"The Impact of Eco-Certifications on Consumer Trust and Purchase Behaviour in Social Commerce"

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Introduction

In recent years, there has been notable global growth in the number of sustainability certificates. According to the International Institute for Sustainable Development (IISD), there are already more than 400 sustainability certifications in existence across a wide range of companies, products, and sectors, including energy and the environment, food and agriculture, health and safety, and social responsibility. An increasing number of businesses and organizations are pursuing certification as a way to demonstrate their dedication to sustainable practices, standards, and benchmarks and set themselves apart in the marketplace. This increase in certifications may be ascribed to the public's rising understanding of the significance of sustainability. As essential instruments for evaluating quality and proving proficiency, certifications are frequently granted through external assessments or endorsements from respectable certifying bodies or systems. By supporting expert evaluations of standard quality, these systems provide easier market navigation and better decision-making for consumers and purchasers. A person or organization's conformity with particular standards, laws, or requirements set by reputable third parties can be attested to by formal certificates or credentials known as certifications. These can be given to people, goods, services, or organizations. Independent groups, government bodies, or professional associations usually create and manage them. Programs for certification may combine instruction, assessment, and testing to make sure all requirements are satisfied.

There are several worldwide certifications for sustainability, such as the LEED certification, which was created by the US Green Building Council and assesses the sustainability of residences, buildings, and communities. A product's socially and ecologically responsible production and trading, as well as the payment of fair wages to workers, are attested to by the Fair-trading certification (Whelan and Kronthal-Sacco, 2019). According to Denison (2014), the Forest Stewardship Council (FSC) accreditation attests to the fact that wood and paper

products come from ethically managed forests. The Organic certification, which confirms that food and agricultural products have been produced using organic farming practices that prioritize environmental sustainability, animal welfare, and human health, is one of several certification programs used in the organic food industry (Denison, 2014). The international system of standards for the globe is composed of the International Electrotechnical Commission (IEC) and the International Organization for Standardization (ISO). ISO/TS 17033, which outlines globally accepted methods to produce a valid ethical claim for products, is one example of an ISO sustainability certification (Villena and Gioia, 2020). In general, certificates are essential for setting and upholding industry standards and encouraging environmentally friendly behaviour. The Leadership in Energy and Environmental Design (LEED) program is one illustration of this trend; from a small number of certified buildings in 2000 to over 100,000 in 2021, the number of certified buildings globally has increased. The Fair-Trade certification is another that has grown quickly; in 2019, over 30,000 items were certified, compared to just a few hundred in the early 2000s. New sustainability certifications are also being developed to target certain concerns and sectors. Since its establishment in 2006, the Global Organic Textile Standard (GOTS) has certified textile goods made of organic fibers and guaranteed their sustainability in terms of both the environment and society.

The goal of the study is to determine the market's purpose for eco-labels and assess their use for customers. Understanding the function of eco-labels in the context of green marketing will be made easier by the study's findings. Despite the fact that eco-labels have been the subject of several studies, relatively few of them are accessible in India. The research methodology used in the study is packed with five elements: information transmission, the eco-label, and fostering knowledge, trust, and purchasing intention. The writers examined the body of literature already in existence in order to solve the research challenge and acquired data that would be useful for this investigation. The study was carried out in the Indian setting and may be useful in determining the importance of eco-labelling in the domestic market.

This study looks at how consumers and businesses are affected by eco-labels and the need for them to be carried. Consumer tastes have shifted toward more environmentally and morally friendly items as worries about sustainability have grown. The number of eco-labels and associated certification bodies has increased along with the demand for certified products, which is clearly changing. Studies indicate that businesses may not always adhere to label requirements, but they do use eco certifications for marketing and sales purposes. Consumers grew more confused and began to lose faith in labels as eco-labels increased in number but never in clarity.

Literature review:

Consumer product labeling is an idea that has been around for a while. President Theodore Roosevelt signed the Pure Food and Drug Act, sometimes known as the Wiley Act, into law on June 30, 1906, marking the beginning of food product safety in the United States (FDA 2008). The restrictions pertaining to food and medication items were expanded by Congress when they created the Consumer Product Safety Commission (CPSC) labeling

standards, which are outlined in 16 CFR 1500 et seq. All acute and long-term health risks connected to the different chemicals used in household products must be disclosed on these labels, which are applicable to goods that are directly marketed to consumers as well as goods where it is reasonably foreseeable that they may wind up in the hands of general consumers (Wagner 2001).

According to cataloguer Ecolabelindex.com (2010), there are already more than 300 ecolabels. Label competition has both advantages and disadvantages. While it can push performance standards, it also often leaves customers perplexed, leaving them to question which is more important—local or organic, recycled or recyclable. Little study has been done on ecolabel design to far, and much less is known about the factors that influence a label's market penetration and sales of related products. Gallastegui (2002) points out that a thorough study of the issues facing label design is absent from the available literature.

Inefficiencies will result from increased lack of coordination, redundant work, and linguistic uncertainty, as in any developing business (Olsen and Galimidi 2008). One important conclusion from a research looking at impact measuring methods in private enterprises was that there was no one measurement that could be used to solve all problems. Instead, strategies must be customized to fit the demands of every investor and their own "impact profile." In order to accomplish this effectively, the investor will determine the relevant metrics by taking into account their level of risk tolerance, desired financial return, the industry in which they operate, geography, and the degree of credibility of the impact information they require (Olsen and Galimidi 2008).

The United States and Europe began to concentrate on greening industry in 1970, enforcing stringent regulations and establishing organizations like the Environmental Protection Agency (EPA). Green consumerism and green political power elevated the voice because of popular concern. The business's greening and transformation into "green marketing" were sparked by these factors including investors, workers, and management (Lampe and Gazda, 1995). There are three stages to green marketing. The first is ecological marketing, which emphasizes ecological issues and their fixes. In order to lessen environmental issues, clean technology, innovation, and innovative design are the main topics of the second phase of environmental marketing. Phase three, which began in 1990 and centres on sustainability problems, is known as sustainable green marketing (Peattie, 2001). Three stages of green marketing might take place in an organization, according to Menon and Menon's 1997 proposal: strategic, quasi-strategic, and tactical. Under strategic greening, the entire corporate concept is fundamentally changed, while under quasi-strategic greening, the firm is much greener in terms of water conservation. When resources are scarce, such as during a drought, organizations like water authorities may concentrate more on conserving them. This is how tactical green marketing initiatives operate (Polonsky and Rosenberger, 2001). Environmental issues have grown in importance over the past few decades, both in the public and scientific domains (Rahbar and Wahid, 2011). It is evident that ecological issues are becoming more and more significant on a political and economic level on a worldwide scale (Blenda and Valente, 2009). The government's push to go green and the shifting requirements, wants, and demands of customers toward a more environmentally friendly lifestyle have made the environment the top issue in today's corporate sector (Polonsky and Rosenberger, 2001; Singh et al., 2011). Businesses may get a competitive edge by implementing green methods, and they can also comply with government regulations and stringent guidelines (Cronin et al., 2011).

One important instrument for green marketing is the eco-label (Rex and Baumann, 2007). The government introduced the Blue Angel eco-label in 1977, which had an impact on commerce during that time.(Bleda and Valente, 2009; Blumenfeld and Gilbert, 1990).Blue Angel, a German eco-label that has been utilized by several nations, was the oldest and arguably the most trustworthy (Simi, 2009; Bleda and Valente, 2009). The Blue Angel standard was determined by a panel of government representatives, industry associations, consumers, and environmental specialists (San Diego Union, 1990). The green cross and green seal are the two main eco-labels used in the United States. Denis Hayes, the man behind the initial Earth Day celebration in 1990, funded the Green Seal program, which assesses products based on their impacts from "cradle to grave." Scientific Certification System, an independent business that validates the manufacturer's precise claims on goods and packaging, invented the green cross (Lampe and Gazda, 1995).Eco-labels can be classified into a variety of categories, such as required and optional. EU energy stars for home appliances are among the required eco-labels. Other International Organizations for Standardization (ISO) come under the optional eco-label category, which is further broken down into type I, type II, and type III eco-labelling schemes (Rubik et al., 2005; Simi, 2009). The information provided by an eco-label about a product's life cycle, which encompasses its creation, use, consumption, and disposal, is its intended use (Simi, 2009). "Eco-label helps in identification of the product or services which are environmentally preferable based on the life cycle concern," according to Global Eco-labelling Network (2011) (Bratt et al., 2011). Because eco-labels are a sign of a product's environmental quality, most consumers prefer eco-labeled products over unlabelled ones (Brecard, 2014). Several countries encountered trade hurdles related to eco-labeling since it is seen in many situations of international commerce that certain countries, especially those in Europe, prefer certain eco-labeled products for import (D'Souza, 2004; Greaker, 2006).

Rather than social indicators, environmental metrics dominate the landscape of sustainability labels. This aligns with the themes seen in supply chain management literature, which continues to prioritize environmental concerns. Integration of social measurements with the three pillars of sustainability is uncommon, as noted by Seuring and Muller (2008). This is perhaps because social dimensions of interest vary so much. Furthermore, no shared framework exists to create a library of social measurements akin to the natural scientific foundation for environmental metrics (Figge, Hahn, Schaltegger, and Wagner 2002). Future study will need to address the difficulty of establishing connections between integrated supply chain management and social metrics (Seuring and Muller 2007).

Despite the market for ecolabels expanding quickly over the past few decades, it is uncertain what the future trend will be. According to Kim and Mauborgne (1999), competitive convergence is the outcome of an industry-wide set of ideas on the identity and values of customers. Instead of aiming to carve up whole new markets, many businesses have concentrated their efforts on enhancing their competitive stance inside their respective industries. Profitable expansion cannot be sustained without ongoing changes in both new and existing markets, as successful businesses must understand (Kim and Mauborgne 1999). Naturally, any market will not suffice. Trends need to be irreversible, crucial for business, and have a defined direction in order to have the ability to build a new value curve (Kim and Mauborgne 1999).Although sustainability is undoubtedly important to

business and cannot be reversed, the direction of sustainability is uncertain due to a lack of legislation guiding emission reduction criteria and environmental impact reporting.

The majority of companies wish to assume the initiative. Their goal is to gain a competitive edge by integrating environmental considerations into their whole supply chains. They try to give it to their clients since they are aware that this is what they desire. This is the point at which the ecolabel system hits the scene. The issue then arises: which label should I select? Which standards and labelling work best? What aspects of their superiority—market share or environmental protection—combine? Standardization turns into the main problem. An ecolabel's quality is determined by the criteria it chooses. This serves as justification for further government control on labelling agencies (Sustainability: the Journal of Record, 2008). Greater cooperation is required on best practices, green technology transfer, and environmental performance measurement both inside and between enterprises, according to Srivastava (2007), regardless of whether the Federal Trade Commission becomes engaged in regulating environmental claims.

Some producers contend that although consumers may claim to be prepared to pay extra for environmentally friendly products, they seldom make the cut when it comes to cash register payments because of the premium cost of these items. Gallastegui (2002) acknowledges the mistrust around unsubstantiated and deceptive environmental promises in order to explain the discrepancy between what customers say they are ready to pay and what they actually spend. It follows that correct ecolabels can enhance information symmetry between producers and consumers, build consumer trust in environmental claims, and eventually raise real payment levels to reflect claimed willingness-to-pay.

Environmental performance should be a prerequisite for purchasing, but not a sufficient one, for the conscientious customer. According to Ottoman (1992), people buy functional things for functional purposes. This implies that if a laundry detergent is ineffective, it will never outperform another product, even if it is made entirely of biodegradable materials and has a very small carbon impact. No matter how environmentally friendly a product is, it will not succeed in the market if it cannot meet the demands of the consumer.

Not every product category is affected by eco-labels in the same way. When it comes to purchasing environmentally friendly products, four factors in particular influence consumption patterns: purchase visibility, consumption visibility, durability, and perishability. Ecolabels are especially important for consumer items that are non-durable, used often, and highly visible (Gallastegui 2002). Therefore, producing soft drinks with minimal impact on the environment ought to provide a greater competitive advantage than producing eco-friendly insulation.

Structured Equation Model

A Structured equation model created using AMOS was employed to examine the connections. Analysis was started by performing the CMIN. A model is considered well-fitted if its coefficient of determination (CMIN/df) < 5. The goodness of fit index, or(GFI), measures the percentage of variance and covariance that the model accounts for in comparison to the observed variance and covariance. A better fit is indicated by higher values.

Particulars	Percentage
Gender	
Male	62.5%
Female	37.5%
Age	
15-25	46.9%
25-35	43.8%
35 and above	9.3%
Educational background	
High School or below	16.5%
Bachelor's Degree	56.3%
Master's Degree	23.2%
Doctorate/Ph.D	4%
Employment Status:	
Self-employed	43.5%
Unemployed	14.3%
Student	40.8%
Retired	1.4%
Monthly household Income	
Below 7 lakhs	64.6%
Between 7-15 lakhs	25.4%
Between 15-25 lakh	10%
Above 25	0%

When assessing a model's goodness-of-fit in structural equation modeling (SEM), the Tucker-Lewis (1973) index (TLI) is frequently employed. By comparing the proposed model to a baseline model, the Tucker-Lewis Index (TLI), also called the Non-Normed Fit Index (NNFI), evaluates how well the model fits the observed data. The confirmatory fit index (CFI) should be > 0.90. an adequate fitting model was accepted if the AMOS computed value of the standardized root mean square residual (RMR) Represents the average difference between observed and model-implied correlations. Smaller values indicate better fit and its value should be < 0.05, and the root mean square error approximation (RMSEA) is between 0.05 and 0.08.

The model goodness was acceptable and is shown in Table 1.

Table 1.

Goodness of fit index	Model fit results
Chi-square statistic	1.317
df	214
GFI	.961
NFI	.933
CFI	.983
AGFI	.950
RMR	.126
RMSEA	.023

The study assessed the **Impact of Eco-Certifications on Consumer Trust and Purchase Behavior in Social Commerce.** In this paper, SEM technique was applied to verify the hypotheses formulated. All the model fit indices are found satisfactory with, df = 214 and CMIN/df = 1.317. Above table explains computed values of SEM model.The SEM model fit indices were computed and reported as, CFI = 0.983, RMSEA = 0.023, NFI = 0.933, GFI = 0.961, AGFI = 0.950, TLI = 0.980 and IFI = 0.983. indicating CMIN was relatively low. The overall findings disclose that each and every one SEM model fit index satisfy the standardized range.

Testing the hypothesis

The objective of this paper is to investigate **The Impact of Eco-Certifications on Consumer Trust and Purchase Behavior in Social Commerce.** Out of seven hypothesis all were found to be supported by gathering data. The first one **(H1**) states that Organic Certification will have a positive impact on Perceived Credibility of Eco-Certifications on social commerce platforms. following the first one **(H2)** specifies Fair Trade Certification will have a positive impact on the Perceived Credibility of Eco-Certifications on social commerce platforms. Similarly **(H3)** states that Energy Star Certification will have a positive impact on the Perceived Credibility of Eco-Certifications on social commerce platforms. **(H4)** states Carbon Trust Certification will have a positive impact on the Perceived Credibility of Eco-Certifications on social commerce platforms. **(H5)** specifies that Perceived Credibility of Eco-Certifications will have a positive impact on Consumer Trust in Eco-Certified Products. **(H6)** Perceived Credibility of Eco-Certifications will have a positive impact on Actual Purchase of Eco-Certified Products in social commerce platforms. The final one that is **(H7)** tells Consumers Trust in Eco-Certified Products will positively influence the Actual Purchase of Eco-Certified Products in social commerce platforms.

To know more about which eco-certification impacts consumer trust and purchase behavior, the data analysis through SEM analysis shows the following results.

Table 2.

constructs	1	2	3	4	5	6	7	8
Organic Certification	0.709	0.515	0.004	0.767	0.561			
Fair Trade Certification	0.771	0.612	0.005	0.733	0.003	0.559		
Energy Star Certification	0.750	0.649	0.004	0.790	0.065	0.022	0.59	
Carbon Trust Certification	0.713	0.587	0.005	0.720	0.011	0.072	0.03	0.536

The values on the diagonal represent the AVE values for all latent constructs.

Table 3.
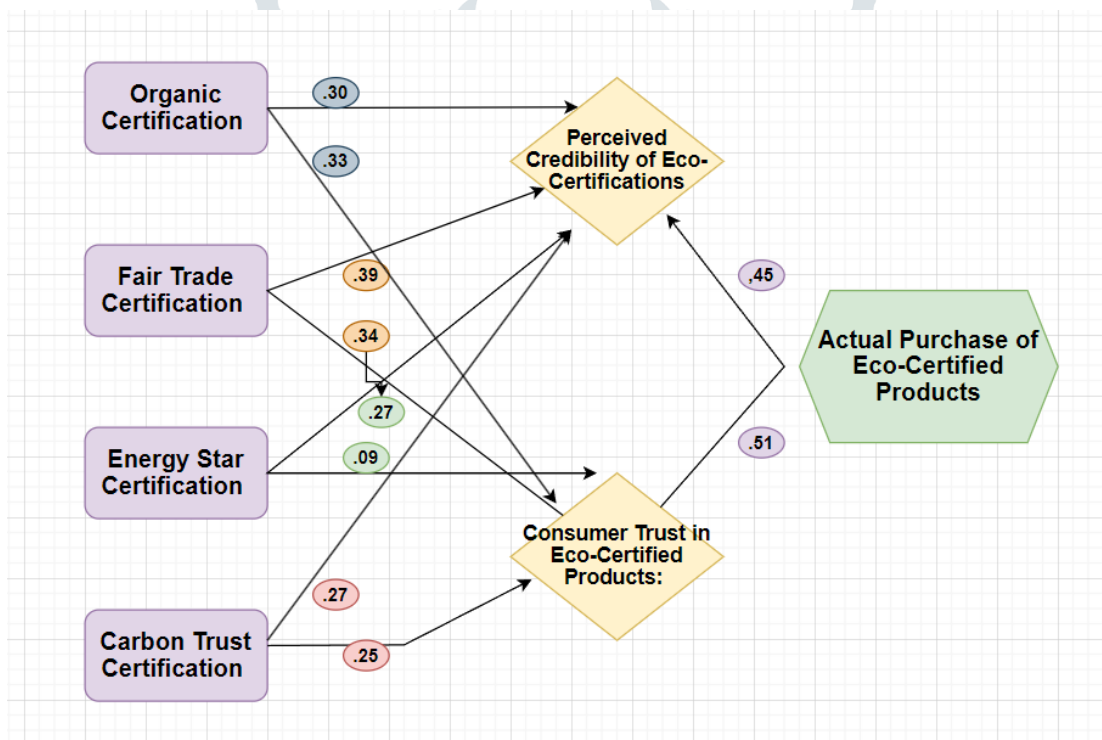
Table 5.

Constructs			Estimate
Organic_Certification	<-->	Fair_Trade_Certification	.022
Organic_Certification	<-->	Carbon_Trust_Certification	.003
Organic_Certification	<-->	Energy_Star_Certification	.072
Fair_Trade_Certification	<-->	Carbon_Trust_Certification	.065
Fair_Trade_Certification	<-->	Energy_Star_Certification	.029
Carbon_Trust_Certification	<-->	Energy_Star_Certification	.011

Table 4.

Constructs			Estimate	S. E.	C. R.	P	Label
Organic_Certification	<-->	Fair_Trade_Certification	.035	.088	.395	.693	supportive
Organic_Certification	<-->	Carbon_Trust_Certification	.006	.100	.060	.952	supprtive
Organic_Certification	<-->	Energy_Star_Certification	.124	.100	1.241	.215	supportive
Fair_Trade_Certification	<-->	Carbon_Trust_Certification	.104	.088	1.192	.233	supportive
Fair_Trade_Certification	<-->	Energy_Star_Certification	.045	.087	.519	.604	supportive
Carbon_Trust_Certification	<-->	Energy_Star_Certification	.019	.098	.196	.844	supportive

Methodology

Sample and collection of data

This research investigates the impact of eco-certifications on consumer trust and purchase behavior within the social commerce landscape. It outlines the research design, data collection methods, sampling technique, data analysis. The respondents received a questionnaire designed to target at least high school education and above. As suggested by many researchers that individuals with less education may find it difficult and answer the questions in sustainability context, when in comparison to those with higher education.

A quantitative research design was employed through an online survey to gather primary data. to examine the relationship between eco-certifications, consumer trust, and purchase behavior in the context of social commerce. A cross-sectional design is employed to collect data at a single point in time from a diverse sample of participants. We used the primary method of data collection through questionnaires by online survey. Sample size was 220. The questionnaire is designed to gather information on participants' perceptions of eco-certifications, trust in eco-certified products, and their purchasing behavior in social commerce platforms.

Quantitative data collected from the survey were analyzed using structured equation model.To assess the impact of eco-certifications on consumer trust and purchase behavior, inferential statistics like correlation analysis or regression analysis were employed.

Hypothesis

- o **H1:** Organic Certification will have a positive impact on Perceived Credibility of Eco-Certifications on social commerce platform.
- o **H2:** Fair Trade Certification will have a positive impact on Perceived Credibility of Eco-Certifications on social commerce platform.

- o **H3:** Energy Star Certification will have a positive impact on Perceived Credibility of Eco-Certifications on social commerce platform.

- o **H4:** Carbon Trust Certification will have a positive impact on Perceived Credibility of Eco-Certifications on social commerce platform.

- o **H5:** Perceived Credibility of Eco-Certifications will have a positive impact on Consumer Trust in Eco-Certified Products

- o **H6:** Perceived Credibility of Eco-Certifications will have a positive impact on Actual Purchase of Eco-Certified Products in social commerce platforms

- o **H7:** Consumer Trust in Eco-Certified Products will positively influence the Actual Purchase of Eco-Certified Products in social commerce platforms.

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