



INDIAN JOURNAL OF
LEGAL REVIEW

VOLUME 5 AND ISSUE 6 OF 2025

INSTITUTE OF LEGAL EDUCATION



INDIAN JOURNAL OF LEGAL REVIEW

APIS – 3920 – 0001 | ISSN – 2583-2344

(Open Access Journal)

Journal's Home Page – <https://ijlr.iledu.in/>

Journal's Editorial Page – <https://ijlr.iledu.in/editorial-board/>

Volume 5 and Issue 6 of 2025 (Access Full Issue on – <https://ijlr.iledu.in/volume-5-and-issue-6-of-2025/>)

Publisher

Prasanna S,

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A STUDY ON FOOD PACKAGING IN NESTLE

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BEST CITATION – ARTHI K & DR. MARUTHAVIJAYAN S, A STUDY ON FOOD PACKAGING IN NESTLE, *INDIAN JOURNAL OF LEGAL REVIEW (IJLR)*, 5 (6) OF 2025, PG. 833-856, APIS – 3920 – 0001 & ISSN – 2583-2344

ABSTRACT:

Packaging is vital in today's competitive market because it does more than just protect products. It is a successful method for enhancing sustainability, engaging consumers, and differentiating businesses. This marketing study looks into the impact of packaging on consumer perceptions and purchasing decisions. It looks at the most recent advancements in package design, materials, and functionality, with a focus on how they impact market competitiveness and brand recognition. This article examines how organizations utilize packaging as a strategic tool to develop brand loyalty and provide memorable experiences, drawing on extensive case studies and industry data research. It investigates how technologies such as augmented reality and smart packaging might be utilized to improve consumer contact and convey relevant product information. Furthermore, this paper looks at the rising relevance of sustainable packaging solutions in addressing environmental issues and meeting customer demand for eco-friendly products. It examines the various sustainable packaging materials and strategies used by prominent businesses to reduce environmental impact while retaining product integrity and shelf appeal. Furthermore, the research examines the importance of packaging in conveying brand values and storytelling, successfully communicating product advantages, and establishing emotional relationships with customers. It also underlines the value of consistent branding across package types and channels in order to provide a united brand experience. Finally, this research underlines the importance of packaging in Nestle's brand performance and provides strategic advice for marketers to maximize packaging strategies for increased brand awareness, customer engagement, and long-term growth in the changing marketplace.

INTRODUCTION:

Packaging's original function—merely enclosing goods for distribution and protection—has long ago changed. It provides a dynamic platform for brand communication, personality, and customer connection in today's fiercely competitive business environment. A paradigm shift is taking place in the packaging sector as a result of changing customer tastes, technology breakthroughs, and sustainability regulations. Because of this, marketers need to understand how packaging affects customer perceptions, decisions to buy, and brand loyalty. This creates the foundation for a thorough examination of the complex role packaging

plays in contemporary marketing tactics. It describes the marketing study's goals, one of which is to assess how Nestle's customer engagement and brand identification are affected by recent developments in packaging design, materials, and functionality. The introduction also emphasizes the expanding use of technology to improve customer connection and the greater emphasis on sustainability in packaging practices.

By understanding the evolving packaging landscape and its strategic implications for organizations, marketers can leverage packaging's capacity to create lasting brand experiences, foster customer connections, and

advance sustainable development. This introduction lays the groundwork for the next sections of the research, which will delve further into these themes and provide useful guidance for marketers hoping to leverage packaging as a competitive edge in today's fast-paced industry.

OBJECTIVES OF STUDY:

1. To investigate strategies and best practices that minimize physical damage to food products during handling, storage, and transportation.
2. To evaluate the compliance of packaging materials and processes with relevant food safety regulations and industry standards as followed by Nestlé.
3. To explore and assess emerging technologies, sustainable materials, and innovative packaging formats that align with evolving consumer preferences and industry advancements.
4. To analyze the effectiveness of current packaging solutions in preserving the freshness, flavor, and nutritional integrity of Nestlé's food products.
5. The study's conclusions are intended to assist firms improve their branding and packaging strategies in order to better connect with customers and increase market performance

REVIEW OF THE LITERATURE:

1. ***Product Packaging: Impact on Customers' Purchase Intention(2020)***, The main objective of this study is to investigate the impact of packaging on the customer purchase intention in Malaysia. The results from this study have indicated that only packaging size and shape are not supported whereas there other three hypotheses of packaging colour, packaging material and packaging graphic which are supported. This research will be very valuable to the packaging industry in Malaysia because there is limited research about the packaging industry

in Malaysia.To attract the customer purchase intention with product packaging, the packaging industry must know about what the customers' needs and wants are to fulfil their requirements. This research will assist the packaging industry in Malaysia to determine the factors of packaging that can enhance the customers' purchase intention.¹²²⁸

2. ***Product Packaging: A Consumer's Perspective(2013)***, This paper studied the packaging research and emphases on physical container characteristics and marketing research that focuses on communication aspects of packaging of product, quality of product by focusing on the shared goals of purchase decision on the basis of consumer perception. According to this study, it is concluded that most consumers like the product quality after they purchased their desired packaged product. Based on those facts, researchers cannot say there is a equal relationship between good package and good product quality, but there is a positive thinking in the minds of consumers. As such, consumers are becoming more demanding in respect of packaging of product, its quality, their perception and decisions for buying a particular product.¹²²⁹

3. ***The influence of visual packaging design on perceived food product quality, value, and brand preference(2013)***, The empirical results show that attitudes toward visual packaging directly influence consumer-perceived food product quality and brand preference. Perceived food

¹²²⁸ Yeo, Sook Fern & Tan, Cheng Ling & Lim, Kah Boon & Khoo, Yong-Hwi. (2020). Product Packaging: Impact on Customers' Purchase Intention. International Journal of Business and Society. 21. 857-864. 10.33736/ijbs.3298.2020.https://www.researchgate.net/publication/343961274_Product_Packaging_Impact_on_Customers'_Purchase_Intention

¹²²⁹ B Zhang, Z Fu, J Huang, J Wang, S Xu... - Journal of cleaner ..., 2018 - Elsevier<https://www.ijcrt.org/papers/IJCRT1802073>

product quality also directly and indirectly (through product value) affects brand preference. This paper offers directions for understanding the effects of visual packaging on positive consumer product and brand evaluations. Based on the study findings, food firms should emphasize the visual packaging design factors such as color, typeface, logo, graphics, and size to form consumers' positive perceptions and brand preference.¹²³⁰

4. ***Innovations in Food Packaging(2005)***

The quality of packaged foods is a combination of attributes that determine their value as human food. These quality factors include visual appearance, texture, flavour, nutritive value, and safety. "Keeping quality" is used more commonly than "shelf life" because of consumer demand for product freshness. The deterioration of foods that occurs progressively during storage may result from physical or chemical changes in the food itself, or from the activity of microorganisms growing in or on the product. Eventually, the cumulative effect of the changes reaches a point at which the consumer rejects the product. Rejection is based on the sensory expectations and perceptions of consumers. Shelf life of a product depends on a multiplicity of variables and changes in them, including the product, the environmental conditions, and the packaging. Depending on the product and its intended application, shelf life may be dictated by microbiology, enzymology, and/or physical effects. The combined knowledge and experience of processors, and those involved in the

storage, distribution, and retailing of foods enable estimates to be made of the likely shelf life of the product under specific storage conditions. In practice, however, the influencing variables that accelerate or retard shelf life are temperature, pH, water content, water activity, relative humidity, radiation, gas concentration, redox potential, the presence of metal ions, and pressure.¹²³¹

RESEARCH METHODOLOGY:

This study takes an empirical method, the primary source used as a structured questionnaire to investigate customer impressions of food packaging in Nestlé goods. and as a secondary source used some websites , annual report, news advertisements etc.,The study used a quantitative research design, with data drawn from simple random sampling technique. The obtained data is evaluated to uncover patterns, trends, and relationships between customer opinions about food packaging. Data is analyzed using IBM SPSS statistical methods and software to retrieve important information. Such as Anova test.

Period of study – February 2025 to April 21, 2025

DATA ANALYSIS

With the assistance of IBM SPSS Statistics, frequency analysis was conducted, and relevant statistical tests, including ANOVA, were performed to examine the differences between variables in relation to specific factors.

LIMITATIONS OF STUDY

The small sample size and online survey methodology used in this study may not fully reflect the views of the general public. Additionally, the results might be affected by sample bias due to the self-selection of online participants. To increase generalizability and comprehension, future research should examine cultural variations in consumer behavior, especially in response to targeted marketing strategies.

¹²³⁰ S.T. Wang, E. (2013), "The influence of visual packaging design on perceived food product quality, value, and brand preference", International Journal of Retail & Distribution Management, Vol. 41 No. 10, pp. 805-816. <https://doi.org/10.1108/IJRDM-12-2012-0113> <https://www.emerald.com/insight/content/doi/10.1108/IJRDM-12-2012-0113/full/html?mobileUi=0&fullSc=1&mbSc=1&fullSc=1>

¹²³¹ <https://doi.org/10.1016/B978-012311632-1/50035-8> Get rights and content

HYPOTHESIS:

1.Null hypothesis (H₀): There is no significant difference in awareness of Nestle products based on residence.

Alternative hypothesis (H₁): There is a significant difference in awareness of Nestle products based on residence.

2.Null Hypothesis (H₀): The source of knowledge about Nestle products is independent of age.

Alternative Hypothesis (H₁): There is a significant association between age and the source of knowledge about Nestle products

3.Null Hypothesis (H₀): Ratings of Nestle products' packaging style are consistent across different age groups.

Alternative Hypothesis (H₁): There is a significant difference in ratings of Nestle products' packaging style based on age.

DEMOGRAPHICS OF THE RESPONDENT

2. Age					
Valid	values	Frequency	Percent	Valid Percent	Cumulative Percent
1	Below 18	4	4.9	4.9	4.9
2	18-25	64	79.0	79.0	84.0
3	26-35	9	11.1	11.1	95.1
4	Above 35	4	4.9	4.9	100.0
Total		81	100.0	100.0	

3. Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	Male	39	48.1	48.1
	2	female	42	51.9	100.0
	Total		81	100.0	

4. Marital status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	Unmarried	74	91.4	91.4
	2	married	7	8.6	100.0
	Total		81	100.0	

5. Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	Student	61	75.3	75.3
	2	Employed	19	23.5	98.8
	3	unemployed	1	1.2	100.0

	Total		81	100.0	100.0	
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6. Area of residence

			Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	Rural	32	39.5	39.5	39.5
	2	urban	49	60.5	60.5	100.0
	Total		81	100.0	100.0	

From the above table and graph, majority of the respondents

(4.9%) belong to below 18 years age group, 79.0% belonging to 18-25 years age group, 11.1% belonging to 26-35 years age group and others belong to above 35 years respectively. Majority of the respondents are females, who constitute 51.9% percentage and males who constitute 48.1%. Majority of the respondents are students who are around 75.3%, employed who are around 23.5% and rest are unemployed. Majority of the respondents are from urban who constitute around 60.5% and 39.5% are from rural area. So, it is clear from the above explanation that this present study majorly involves students and educated working class who are majorly from the age group 18-25 to 26-35 and more than half of them residing in urban area.

TO IDENTIFY THE FACTOR THAT THE CONSUMER THOUGHT TOWARDS FOOD PACKAGING IN NESTLE

7. Do you Know about Nestle company products?

			Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	Yes	74	91.4	91.4	91.4
	2	no	7	8.6	8.6	100.0
	Total		81	100.0	100.0	

8. From where do you came to know about the Nestle product

			Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	Television	48	59.3	59.3	59.3
	2	Newspaper	3	3.7	3.7	63.0
	3	Social media	15	18.5	18.5	81.5
	4	Others	15	18.5	18.5	100.0
	Total		81	100.0	100.0	

9. which type of nestle products you know the most ?

			Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	Maggie	26	32.1	32.1	32.1
	2	Cerelac	3	3.7	3.7	35.8
	3	Chocolate	36	44.4	44.4	80.2
	4	Milkmaid	9	11.1	11.1	91.4
	5	others	7	8.6	8.6	100.0
	Total		81	100.0	100.0	

10. How often you use the product?

			Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	A few times a week	16	19.8	19.8	19.8
	2	About once a week	17	21.0	21.0	40.7
	3	A few times a month	23	28.4	28.4	69.1
	4	Once a month	11	13.6	13.6	82.7
	5	Less than once a month	14	17.3	17.3	100.0
	Total		81	100.0	100.0	

11. Do you like the packaging style of the Nestle product

			Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	Yes	45	55.6	55.6	55.6
	2	no	6	7.4	7.4	63.0
	3	maybe	29	35.8	35.8	98.8
	4	never	1	1.2	1.2	100.0
	Total		81	100.0	100.0	

12. do you think it is worth for the price of the product?

			Frequency	Percent	Valid Percent	Cumulative Percent
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Valid	1	Yes	43	53.1	53.1	53.1
	2	No	4	4.9	4.9	58.0
	3	Sometime s	34	42.0	42.0	100.0
	Total	Never	81	100.0	100.0	

13. Is the packaging convincing you to buy the product?

			Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	Yes	41	50.6	50.6	50.6
	2	No	4	4.9	4.9	55.6
	3	Sometime s	32	39.5	39.5	95.1
	4	never	4	4.9	4.9	100.0
	Total		81	100.0	100.0	

14. whether the packaging of nestle products are environmental friendly?

			Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	Yes	25	30.9	30.9	30.9
	2	No	18	22.2	22.2	53.1
	3	Sometime s	34	42.0	42.0	95.1
	4	never	4	4.9	4.9	100.0
	Total		81	100.0	100.0	

15. Rate the packaging style of Nestle products

			Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	Excellent	14	17.3	17.3	17.3
	2	Good	41	50.6	50.6	67.9
	3	Average	23	28.4	28.4	96.3
	4	Below average	2	2.5	2.5	98.8
	5	Poor	1	1.2	1.2	100.0
	Total		81	100.0	100.0	

16. nestle products should improve their packaging style

		Frequency	Percent	Valid Percent	Cumulative Percent
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Valid	1	Strongly agree	15	18.5	18.5	18.5
	2	Agree	32	39.5	39.5	58.0
	3	Neutral	33	40.7	40.7	98.8
	4	Disagree	1	1.2	1.2	100.0
	Total	Strongly disagree	81	100.0	100.0	

17. nestle product follows all the safety measures while packaging

			Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	Strongly agree	15	18.5	18.5	18.5
	2	Agree	21	25.9	25.9	44.4
	3	Neutral	41	50.6	50.6	95.1
	4	Disagree	3	3.7	3.7	98.8
	5	Strongly Disagree	1	1.2	1.2	100.0
	Total		81	100.0	100.0	

18. which Nestle product is good at packaging?

			Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	Chocolate	14	17.3	17.3	17.3
	3	Milkmaid	42	51.9	51.9	69.1
	4	Maggie	5	6.2	6.2	75.3
	5	Milkmaid	20	24.7	24.7	100.0
	Total	others	81	100.0	100.0	

19. what would you rate nestle product packaging in comparison with other brand's packaging style ?

			Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	Excellent	14	17.3	17.3	17.3
	2	Good	44	54.3	54.3	71.6
	3	Average	20	24.7	24.7	96.3
	4	Below average	2	2.5	2.5	98.8
	5	poor	1	1.2	1.2	100.0
	Total		81	100.0	100.0	

Independent Samples Test

		Levene's Test for Equality of Variances				t-test for Equality of Means				95% Confidence Interval of the Difference	
		F	Sig.	t	df	Significance One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
6. Area of residence	Equal variances assumed	1.020	.316	1.822	79	.036	.072	.349	.192	-.032	.731
	Equal variances not assumed			1.812	71.167	.056	.112	.349	.193	-.104	.803

DATA ANALYSIS AND INTERPRETATION:

1. Independent Sample Test:

Null hypothesis (H0): There is no significant difference in awareness of Nestle products based on residence.

Alternative hypothesis (H1): There is a significant difference in awareness of Nestle products based on residence.

Group Statistics

		7. Do you K2w about Nestle company products?		N	Mean	Std. Deviation	Std. Error Mean
6. Area of residence	1			74	1.64	.485	.056
	2			7	1.29	.488	.184

Analysis:

From this table it is taken that since the sig. value is 0.316 and the other variable sig. value is 0.316 > 0.05 so the Null Hypothesis is not rejected. There is no significant difference in awareness of Nestle products based on residence.

ANOVA

TEST

:

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) 2. Age	(J) 2. Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
9. which type of nestle products you k2w the most ?	1	2	-.609	.660	.793	-2.34	1.13
		3	-.444	.770	.939	-2.47	1.58
		4	-1.500	.906	.354	-3.88	.88
	2	1	.609	.660	.793	-1.13	2.34
		3	.165	.456	.984	-1.03	1.36
		4	-.891	.660	.535	-2.63	.84
	3	1	.444	.770	.939	-1.58	2.47
		2	-.165	.456	.984	-1.36	1.03
		4	-1.056	.770	.521	-3.08	.97
	4	1	1.500	.906	.354	-.88	3.88
		2	.891	.660	.535	-.84	2.63
		3	1.056	.770	.521	-.97	3.08
8. From where do you came to k2w about the Nestle product	1	2	1.609	.618	.053	-.01	3.23
		3	1.389	.721	.226	-.50	3.28
		4	2.250*	.849	.047	.02	4.48
	2	1	-1.609	.618	.053	-3.23	.01
		3	-.220	.427	.955	-1.34	.90
		4	.641	.618	.729	-.98	2.26
	3	1	-1.389	.721	.226	-3.28	.50
		2	.220	.427	.955	-.90	1.34
		4	.861	.721	.632	-1.03	2.75
	4	1	-2.250*	.849	.047	-4.48	-.02
		2	-.641	.618	.729	-2.26	.98
		3	-.861	.721	.632	-2.75	1.03
10. How often you use the product	1	2	-.109	.710	.999	-1.97	1.76
		3	-.139	.828	.998	-2.31	2.03
		4	-.500	.974	.956	-3.06	2.06
	2	1	.109	.710	.999	-1.76	1.97
		3	-.030	.490	1.000	-1.32	1.26
		4	-.391	.710	.946	-2.26	1.47
	3	1	.139	.828	.998	-2.03	2.31
		2	.030	.490	1.000	-1.26	1.32
		4	-.361	.828	.972	-2.53	1.81
	4	1	.500	.974	.956	-2.06	3.06
		2	.391	.710	.946	-1.47	2.26
		3	.361	.828	.972	-1.81	2.53
11. Do you like the packaging style of the Nestle product	1	2	.766	.500	.423	-.55	2.08
		3	.389	.583	.909	-1.14	1.92
		4	.500	.686	.885	-1.30	2.30
	2	1	-.766	.500	.423	-2.08	.55
		3	-.377	.345	.696	-1.28	.53
		4	-.266	.500	.951	-1.58	1.05
	3	1	-.389	.583	.909	-1.92	1.14
		2	.377	.345	.696	-.53	1.28
		4	.111	.583	.998	-1.42	1.64
	4	1	-.500	.686	.885	-2.30	1.30
		2	.266	.500	.951	-1.05	1.58
		3	-.111	.583	.998	-1.64	1.42
12. do you think it is worth for the price of the product?	1	2	.609	.503	.622	-.71	1.93
		3	.944	.587	.380	-.60	2.49
		4	.500	.691	.887	-1.31	2.31
	2	1	-.609	.503	.622	-1.93	.71
		3	-.335	.348	.770	-.58	1.25
		4	-.109	.503	.996	-1.43	1.21
	3	1	-.944	.587	.380	-2.49	.60
		2	.335	.348	.770	-1.25	.58
		4	-.444	.587	.873	-1.99	1.10
	4	1	-.500	.691	.887	-2.31	1.31
		2	.109	.503	.996	-1.21	1.43
		3	.444	.587	.873	-1.10	1.99
13. Is the packaging convincing you to buy the product?	1	2	.875	.538	.370	-.54	2.29
		3	.306	.628	.962	-1.34	1.95
		4	.750	.738	.741	-1.19	2.69
	2	1	-.875	.538	.370	-2.29	.54
		3	-.569	.372	.424	-1.55	.41
		4	-.125	.538	.996	-1.54	1.29
	3	1	-.306	.628	.962	-1.95	1.34
		2	.569	.372	.424	-.41	1.55
		4	.444	.628	.894	-1.20	2.09
	4	1	-.750	.738	.741	-2.69	1.19
		2	.125	.538	.996	-1.29	1.54
		3	-.444	.628	.894	-2.09	1.20

*. The mean difference is significant at the 0.05 level.

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) 2. Age	(J) 2. Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
14. whether the packaging of nestle products are environmental friendly?	1	2	-.469	.491	.775	-1.76	.82
		3	-.694	.573	.621	-2.20	.81
		4	-.250	.674	.982	-2.02	1.52
	2	1	.469	.491	.775	-.82	1.76
		3	-.226	.339	.910	-1.12	.67
		4	.219	.491	.970	-1.07	1.51
	3	1	.694	.573	.621	-.81	2.20
		2	.226	.339	.910	-.67	1.12
		4	.444	.573	.865	-1.06	1.95
	4	1	.250	.674	.982	-1.52	2.02
		2	-.219	.491	.970	-1.51	1.07
		3	-.444	.573	.865	-1.95	1.06
15. Rate the packaging style of Nestle products	1	2	.578	.413	.504	-.51	1.66
		3	.639	.482	.549	-.63	1.90
		4	.500	.567	.814	-.99	1.99
	2	1	-.578	.413	.504	-1.66	.51
		3	.061	.285	.997	-.69	.81
		4	-.078	.413	.998	-1.16	1.01
	3	1	-.639	.482	.549	-1.90	.63
		2	-.061	.285	.997	-.81	.69
		4	-.139	.482	.992	-1.40	1.13
	4	1	-.500	.567	.814	-1.99	.99
		2	.078	.413	.998	-1.01	1.16
		3	.139	.482	.992	-1.13	1.40
16. nestle products should improve their packaging style	1	2	.281	.401	.896	-.77	1.34
		3	.167	.468	.984	-1.06	1.40
		4	.250	.551	.969	-1.20	1.70
	2	1	-.281	.401	.896	-1.34	.77
		3	-.115	.277	.976	-.84	.61
		4	-.031	.401	1.000	-1.09	1.02
	3	1	-.167	.468	.984	-1.40	1.06
		2	.115	.277	.976	-.61	.84
		4	.083	.468	.998	-1.15	1.31
	4	1	-.250	.551	.969	-1.70	1.20
		2	.031	.401	1.000	-1.02	1.09
		3	-.083	.468	.998	-1.31	1.15
17. nestle product follows all the safety measures while packaging	1	2	.578	.456	.585	-.62	1.77
		3	.778	.531	.464	-.62	2.17
		4	.500	.625	.854	-1.14	2.14
	2	1	-.578	.456	.585	-1.77	.62
		3	.200	.315	.921	-.63	1.03
		4	-.078	.456	.998	-1.27	1.12
	3	1	-.778	.531	.464	-2.17	.62
		2	-.200	.315	.921	-1.03	.63
		4	-.278	.531	.953	-1.67	1.12
	4	1	-.500	.625	.854	-2.14	1.14
		2	.078	.456	.998	-1.12	1.27
		3	.278	.531	.953	-1.12	1.67
18. which Nestle product is 2 at packaging?	1	2	-.484	.686	.894	-2.28	1.32
		3	-.583	.799	.885	-2.68	1.52
		4	-.250	.941	.993	-2.72	2.22
	2	1	.484	.686	.894	-1.32	2.28
		3	-.099	.474	.997	-1.34	1.14
		4	.234	.686	.986	-1.57	2.03
	3	1	.583	.799	.885	-1.52	2.68
		2	.099	.474	.997	-1.14	1.34
		4	.333	.799	.975	-1.77	2.43
	4	1	.250	.941	.993	-2.22	2.72
		2	-.234	.686	.986	-2.03	1.57
		3	-.333	.799	.975	-2.43	1.77
19. what would you rate nestle product packaging in comparison with 4 brand's packaging style ?	1	2	.109	.410	.993	-.97	1.19
		3	.028	.478	1.000	-1.23	1.28
		4	.000	.563	1.000	-1.48	1.48
	2	1	-.109	.410	.993	-1.19	.97
		3	-.082	.283	.992	-.83	.66
		4	-.109	.410	.993	-1.19	.97
	3	1	-.028	.478	1.000	-1.28	1.23
		2	.082	.283	.992	-.66	.83
		4	-.028	.478	1.000	-1.28	1.23
	4	1	.000	.563	1.000	-1.48	1.48
		2	.109	.410	.993	-.97	1.19
		3	.028	.478	1.000	-1.23	1.28

Null Hypothesis (H₀): The source of knowledge about Nestle products is independent of age.

Alternative Hypothesis (H₁): There is a significant association between age and the source of knowledge about Nestle products.

8. From where do you came to k2w about the Nestle product

Tukey HSD^{a, b}

2. Age	N	Subset for alpha = 0.05	
		1	2
4	4	1.25	
2	64	1.89	1.89
3	9	2.11	2.11
1	4		3.50
Sig.		.577	.086

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 6.382.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Analysis:

From this table it is taken that since the sig. value is 0.086 and the other variable sig. value is 0.086 > 0.05 so the Null Hypothesis is not rejected. The source of knowledge about Nestle products is independent of age.

Null Hypothesis (H₀): Awareness of different types of Nestle products is independent of age.

Alternative Hypothesis (H₁): There is a significant relationship between age and awareness of certain types of Nestle products.



9. which type of nestle products you k2w the most ?

Tukey HSD^{a,b}

2. Age	N	Subset for alpha = 0.05 1
1	4	2.00
3	9	2.44
2	64	2.61
4	4	3.50
Sig.		.165

Means for groups in homogeneous subsets are displayed.

- a. Uses Harmonic Mean Sample Size = 6.382.
- b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Analysis:

From this table it is taken that since the sig. value is 0.165 and the other variable sig. value is 0.165 > 0.05 so the Null Hypothesis is not rejected. Awareness of different types of Nestle products is independent of age.

Null Hypothesis (H₀): Product usage frequency is not influenced by age.

Alternative Hypothesis (H₁): There is a significant difference in product usage frequency across age groups.

10. How often you use the product

Tukey HSD^{a, b}

2. Age	N	Subset for alpha = 0.05 1
1	4	2.75
2	64	2.86
3	9	2.89
4	4	3.25
Sig.		.916

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 6.382.
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Analysis:

From this table it is taken that since the sig. value is 0.916 and the other variable sig. value is 0.916 > 0.05 so the Null Hypothesis is not rejected. Product usage frequency is not influenced by age.

Null Hypothesis (H₀): Opinion on the packaging style is not affected by age.

Alternative Hypothesis (H₁): There is a significant association between age and liking of the packaging style.



11. Do you like the packaging style of the Nestle product

Tukey HSD^{a,b}

2. Age	N	Subset for alpha = 0.05 1
2	64	1.73
4	4	2.00
3	9	2.11
1	4	2.50
Sig.		.497

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 6.382.
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Analysis:

From this table it is taken that since the sig. value is 0.497 and the other variable sig. value is $0.497 > 0.05$ so the Null Hypothesis is not rejected. Opinion on the packaging style is not affected by age.

Null Hypothesis (H₀): Perception of the product's worth is consistent across different age groups.

Alternative Hypothesis (H₁): There is a significant difference in perception regarding the value of the product based on age.

12. do you think it is worth for the price of the product?

Tukey HSD^{a, b}

2. Age	N	Subset for alpha = 0.05 1
3	9	1.56
2	64	1.89
4	4	2.00
1	4	2.50
Sig.		.317

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 6.382.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Analysis:

From this table it is taken that since the sig. value is 0.317 and the other variable sig. value is $0.317 > 0.05$ so the Null Hypothesis is not rejected. Perception of the product's worth is consistent across different age groups.

Null Hypothesis (H₀): The influence of packaging on purchasing decisions is not dependent on age.

Alternative Hypothesis (H₁): There is a significant relationship between age and the influence of packaging on purchasing decisions.



13. Is the packaging convincing you to buy the product?

Tukey HSD^{a,b}

2. Age	N	Subset for alpha = 0.05 1
2	64	1.88
4	4	2.00
3	9	2.44
1	4	2.75
Sig.		.444

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 6.382.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Analysis:

From this table it is taken that since the sig. value is 0.444 and the other variable sig. value is 0.444 > 0.05 so the Null Hypothesis is not rejected. The influence of packaging on purchasing decisions is not dependent on age.

Null Hypothesis (H₀): Perception of Nestle products' packaging being environmentally friendly is not influenced by age.

Alternative Hypothesis (H₁): There is a significant association between age and the perception of Nestle products' packaging being environmentally friendly.



14. whether the packaging of nestle products are environmental friendly?

Tukey HSD^{a,b}

2. Age	N	Subset for alpha = 0.05 1
1	4	1.75
4	4	2.00
2	64	2.22
3	9	2.44
Sig.		.565

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 6.382.
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Analysis:

From this table it is taken that since the sig. value is 0.565 and the other variable sig. value is 0.565 > 0.05 so the Null Hypothesis is not rejected. Perception of Nestle products' packaging being environmentally friendly is not influenced by age.

Null Hypothesis (H₀): Ratings of Nestle products' packaging style are consistent across different age groups.

Alternative Hypothesis (H₁): There is a significant difference in ratings of Nestle products' packaging style based on age.

GRASP - EDUCATE - EVOLVE

15. Rate the packaging style of Nestle products

Tukey HSD^{a, b}

2. Age	N	Subset for alpha = 0.05 1
3	9	2.11
2	64	2.17
4	4	2.25
1	4	2.75
Sig.		.489

Means for groups in homogeneous subsets are displayed.

- a. Uses Harmonic Mean Sample Size = 6.382.
- b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Analysis:

From this table it is taken that since the sig. value is 0.489 and the other variable sig. value is 0.489 > 0.05 so the Null Hypothesis is not rejected. Ratings of Nestle products' packaging style are consistent across different age groups.

Null Hypothesis (H₀): Opinion on the need for improvement in Nestle products' packaging style is not influenced by age.

Alternative Hypothesis (H₁): There is a significant association between age and the opinion that Nestle products should improve their packaging style.

GRASP - EDUCATE - EVOLVE

16. nestle products should improve their packaging style

Tukey HSD^{a, b}

2. Age	N	Subset for alpha = 0.05 1
2	64	2.22
4	4	2.25
3	9	2.33
1	4	2.50
Sig.		.917

Means for groups in homogeneous subsets are displayed.

- a. Uses Harmonic Mean Sample Size = 6.382.
- b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Analysis:

From this table it is taken that since the sig. value is 0.917 and the other variable sig. value is $0.917 > 0.05$ so the Null Hypothesis is not rejected. Opinion on the need for improvement in Nestle products' packaging style is not influenced by age.

Null Hypothesis (H₀): Perception of Nestle products' adherence to safety measures during packaging is independent of age.

Alternative Hypothesis (H₁): There is a significant relationship between age and the perception that Nestle products follow all safety measures while packaging.



17. nestle product follows all the safety measures while packaging

Tukey HSD^{a,b}

2. Age	N	Subset for alpha = 0.05 1
3	9	2.22
2	64	2.42
4	4	2.50
1	4	3.00
Sig.		.401

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 6.382.
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Analysis:

From this table it is taken that since the sig. value is 0.401 and the other variable sig. value is $0.401 > 0.05$ so the Null Hypothesis is not rejected. Perception of Nestle products' adherence to safety measures during packaging is independent of age.

Null Hypothesis (H₀): Preference for a specific Nestle product's packaging is not influenced by age.

Alternative Hypothesis (H₁): There is a significant association between age and preference for a particular Nestle product's packaging.

18. which Nestle product is 2 at packaging?

Tukey HSD^{a,b}

2. Age	N	Subset for alpha = 0.05 1
1	4	2.75
4	4	3.00
2	64	3.23
3	9	3.33
Sig.		.862

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 6.382.
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Analysis:

From this table it is taken that since the sig. value is 0.401 and the other variable sig. value is $0.401 > 0.05$ so the Null Hypothesis is not rejected. Preference for a specific Nestle product's packaging is not influenced by age.

Null Hypothesis (H0): Ratings of Nestle product packaging compared to other brands' packaging styles are consistent across different age groups.

Alternative Hypothesis (H1): There is a significant difference in ratings of Nestle product packaging compared to other brands' packaging styles based on age.

Analysis:

From this table it is taken that since the sig. value is 0.401 and the other variable sig. value is $0.401 > 0.05$ so the Null Hypothesis is not rejected. Ratings of Nestle product packaging compared to other brands' packaging styles are consistent across different age groups.

MAJOR FINDINGS

Independent sample t test for significant difference between Male and Female with respect to Various Factors².

Hypothesis 1:

Null Hypothesis : There is no significant difference between Male and Female with respect to various factors

H0 (Null Hypothesis): There is no significant difference in consumer perceptions towards food products packaged with traditional packaging materials and those packaged with sustainable packaging materials by Nestlé Company.

HA (Alternative Hypothesis): Consumers perceive food products packaged with sustainable packaging materials more positively compared to those packaged with traditional packaging materials by Nestlé Company.

Explanation:

This hypothesis aims to explore the potential impact of sustainable food packaging on consumer perceptions, specifically within the context of Nestlé Company. It proposes that there is a difference in how consumers perceive food products based on the type of packaging used.

Null Hypothesis (H0):

The null hypothesis suggests that there is no significant difference in consumer perceptions between food products packaged with traditional packaging materials (such as plastic or non-biodegradable materials) and those packaged with sustainable packaging materials (such as biodegradable plastics, recycled materials, or compostable packaging) by Nestlé Company. This implies that regardless of the packaging type, consumers' perceptions remain consistent.

Alternative Hypothesis (HA):

Conversely, the alternative hypothesis suggests that consumers perceive food products packaged with sustainable packaging materials more positively compared to those packaged with traditional packaging materials by Nestlé Company. This implies that sustainable packaging may lead to more favorable consumer perceptions due to factors such as environmental concerns, perceived product quality, and brand image.

This hypothesis sets the stage for empirical research to investigate consumer perceptions through surveys, focus groups, or experiments, comparing responses to products with different packaging types. The findings would provide insights into the potential benefits of adopting sustainable packaging practices for food companies like Nestlé.

RESULT

1. Consumers are aware about food packaging.
2. Consumers are willing to buy more food products from nestle company.

RECOMMENDATION

For Nestlé to optimize its packaging strategies, here are some recommendations:

1. Transition to Sustainable Packaging:

Prioritize the transition to sustainable packaging materials that are recyclable, biodegradable, or compostable. Invest in research and development to innovate new packaging solutions that reduce environmental impact while maintaining product quality and safety.

2. Reduce Packaging Waste:

Implement initiatives to reduce packaging waste throughout the product lifecycle, from design and manufacturing to distribution and disposal. Optimize packaging sizes and formats to minimize material usage without compromising product integrity.

3. Circular Economy Approach:

Embrace a circular economy approach by designing packaging systems that promote reuse, recycling, and resource recovery. Collaborate with stakeholders across the value chain to establish closed-loop systems for packaging materials, ensuring they are recovered and reintegrated into new products.

4. Consumer Education:

Educate consumers about the importance of responsible packaging choices and proper disposal practices. Provide clear labeling and instructions on recycling and waste management to empower consumers to make sustainable decisions.

5. Innovative Design:

Explore innovative packaging designs and technologies that enhance functionality, convenience, and shelf-life while minimizing environmental footprint. Consider alternatives such as flexible packaging, bio-based materials, and advanced barrier technologies to extend product freshness and reduce food waste.

6. Collaboration and Partnerships:

Collaborate with industry partners, academia, and government agencies to drive collective action and innovation in sustainable packaging. Join industry initiatives and coalitions to share best practices, set common goals, and advocate for policy reforms that support sustainable packaging practices.

7. Lifecycle Assessment:

Conduct lifecycle assessments to evaluate the environmental impacts of packaging materials and identify opportunities for improvement. Use data-driven insights to optimize packaging designs, materials selection, and distribution strategies for maximum sustainability.

8. Transparency and Reporting:

Enhance transparency in packaging practices by publicly disclosing sustainability goals, progress, and performance metrics. Publish annual sustainability reports that outline achievements, challenges, and future commitments related to packaging sustainability.

9. Regulatory Compliance:

Stay abreast of evolving regulations and standards related to packaging materials, recycling, and waste management. Ensure compliance with relevant laws and industry guidelines to mitigate regulatory risks and maintain brand integrity.

10. Continuous Improvement:

Foster a culture of continuous improvement and innovation in packaging sustainability by encouraging cross-functional collaboration, employee engagement, and stakeholder feedback. Set ambitious targets and milestones to drive ongoing progress towards a more sustainable packaging ecosystem.

By adopting these recommendations, Nestlé can demonstrate leadership in packaging sustainability, enhance brand reputation, and

contribute to the transition towards a circular economy.

Conclusion

Nestlé may dramatically enhance its profitability and reputation by adopting sustainable packaging solutions. Nestlé can decrease its environmental impact while meeting customer expectations for responsible and transparent packaging by deploying innovative packaging materials, decreasing packaging waste, and working with partners along the value chain. Nestlé can demonstrate its commitment to environmental stewardship and help fight plastic waste and climate change by implementing a circular economy plan, investing in R&D, and educating customers about sustainable packaging solutions.

Furthermore, by combining its packaging strategy with rising legal requirements and industry standards, Nestlé can decrease risks, enhance its supply chain, and position itself as a sustainability leader. Overall, Nestlé's transition to sustainable packaging reflects both a financial necessity and a moral obligation to safeguard the environment for future generations. Nestlé can pave the way for a more sustainable and resilient future for its packaging practices and the food industry as a whole by constantly improving, cooperating, and staying transparent.

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