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A STUDY ON IMPACT OF PACKAGING ON CONSUMER BUYING PERCEPTION OF DAIRY PRODUCTS IN ANKLESHWAR CITY

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Abstract: This study looks into how packaging affects consumers' perceptions when making purchases. It looks to identify the relationships between different variables and analyse the critical elements that lead to a brand's success. Originally, data from 145 respondents were gathered for the study using a questionnaire, and analysis was done using SPSS software. ANOVA testing, Pearson Correlation, and Multiple Linear Regression were used in the study. According to the research, packaging has a big impact on consumers' decisions to buy, especially when it comes to its colour, material, and label. In the end, the study demonstrates that packaging plays a critical role in influencing consumers' purchasing decisions.

Keywords: Packaging Label, Buying Perception, Packaging Color, Packaging Material, Dairy Industry.

1. Introduction of the Study

A product is a mix of material and immaterial commodities and services that are offered for sale to a customer. It is any concept, technique, knowledge, product, or service that is produced as a consequence of a process and meets a need or want. Customers are drawn to any product or service that meets their wants and fulfils their requests, and they are particularly fond of new products and services that will accomplish these goals.

The purchasing habits of customers for any given good or service can be readily observed by looking at: How does a consumer become interested in any product? Does the offered good or service meet the needs of the customer, and if not, how will the customer respond to any new offerings? What are customers' opinions regarding the goods or services offered by the company? To what extent do customers recognise the product or service? How much weight they place on the goods or services that a company offers. Numerous factors might boost the sales of a product. Product is composed of a blend of several components, including quality, ability to protect, meeting customer wants, and packaging that will improve the product's existence and create a positive impression in the eyes of the customer.

A product's packaging is a major factor in drawing customers to it. Packaging, which includes colour, material, label, and other features, is also employed by businesses as a promotional tool. Packaging is the total package that a business offers to its customers and encourages impulsive purchases. Packaging draws customers and boosts sales. It also lowers the product's marketing and advertising expenses. Companies have not paid much attention to their product packaging in recent decades. Customers were not drawn to the product and did not buy it, which will result in a loss of sales.

However, because there is fierce competition among all dairy products, businesses are now placing greater emphasis on the product packaging. Prior studies indicate a discrepancy between the quality of packaging and

the purchasing habits of consumers. Customers love novelty items that catch their attention, and the first thing they notice about a product is its eye-catching packaging. Numerous studies concentrate on the aspects of packaging, such as colour, substance, and other package components, that influence consumers' intentions to make purchases. This study also focuses on the features and components of packaging in order to formulate hypotheses and determine the actual situation and customer perception that underlie their purchasing intentions for Dairy products.

1.1 Literature Review

- 1. This study conducted by **Muhammad Usama Ahsan Ansari**, **Dr. Danish Ahmed Siddiqui** (2019) aimed to see how different things about food packaging, like pictures, colours, size, shape, information, and materials, affect what people buy in Pakistan. They asked 300 people questions and did some math to analyse the answers. They found that the pictures, colours, size, shape, information, and materials on packaging can all affect what people decide to buy. The study says that these packaging things are really important for showing how good a product is and can change what people buy. It suggests that food companies should listen to what customers think about their packaging and use that to make better designs. They also think that if customers help design the packaging, it could make products more appealing.
- 2. This study conducted by Mahera Mazhar, Sayeda Daud, Sana Arz, Bhutto Muhammad Mubin (2015) aimed to understand how packaging affects consumer buying behaviour and the success of a brand. It explores the relationship between different aspects of packaging and consumer choices. The research collected data from 300 respondents through a questionnaire and analysed it using SPSS software. The findings suggest that packaging is a crucial factor influencing consumer decisions, especially elements like colour, material, design, and innovation. Packaging emerges as a powerful factor shaping consumer purchase choices.
- 3. **Aparna Goyal, Vipul Kumar, and Sanjeev Bansal's (2018)** study sought to pinpoint the critical elements influencing consumers' purchasing decisions, with an emphasis on the significance of packaging for brand success. Companies must comprehend the consumer purchasing process and how packaging affects decisions in order to design packaging that works. Businesses can choose superior packaging by being aware of these variables. The study will look at how different packaging components—like colour, printed information, material, design, brand image, and functionality—relate to the customer purchasing process. SPSS software will be used for data analysis after an organised questionnaire is used to gather data. Finding the key elements influencing consumers' purchasing decisions is the aim.
- 4. This study conducted by **Muhammad Amir Adam Kamran Ali (2014)** looked at how packaging affects what people buy. It wants to understand how different parts of packaging, like color, design, material, size, and graphics, influence consumer choices. They found that some things, like certain colours, sizes, and designs, can make people more likely to buy a product. However, other things, like easy-to-tear pouches, might make people less likely to buy. For example, Tetrapak packaging is liked by consumers, while glass and plastic bottles are not as popular. The study also found that certain colours and font styles on packaging can make people more likely to buy a product.
- 5. This study conducted by **Osaf Ahmed Khan & Danish Ahmed Siddiqui** (2019) looked at how certain things on milk packaging, like nutrition info, price, where it's from, and quality, affect people's milk-buying habits. They surveyed 318 people in Karachi using a questionnaire. The results showed that these packaging features have a big impact on what people choose to buy. People like it when milk packages have lots of information. Nutrition info is especially important and can help milk companies sell more. The study suggests that milk producers and marketers should focus on the information they put on their packaging to attract more buyers.
- 6. This study conducted by **Suman Prosad Saha** (2020) discovers that packaging is really important for products because it catches people's attention. Some companies use packaging to promote their products. This study wants to find out what things about packaging are important to consumers in the Fast Moving Consumer Goods industry in Bangladesh. They asked 338 people questions using a form and used Statistical Package for the Social Sciences {SPSS} to analyse the answers. They looked at things like the colour of the packaging, what it's made of, how nice the design is, the labels, and if the packaging is innovative. They wanted to see if these things affect how people decide what to buy. The results showed that these factors do affect people's buying decisions, which is useful for managers who want to make products that people will buy.
- 7. This study conducted by Mr. Mitul M. Deliya & Mr. Bhavesh J. Parmar (2012) explores how packaging affects what people buy. It aims to understand why packaging is important for a product's success. The study focuses on the relationship between different aspects of packaging and how people decide what to buy. It was conducted in Patan District, Gujarat, India. Packaging plays a significant role in consumer

buying behaviour, and elements like colour, images, material, font style, design, information, and innovation are important. With more people buying things for themselves and lifestyles changing, packaging is becoming more important for attracting buyers and encouraging impulse purchases. Packaging is crucial for marketing, especially at the point of sale, and greatly influences what people choose to buy.

- 8. This study conducted by **Abu Sayed Md. Shahiduzzaman, Dr. Manas Naskar(2023)** Customer satisfaction depends on many things about a product, like its quality, availability, how clear and reliable it is, and if the information on it is accurate, transparent, and comprehensive. The design and format of labels on packaged food products can also affect customer satisfaction because they provide important information about the product's quality and reliability. Good labelling can increase awareness about the product's quality, availability, reliability, and ingredients. This study aims to find out what makes labelling effective in satisfying customers. They reviewed a lot of research to come up with a framework for their study. They also collected data from customers using a questionnaire and analysed it using different methods. The results showed that transparent, reliable, and comprehensive labelling on packaged food products has a big impact on customer satisfaction. The design and format of labels also play a role in getting customers to read them and be aware of the product, which makes them more satisfied.
- 9. This study conducted by **Elu Ishaku**, **Remoh Tijani** (2013) looked at how the way beverages are packaged affects people's decisions to buy them in Taraba State, Nigeria. They wanted to see how things like the information on the packaging, the quality of the materials used, the design of the wrapper, and the colour of the packaging affected what people chose to buy in Wukari, Donga, and Jalingo. They asked 89 people questions using a specific form and used some math to analyse the answers. The results showed that the way products are packaged really does affect what people buy in Taraba State. Things like the color of the packaging, the materials used, the style of writing, the design of the wrapper, the information printed on it, the background information, the background image, and how innovative the packaging is can all influence what people decide to buy. The study suggested ways to improve how beverage drinks are packaged based on these findings.
- 10. The goal of this study by **Sumair Hasan Siddiqui and Emad-Ul-Karim** (2022) is to comprehend how packaging influences consumer choices in Pakistan's Fast Moving Consumer Goods (FMCG) market. The study focuses on how people's decisions are influenced by the colours of packaging. Marketers and researchers focus on colours in packaging since it plays a significant influence in drawing in customers. According to this study, people's preferences vary depending on the hue of the package, which is consistent with findings from other consumer psychology studies Customers who purchase these products and use FMCG brands provided them with data. To examine the data, they took a quantitative method and employed internet platforms to gather 385 surveys. The findings show that consumers' buying intentions are influenced by a variety of factors, including the colours used in packaging, how consumers perceive these colours, their personality traits, assessments, and excitement about the packaging. According to the study, these elements significantly influence the purchases that consumers make.

1.2 Background of the Study

The aim of this research project is to examine how consumer perceptions of the dairy business are affected by packaging materials. When it comes to determining customer preferences and swaying purchases, packaging is extremely important. Comprehending the correlation between packaging materials and consumer perception might yield significant insights for dairy sector enterprises. Our goal in analysing this relationship is to assist companies in making well-informed decisions regarding their packaging strategy in order to increase sales and improve consumer happiness.

For this project, a standardised questionnaire has been created to collect data. Three main independent variables are the subject of the questionnaire: packaging label, packaging material, and packaging colour. These factors were selected in light of their possible impact on how consumers view dairy products. Those who routinely buy dairy products in Ankleshwar and are familiar with the dairy business will receive the questionnaire. Through gathering feedback from this intended audience, we can gain insights from people with pertinent expertise and knowledge in the field.

Following the completion of the data gathering phase, statistical software—specifically, multiple regression analysis—will be used to examine the data. We will be able to investigate the relationship between the independent variables of packaging colour, packaging material, and package label and the dependent variable, which is customer buying perception, thanks to this study. We can ascertain the degree to which

these packaging elements affect customer behaviour and purchase decisions in the dairy sector by carrying out this investigation. Businesses may effectively engage their target audience and optimise their packaging strategy with the help of the study's helpful insights.

1.3 Problem Statement /Rationale / of the Study

> Problem Statement:

The success of dairy products depends on an understanding of customer buying perception in the fiercely competitive dairy business. Packaging has a big impact on how consumers perceive products and make judgements about what to buy. It is unclear, therefore, exactly how packaging affects consumers' perceptions of what they should buy in the dairy sector. Thus, with a particular focus on the Ankleshwar region, this research attempts to explore the relationship between packaging material and customer buying perception in the context of the dairy business.

> Rationale:

This study's justification is the need to close the current information gap about how packaging affects consumers' perceptions of what they should buy in the dairy sector. This study aims to give dairy firms in Ankleshwar useful insights by investigating the relationship between packaging material and consumer happiness. This will help them create packaging strategies that effectively cater to consumer preferences. Furthermore, this study attempts to add to the body of knowledge already available on packaging and consumer behaviour by analysing the impact of packaging colour, packaging material, and packaging label on customer buying perception.

In order to fulfil the research goals, people who routinely buy dairy products in Ankleshwar will be given a structured questionnaire to complete in order to gather primary data. The research attempts to collect accurate and representative data by focusing on respondents who have relevant experience and familiarity with the dairy sector. Following data collection, SPSS software will be used to analyse the data. Multiple regression analysis will be used to look at the link between the independent variables—packaging colour, packaging material, and packaging label—and the dependent variable, customer satisfaction buying perception.

Our goal in doing this research is to give dairy companies in Ankleshwar useful information that they can use to increase consumer satisfaction, their packaging techniques, and their competitiveness in the market. Additionally, by deepening our knowledge of how packaging affects consumers' perceptions of what they should buy in the dairy business, this study will benefit academia.

1.4 Objectives of the Study

- ✓ To ascertain how the colour of the packaging affects Ankleshwar city consumers perception when making purchases.
- ✓ To find out how packaging affects the way consumers perceive purchases in Ankleshwar city.
- ✓ To ascertain how the label on packaging affects the perception of purchases made by consumers in Ankleshwar city.

1.5 Hypothesis

- **H**₀ (**Null Hypothesis**): There is no important correlation between packaging and consumer buying perception.
- **H**₁ (**Alternate Hypothesis**): There is important correlation between packaging and consumer buying perception.

2. Research Methodology

Primary data collection forms the basis of the research technique for this study on the influence of packaging material on consumer buying perception in the dairy business. We created a systematic questionnaire to evaluate our hypothesis, which holds that there is an important link (H₁) between packaging material and customer buying perception and that there is no significant correlation (H₀) between packaging material and customer buying perception. The questionnaire asks about package colour, packaging material, and packaging label; these are the independent variables; and the dependent variable is consumer satisfaction on buying perception. We sought to collect precise and trustworthy data from people who are knowledgeable about the dairy sector, are accustomed to buying dairy products in Ankleshwar, and who could respond to a structured questionnaire.

We specifically sought out respondents who had a foundational understanding of dairy products and their purchase habits in order to guarantee the data's accuracy and representativeness. A sample of people who fit

these criteria in Ankleshwar were given the questionnaire. Ankleshwar was our choice for the research site because of its importance to the dairy sector and the presence of a sizable consumer base. We sought to understand respondents' opinions and preferences about packaging material and how it affected their purchasing decisions by gathering primary data from them in Ankleshwar.

We used the Statistical Package for the Social Sciences (SPSS) software to evaluate the data after the data gathering phase was finished. The study utilised multiple regression analysis to investigate the correlation between the independent factors, packaging colour, packaging material, and packaging label, and the dependent variable, customer satisfaction on buying perception. In the context of the dairy business, our research enabled us to evaluate the degree to which these independent variables contribute to customer satisfaction and purchase perception. We sought to offer a solid statistical study that backs up our research premise, and we achieved this by utilising SPSS and multiple regression analysis.

2.1 Research Design

We used a research design based on primary data collecting for our study on the effect of packaging material on consumer buying perception in the dairy business. Our hypothesis is comprised of two statements: H0, which suggests that there is no substantial association between the perceptions of customers and packaging, and H0, which suggests that there is a strong relationship between the two.

We determined that customer happiness on buying perception is the dependent variable in order to test these hypotheses. Three independent factors were also chosen by us: the packaging label, substance, and colour. We created a structured questionnaire with the intention of getting precise information from people who are familiar with the dairy business and frequently buy dairy products in Ankleshwar in order to obtain primary data.

We specifically sought respondents who had a fundamental understanding of dairy products and their purchase behaviour in order to assure the quality and correctness of our findings. In particular, we spoke with people in Ankleshwar, a place that is significant to the dairy sector and has a sizable customer base. We sought to understand these respondents' opinions and preferences about packing material and how it affected their purchasing decisions by gathering primary data from them. To guarantee the validity of our conclusions, it was essential that we collect precise data from those who are knowledgeable about the sector.

We used SPSS software to examine the data we had gathered after the data collection phase was over. In order to investigate the association between the dependent variable—customer satisfaction on buying perception—and the independent variables—packaging colour, packaging material, and packaging label—we used multiple regression analysis. We were able to evaluate the degree to which these independent variables influence consumer happiness and purchasing perception within the dairy business by using a statistical technique. Our goal was to present a solid statistical study that backs up our research premise, and we achieved this by using SPSS and multiple regression analysis.

2.2 Source of Data

We obtained primary data to investigate the relationship between packaging material and customer buying perception in this study on the effect of packaging material on consumer buying perception in the dairy business. We specifically targeted people who routinely buy dairy products in Ankleshwar and are well-informed about the dairy sector in order to assure the accuracy and dependability of our data.

Our study's main source of data was gathered via a structured questionnaire. The purpose of this questionnaire was to get information from respondents about how they felt about packaging and how it affected their decisions to purchase. Three independent variables in particular caught our attention: packaging colour, packaging material, and packaging label. In our study, client satisfaction with purchasing perception served as the dependent variable.

We sought out people with rudimentary understanding of dairy products and the dairy sector in order to collect reliable data. In order to gather firsthand knowledge from people who have purchased and consumed dairy products in Ankleshwar, a site relevant to the dairy business, we targeted respondents in that area.

We want to make sure that our findings are representative of the target demographic and offer insightful information on the influence of packing material on consumer perception of dairy industry purchases by gathering original data from these informed respondents.

2.3 Data Collection Method

In order to investigate how package material affects consumers' perceptions of what to buy in the dairy business, we used a primary data gathering approach in this study. Three independent variables were chosen: packaging colour, material, and label. Our hypothesis is that there is a strong association between packaging

and customer buying perception. The perception of customers' purchases served as the study's dependent variable.

We created a structured questionnaire which was centred on these characteristics in order to collect accurate and trustworthy data. People who routinely buy dairy products in Ankleshwar and have knowledge of or experience with the dairy business were given the questionnaire. In order to guarantee that the information gathered is pertinent and representative, we specifically targeted respondents who had a basic grasp of dairy products.

We used multiple regression analysis and SPSS software to evaluate the data that we had obtained. This gave us the opportunity to look at the correlations between the independent and dependent variables and assess their importance. With the help of application of this statistical study, our goal was to offer a thorough comprehension of how package material affects consumers' perceptions while making purchases in the dairy sector.

2.4 Population

For this study, our target population consisted of individuals who are knowledgeable and familiar with the dairy industry and regularly purchase dairy products in Ankleshwar. We specifically focused on individuals who have a basic understanding of dairy products to ensure that the data collected is accurate and representative of the target population.

By selecting respondents who already have some knowledge and familiarity with the dairy industry, we aimed to gather insights from individuals who can provide valuable perspectives on the impact of packaging material on consumer buying perception. Their experiences and opinions regarding packaging color, packaging material, and packaging label are crucial in understanding the relationship between these factors and customer buying perception.

To ensure the accuracy of our data, we collected information from a diverse range of respondents within Ankleshwar. This allowed us to capture a comprehensive view of the population and obtain a wide range of perspectives. By including individuals with different backgrounds and preferences, we aimed to gather a robust dataset that reflects the diverse consumer landscape in Ankleshwar dairy industry.

2.5 Sampling Method

For our research, we employed a combination of **convenience sampling and stratified sampling methods** to ensure a comprehensive and diverse sample.

Firstly, we utilized **convenience sampling** to gather data from individuals who were easily accessible and willing to participate in our study. This approach allowed us to efficiently collect primary data from respondents who already had knowledge and familiarity with the dairy industry and regularly purchased dairy products in Ankleshwar.

Additionally, we implemented **stratified sampling** to ensure representation across different demographic groups within our target population. We divided the population into strata based on factors such as age, gender, and occupation. From each stratum, we randomly selected participants to ensure a balanced representation of various characteristics within our sample.

To collect the primary data, we designed a structured questionnaire that focused on customer satisfaction with buying perception and the impact of packaging material. The questionnaire included questions related to packaging color, packaging material, and packaging label. We administered the questionnaire to the selected participants, ensuring that we gathered accurate data from individuals who were knowledgeable and familiar with the dairy industry.

Once we collected the data, we performed statistical analysis using the SPSS software, specifically employing multiple regression analysis. This allowed us to examine the relationship between the dependent variable, customer satisfaction on buying perception, and the independent variables of packaging color, packaging material, and packaging label.

By utilizing a combination of convenience sampling and stratified sampling methods, we aimed to capture a wide range of perspectives and ensure the validity and reliability of our findings. This approach strengthens the generalizability of our results and enhances the overall quality of our research.

2.6 Sampling Frame

For the sampling frame section of your research paper, based on the data provided, we utilized a combination of convenience sampling and stratified sampling methods to ensure a comprehensive representation of the target population.

Convenience sampling was employed to select participants who were easily accessible and available for the study. This approach allowed us to collect data efficiently and effectively from individuals who were

knowledgeable and familiar with the dairy industry and regularly purchased dairy products in Ankleshwar industrial area.

In addition to convenience sampling, we also utilized **stratified sampling** to ensure a diverse and representative sample. We divided the target population into different strata based on relevant characteristics such as **age**, **gender**, **and occupation**. By doing so, we were able to select participants from each stratum in proportion to their representation in the population. This approach helped to minimize potential bias and ensure a more accurate reflection of the population's characteristics.

By combining convenience sampling and stratified sampling, we aimed to strike a balance between accessibility and representativeness in our sample. This approach allowed us to gather valuable insights from a diverse range of individuals who regularly engage in purchasing dairy products in Ankleshwar.

2.7 **Data Collection Instrument**

We created a structured questionnaire in order to gather primary data for our study on how packaging affects consumers' perceptions of what they should buy in the dairy sector. With the use of this tool, we were able to compile pertinent data from people who frequently buy dairy products in Ankleshwar and are wellversed the dairy The meticulously constructed questionnaire covered the following variables: packaging colour, packaging material, packaging label, and customer buying perception. In order to investigate the relationship between the independent variables (packaging colour, packaging material, and packaging label) and the dependent variable (customer satisfaction with buying perception), we created the questions with the intention of capturing respondents' perceptions and preferences regarding these variables.

We have targeted respondents who often purchase dairy products and have a basic awareness of the dairy industry in order to assure the accuracy of our findings. We selected participants based on their relevant expertise and knowledge in order to collect precise and perceptive answers that would enhance the validity dependability We obtained firsthand information from Ankleshwar locals who are well-versed in the dairy business by using this structured questionnaire as our data gathering tool. With the use of this method, we were able to use SPSS software to analyse the data that had been gathered and look at the correlations between the independent and dependent variables through multiple regression analysis.

3. Data Analysis and Interpretation

We investigated the effect of packaging on consumer perceptions of the dairy business in Ankleshwar city for our research paper. We used multiple linear regression analysis in SPSS software to evaluate the data. The variables in this study were classified as follows: A1, A2, A3&A4 representing "Packaging colour," B1, B2, B3&B4 representing "Packaging material," and C1, C2, C3&C4 representing "Packaging label." We looked at each of these independent variables in connection to the dependent variable, which we coded as D1&D2, or "Consumer buying Perception." Through the application of multiple linear regression analysis, the degree to which packaging influences consumer perceptions of what to buy can be ascertained. This study offers insightful information regarding the effects of packaging.

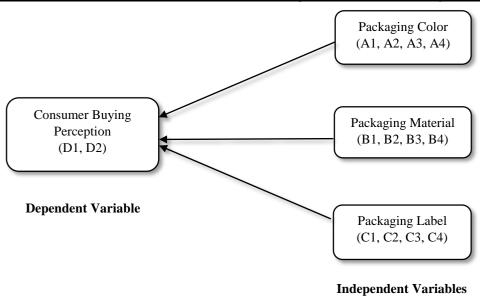


Figure 3.1 Conceptual Framework **Source: Authors Analysis**

> Frequency Analysis:

Table 3.1 Social and Demographical Information's of Respondents (Source: Authors Analysis)

| Variable | Frequency | Population (%) |
|---------------|-----------|----------------|
| <u>Gender</u> | | |
| Male | 88 | 60.68 |
| Female | 56 | 38.61 |
| Other | 1 | 0.71 |
| Age | | |
| 18-29 | 134 | 92.41 |
| 30-49 | 7 | 4.82 |
| 50-55 | 3 | 2.06 |
| Above 55 | 1 | 0.71 |
| Job Status | | |
| Student | 105 | 72.41 |
| Employed | 38 | 26.20 |
| Unemployed | 2 | 1.39 |
| Retired | 0 | 0 |
| <u>Income</u> | | |
| Below 18000 | 98 | 67.58 |
| 18000-25000 | 24 | 16.55 |
| 30000-50000 | 13 | 8.96 |
| Above 50000 | 10 | 6.91 |

Table 3.1 illustrates that of the 145 replies, 88 (or 60.7%) were male, 56 (or 38.6%) were female, and 1 (1) was identified as other. 72.4% of the population (105 people) were students, 26.2% were working (38 people), and 1.4% were jobless (2). Age-wise, 132 people (92.4%) were between the ages of 18 and 29; 4.6% were between the ages of 30 and 49; 2% were between the ages of 50 and 55; and 1% were over the age of 55 (1). In terms of earnings, 98 people made less than 18,000, 24 people made between 18,000 and 25,000, 13 people made between 30,000 and 50,000, and 10 people made more than 50,000.

Descriptive Statistics:

Table 3.2 Descriptive Statistics (Source: Authors Analysis)

| Table 3.2 Descriptive Statistics (South | N | Std. | | |
|---|-----------|-----------|--------------|-----------|
| | | Deviation | | |
| | Statistic | Statistic | Std. | Statistic |
| | | | Error | |
| You are more attracted to dairy product packaging with | 145 | 3.50 | 0.092 | 1.106 |
| certain colours? | | | | |
| Packaging colours bring out positive emotions and | 145 | 3.64 | 0.084 | 1.012 |
| influence your overall satisfaction with dairy products? | | | | |
| You find colour combinations more visually appealing and | 145 | 3.72 | 0.084 | 1.012 |
| easier to read? | | | | |
| You ever choose or avoid a dairy product based on the | 145 | 3.21 | 0.091 | 1.099 |
| colour of its packaging? | | | | |
| Packaging material influence your decision to purchase a | 145 | 3.58 | 0.080 | 0.962 |
| particular dairy product? | | | | |
| Packaging material affect your perception of the quality of | 145 | 3.55 | 0.089 | 1.073 |
| the dairy product? | | | | |
| The choice of packaging material impact your perception of | 145 | 3.58 | 0.085 | 1.025 |
| the freshness and shelf life of dairy products? | | | | |
| The choice of packaging material impact your perception of | 145 | 3.62 | 0.084 | 1.014 |
| a brand's commitment to quality and sustainability? | | | | |
| The clarity of information on the packaging label when | 145 | 3.92 | 0.079 | 0.947 |
| choosing dairy products is important? | | | | |
| The presence of detailed nutritional information impact | 145 | 3.81 | 0.088 | 1.056 |
| your purchase decision? | | | | |
| Special promotions or features highlighted on the | 145 | 3.68 | 0.084 | 1.006 |
| packaging label impact your decision to try a new dairy | | | | |
| product? | | | | |
| Do certifications or seals on the packaging label (e.g., | 145 | 3.85 | 0.078 | 0.938 |
| organic, non-GMO, animal welfare) influence your | | | | |
| purchasing decision for dairy products? | | | | |
| A dairy product solely can be chosen based on its | 145 | 3.40 | 0.091 | 1.102 |
| packaging? | | | | |
| The packaging of a product contribute to your overall | 145 | 3.68 | 0.082 | 0.985 |
| shopping experience? | | | | |

Table 3.2 shows that a mean value of 3 denotes neutrality; a value above 3 indicates agreement with the questions, and a value below 3 indicates disagreement. Based on the mean value of 3, it is evident that the respondents agree with the questions regarding consumer buying perception, packaging colours, packaging material, and packaging labelling.

Part-A

Test Result by using D1 as dependent variable which represent consumer buying perception:

> Correlation:

Table 3.3 Correlation by using D1 as Dependent Variable (Source: Authors Analysis)

| Pearson | D1 | A 1 | A2 | A3 | A4 | B1 | B2 | В3 | B4 | C1 | C2 | C3 | C4 |
|------------|------|------------|------|------|------|------|------|------|------|------|------|------|------|
| Correlatio | | | | | | | | | | | | | |
| n | | | | | | | | | | | | | |
| D1 | 1.00 | 0.46 | 0.36 | 0.39 | 0.39 | 0.29 | 0.32 | 0.42 | 0.36 | 0.25 | 0.32 | 0.52 | 0.45 |
| | 0 | 8 | 0 | 5 | 0 | 1 | 3 | 1 | 7 | 2 | 3 | 5 | 6 |
| A1 | 0.46 | 1.00 | 0.70 | 0.59 | 0.38 | 0.49 | 0.34 | 0.38 | 0.33 | 0.38 | 0.36 | 0.62 | 0.40 |
| | 8 | 0 | 0 | 2 | 9 | 1 | 7 | 1 | 0 | 4 | 2 | 0 | 1 |
| A2 | 0.36 | 0.70 | 1.00 | 0.66 | 0.31 | 0.55 | 0.38 | 0.43 | 0.44 | 0.52 | 0.41 | 0.52 | 0.34 |
| | 0 | 0 | 0 | 0 | 1 | 7 | 2 | 6 | 2 | 7 | 6 | 6 | 5 |

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|---------------|------------|------------|------------|------------|------------|------------|------------|------------|----------------|------------|------------|------------|----------------|
| A3 | 0.39 | 0.59 | 0.66 | 1.00 | 0.32 | 0.39 | 0.42 | 0.40 | 0.42 | 0.35 | 0.25 | 0.44 | 0.28 |
| | 5 | 2 | 0 | 0 | 8 | 1 | 6 | 0 | 9 | 2 | 4 | 8 | 4 |
| A4 | 0.39 | 0.38 | 0.31 | 0.32 | 1.00 | 0.32 6 | 0.46 | 0.36 | 0.32 | 0.20 | 0.31 | 0.33 | 0.32 |
| B1 | 0.29 | 0.49 | 0.55 | 0.39 | 0.32 | 1.00 | 0.43 | 0.38 | 0.45 | 0.27 | 0.39 | 0.43 | 0.31 |
| D 1 | 1 | 1 | 7 | 1 | 6 | 0 | 5 | 3 | 4 | 2 | 1 | 2 | 4 |
| B2 | 0.32 | 0.34 | 0.38 | 0.42 | 0.46 | 0.43 | 1.00 | 0.47 | 0.55 | 0.41 | 0.35 | 0.40 | 0.40 |
| | 3 | 7 | 2 | 6 | 8 | 5 | 0 | 8 | 7 | 4 | 2 | 5 | 1 |
| В3 | 0.42 | 0.38 | 0.43 | 0.40 | 0.36 | 0.38 | 0.47 | 1.00 | 0.56 | 0.46 | 0.47 | 0.48 | 0.47 |
| | 1 | 1 | 6 | 0 | 1 | 5 | 8 | 0 | 7 | 8 | 6 | 0 | 5 |
| B4 | 0.36 | 0.33 | 0.44 | 0.42 | 0.32 | 0.45 | 0.55 | 0.56 | 1.00 | 0.51 | 0.39 | 0.36 | 0.39 |
| C1 | 7 0.25 | 0.38 | 0.52 | 9 0.35 | 0.20 | 4 0.47 | 7 0.41 | 7 0.48 | 0.51 | 7 | 0.59 | 0.51 | 0.50 |
| CI | 2 | 4 | 7 | 2 | 4 | 2 | 4 | 6 | 7 | 0 | 5 | 9 | 2 |
| C2 | 0.32 | 0.36 | 0.41 | 0.25 | 0.31 | 0.39 | 0.35 | 0.47 | 0.39 | 0.59 | 1.00 | 0.59 | 0.53 |
| | 3 | 2 | 6 | 4 | 0 | 1 | 2 | 6 | 8 | 5 | 0 | 4 | 1 |
| C3 | 0.52 | 0.62 | 0.52 | 0.44 | 0.33 | 0.43 | 0.40 | 0.48 | 0.36 | 0.51 | 0.59 | 1.00 | 0.60 |
| | 5 | 0 | 6 | 8 | 8 | 2 | 5 | 0 | 2 | 9 | 4 | 0 | 3 |
| C4 | 0.45 | 0.40 | 0.34 | 0.28 | 0.32 | 0.31 | 0.40 | 0.47 | 0.39 | 0.50 | 0.53 | 0.60 | 1.00 |
| Significan | 6 D1 | 1 A1 | 5 A2 | 4 A3 | 0 A4 | 4 B1 | 1 B2 | 5 B3 | 2 B4 | 2 C1 | 1 C2 | 3 C3 | 0 C4 |
| ce | וע | AI | AZ | AS | A4 | DI | DZ | ВЗ | D 4 | CI | C2 | CS | C 4 |
| D1 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | , | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A1 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A2 | 0.00 | 0.00 | • | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| A 2 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A3 | 0.00 | 0.00 | 0.00 | • | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| A4 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 111 | 0.00 | 0.00 | 0 | 0.00 | • | 0 | 0.00 | 0.00 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| B1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | • | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | • | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| D2 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 |
| В3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | • | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| B4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | • | 0.00 | 0.00 | 0.00 | 0.00 |
| C1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | • | 0.00 | 0.00 | 0.00 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| C2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | • | 0.00 | 0.00 |
| C3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0 |
| CS | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | • | 0.00 |
| C4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| N | D1 | A1 | A2 | A3 | A4 | B1 | B2 | В3 | B4 | C1 | C2 | C3 | C4 |
| D1 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| A1 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| A2 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| A3 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| A4 B1 | 145 145 | 145 145 | 145 145 | 145 145 | 145 145 |
| B2 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| B3 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| | | | | | | 2 | | 0 | | | | | |

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|---------------|-----|-----|-----|-----|------|-----------------|-----------------|-----------------|---------|---------|------------------|----------------|---------------|
| B4 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| C1 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| C2 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| C3 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| C4 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |

Multi-collinearity in multiple regression refers to the high correlation between two or occasionally more independent variables in a multiple regression, which can lead to a collinearity problem (Mahera Mazhar, Sayeda Daud, Sana Arz Bhutto & Muhammad Mubin (2015)). Additionally, the Pearson Correlation test was run to determine the degree of correlation between the variables; the results are shown in Table 3.3. All independent factors (dairy product packaging) have positive and significant coefficients with customer buying perception at the 0.01 level. It suggests that businesses with a greater degree of packaging implementation exhibit better customer perception when it comes to purchasing.

➤ Multiple linear Regression:

Table 3.4 Multiple Linear Regression(Source: Authors Analysis)

| Model | R | R | Adjusted R | Std. Error of | | Change | Statist | ics | |
|-------|-------|--------|------------|---------------|----------|--------|---------|-----|---------|
| | | Square | Square | the Estimate | R Square | F | dF1 | dF2 | Sig. F. |
| | | | | | Change | Change | | | Change |
| 1 | 0.638 | 0.407 | 0.353 | 0.886 | 0.407 | 7.558 | 12 | 132 | 0.000 |

a. Predictors: (Constant), C4, A3, A4, B1, B4, C2, B2, B3, A1, C1, C3, A2

The figures in Table 3.4 (Mahera Mazhar, Sayeda Daud, Sana Arz Bhutto & Muhammad Mubin (2015)) indicate that the R-square value is significant. The degree of packaging (independent variables) over consumer buying perception (dependent variables) is provided by the R-square (coefficient of determination). This figure indicates that Packaging had a 40.7% influence on the study. Other factors, denoted by an error term, accounted for the remaining 59.9% of the variance. It demonstrates that the packaging under examination has an average level of influence on consumers' perceptions of what they should buy. A model with an R-Square score between 35% and 50% is said to be averagely fitted.

> ANOVA (Analysis of Variance):

Table 3.5 Analysis of Variance (Source: Authors Analysis)

| Model | Sum of Squares | dF | Mean Square | F | Sig. |
|------------|----------------|-----|-------------|-------|-------|
| Regression | 71.191 | 12 | 5.933 | 7.558 | 0.000 |
| Residual | 103.609 | 132 | 0.785 | | |
| Total | 174.800 | 144 | | | |

a. Dependent Variable: D1

A p-value of 0.000, or less than 0.05, indicates that the consumer buying perception model is significant at the 5% significance level, citing (<u>Suman Prosad Saha (2020)</u>) ANOVA Table 3.5. The F-statistic, which is less than 0.05, was 7.558, and the P-value was 0.000. It demonstrates that the packaging that was investigated for this study has a statistically significant impact on consumers' perceptions of what to buy. Thus, we agree with the alternative hypothesis.

b. Dependent Variable: D1

b. Predictors: (Constant), C4, A3, A4, B1, B4, C2, B2, B3, A1, C1, C3, A2

Part-B

Test Result by using D2 as dependent variable which represent consumer buying perception:

> Correlation

Table 3.6 Correlation by using D2 as Dependent Variable (Source: Authors Analysis)

| Pearson | D2 | A1 | A2 | A3 | A4 | B1 | B2 | В3 | B4 | C1 | C2 | C3 | C4 |
|------------|------|------|-----------|------|------|-----------|------|-----------|-----------|-----------|------|-----------|------|
| Correlatio | | | | | | | | | | | | | |
| n | 1.00 | 0.42 | 0.40 | 0.22 | 0.20 | 0.26 | 0.45 | 0.44 | 0.20 | 0.41 | 0.22 | 0.55 | 0.51 |
| D2 | 1.00 | 0.43 | 0.40 | 0.33 | 0.30 | 0.36 8 | 0.45 | 0.44 | 0.39 | 0.41 8 | 0.32 | 0.55 9 | 0.51 |
| A1 | 0.43 | 1.00 | 0.70 | 0.59 | 0.38 | 0.49 | 0.34 | 0.38 | 0.33 | 0.38 | 0.36 | 0.62 | 0.40 |
| | 5 | 0 | 0 | 2 | 9 | 1 | 7 | 1 | 0 | 4 | 2 | 0 | 1 |
| A2 | 0.40 | 0.70 | 1.00 | 0.66 | 0.31 | 0.52 | 0.38 | 0.43 | 0.44 | 0.52 | 0.41 | 0.52 | 0.34 |
| | 5 | 0 | 0 | 0 | 1 | 7 | 2 | 6 | 2 | 7 | 6 | 6 | 5 |
| A3 | 0.33 | 0.59 | 0.66 | 1.00 | 0.32 | 0.39 | 0.42 | 0.40 | 0.42 | 0.35 | 0.25 | 0.44 | 0.28 |
| | 2 | 2 | 0 | 0 | 8 | 1 | 6 | 0 | 9 | 2 | 4 | 8 | 4 |
| A4 | 0.30 | 0.38 | 0.31 | 0.32 | 1.00 | 0.32 | 0.46 | 0.36 | 0.32 | 0.20 | 0.31 | 0.33 | 0.32 |
| | 0 | 9 | 1 | 8 | 0 | 6 | 8 | 1 | 6 | 4 | 0 | 8 | 0 |
| B1 | 0.36 | 0.49 | 0.55 | 0.39 | 0.32 | 1.00 | 0.43 | 0.38 | 0.45 | 0.47 | 0.39 | 0.43 | 0.31 |
| | 8 | 1 | 7 | 1 | 6 | 0 | 5 | 3 | 4 | 2 | 1 | 2 | 4 |
| B2 | 0.45 | 0.34 | 0.38 | 0.42 | 0.46 | 0.43 | 1.00 | 0.47 | 0.55 | 0.41 | 0.35 | 0.40 | 0.40 |
| | 3 | 7 | 2 | 6 | 8 | 5 | 0 | 8 | 7 | 4 | 2 | 5 | 1 |
| В3 | 0.44 | 0.38 | 0.43 | 0.40 | 0.36 | 0.38 | 0.47 | 1.00 | 0.56 | 0.46 | 0.47 | 0.48 | 0.47 |
| | 2 | 1 | 6 | 0 | 1 | 3 | 8 | 0 | 7 | 8 | 6 | 0 | 5 |
| B4 | 0.39 | 0.33 | 0.44 | 0.42 | .032 | 0.45 | 0.55 | 0.56 | 1.00 | 0.51 | 0.39 | 0.36 | 0.39 |
| C1 | 0 | 0 | 2 | 9 | 6 | 4 | 7 | 7 | 0 7.1 | 7 | 8 | 2 | 2 |
| C1 | 0.41 | 0.38 | 0.52 | 0.35 | 0.20 | 0.47 | 0.41 | 0.48 | 0.51 | 1.00 | 0.59 | 0.51 9 | 0.50 |
| C2 | 0.32 | 0.36 | 7 0.41 | 0.25 | 0.31 | 0.39 | 0.35 | 6 0.47 | 7 0.39 | 0.59 | 1.00 | 0.59 | 0.53 |
| C2 | 0.32 | 2 | 6 | 4 | 0.51 | 1 | 2 | 6 | 8 | 5 | 0 | 4 | 1 |
| C3 | 0.55 | 0.62 | 0.52 | 0.44 | 0.33 | 0.43 | 0.40 | 0.48 | 0.36 | 0.51 | 0.59 | 1.00 | 0.60 |
| | 9 | 0 | 6 | 8 | 8 | 2 | 5 | 0 | 2 | 9 | 4 | 0 | 3 |
| C4 | 0.51 | 0.40 | 0.34 | 0.28 | 0.32 | 0.31 | 0.40 | 0.47 | 0.39 | 0.50 | 0.53 | 0.60 | 1.00 |
| | 0 | 1 | 5 | 4 | 0 | 4 | 1 | 5 | 2 | 2 | 1 | 3 | 0 |
| Significan | D2 | A1 | A2 | A3 | A4 | B1 | B2 | В3 | B4 | C1 | C2 | C3 | C4 |
| ce | | | | | | | | | | | | | |
| D2 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A1 | 0.00 | • | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A2 | 0.00 | 0.00 | • | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4.2 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A3 | 0.00 | 0.00 | 0.00 | • | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| A4 | 0 | 0 | 0.00 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 |
| A4 | 0.00 | 0.00 | 0.00 | 0.00 | • | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| B1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | • | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| B2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | • | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| В3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 |
| B4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | • | 0.00 | 0.00 | 0.00 | 0.00 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 |
| C1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| C2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |

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|---------------|------|------|------|------|------|---------|----------|---------|---------|----------|-----------|---------|--------|
| C3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 |
| C4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| N | D2 | A1 | A2 | A3 | A4 | B1 | B2 | В3 | B4 | C1 | C2 | C3 | C4 |
| D2 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| A1 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| A2 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| A3 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| A4 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| B1 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| B2 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| В3 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| B4 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| C1 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| C2 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| C3 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |
| C4 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 | 145 |

Multi-collinearity in multiple regression refers to the high correlation between two or occasionally more independent variables in a multiple regression, which can lead to a collinearity problem (Mahera Mazhar, Sayeda Daud, Sana Arz Bhutto & Muhammad Mubin (2015)). Additionally, the Pearson Correlation test was run to determine the degree of correlation between the variables; the results are shown in Table 3.6. All independent factors (dairy product packaging) have positive and significant coefficients with customer buying perception at the 0.01 level. It suggests that businesses with a greater degree of packaging implementation exhibit better customer perception when it comes to purchasing.

> Multiple linear regression:

Table 3.7 Multiple Linear Regression(Source: Authors Analysis)

| Model | R | R | Adjusted R | Std. Error of | Change Statistics | | | | |
|-------|-------|--------|------------|---------------|-------------------|--------|-----|-----|---------|
| | | Square | Square | the Estimate | R Square | F | dF1 | dF2 | Sig. F. |
| | | | | | Change | Change | | | Change |
| 1 | 0.661 | 0.437 | 0.386 | 0.772 | 0.437 | 8.545 | 12 | 132 | 0.000 |

- a. Predictors: (Constant), C4, A3, A4, B1, B4, C2, B2, B3, A1, C1, C3, A2
- b. Dependent Variable: D2

The figures in Table 3.7 (Mahera Mazhar, Sayeda Daud, Sana Arz Bhutto & Muhammad Mubin (2015)) indicate that the R-square value is significant. The degree of packaging (independent variables) over consumer buying perception (dependent variables) is provided by the R-square (coefficient of determination). This figure indicates that Packaging had a 43.7% influence on the study. Other factors, denoted by an error term, accounted for the remaining 56.3% of the variance. It demonstrates that the packaging under examination has an average level of influence on consumers' perceptions of what they should buy. A model with an R-Square score between 35% and 50% is said to be averagely fitted.

➤ ANOVA (Analysis of Variance):

Table 3.8 Analysis of Variance (Source: Authors Analysis)

| Model | Sum of Squares | dF | Mean Square | F | Sig. |
|------------|----------------|-----|-------------|-------|-------|
| Regression | 61.107 | 12 | 5.092 | 8.545 | 0.000 |
| Residual | 78.659 | 132 | 0.596 | | |
| Total | 139.766 | 144 | | | |

- a. Dependent Variable: D2
- b. Predictors: (Constant), C4, A3, A4, B1, B4, C2, B2, B3, A1, C1, C3, A2

A p-value of 0.000, or less than 0.05, indicates that the consumer buying perception model is significant at the 5% significance level, citing (<u>Suman Prosad Saha (2020)</u>) ANOVA Table 3.8. The F-statistic, which is less than 0.05, was 8.545, and the P-value was 0.000. It demonstrates that the packaging that was investigated for this study has a statistically significant impact on consumers' perceptions of what to buy. Thus, we agree with the alternative hypothesis.. **Therefore we accept Alternate Hypothesis.**

4. Results and Findings

- Gender distribution: Majority male (60.7%), followed by female (38.6%), and a small percentage identified as other (0.7%).
- Job status: Most respondents were students (72.4%), followed by employed individuals (26.2%), and a small number were unemployed (1.4%).
- Age demographics: Majority were 18-29 years old (92.4%), with smaller percentages in the 30-49 age group (4.6%), 50-55 age group (2%), and above 55 years old (1%).
- Income distribution: Majority earned below 18000 (67.6%), followed by those earning between 18000 and 25000 (16.6%), 30000 to 50000 (9%), and above 50000 (6.9%).
- Strong positive correlation between packaging of dairy products and consumer buying perception, supported by significant Pearson correlation coefficients.
- Multiple linear regression indicates packaging accounts for 40.7% to 43.7% influence of Packaging colour, label and material on consumer buying perception, with statistically significant effects.
- ANOVA results confirm significant impact of packaging on consumer buying perception at the 5% significance level. Therefore the alternate hypothesis accepted.

5. Limitations of the Study

There are certain limitations of the study:

- The study's findings may be limited to the specific geographic area of Ankleshwar.
- The sample size of respondents may not fully represent the entire population of dairy product consumers.
- The study relies on self-reported data, which may be subject to recall bias or social desirability bias.
- The study does not account for potential confounding factors that may influence consumer buying perception.
- The questionnaire may not capture all relevant aspects of packaging material and customer buying perception.
- The research focuses solely on the impact of packaging material and does not explore other factors that may affect buying perception.
- The study does not account for changes in consumer preferences or market trends over time.
- The research may not capture the diverse perspectives and preferences of all dairy product consumers in Ankleshwar.
- The study may not fully capture the complexity and multidimensionality of customer satisfaction with buying perception.
- The findings of the study may not be generalizable beyond the specific context of the dairy industry in Ankleshwar.

6. Conclusion

- Strong Correlation and Influence of Packaging on Consumer Perception: The data analysis reveals a significant positive correlation between the quality of packaging in dairy products and consumer buying perception. Both correlation and multiple linear regression analyses indicate that firms with more substantial implementation of packaging demonstrate superior consumer buying perception, highlighting the pivotal role of packaging in shaping consumer preferences.
- Decisive Influence of Packaging: With R-square values ranging from 40.7% to 43.7%, packaging emerges as a decisive factor influencing consumer buying perception in the dairy industry. Although other factors contribute to the remaining variance, the substantial influence of packaging underscores its importance in driving consumer preferences and purchasing decisions.
- Statistical Significance of Packaging Effects: The ANOVA results provide further validation of the impact of packaging on consumer buying perception. With p-values of 0.000, indicating statistical significance at the 5% level, the findings confirm that variations in packaging quality have a significant effect on consumer perceptions. This emphasizes the need for dairy product companies to invest in innovative and appealing packaging designs to stand out in the competitive market landscape.
- Implications for Dairy Industry Strategies: The findings suggest that dairy product manufacturers should prioritize packaging strategies as part of their marketing efforts. Investing in high-quality packaging materials and designs can enhance consumer perceptions, ultimately leading to increased sales and market competitiveness. By understanding the critical role of packaging in shaping consumer preferences, companies can tailor their product offerings to meet consumer expectations and achieve business success in the dynamic dairy market.

7. Recommendation for Future Research:

- While this study provides valuable insights into the relationship between packaging and consumer perception in the dairy industry, further research could explore additional factors that may influence consumer buying behaviour.
- Future studies could investigate the impact of packaging aesthetics, functionality, and sustainability on consumer preferences to provide a more comprehensive understanding of consumer decision-making processes in the dairy market. Such insights could inform more targeted marketing strategies and product development initiatives for dairy product manufacturers.

8. Suggestions:

- Investigate the influence of additional packaging variables, such as packaging shape or size, on consumer buying perception to provide a more comprehensive understanding of packaging effects.
- Address potential limitations of the study by conducting follow-up research to explore the impact of packaging material on consumer buying perception in different geographical regions or cultural contexts.
- Build on the finding regarding packaging material by examining how variations in packaging design, such as font style or imagery, affect consumer perceptions and purchasing decisions.
- Re-evaluate the conceptual framework by integrating theories from consumer psychology or marketing to further elucidate the underlying mechanisms driving the relationship between packaging material and consumer buying perception.
- Expand the theoretical model by considering the moderating effects of demographic variables, such as age or income, on the relationship between packaging material and consumer satisfaction buying perception.
- Investigate the long-term effects of packaging material on brand loyalty and repeat purchase behaviour to assess the sustainability of packaging strategies in the dairy industry.
- Address the potential influence of environmental factors, such as eco-friendly packaging initiatives, on consumer perceptions of packaging material and its impact on buying behaviour.
- Explore the role of packaging material in shaping consumer perceptions of product quality and safety within the dairy industry, considering its implications for consumer trust and brand reputation.

9. References:

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