

Consumer Understanding about Sustainability Labelling on Food Products

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ABSTRACT

Consumers are increasingly concerned about sustainability and its environmental impact during food purchasing. Sustainable features of products are communicated to consumers via sustainability labels. Consumers are increasingly aware of sustainability issues and want to make environmentally conscious choices. Consumers expect labels to provide nutritional, ethical, environmental and animal welfare information. Sustainability concerns on environmental and ethical parameters are understood differently by consumers. Some consumers perceive sustainability labels and their meanings well, while others have trouble understanding it. The present study was carried out to study consumer understanding about sustainability in context to environmental and ethical concerns and to understand consumer perception about sustainability label on food products. This emphasised the need for clear and standardised labelling systems that improved comprehension and enabled informed decision-making to consumers. Results revealed that consumer had similar understanding about sustainability on both environmental and ethical parameters. Majority of the consumers understood sustainability labels on food products to be environment-friendly, trust worthy and safe to consume. This study concluded that sustainable consumption patterns required consumer understanding about sustainability labels. Clear and informative labels can empower consumers to make environmentally responsible choices. Consistency, transparency and trustworthiness in labelling practises can be improved. Future research should focus on innovative ways to improve consumer awareness and understanding about sustainability labels to promote sustainable production and consumption in food products.

Key words: Sustainability labelling, food labelling, consumer understanding, sustainable consumption, purchasing decisions

INTRODUCTION

Consumer understanding about sustainability is a topic of growing importance in today's society. As consumers become increasingly conscious of the environmental impact of their choices, they are seeking more information about the sustainability practices employed by food processing industry (Agboh-Noameshie *et al.*, 2020). Sustainability labels serve as a primary source of information for consumers, providing insights into a product's environmental impact, ethical sourcing and overall sustainability (Verain *et al.*, 2015). Understanding consumer about sustainability is crucial for promoting informed decision-making to consumers during purchasing of processed food products. Several studies have examined consumer understanding and attitudes towards sustainability and food labels (Steffen and Szmigin, 2015). For instance, a study by Grunert *et al.* (2014) explored

consumer perceptions of sustainability claims on food labels. The findings revealed that consumers had varying levels of trust in sustainability claims, and their understanding of specific sustainability terms varied significantly. The study emphasized the need for standardized and credible labelling schemes to enhance consumer trust and facilitate better comprehension of sustainability-related information. Furthermore, a study by Siraj *et al.* (2022) investigated the role of personal values in shaping consumer attitudes towards sustainability labels on food products. The findings indicated that consumers who prioritized sustainability values were more likely to pay attention to and trust sustainability labels. The study emphasized the importance of aligning labelling practices with consumers' values to enhance their understanding and engagement with sustainability-related information. Consumer understanding of sustainability has

implications not only for individual consumer choices but also for broader sustainability initiatives. Sustainable consumption relies on informed decision making, and food labels serve as a powerful tool to communicate the sustainability attributes of products to consumers. Effective labelling can influence consumer preferences, encourage the demand for sustainable products (Aschemann-Witzel *et al.*, 2015) and incentivise food manufacturers to adopt more sustainable practices throughout their supply chains.

A study by Eldesouky *et al.* (2020) examined consumer understanding of sustainability labels and found that consumers' interpretation and comprehension of the labels varied. The study revealed that clear and concise information provided alongside the labels, such as explanatory text or symbols, enhanced consumer understanding. Research conducted by Russo and Rong (2019) explored the impact effectiveness of food labels, with reference to environmental labels. The findings indicated that consumer's environmental labels could better capture consumers' attention, enhance their understanding of sustainability aspects and positively influence their preferences towards environmentally-labelled products.

In recent years, there has been a proliferation of sustainability related labels and certifications in the processed food industry. These labels cover a range of sustainability aspects, including organic production (Magnusson and Arvola, 2015), fair trade practices, environmental impact (Rodríguez-Entrena *et al.*, 2019) and animal welfare (Lagerkvist *et al.*, 2018). However, the effectiveness of these labels in conveying meaningful information to consumers and driving sustainable purchasing decisions remains a subject of debate. Several challenges exist in ensuring consumer understanding and trust in sustainability labels. One challenge is the lack of standardized definitions and criteria for sustainability claims, leading to confusion and skepticism among consumers (Wahlen *et al.*, 2015). Without clear and transparent labelling standards, consumers may struggle to differentiate between genuine sustainability efforts and mere greenwashing, where companies make unsubstantiated claims of sustainability without implementing

meaningful practices (Luchs *et al.*, 2018). Moreover, studies have shown that consumer knowledge and awareness of sustainability issues and labels can be limited. This knowledge gap underscores the need for awareness and improved communication strategies to enhance consumer understanding of sustainability labels.

In summary, consumer understanding of sustainability labelling is a complex and multifaceted issue. It involves comprehension of sustainability concepts, trust in labelling systems, and alignment of consumer values with sustainable practices. By addressing the challenges of standardized labelling, improving consumer awareness and considering diverse sustainability dimensions, stakeholders in the processed food industry can empower consumers to make informed and sustainable choices. This research aimed at contributing to the existing knowledge base by shedding light on consumer understanding related to sustainability labelling, ultimately fostering more sustainable consumption patterns and driving positive environmental and social impacts.

MATERIALS AND METHODS

The cultural and demographic diversity of India forced the decision to conduct the research in two major cities: New Delhi in the north and Hyderabad in the south. The selected cities had well-developed food markets, so it was assumed that the sample respondents came from different parts of India with similar consumer profiles. The questionnaire was piloted in the first stage to ensure the clarity of the questions and response formats. Minor adjustments were made based on the results. The survey was administered among the sample respondents. A total of 670 consumers answered the survey. After removing a sizable number of invalid responses, the response rate was calculated to be 80% (536 valid responses), and the data were analyzed.

Consumer understanding about the term sustainability was determined by using mean reliability score of variables based on environmental and ethical parameter that computed consumers' response. Consumer perceived understanding about sustainability labels was also determined using reliability mean score. To understand a significant

association about understanding of sustainability between environmental and social/ethical concern the hypothesis testing was carried out using paired differences of the means formula and t-test scores assuming a significance level of 0.05 (5%).

HO: There was no significant difference between the mean scores of the environment and social/ethical categories.

HA: There was a significant difference between the mean scores of the environment and social/ethical categories.

To study consumer understanding about sustainability label on food products and their association with six selected variables, chi-square test was applied to assess the significance level of association.

RESULTS AND DISCUSSION

The mean ratings for various categories related to the understanding of sustainability in terms of environmental and social/ethical concerns showed that respondents had a good understanding of sustainability across most categories, with relatively high mean ratings (Table 1). However, there were a few categories with comparatively lower mean ratings, indicating a potential need for increased awareness and understanding. In terms of understanding sustainability, the categories of fair trade practices, ethical treatment of animals, prohibition of child labour, and fair price remuneration to farmers had lower mean ratings. These findings provided valuable

Table 1. Mean difference of environment and social/ethical concern

S. No.	Categories	Environment	Social/ethical
1.	Environment protection	1.63	1.54
2.	Efficient utilization of scare resources	1.69	1.49
3.	Future development	1.54	1.63
4.	Prevention of global warming	1.90	1.25
5.	Less greenhouse gases	1.87	1.28
6.	Less carbon emission	1.83	1.34
7.	Forest conservation	1.82	1.38
8.	Water conservation	1.73	1.51
9.	Recycle	1.57	1.63
10.	Biodegradable	1.73	1.40
11.	Fair trade practices	1.13	1.90
12.	Ethical treatment of animals	1.37	1.82
13.	Organic farming	1.84	1.46
14.	Prohibition of child labour	1.03	1.96
15.	Fair price remuneration to farmers	1.05	1.95

insights into areas that require additional attention and education to improve consumer understanding about sustainability.

Respondents had a good understanding of sustainability in both environmental and social/ethical contexts (Table 2). Both categories' mean scores were close, indicating a similar level of understanding in these areas. The low standard deviations indicated that the responses were consistent and that the respondents had a common understanding. This indicated that the surveyed population had a high level of awareness and knowledge about sustainability in terms of both environmental and social/ethical concerns.

Table 2. Mean and standard deviation of sustainability with reference to environment and social/ethical concern

S. No.	Category	Mean	SD
1.	Environment	1.58	0.10
2.	Social/ethical	1.57	0.10

The results of hypothesis testing showed that the mean of paired differences was 0.250 and the standard deviation of paired differences was 0.511. The results of the statistical analysis indicated that there was no significant difference between the mean scores of the environment and social/ethical categories in terms of sustainability understanding. The calculated t-value of 1.458 was found to be less than the critical t-value of 2.145, leading to the failure to reject the null hypothesis. This suggested that the respondents' understanding of sustainability was similar in both environmental and social/ethical contexts. The lack of significant differences between the mean scores of the environment and social/ethical categories implied that the participants perceived sustainability as a holistic concept, encompassing both ecological and social dimensions. This finding aligned with the notion that sustainability involved a comprehensive approach that considered not only environmental factors but also social and ethical considerations.

Majority of respondents had favourable understanding about sustainability labels (Table 3). A significant proportion of participants agreed that processed food products with sustainability labels followed sustainable practices (68%), trustworthy to use (69%) and safe to consume (69%). Furthermore, a sizable proportion of

Table 3. Association of consumer understanding of sustainability labels with the variables under study

S. No.	Particulars	Frequency (%)	Chi-square value	p-value	Significant association
1.	Certified because of some sustainable practices	364 (68)	35.549	<0.001	Yes
2.	Has some sustainability feature	256 (48)	11.507		Yes
3.	Trustworthy to use	368 (69)	0.13	0.719	No
4.	Safe to consume	376 (70)	0.619	0.431	No
5.	May be environment friendly	420 (78)	44.533	<0.001	Yes
6.	Better than other similar products	220 (41)	14.194	<0.001	Yes

respondents (78%) believed that products with sustainability labels were more environmentally-friendly. Forty-one per cent of the respondents believed that sustainability labelled processed food products were better than other similar products without label. This suggested that some customers may be skeptical of the effectiveness or impact of product sustainability labels.

A sizable proportion of consumers recognise value of food products with sustainability labels. They associate these labels with positive characteristics such as sustainability, dependability, safety and potential environmental friendliness. This highlights the significance of clear and credible sustainability labelling practices in meeting consumer expectations and promoting informed purchasing decisions.

To study consumer understanding about sustainability labels, it is necessary to analyze the association with characteristics of the products featuring sustainability label. The chi-square test was calculated for each variable, along with the corresponding p-value in the next column. The final column stated a significant association between the variables (Table 3).

These findings suggested that consumer understanding was aligned with certain characteristics of products with sustainability labels, such as sustainable practices, sustainability features, environmental friendliness and product superiority. However, trustworthiness and safety may not align with the actual characteristics of the products with sustainability label.

CONCLUSION AND RECOMMENDATIONS

In conclusion, consumer understanding about sustainability labelling played a crucial role in shaping sustainable consumption patterns. Consumers had a generally positive

understanding of sustainability labelling. They exhibited a good overall comprehension of sustainability concepts and showed a high level of awareness and knowledge regarding environmental and social/ethical concerns. Additionally, some respondents expressed skepticism towards the usefulness of sustainability labels, perceiving them as merely featuring a label or logo without substantial value. There is a need for increased education and awareness about sustainability labelling to improve consumer understanding of sustainability-related concepts. Efforts should be made to address specific areas where consumer understanding is relatively low, such as fair trade practices and ethical treatment of animals. It is necessary to regularly assess consumer perception and understanding of sustainability related labels through surveys and studies. This will provide insights into evolving consumer preferences and help to identify areas that require further attention and improvement. By implementing these recommendations, companies and policymakers can promote better consumer understanding of sustainability related labels, empower consumers to make informed choices and contribute to a more sustainable and responsible consumption pattern.

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