

Measuring the Influences and Impact of Green Packaging on Consumer Intention and Consumer Buying Behaviour with Respect Convenience Goods in India

Dr Rashmi Sreejit Nair¹, Dr. Sahifa Moosa Muradbi Mazgaonkar², Ms Maitrayee Shetye³

Associate Professor Mumbai Education Trust Institue of PGDM¹.

Assistant professor M. L. Dahanukar College of Commerce².

Research Scholar D.Y.Patil Deemed to be University School of Management³.

ARTICLE INFO

ABSTRACT

Received: 26 Dec 2024

Revised: 14 Feb 2025

Accepted: 22 Feb 2025

Product packaging acts as a vital tool for purchase intention and buying behaviour of a customer. It is believed that an attractive packaging reflects on not only bringing the protection of the product but the design, colour combinations, material used and style of content that brings the communication of a brand and its core values emotionally connect with its customers. It is the first point of connect between a product and customer and making a strong visual expression Its success towards the same comes only when the consumers accept and respond to it through the purchase intention and buying process. It is the first point of connect between a product and customer and making a strong visual expression. The world-wide growing concern for environment has also made the businesses and consumer throughout out the world of producing not only green product s but also to the concept of green packaging in a product. The research paper evaluates the key factors that enhance the buying intention of consumers intention towards the convience goods and the green packaging concept.

Keywords: Green Packaging, Consumer Intention, Goods

1. INTRODUCTION :

In todays world one of the most growing concern is environmental sustainability. This concern has become so significant that has lead to a shift in consumer preferences & corporate practices. One of the most evolving trend with reference to environmental awareness in green packaging. It refers to packaging which is ecofriendly , recyclable , biodegradable or which is made using sustainable materials. By using green practices & materials it is used to minimize environmental impact. Ultimate goals of green packaging is to encourage businesses to create awareness of the environmental impact of their packaging has on the environment.

With an inevitable threat of rising pollution & plastic waste , green packaging has become a major tool for environmental protection as well as brand positioning. India along with its vast & rapidly growing consumer market , prominently in the Fast Moving Consumer Goods (FMCG) sector , it has being witnessing increase in pressure from environmentally conscious consumer.

The present study aims to measure the influence and impact of green packaging on consumer intention and buying behaviour, with a specific focus on convenience goods in India. The research seeks to understand how packaging design, sustainability messaging, and environmental concerns shape the choices of modern Indian consumers.

2. REVIEW OF LITERATURE:

Kapse et al. (2023) : The research highlights how consumers are environmentally conscious. Factors like price, quality, and brand often take precedence over sustainable packaging aesthetics in purchasing decisions. The research also putforths the need for green packaging to align with core consumer priorities to influence buying behaviour effectively.

Md Zahid Hasan, Md. Oliul Islam and Shamima Easmin Shanta (2024): The research speaks about the Environmental concern, knowledge, green trust, and product availability. Also, it showcases the positive influence of purchase intentions for green-packaged convenience items; however, higher prices may deter the consumers.

Igbomor (2024) : The research throws light on how Green packaging has a significant positive effect on consumer buying behaviour, with an eco-friendly packaging influencing the purchasing decisions. It also demonstrates the overall universal impact of green packaging which has been seen across different markets.

Khilwani (2022) : The research showcases the consumer attitudes towards green packaging. It is also influenced by environmental awareness, personal values, and perceived benefits, affecting their purchasing behaviour. It provides insights into consumer perceptions in an Indian context.

Pan et al. (2021) : The research highlights Green packaging positively & influences consumer buying behaviour, especially when aligned with environmental consciousness and sustainability values. It also throws light on the role of green packaging in consumer decision-making processes.

KPradeep Reddy, Venkateswarlu Chandu, Sambhana Srilakshmi, Elia Thagaram, Ch. Sahyaja, and Bernard Osei (2023) : This research majorly highlights the environmental knowledge and green behaviours significantly influence consumer perceptions and purchasing decisions regarding eco-friendly FMCG products. It explores the consumer perceptions in the Indian FMCG sector.

Hesil Jerda George, Sahayaselvi Susainathan, Satyanarayana Parayitam (2023) : This research talks about green packaging awareness and initiatives that positively influences consumer behaviour, with eco-labelling serving as a significant factor in purchasing decisions. It also provides a conceptual model which is applicable to understanding consumer behaviour in green packaging contexts.

Alencar Bravo and Darli Vieira (2024) : This research develops a comprehensive model of consumer behaviours towards green-packaged products, emphasizing the role of environmental attitudes and perceived consumer effectiveness. It also offers a theoretical framework for understanding consumer purchasing behaviour related to green packaging.

Tai Nguyen Quoc, Nhan Nghiem Phuc, Ngoc-Hong Duong (2024): This research highlights the green packaging and branding may not significantly affect cognitive attitudes, eco-labelling can be a powerful tool in influencing consumer perceptions and purchase intentions.

Rushikesh Aravkar (2023) : This research indicates that 36% of Indian consumers consider non-plastic packaging the most eco-friendly option. It discusses consumer perceptions and the importance of clear recycling information on packaging.

3. OBJECTIVES OF THE STUDY :

- To assess if demographic factors have an impact on consumers decision making towards the concept of green packaging.
- To assess the consumers attitude and beliefs towards the concept of green packaging.
- To evaluate the impact of Green attributes on consumers buying behaviour for the goods with green packaging.
- To evaluate the green future estimation perception of consumers for minimizing environmental foot print.

4. HYPOTHESIS OF THE STUDY:

- H_{01} : Demographic factors have an impact on consumers decision making towards the concept of green packaging.
- H_{11} : Demographic factors do not have an impact on consumers decision making towards the concept of green packaging.
- H_{02} : Consumers attitude and beliefs have an impact towards the concept of green packaging.
- H_{22} : Consumers attitude and beliefs do not have an impact towards the concept of green packaging.

- H_{03} : Green attributes have an impact on consumers buying behaviour for the goods with green packaging.
- H_{33} : Green attributes do not have an impact on consumers buying behaviour for the goods with green packaging.
- H_{04} : Green future estimation perception of consumers have an impact for minimizing environmental foot print.
- H_{44} : Green future estimation perception of consumers do not have an impact for minimizing environmental foot print.

5. SIGNIFICANCE OF STUDY:

The study highlights significant value in understanding how green packaging is a growing trend in sustainable consumerism which influences purchase intentions & behaviour of Indian consumers , particularly with respect to convenience goods such as food , beverages , personal care and household items. The research also enriches on consumer behaviour , sustainable marketing enriches on consumer behaviour , sustainable marketing and environmental economics such studies are still emerging. This research can be a base for future research in the domain of green consumerism and packaging innovation.

6. NATURE OF THE STUDY:

Descriptive research has been used for the study to measure the influences and impact of green packaging on consumer intention.

6.1 Information Needs:

In this research the information required is basically primary in nature all the data was gathered from various primary sources using structured questionnaire. The research also uses different secondary sources of data to develop a literature analysis.

6.2 Measurement Instrument Scalling Technique:

The study used a five point Likert scale to elicit comments from the participants. Respondents were asked as to how much they agree or disagree using a five – point Likert scale that goes from Strongly Agree (1) to Strongly Disagree (5).

7. QUESTIONNIRE FORMULATION:

To collect primary data , a self structured questionnaire was used. The questionnaire was divided into four parts. The first part included demographic profile of the respondents. In the second part information related to attitudes and beliefs of the respondents were assessed. The third part included the preferences. The fourth & last part included the perception about the respondents as regards the future of Green Packaging.

8. DATA ANALYSIS :

8.1 Demographic Profile of Respondents:

Sr No	Discription	Category	Frequency	Percentage
1	Age	15 – 25	439	87.8%
		26 – 35	17	3.4%
		36 – 45	21	4.2%
		46 – 55	19	3.8%
		56 – 65	0	0
		66 and above	4	0.8%
2	Qualification	Doctorate	2	0.4%
		Medical Practitioner	3	0.6%
		Post Graduation	54	10.8%
		Graduation	441	88.2%

3	Income	15000 - 30000	443	88.6%
		31000 – 45000	7	3.4%
		46000 – 55000	4	4.2%
		56000 - 65000	8	3.8 %
		66000 – 75000	17	0.8%
		76000 and above	21	88.6%
4	Profession	Business	7	1.4%
		Marketing Professional	17	3.4%
		HR Professional	7	1.4%
		Financial Professional	12	2.4%
		Doctor	4	0.8%
		Student	434	86.8%
		Homemaker	6	1.2%
		Assistant Professor	13	2.6%
5	Awareness of the concept of green packaging	Yes	490	98%
		No	7	1.4%
		Maybe	3	0.6%

Table 1 (Demographic Details)

Table 1 demonstrates the demographic details of the respondents. It is evident that a large number of respondents were from the age group of 15 – 25 (87.8%). The respondents also constituted a mix of Doctorate , Graduates , Post Graduates & Medical Practitioners ; amongst these a large number of respondents were Graduates resulting for 88.2%. It is also noteworthy that there were a lot of respondents who were Students Of about 86.8%. There was general question asked as regards the awareness about green packaging 98% of the respondents said that they were aware about Green Packaging which was also a noteworthy factor.

8.2 Variable Testing:

8.2.1 Normality test for Age:

Variables		Kolmogorov-Smirnov ^a		
		Statistic	df	Sig.
Attitude and believes	15 - 25 Years	0.261	439	0.000
	26 - 35 Years	0.157	17	.200*
	36 - 45 Years	0.176	21	0.089
	46 - 55 Years	0.161	19	.200*
	66 years and above	0.261	4	
Sustainable Packaging Preferences	15 - 25 Years	0.263	439	0.000
	26 - 35 Years	0.204	17	0.059
	36 - 45 Years	0.135	21	.200*
	46 - 55 Years	0.172	19	0.140
	66 years and above	0.250	4	

Green Packaging Future Perception	15 - 25 Years	0.218	439	0.000
	26 - 35 Years	0.160	17	.200*
	36 - 45 Years	0.173	21	0.099
	46 - 55 Years	0.150	19	.200*
	66 years and above	0.250	4	

Table 2 (Variable Testing)

Attitude and believes : The Kolmogorov-Smirnov test indicates significant deviations from normality for the 15–25 age group ($p = 0.000$), while other groups show mixed results, with some meeting normality assumptions ($p > 0.05$).

Sustainable Packaging Preferences : Significant deviations from normality are observed for the 15–25 age group ($p = 0.000$), whereas other age groups display borderline or acceptable normality ($p > 0.05$).

Green Packaging Future Perception : The 15–25 age group shows significant non-normality ($p = 0.000$), while other groups exhibit results closer to normality ($p > 0.05$).

8.2.2 Normality test for Qualification:

Variables		Kolmogorov-Smirnov ^a		
		Statistic	df	Sig.
Attitude and believes	Doctorate	0.260	2	
	Medical Practitioner	0.385	3	
	Post Graduation	0.201	54	0.000
	Graduation	0.255	441	0.000
Sustainable Packaging Preferences	Doctorate	0.260	2	
	Medical Practitioner	0.385	3	
	Post Graduation	0.218	54	0.000
	Graduation	0.258	441	0.000
Green Packaging Future Perception	Doctorate	0.260	2	
	Medical Practitioner	0.385	3	
	Post Graduation	0.148	54	0.005
	Graduation	0.224	441	0.000

Table 3 (Variable Testing)

Attitude and believes: Significant deviations from normality are observed for respondents with Post Graduation and Graduation qualifications ($p = 0.000$), while data for Doctorate and Medical Practitioner groups could not be tested due to small sample sizes.

Sustainable Packaging Preferences: Similar to Average Attitude, significant non-normality is evident for Post Graduation and Graduation groups ($p = 0.000$), with small sample sizes limiting conclusions for other groups.

Green Packaging Future Perception: Non-normality is significant for Graduation ($p = 0.000$) and Post Graduation ($p = 0.005$) groups, while data for Doctorate and Medical Practitioner groups remains inconclusive due to limited sample sizes.

8.2.3 Normality test for Income:

Variables		Kolmogorov-Smirnov ^a		
		Statistic	Df	Sig.
Attitude and believes	15000 – 30000	0.261	443	0.000
	31000 – 45000	0.217	7	.200*
	46000 – 55000	0.270	4	
	56000 – 65000	0.290	8	0.046
	66000 – 75000	0.329	17	0.000
	76000 and above	0.149	21	.200*
Sustainable Packaging Preferences	15000 – 30000	0.266	443	0.000
	31000 – 45000	0.219	7	.200*
	46000 – 55000	0.260	4	
	56000 – 65000	0.234	8	.200*
	66000 – 75000	0.349	17	0.000
	76000 and above	0.184	21	0.061
Green Packaging Future Perception	15000 – 30000	0.215	443	0.000
	31000 – 45000	0.166	7	.200*
	46000 – 55000	0.260	4	
	56000 – 65000	0.241	8	0.192
	66000 – 75000	0.262	17	0.003
	76000 and above	0.153	21	.200*

Table 4 (Variable Testing)

Attitude and believes: Significant deviations from normality are observed for income groups 15000–30000 and 66000–75000 ($p = 0.000$), while groups like 31000–45000 and 76000 and above meet normality assumptions ($p > 0.05$).

Sustainable Packaging Preferences: Non-normality is evident for income groups 15000–30000 and 66000–75000 ($p = 0.000$), whereas groups like 31000–45000 and 56000–65000 show acceptable normality ($p > 0.05$).

Green Packaging Future Perception: Significant deviations from normality are found for income groups 15000–30000 ($p = 0.000$) and 66000–75000 ($p = 0.003$), while groups like 31000–45000 and 76000 and above display results closer to normality ($p > 0.05$).

8.2.4 Normality test for Profession:

VARIABLES		Kolmogorov-Smirnov ^a		
		Statistic	Df	Sig.
Attitude and believes	Business	0.174	7	.200*
	Marketing Professional	0.246	17	0.007
	HR Professional	0.296	7	0.063
	Financial Professional	0.186	12	.200*
	Doctor	0.305	4	
	Student	0.263	434	0.000
	Homemaker	0.345	6	0.025
	Assistant Professor	0.258	13	0.018
Sustainable Packaging Preferences	Business	0.203	7	.200*
	Marketing Professional	0.187	17	0.118
	HR Professional	0.338	7	0.015
	Financial Professional	0.249	12	0.039
	Doctor	0.298	4	
	Student	0.262	434	0.000
	Homemaker	0.237	6	.200*
	Assistant Professor	0.166	13	.200*
Green Packaging Future Perception	Business	0.237	7	.200*
	Marketing Professional	0.190	17	0.102
	HR Professional	0.296	7	0.063
	Financial Professional	0.270	12	0.016
	Doctor	0.283	4	
	Student	0.214	434	0.000
	Homemaker	0.238	6	.200*
	Assistant Professor	0.156	13	.200*

Table 5 (Variable Testing)

Attitude and believes: Significant deviations from normality are observed for Marketing Professionals, Students, Homemakers, and Assistant Professors ($p < 0.05$), while other professions like Business and Financial Professionals meet normality assumptions ($p > 0.05$).

Sustainable Packaging Preferences: Non-normality is evident for HR Professionals, Financial Professionals, and Students ($p < 0.05$), whereas professions like Business, Homemakers, and Assistant Professors show acceptable normality ($p > 0.05$).

Green Packaging Future Perception: Significant deviations from normality are found for Students and Financial Professionals ($p < 0.05$), while other professions like Business, Homemakers, and Assistant Professors display results closer to normality ($p > 0.05$).

8.3 Hypothesis Testing:

Thus, Kruskal Wallis test is used to identify the difference between the groups. Kruskal Wallis Test Statistics for difference in different Age Groups:

	Null Hypothesis	Test	Test Statistics	Sig.	Decision
1	The distribution of Attitude and believes is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	14.866	0.005	Reject the null hypothesis.

2	The distribution of Sustainable Packaging Preferences is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	33.353	0.000	Reject the null hypothesis.
3	The distribution of Green Packaging Future Perception is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	42.074	0.000	Reject the null hypothesis.

Table 6 (Hypothesis Testing)

The Kruskal-Wallis test was conducted to examine whether the distributions of Attitude and believes, Sustainable Packaging Preferences, Green Packaging Future Perception and differ across age categories. The results revealed statistically significant differences for all three variables: Attitude and Believes ($H = 14.866$, $p = 0.005$), Sustainable Packaging Preferences ($H = 33.353$, $p = 0.000$), and Green Packaging Preferences ($H = 42.074$, $p = 0.000$). Consequently, the null hypothesis was rejected for each variable, indicating that the distributions vary significantly across the age groups.

Thus, Kruskal Wallis test is used to identify the difference between the groups.

Kruskal Wallis Test Statistics for difference in different Qualification Groups

	Null Hypothesis	Test		Sig.	Decision
1	The distribution of Attitude and believes is the same across categories of Qualification.	Independent-Samples Kruskal-Wallis Test	2.233	0.525	Retain the null hypothesis.
2	The distribution of Sustainable Packaging Preferences is the same across categories of Qualification.	Independent-Samples Kruskal-Wallis Test	19.314	0.000	Reject the null hypothesis.
3	The distribution of Green Packaging Future Perception is the same across categories of Qualification.	Independent-Samples Kruskal-Wallis Test	32.523	0.000	Reject the null hypothesis.

Table 7 (Hypothesis Testing)

Thus, Kruskal Wallis test is used to identify the difference between the groups.

The Kruskal-Wallis test was performed to evaluate whether the distributions of Attitude and believes, Sustainable Packaging Preferences, and Green Packaging Future Perception differ across qualification categories. The results showed no significant difference for Attitudes and beliefs ($H = 2.233$, $p = 0.525$), leading to the retention of the null hypothesis. However, significant differences were observed for Sustainable Packaging preferences ($H = 19.314$, $p = 0.000$) and Green Packaging Perception ($H = 32.523$, $p = 0.000$), resulting in the rejection of the null hypothesis for these variables.

Kruskal Wallis Test Statistics for difference in different Income Groups

	Null Hypothesis	Test		Sig.	Decision
1	The distribution of Attitude and believes is the same across categories of Income.	Independent-Samples Kruskal-Wallis Test	7.263	0.202	Retain the null hypothesis.
2	The distribution of Sustainable Packaging Preferences is the same across categories of Income.	Independent-Samples Kruskal-Wallis Test	32.375	0.000	Reject the null hypothesis.

3	The distribution of Green Packaging Future Perception is the same across categories of Income.	Independent-Samples Kruskal-Wallis Test	48.989	0.000	Reject the null hypothesis.
---	--	---	--------	-------	-----------------------------

(Table 8 Hypothesis Testing)

The Kruskal-Wallis test was conducted to assess whether the distributions of Attitude and believes , Sustainable Packaging Preferences, and Green Packaging Future Perception differ across income categories. The results showed no significant difference for Attitude and believes ($H = 7.263$, $p = 0.202$), leading to the retention of the null hypothesis. However, significant differences were observed for Sustainable Packaging Preferences ($H = 32.375$, $p = 0.000$) and green Packaging Future Perception ($H = 48.989$, $p = 0.000$), resulting in the rejection of the null hypothesis for these variables.

Kruskal Wallis Test Statistics for difference in different Profession Groups

	Null Hypothesis	Test		Sig.	Decision
1	The distribution of Attitude and believes is the same across categories of Profession.	Independent-Samples Kruskal-Wallis Test	7.266	0.402	Retain the null hypothesis.
2	The distribution of Sustainable Packaging Preferences is the same across categories of Profession.	Independent-Samples Kruskal-Wallis Test	44.807	0.000	Reject the null hypothesis.
3	The distribution of Green Packaging Future Perception is the same across categories of Profession.	Independent-Samples Kruskal-Wallis Test	61.696	0.000	Reject the null hypothesis.

(Table 9 Hypothesis Testing)

The Kruskal-Wallis test was conducted to evaluate whether the distributions of Attitude and believes , Sustainable Packaging Preferences , and Green Packaging Future Perception differ across profession categories. The results showed no significant difference for Attitude and believes ($H = 7.266$, $p = 0.402$), leading to the retention of the null hypothesis. However, significant differences were observed for Sustainable Packaging Preferences ($H = 44.807$, $p = 0.000$) and Green Packaging Future Perception ($H = 61.696$, $p = 0.000$), resulting in the rejection of the null hypothesis for these variables.

9. FINDINGS:

The study highlighted that the age groups had significant differences as regards the variables for the study. The results highlighted that the distributions vary significantly across Age Groups. The results further stated that the consumers willingness to pay , belief as regards the preservation of wildlife & being environmentally responsible have a very crucial for respondents as regards the qualification leading to retention of Null Hypothesis.

The results further stated that there was no significant difference for Attitudes and Beliefs of the respondents , which has lead into the retention of Null Hypothesis no 2. The research also strongly indicated that Profession Groups also have a strong Attitudes and Beliefs.

10. CONCLUSION:

The study was conducted for about 500 respondents out of which maximum respondents were Students (87.8%). During the course of the research majorly three variables were tested along with Demographic factors like Age , Income , Profession , Qualification & Awareness as regards green Packaging. From the results it indicated that about 98% of the respondents were aware about Green Packaging. Further after analysis it was found that Attitude and Believes ($H = 14.866$, $p = 0.005$), Sustainable Packaging Preferences ($H = 33.353$, $p = 0.000$), and Green Packaging Preferences ($H = 42.074$, $p = 0.000$). The null hypothesis no 2 was rejected for each variable, indicating that the distributions vary significantly across the age groups. On examination of further variable , results showed no

significant difference for Attitudes and beliefs ($H = 2.233$, $p = 0.525$), leading to the retention of the null hypothesis. As regards the income of the respondents, it was observed that there was no significant difference for Attitude and beliefs ($H = 7.263$, $p = 0.202$), leading to the retention of the null hypothesis. The results further highlighted the profession Groups, The results showed no significant difference for Attitude and beliefs ($H = 7.266$, $p = 0.402$), leading to the retention of the null hypothesis.

Thus it can be seen that factors like willingness to pay, preservation of wildlife, environmental impact etc have an impact on consumers as regards the Green packaging. It is also noteworthy that Sustainable Packaging Attributes minimalist design, features such as clear labelling of recycling, compostable icon etc. were not a major concern for the respondents. Thus it is evident from the research that there is an impact of green packaging on the consumers.

11. LIMITATIONS:

The major respondents for the research were Students, there could be more respondents from different career streams as well. The research also measured only the impact of Green Packaging on Consumer Intention and Buying Behaviour as regards the FMCG goods. Specific arena of the FMCG goods could also be focused bringing more accuracy to the research.

REFERENCES:

1. <https://www.mdpi.com/2071-1050/17/4/1744>
2. <https://www.mintel.com/insights/packaging/consumer-perspectives-on-eco-friendly-packaging-an-indian-context/>
3. <https://www.sciencedirect.com/science/article/pii/S2666784322000298>
4. <https://www.sciencedirect.com/science/article/pii/S2666784325000099>
5. <https://www.mdpi.com/2071-1050/16/3/1206>
6. <https://www.emerald.com/insight/content/doi/10.1108/rausp-11-2022-0240/full/html>
7. https://www.researchgate.net/publication/368368726_The_Effect_of_Sustainable_Packaging_Aesthetic_on_Consumer_Behavior_A_Case_Study_from_India
8. <https://wjarr.com/sites/default/files/WJARR-2024-2627.pdf>