attitudes and intentions, organisations can create a robust foundation for sustained customer loyalty, which is rare among millennials. To achieve this, marketers should focus on fundamental strategies that drive growth and stimulate the purchase behaviours of young consumers.

Moreover, the research highlights the significance of transparency. Authenticity in branding makes millennials more likely to support brands aligning with their values. Millennials put a high value on the social and environmental impact of their purchases and are willing to pay a premium for products they perceive as genuinely sustainable. Thus, companies should build trust and demonstrate their commitment to sustainability through credible certifications and straightforward, honest communication. This emphasis on transparency and authenticity fosters trust and enhances the brand's credibility, making it more appealing to the environmentally-conscious generation. As digital natives, millennials are highly engaged with social media and online communities, where they seek advice and reviews from their peers. Brands leveraging these platforms can enhance their visibility and credibility among millennials. Furthermore, brands need to enhance their whole experience while they market to millennials. In case of stores, the ambience and assortment should be attractive along with a reliable and experience website. To appeal Gen Y, marketers should make use of both physical and digital options. Study results further reiterate that millennials are a significant group of informed eaters, and they get their food information from variety of sources. They consider social media and peer recommendations as primary basis of trusted information. Millennials also read labels, therefore, marketers should highlight specific ingredients with health benefits to build trust.

Finally, the study successfully identifies the key drivers of millennials' eco-labelled food product purchases. Governments, organisations, and marketing agencies can employ the study findings to design effective methods to raise general awareness and diffuse eco-labelled foods, ultimately fostering a more environmentally conscious society that embraces sustainable consumption. The insights obtained from this research can help the

development of targeted marketing campaigns, educational programs, and policy initiatives that encourage sustainable practices and support the growth of the green economy.

In conclusion, this study comprehensively analyses the factors influencing millennials' adoption of eco-labelled food products. It provides valuable guidance for businesses, marketers, and policymakers aiming to promote sustainable consumption and build a loyal customer base among environmentally conscious consumers. As the demand for eco-friendly products grows, understanding and addressing millennials' unique preferences and motivations will be crucial for driving long-term success in the green market.

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Annexure-I

Questionnaire

Examining the antecedents of GenY's purchase intentions and consequent consumption behaviour towards eco-labelled food products

I am Deeksha Sharma, currently pursuing a doctoral program from Lovely Professional University, Phagwara India, conducting a survey on "Examining the antecedents of GenY's purchase intentions and consequent consumption behaviour towards eco-labelled food products". Purpose of this study is to analyse the consumption behaviour pertaining to ecolabels in India. The proposed theoretical model for purchase behaviour of eco-labels will be validated using survey research. The interplay of factors will be employed to determine purchase intentions and behaviour towards eco-labelled food product purchases. This questionnaire is part of a larger study that is being carried out for academic purposes. I would like to invite you to take part in this research by filling out a questionnaire. I request that you take a few minutes of your time to respond to the questions in the questionnaire. I greatly appreciate your assistance, and I assure you that any information you provide will be treated confidentially and used solely for academic purposes.

Demographics Details

1. Age

- 26 to 30 ( )
- 31 to 35 ( )
- 36 to 40 ( )
- 41 to 45 ( )

2. City

- Ludhiana ( )
- Amritsar ( )
- Gurdaspur ( )
- Jalandhar ( )

- Kangra ( )
- Mandi ( )
- Shimla ( )
- Solan ( )
- Faridabad ( )
- Hisar ( )
- Bhiwani ( )
- Gurgaon ( )
- Chandigarh ( )
- Delhi NCR ( )

3. Gender

- Male ( )
- Female ( )
- Transgender ( )

4. Education Qualification

- Graduate ( )
- Post Graduate and Above ( )

5. Profession

- Service ( )
- Student ( )
- Housewife ( )
- Self- Employed ( )

Please indicate your level of agreement or disagreement with each of the following statements, where (1) Strongly Disagree; (2) Disagree; (3) Neither Agree nor Disagree; (4) Agree; (5) Strongly Agree

Attitude	1	2	3	4	5
1. I am positive towards the use of eco-labelled food products.					
2. Eco labelled food products are good for the environment.					
3. I like the idea of purchasing eco-labelled food products.					
4. I have a favourable attitude toward purchasing an eco-labelled food product.					

5. Given a choice, I will prefer an eco-labelled product over a conventional one.					
Perceived Credibility	**1**	**2**	**3**	**4**	**5**
1. I believe products endorsed by eco-labels comply with quality environmental standards.					
2. Eco-labels are a reliable source of information about the environmental quality and performance of a product.					
3. Eco-labels are genuinely committed to environmental protection.					
4. I think most of what eco-labels claim about a product is true.					
5. I believe food eco-labels are true to their environment friendly claims.					
Brand Green Image	**1**	**2**	**3**	**4**	**5**
1. I think eco-labelled food products support sustainable development.					
2. The image of eco labelled food products is superior and true as per the claims.					
3. I have the impression that eco labelled food products are great source for environmental protection.					
4. I prefer to give positive feedback on eco labelled food products.					
5. I believe eco-labelled food products are produced in a socially conscious way.					
Green Brand Attachment	**1**	**2**	**3**	**4**	**5**
1. I think eco labelled food products match well with my personality.					
2. I feel personally connected to eco-labelled food products.					
3. I am emotionally bonded to eco-labelled food brands.					
4. I have different thoughts and beliefs about eco-labelled food products					
5. Feeling towards eco-labelled products comes to my mind so naturally and instantly that I can't resist buying them.					
Attitude towards Logo	**1**	**2**	**3**	**4**	**5**
1. I think a food product with an ecolabel logo ensures its right selection					
2. I believe in purchasing a product with an ecolabel logo is important.					
3. I think purchasing of food product having an eco-labelled logo reflects a wise decision.					
4. I prioritize purchase of food product with an ecolabel logo.					
5. I believe food product carrying an ecolabel can be trusted.					
Green Trust	**1**	**2**	**3**	**4**	**5**
1. I have a firm belief about the benefits of eco-labelled products.					
2. Eco-labelled food product hold integrity and commitment towards environment					
3. Environment protection can be ensured if consumption of eco-labelled product increases.					
4. Eco labelled products can contribute in reducing environment degradation.					
5. Eco-labelled products are true to their environment friendly claims					
Green Communication	**1**	**2**	**3**	**4**	**5**

1. I believe green communication involving sustainability, ecofriendly nature of products affects consumer response.					
2. I think an effective communication should provide an opportunity for customers to give feedback about eco-labelled products.					
3. The content of messages conveyed by eco-labelled food brands are effective in developing awareness.					
4. The initiatives taken by eco-labelled brands are understood properly by the customers.					
5. I clearly understand the intentions of eco-label brands using the verbal messages through packaging, websites, newsletters, social media etc.					
Past Green Experience	**1**	**2**	**3**	**4**	**5**
1. I am proficient in purchasing green products.					
2. I always identify green products with ease and convenience either online or offline.					
3. I usually repurchase green products because I consider the price charged in each purchase was a fair offer.					
4. In relation to the last purchase of green products, the benefit offered by the product was a decisive factor for the repurchase.					
5. My experience of using green products matches equally with my expectations.					
Green Environment Knowledge	**1**	**2**	**3**	**4**	**5**
1. I am familiar about emerging environmental issues linked to food products.					
2. I am aware that food product manufacturing has a negative impact on the environment.					
3. Compared to an average person, I am more familiar with environment related issues					
4. I know how to select products that are less harmful for the nature.					
Reward Process	**1**	**2**	**3**	**4**	**5**
1. I feel rewarded every time when purchase eco-labelled products.					
2. Most of my eco-labelled purchases come with a reward.					
3. The rewards that I receive for a purchase carry a high cash value					
4. I believe I am being rewarded in equal proportion of the amount I spend in buying eco-labelled food products					
Institutional role	**1**	**2**	**3**	**4**	**5**
1. I believe that regulatory norms in the country encourage the use of eco-labelled food product.					
2. I believe I am being rewarded in equal proportion of the amount I spend in buying eco-labelled food products.					
3. I think firms involved in manufacturing of eco-labelled food products always act with the highest level of ethical standards.					
4. A firm with eco-labels strengthen the organization position toward innovation and creative processes.					

	1	2	3	4	5
5. It really pleases me to find out that a firm I buy from follows the perceived norms and regulations.					
6. I think firms which are socially and environmentally responsible should be given more incentives.					
Choice Uncertainty	**1**	**2**	**3**	**4**	**5**
1. I have enough information about eco-labelled food products available in the market.					
2. I am aware about ingredients and quality of eco-labelled food products that I purchase.					
3. I am able to compare performance of different eco-label brands.					
4. I visit more than one store/website/app before purchasing an eco-labelled food product.					
Choice Difficulty	**1**	**2**	**3**	**4**	**5**
1. I feel confident about what to choose amongst eco-labelled food products					
2. I know the benefits of each option available while selecting eco-labelled food products.					
3. I always make an informed choice while selecting eco-labelled food products.					
4. The selection of eco-labelled purchases reflects my commitment to environment protection.					
Purchase Intention	**1**	**2**	**3**	**4**	**5**
1. I would consider buying Ecolabels in the near future.					
2. The probability that I would buy eco labelled food products is high					
3. I am determined to prioritize the purchase of eco-labelled food products.					
4. I have got firm intention to buy products which carry an eco-label.					
Purchase Behaviour	**1**	**2**	**3**	**4**	**5**
1. I have been purchasing eco labelled food products on regular basis.					
2. I carry a strong inclination towards the purchase of eco labels for my daily needs.					
3. I would buy eco-labelled food products regardless of their price.					
4. I will make special efforts to buy eco-labelled food product.					