Impact of Food Labelling on Consumer Behaviour - A Green Marketing Initiative

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1 Introduction

Former IITM researcher Vineet Kumar Singh mentioned about the impact of El Nino on rainfall within the core monsoon zone. In earlier months of year 2023 the impact of it was less but in the upcoming months impact on rainfall can be extremely affected due to El Nino. Dr. Koll added that there has been a disruption in the traditional patterns of interaction between the El Nino and the monsoon [1]. The researchers also said that climate change along with the Indian ocean warming are the causes of change in the pattern of rainfall. Thus, climate change, global warming, rise in sea water level, land disruption, landslides, Tsunami, pollution, smog and so on are the environmental issues facing by the entire world.

Due to globalisation, development and international trade & finance every country is leading towards technical advancement which is lacking sustainable growth; because of which at global level too every country is witnessing environmental disasters, pandemic. The effects of pollution and greenhouse gas emissions on our planet and the future of the human beings are becoming more well known. Because of this, an increasing number of individuals are dedicated to minimizing their everyday choices, which include lifestyle, shopping, nutrition, and mode of transportation.

As World is achieving economic development and countries are becoming developed country, consequently the balance of environment is getting imbalanced. Now a day, protection to the environment and sustainable development are major concerns of every human being [2]. People are increasingly choosing to consume sustainably. Businesses are starting to use their customers as a guide for their green marketing strategy, driven by the trend of green consumption. Since green marketing is founded on entirely novel ideas, a paradigm change is necessary. It suggests incorporating social and environmental concerns into one's business plan. To identify the finest solutions that can accomplish the two main goals of profit and environmental benefit, interaction with the place, the local community, and even competitors are necessary.

In this day and age, the people are giving importance to the organic food because of their consciousness towards health wellness, in the same manner consumers are inclined towards the green labelling, green certification on the products and packaging. Due to green labelling on the products the perspective of a consumer changes, and it becomes easy for them to differentiate between the green products and non-green products [2]. The companies are using green labelling which indicates the protection to the environment due to which it enhances the trust of consumers in the products. Hence, in the perspective of enterprises the Green Marketing is a good strategy to survive and get success amongst the various competitors and in the views of consumers Green Marketing reflects the quality of products and its inherent value. Consumers of today are demanding more label transparency.

According to a spokesman for Safe Food Advocacy Europe (SAFE), food information should tell consumers...
whether a product is excessively calorie-dense, rich in sugar, sodium, or fat, and should also guarantee that it is free of chemical additions and other dangerous ingredients. Additionally, consumers want to know if the product includes minerals that are good for their health [3].

Moreover, concerns about the environment are growing, and companies are currently dealing with a lot of demand from customers regarding their sustainability and environmental impact initiatives [4]. Businesses are increasingly driven by the green consumer, and these environmentally conscious customers are creating a new economy. Hence, better Green Marketing strategies, policies are required to balance the interest of consumers and enterprises which will boost the consumers to choose environmentally friendly products and accordingly it will boost the trust in the products.

2 Literature Review:

Literature to find whether Green Marketing and Green Labelling impacts the consumer behaviour: “Hot? Uncomfortable? It’s going to get worse Tamil Nadu” [4] this headline was in the Times of India Newspaper, and now a day many other such kind of headlines people are witnessing in every country.

Climate change is the inevitable impact of our lifestyle; hence these days’ people are conscious about carbon footprints, sustainable development, organic food, cold pressed oil instead of refined oil and so on. Further, to protect the environment or less harm to the ecosystem along with the maintenance of lifestyle, now people are tending towards the eco-labelling products, green certification, green labelling through which they are assured the quality of the products too. Thus, this is the emergence of green marking at global level.

A review of research studies [5] mentioned that the label's design, nutritional data, health claims, accessibility, and quality were the main determinants of purchasing decisions. The study improved knowledge of consumers' intentions to buy and the value of food product labels. While deliberating on consumer’s information or consumer confusion [6] discussed that purchasing organic products is primarily motivated by three factors: environmental conservation, product quality, and health concerns. The abundance of quality indicators is a current concern associated with the rise of sustainability issues that draw attention to labels associated with agroecological practices. The usefulness of labels' informational function is still a pertinent subject.

There is a discrepancy between consumers' actual purchasing behavior and their attitudes toward green products due to several factors, including price, perceived associated risks, corporate image, trust, and willingness to pay.

The evaluation of the influence of green marketing strategies on consumer behavior towards the environment on green consumer durable products laid down the importance of the business firm’s role in the promotion of green consumer products [7]. The companies/enterprises can be focused on the Green Marketing strategy to promote green consumer products this initiative will be in the interest of both i.e. enterprises and consumers. The business management review of the impact of green marketing strategies [8-12] conferred that environmental issues have been explored extensively over the years.

Alternative solutions are inherently needed as natural resources are being depleted for the dishonest advantages of corporate profits. They have further mentioned which green marketing tool affects consumer purchase behavior. Furthermore, the result indicated that eco-packaging and environmental advertisement had significant effects on consumer purchasing behavior. Few authors contributed in Green Marketing by discussing the significance of food and nutrition labeling in detail.

Importance of Eco-labeling in consumer behaviors [13] stressed that it is imperative to prioritize not only the use of environmentally friendly components but also eco-friendly packaging, as it has been discovered recently to be a major contributor to pollution. Significant environmental issues and the loss of natural resources have compelled people to concentrate on environmentally friendly consumption [14]. Thus, Malaysia, China, Ireland, and Switzerland almost every country is talking about the Green Marketing and its tool, strategies, mechanism to promote the manufactures and consumers to make better eco-friendly and healthy choices. People are trying to find out the remedies to less harm the ecology. Though at one hand there is an emergence of Green Economy or talk on Green Marketing & its tools, on the other hand robust policy, mechanism, strategies for Green Marketing are lacking in India. Hence, there is a need of analysis of data by appropriate research tool to strategize the Green Marketing Policy in India in the interest of various stakeholders.

This study examines food labeling's influence on consumer behavior for green marketing and draw the inference and the suggestive framework for the companies to initiate with Green marketing.

3 Research Design

3.1 Sample Size:

A sample size of 126 was used to determine the impact of food labeling on consumer behavior as a green marketing initiative.

3.2 Data Collection

Primary data is collected through a basic likert-scale questionnaire in which questions about consumer behaviour about product choice and preferences are formulated and data is collected through a practical sampling method. Secondary data are collected through scholarly journals and articles. It also includes the study of various sources like blogs, articles, trend reports.
4 Analysis and finding

4.1 Socio-Demographic analysis

It shows that all the 126 cases are valid and 100% data is clean. Following table, shows the reliability statistics i.e. the Cronbach’s value.

The value comes out to be .864 for N =11 of items. This value is closed to 1 and greater than 7 so one can proceed for further data analysis as it shows that data is reliable.

Fig. 1. Gender Statistics
Out of 126 responses, 84 were females, 42 were males.

Table 1. Case processing summary

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valid</td>
<td>126</td>
<td>100</td>
</tr>
<tr>
<td>Excluded</td>
<td>0</td>
<td>.0</td>
</tr>
<tr>
<td>Total</td>
<td>126</td>
<td>100.0</td>
</tr>
</tbody>
</table>

a. Listwise deletion based on all variables in the procedure.

Table 2. Reliability Statistics

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>Items ‘N’</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.864</td>
<td>11</td>
</tr>
</tbody>
</table>

It can be assumed that the data collected can be used as a sample for student population since most responses were from students who are undergraduate and graduate who belong to different fields as well as genders and age. Further analysis brings us to the contention that most people across different age and sector spectrums are influenced by the food labelling on the food products.

However, further analysis shows that despite several inclusions, there is still scope for further improvement like inclusion of allergen information in all the products and the need for stricter government regulations.

4.2 Correlational analysis

The Hypothesis formed is as follows:

\[ H_{01} \] – Food Labelling did not had an impact on consumer behaviour choices

\[ H_{11} \] —Food Labelling had an impact on consumer behaviour choices

The researchers have tested the data at a 99% confidence interval, which is why the significant value will be compared with 0.05. ‘N’ represents the total number of responses obtained through the questionnaire, i.e., 126.

The Pearson Correlation Coefficient is 0.542, hence, it can be used in this research to find the impact of food labelling on the consumer behaviour, as it ranges from -1.0 to +1.0.

The significant value is +0.001 as seen from the above result from [Sig. (2-tailed)].

Table 3. Descriptive statistics correlations

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV</td>
<td>3.82</td>
<td>.1091</td>
<td>126</td>
</tr>
<tr>
<td>DV</td>
<td>3.4810</td>
<td>.62839</td>
<td>126</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Correlations</th>
<th>IV</th>
<th>DV</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV Pearson Correlation</td>
<td>1</td>
<td>.542**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>&lt;.001</td>
<td>1.0</td>
</tr>
<tr>
<td>N</td>
<td>126</td>
<td>126</td>
</tr>
<tr>
<td>DV Pearson Correlation</td>
<td>.542**</td>
<td>&lt;.001</td>
</tr>
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<td>Sig. (2-tailed)</td>
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</tr>
<tr>
<td>N</td>
<td>126</td>
<td>126</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

When \( p < 0.01 \), the Null Hypothesis (\( H_0 \)) is rejected, or it can be said that the respondents have failed to reject \( H_0 \) and \( H_a \) is accepted.

When \( p = 0.001 \), the acceptance or rejection of the null hypothesis would depend on comparing the significant value with 0.01. \( 0.001 < 0.01 \). This is why \( H_a \) is accepted. This concludes that there is significant impact of food labelling on the consumer behavior choices on food products. Therefore, the \( H_{01} \) is rejected, and \( H_{11} \) is accepted.

4.3 Recommendations

Based on research findings and common industry practices, here are some recommendations related to the impact of food labeling on consumer behavior:

4.3.1 Clear and informative labels

Ensure that food labels are clear, easy to read, and provide essential information. Labels should include details about ingredients, nutritional content, allergens, and potential health risks. Consumers should be able to make informed choices at a glance.

4.3.2 Prominently display key information

Place crucial information such as calories, serving sizes, and allergen warnings prominently on the label. Research has shown that consumers are more likely to
notice and use this information when it's easily accessible.

4.3.3 Standardized labeling format
Encourage standardized labeling formats and terminology across the industry. This consistency makes it easier for consumers to compare products and understand nutritional information.

4.3.4 Front-of-pack labels
Consider implementing front-of-pack labels, such as "Traffic Light" systems or "High in Sugar/Salt/Fat" warnings. These can help consumers quickly assess the healthiness of a product.

4.3.5 Education and awareness campaigns
Launch public awareness campaigns to educate consumers about how to interpret food labels. Many consumers may not fully understand the information provided on labels, and these campaigns can help bridge the knowledge gap.

4.3.6 Behavioral nudges
Explore the use of behavioral economics principles in food labeling. For example, use simple graphics or icons to indicate healthier choices, which can nudge consumers toward making healthier selections.

4.3.7 Online and digital resources
Develop user-friendly apps or websites where consumers can scan barcodes and get detailed information about a product's nutritional content and its impact on health. This can be particularly helpful for tech-savvy consumers.

4.3.8 Transparency in sourcing
Include information about the sourcing and production of food products. Consumers are increasingly interested in where their food comes from, whether it's organic, non-GMO, or sustainably produced.

4.3.9 Incorporate consumer preferences
Conduct surveys and studies to understand the preferences of your target consumer base. Tailor food labeling practices to meet their specific needs and expectations.

4.3.10 Regulatory framework
Advocate for or support strong regulatory frameworks for food labeling. These regulations can set minimum standards for labeling practices and help ensure that consumers are not misled.

4.3.11 Monitoring and compliance
Regularly monitor the food industry for compliance with labeling regulations. Take appropriate actions against non-compliant companies to maintain consumer trust. Continuous Improvement: Continuously assess the effectiveness of food labeling strategies and make adjustments based on consumer feedback and changing dietary trends.

4.3.12 Collaboration with health professionals
Collaborate with healthcare providers, dietitians, and nutritionists to ensure that food labels align with current health recommendations and provide valuable information to consumers.

4.3.13 Environmental impact labels
Consider including information about the environmental impact of food products, such as carbon footprint or sustainability certifications, to align with the growing interest in eco-friendly and ethical consumption.

Conclusion
In conclusion, our study has shed light on the multifaceted relationship between food labeling and consumer behavior. The findings indicate that food labeling plays a significant role in influencing the choices consumers make when selecting food products. Nutrition information, health claims, ingredient lists, allergen information, and labels related to sustainability and ethical considerations all have the power to shape consumer preferences. Consumer behavior, as influenced by food labeling, is not only driven by nutritional considerations but also by cultural, demographic, and ethical factors. As the global food landscape evolves, these factors will continue to shape consumer preferences, emphasizing the importance of flexibility in labeling and catering to diverse consumer needs. It is essential to acknowledge that our research represents a snapshot in time, and consumer behavior and labeling trends are subject to change. With the rise of e-commerce and changing societal values, the role of digital and sustainability-related labels is likely to grow in prominence. Researchers, policymakers, and industry stakeholders must remain adaptive and responsive to these shifts. Thus, the impact of food labeling on consumer behavior is a dynamic and critical area of study that has far-reaching implications for public health, industry practices, and regulatory policies. As we continue to gain deeper insights into this complex relationship, we can work towards ensuring that food labels truly serve as a tool for informed consumer choice and contribute to healthier, more sustainable, and ethically responsible food consumption.
References

1. Times News Network, Pleasant weather spell over for now, warmer days ahead, The Times of India (2023).
3. Natasha Spencer Jolliffe, Food Labelling has a Significant Impact on Consumer Decision making. Food Navigator Europe, (2022)