

## 1). Draft Artikel Ilmiah

### STUDY OF MINERAL DRINK PACKAGING DESIGNS LEVEL OF CONSUMER DECISION IN PURCHASE

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#### Abstract

The function of packaging is not only for wrapping or protecting a product, but also plays a role in communicating / informing various things related to a product, such as the type of product, product quality, benefits, and the image of a product. Through packaging design, consumers are also assured that the products that are packaged are more secure, health and safety. Good and attractive packaging design can foster positive consumer perceptions of the product. This positive perception of consumers can have an impact on certain decisions on consumers.

The emergence of various bottled mineral drink brands is currently causing intense competition to win the hearts of consumers. Various ways have been made to attract consumer / market interest, one of which is through packaging design. Packaging design is considered to be one way that can shape perceptions and improve consumer decisions to buy. In addition, the perceptions that have been formed can help improve or decrease the brand image of a product. This study aims to determine consumer perceptions of the form of mineral beverage packaging design marketed in Indonesia. Through this research, information will be obtained that can be used as a reference regarding packaging design and to determine consumer perceptions of purchasing decisions for a product.

The method used in this research is a qualitative method, supported by quasi (quantitative experimental) data with an aesthetic approach (design). Through packaging design elements such as: color, shape, brand and logo, illustration, and typography will form perceptions in the minds of consumers regarding the suitability of the product with the packaging. Thus, packaging design has the power to introduce products to consumers, help improve purchasing decisions, and can provide correlated value to form a brand image in the eyes of consumers.

**Keywords:** *Packaging design; Mineral drink; Consumer perception; Buying decision.*

## A. Introduction

This study departs from our experience, as well as experiences of other people or families when visiting and shopping at a super market / shop for daily needs. When choosing a particular product, sometimes you face a variety of brand choices, resulting in different choice decisions and lead to discussions before making a decision to buy. For example, when it comes to choosing a bath soap product, my son's choices are different, so are my choices and my wife's choices. Packaging on a product turns out to provide a visual perception and impact that is not simple when consumed by the public or potential consumers. Perceptions, background knowledge, and references that a person has give a considerable contribution to one's behavior when viewing a product through its packaging. Some are attracted by the shape, while others are attracted by the visualization of the labels on the packaging, others are attracted after seeing and reading the content. There are also consumers who are fanatical and loyal to certain brands / brands regardless of the various forms and packaging designs.

The radical development in the design world in 2020 has not yet reached its peak, but academic attention to the correlation between packaging design consumption and purchasing decisions is still minimal. An act of purchase (consumption) is the goal of the producer efforts to market its products. In fact, in determining the strategy of a business must be based on the ability to be oriented to the utilization of aspects with optimal methods. In order for this strategy to be successful, it requires an understanding of the environment and adaptive to environmental changes, be it the social, economic, political, or ecosystem (Hartanto, 2009: 158).

To achieve maximum sales results, producers make various efforts to attract customers, both economically (discounts, etc.) as well as in the design of advertisements and product packaging. Various promotional actions are also carried out to make consumers interested in the products offered, so an interesting way of communication is needed. Based on this, brand awareness is created (Kurniawan, 2018: 43). Brand awareness is public awareness of the presence of a brand / brand (Makmur, 2018: 12). The various efforts made by producers cannot be separated from the packaging design of the products they sell, both visually and ergonomically.

In addition, it also requires the attractiveness of products being sold with packaging as one of the main triggers because it is directly facing the target audience. Therefore, packaging must be able to intervene with consumers in order to provide an incentive to buy. Apart from being a product wrapper, packaging is expected to be able to provide an overview of the advantages of a product and make consumers feel that the product is worth buying. Therefore, the packaging must have the ability to compete with its rivals. Based on observations on phenomena, the sense of sight has a considerable role in making decisions. That's why graphic and ergonomic elements have a very important visual communication process. For example, equil drinking water with a packaging design in the shape of a wine bottle with a dark green color which reflects that the main ingredients of the product's maker are natural and very exclusive like wine, besides that the green color can also describe a soft and fresh feel. Even though it is priced quite high, it is proven that the product is able to influence the target audience.

The need for clean water that is fit for consumption, public awareness of the demands of a healthy life and the practicality of its use are among the driving forces for increasing consumption of bottled drinking water in Indonesia. The bottled drinking water (AMDK) industry has experienced growth from year to year, data from the Association of Indonesian Bottled Drinking Water Producers (Aspadin) shows that sales of bottled drinking water in 2010 reached 13.7 billion liters, a year later it rose 30.65% to 17.9 billion liters. The largest consumption of bottled drinking water is in Java, which accounts for 40% of total consumption ([www.suarapengusaha.com](http://www.suarapengusaha.com), 2011).

Drinking water is a primary human need, apart from being 80% of the human body consisting of water, water is always needed at all times in a tropical country like Indonesia which has a fairly warm temperature. The number of competitors results in more consumer choices to choose products that match their expectations, so that consumers become more careful in choosing products on the market to obtain the uses and benefits they are looking for. To be able to satisfy consumers, one of the advantages in competing is product quality. Quality must be measured

through the consumer's point of view of the quality of the product itself, therefore the quality of the product must be able to meet the needs and desires of the customer. This condition forces companies to be able to maintain and improve quality in order to compete, resulting in the emergence of many bottled drinking water producers who compete with each other and win each other's hearts. However, not all manufacturers are able to optimize packaging design, both graphically and ergonomically. The aim of this research is to identify indicators of attractive mineral drink packaging design according to consumers. Analyze the elements of packaging design based on these indicators in order to improve design quality to increase competitiveness. Thus, through this research the researcher can provide references related to packaging design to determine consumer perceptions of purchasing decisions based on the form of product packaging design.

The use of the Quasi method in data collection in this study was chosen to obtain rich and interesting data to be absorbed. Experiments conducted on 30 respondents who meet the criteria and have been determined with the product conditions that have been regulated but still do not forget that each individual is a unique person and has an unconditional character. Meanwhile, data analysis was carried out using an aesthetic (design) approach, with the hope that packaging design has the power to create a correlation with decisions. The use of mixed methods like this has not been widely used and researchers must present the data as informative as possible. This is both a challenge and an opportunity for society today.

The emergence of various forms of packaging designs with various types and brands of bottled mineral water products can cause competition which results in difficulty for a product to be able to maintain itself as a market leader. In order to survive, it requires a packaging design that attracts consumers. Through packaging design elements such as: color, shape, brand / logo, illustration, and typography. These elements will form perceptions in the minds of consumers. A good perception of potential consumers will certainly be able to influence purchasing decisions on these products. Therefore the research question is: How are the elements in the packaging design of mineral drink bottles that can attract the target audience. In addition, this study also questions how consumers perceive purchasing decisions based on the packaging design of mineral beverage product bottles.

## **B. Methods and Approaches**

### **B.1. Research methods**

The type of research in this paper is quasi-experimental with a causality and descriptive format as a continuation with aesthetic analysis (design). Causality research attempts to test the correctness of the causal relationship (cause-and-effect), namely the relationship of the independent variable (which influences) or the packaging design with the dependent variable (which is influenced) in this case the purchase decision. Basically, this aims to test the truth of a hypothesis which is carried out through quasi data collection (Sugiyono, 2009: 57).

Quasi-experimental research is also known as quasi-experimental research, because it is not fixated on the research rules of conditioning respondents to achieve the desired situations and conditions (Wirartha, 2006: 37). With the quasi method, the researcher must be able to analyze from a situation that is not conditioned as a condition that means a conditioned situation, or in other words, the researcher's carefulness must be deep in the analysis.

### **B.2. Research Subjects and Objects**

#### **1). Research subject**

Respondents are a population with certain characteristics defined by the researcher as the core of learning which then draws conclusions (Sugiyono, 2009). The subjects in this study were teenagers in Yogyakarta.

#### **2). Object of research**

The object of research is at the core of the problem in research (Arikunto, 2006). The object of this research is the packaging design of 600 ml mineral water products.

### B.3. Research variable

#### 1. Identification of Research Variables

Research variables are everything that has been determined as the focus of research so that all the information needed to support the conclusion is obtained (Sugiyono, 2009: 38).

The variables in the study can be classified into two, namely independent variables (free), namely variables that affect other variables, and the second dependent variable (dependent), namely variables influenced by independent variables. The variables used in this study are:

- a. The dependent variable in this study is buying interest in mineral water products,
- b. The independent variable in this study is packaging design.

#### 2. Definitions of Research Variables

##### a. Independent Variable

Independent variables are often referred to as stimulus, predictor, and antecedent variables. This variable causes the response to the dependent variable (Sugiyono, 2009: 39). The variable in this study is packaging (X).

##### b. Dependent Variable

The dependent variable is often interpreted as a response variable. This variable is influenced by the independent variable (Sugiyono, 2009: 39). The dependent variable in this study is the purchase decision (Y).

### B.4. Operational definition

The operational definition is an explanation of the variables and terms used in research to make it easier for respondents and readers to interpret the research variables.

#### 1. Packaging Design (X)

##### a. Graphic Design (X1)

Graphic design is a form of visual decoration on the packaging surface. Consists of four dimensions, namely brand name, color, typography, and image.

##### b. Design Structure (X2)

The design structure is related to features and ergonomics in packaging construction which can be divided into three dimensions, namely shape, size and material.

##### c. Product Information (X3)

In a package, there are elements that build a brand image in a communication effort that provides information about the product to help consumers make purchasing decisions.

#### 2. Purchase decision (Y)

According to Kotler (2009), purchasing decisions are a series of elements that describe how consumers decide in choosing a product to buy. The definition of aspects of purchasing decisions proposed by Kotler is the introduction of the problem; information search; alternative assessment; buying decision. The author's post-purchase behavior is processed into aspects of variable consideration, namely:

##### a. Transactional (Y1)

Transactional is an individual decision to buy a product.

##### b. Referential (Y2)

Referential is an individual encouragement to provide product references for others.

##### c. Preferential (Y3)

Preferential is a tendency towards preferential behavior in a product.

##### d. Explorative (Y4)

Explorative is the tendency of individual behavior to deepen information about the product of their interest.

## B.5. Population and Sample

### 1. Population

Population can be defined as an area of generalization: objects / subjects that have certain causality or characteristics that are designated as learning resources. Based on this understanding, the population in this study were adolescents in Yogyakarta with adolescence. Meanwhile, on the basis of quasi research, the researcher will not control the respondents by default, in addition to giving respondents the freedom to do so, they also hope to obtain rich and true data.

### 2. Samples

The number of subjects taken in this study was 30 subjects with the consideration that the size of the sample taken would indeed be better, but to achieve validity it required at least 30 samples (Cohen, et.al, 2007: 101). This is also supported by the statement (Baley; Mahmud, 2011: 159) that in research with statistical analysis, the minimum sample size is 30. Roscoe also provides a statement that if the sample is divided into one category it is necessary to have at least 30 sample members ( Sugiono, 2009: 91). With a quasi-deep experiment that was analyzed descriptively correlational with a minimum sample of 30 respondents (Mahmud, 2011: 159).

## B.6. Sampling technique

The sampling technique used in this study used a non-probability sample, that is, not all members of the population have the same opportunity to be a sample in the study (Prasetyo & Jannah, 2008). Sampling was carried out by purposive sampling method because the selected sample was based on certain characteristics or traits (Prasetyo & Jannah, 2008). The number of respondents used in this study amounted to 30 people who have the following criteria:

1. Adolescents aged 20-26,
2. Youth domicile in Yogyakarta,
3. Never bought bottled water.

## B.7. Data collection technique

The method used by researchers in data collection is a scale. The scale used is a closed scale, in which the respondent's response is limited by the researcher. While the question items will be asked verbally by the researcher after the experimental protocol has been implemented with questions that are processed on the basis of the definition of the two variables.

Meanwhile, in giving a score to make the calculation easier, the researcher will provide 4 levels of a scale with a Likert scale standard, namely scores 1, 2, 3, 4 which are defined in tables no.1 and 2

Indicators of the level of purchasing decisions in this study are seen from the existing mean value. The mean is the empirical mean which is then compared with the theoretical mean or the mean value of the existing questions.

The purchase decision indicator used in this study is an indicator based on Kotler which is reprocessed. Based on this, purchasing decisions are divided into 4 dimensions, namely: transactional, referential, preferential, explorative, which are reprocessed into questions as the scale of the research carried out. The empirical mean value is obtained using the following calculation.

$$\mu = \frac{\sum x}{n}$$

Information:

$\mu$  = Empirical mean

$\sum x$  = Total value

n = Number of items

Meanwhile, to find the theoretical mean value, the following calculations are used:

$$\mu = ((I_{maks} + I_{min}) \Sigma K) : 2$$

Note:

- $\mu$  = Theoretical mean
- $I_{maks}$  = Maximum item value
- $I_{min}$  = Minimum item value
- $\Sigma K$  = Number of Stage items

The theoretical mean that is owned in this scale can be stated after being implemented after the try-out. This value is obtained using the formula above with a minimum value of item 1 and a maximum value of item 4 and a valid number of items. The number of items used is the number of statement items used after the try-out.

The value on the scale is obtained according to the response given by the respondent to each statement. The value assigned is also determined by the type of statement on the scale. There are two types of statements in the scale of this research, namely Favorable and Unfavorable. Response options on the scale are STS ("Strongly Disagree"), TS ("Disagree"), S ("Agree"), SS ("Strongly Agree"). The values contained in each response option are as follows:

**Tabel 1**  
**Assessment of response choices in Favorable statements..**

Response	Value
STS ("Strongly Disagree")	1
TS ("Disagree")	2
S ("Agree")	3
SS ("Strongly Agree")	4

**Tabel 2**  
**Assessment of response choices in the Unfavorable statement.**

Response	Value
STS ("Strongly Disagree")	1
TS ("Disagree")	2
S ("Agree")	3
SS ("Strongly Agree")	4

Researchers do not provide N (Neutral) answer choices to avoid the tendency of respondents to fill in neutral choices so that data on differences from respondents becomes less informative (Azwar, 1999).

## B.8. Validity and Reliability of Measuring Instruments

### 1. Validity

Validity is the accuracy and accuracy of measuring instruments in the form of a scale in providing measurement results and carrying out measurement functions in accordance with measurement objectives (Azwar, 2012). This study uses content validity in order to test the suitability of items with the components of the variable to be measured by means of rational analysis (Azwar, 2012).

### 2. Item Analysis

In item selection, the most important parameter is the item discrimination power. The item discrimination power is the extent to which the item is able to distinguish between individuals and groups of individuals who have and do not have the attributes to be measured. The calculation of the item discrimination power will yield the item-total correlation coefficient (rix). The items to be

selected are items with a correlation coefficient of  $\geq 0.30$ . Items that have a correlation coefficient of less than 0.30 are considered unfavorable items and will not be used.

### 3. Reliability

Azwar (2012) explains that reliability is the consistency of measurement so that it can be trusted. Measurements that have a high reliability value can be said that these measurements are reliable.

The reliability coefficient ( $r_{xx'}$ ) is in the range of 0 to 1.00. When the measurement approaches the reliability coefficient of 1.00, it means that the measurement is more reliable. In this study, the reliability coefficient was seen using Cronbach Alpha. ATT IS AN ACTION

### B.9. Data Analysis Method

Before the data is analyzed, the data obtained will be processed statistically. After the data is obtained through the items submitted to the respondents, the next step is tabulation, or it can be interpreted as scoring in accordance with the system applied. Scoring is done using a Likert scale. The Likert scale can be used as a measurement of the attitudes, opinions and perceptions of a person or group of people about a phenomenon.

#### 1. Test Assumptions

In addition, it is necessary to test assumptions as a form of accountability for the results obtained.

##### a. Normality test

The normality test is a test carried out on research data to check the research data conducted by researchers from a normal distribution population (Santoso, 2010). This normality test can be performed using the Kolmogorov-Smirnov analysis.

##### b. Homogeneity test

The homogeneity test is a test carried out on research data to see whether the assumptions in the research variant are the same or not. This homogeneity test was carried out using the Levene Test analysis. If the variants in this study are the same, then the t test will use the value in the Equal Variance Assumed column. If the variants in this study are different, then the t test will use the value in the Equal Variance Not Assumed column. This is done by looking at the significance value in the test results. If the significance value is more than 0.05, it can be concluded that the data comes from populations that have the same variant, whereas if the significance value is less than 0.05, it can be concluded that the data comes from populations that have different variants (Priyanto, 2012).

#### 2. Descriptive Analysis

Descriptive analysis of the data obtained in this study will be processed comprehensively by researchers as professionals in the field of visual communication and practitioners in the visual arts. An objective analysis with a comprehensive aesthetic approach is expected to be able to reach a saturation point for research results and become a reference for both producers and consumers in criticizing mineral water products.

## C. Results and Discussion

### C.1. Respondent Description

Before going into the field to collect research data, the researcher first conducts a literature study, and observes potential respondents and ensures that respondents are willing to be involved in this research. Meanwhile, the research respondents were randomly assigned with the snowball sampling technique. As for prospective research respondents, according to the criteria of respondents who have been determined. In conducting research on adolescents aged 20-26 years, researchers continued to collect data orally to maintain the validity of the study and the treatment equation for the two groups of respondents. Respondents in this study were 30 adolescents in the Yogyakarta region. The number 30 is obtained from the requirements for quantitative experimental research in order to meet the requirements of the research methodology.

#### *Group Statistics*

Group	N
N	30

## C.2. Test results

### a. Normality test

Based on the Kolmogorov-Smirnov analysis using SPSS 22.0 in the overall research results, a significance value of 0.200 was obtained. The significance value (p) is greater than 0.05, so it can be said that the data used are normally distributed. Thus, the data collected can be ascertained to represent the sample population used.

#### Normality test One-Sample Kolmogorov-Smirnov Test

		Buying decision
N		50
Normal	Mean	74.16
Parameters <sup>a,b</sup>	Std. Deviation	12.035
Most Extreme Differences	Absolute	0.096
	Positive	0.096
	Negative	-0.051
Test Statistic		0.096
Asymp. Sig. (2-tailed)		0.200 <sup>c,d</sup>

*a. Test distribution is Normal*

*b. Calculated from data*

*c. Lilliefors Significance Correction*

*d. This is a lower bound of the true significance.*

### b. Reliability Test

Meanwhile, the results of the CronbachAlpha test on the overall research results show the number 0.851. This figure is higher than rTabel with a significance of 1%, namely 0.361, and 5%, namely 0.279. Thus, it can be said that the scale used in this study has been proven reliable.

#### Statistik Reliabilitas

Cronbach's Alpha	N of Items
0.851	38

### c. Homogeneity Test

Based on the results of the homogeneity test using SPSS 22.0 with the Levene's Test for Equality of Variances technique, a significance value of 0.943 was obtained. This figure is greater than 0.05 so that the research data can be said to be homogeneous. Thus, the data qualifies for the t-test.

#### Homogeneity Test

SKOR	Levene's Test for Equality of Variances	
	F	Sig.
Equal variances assumed	0.005	0.943
Equal variances not assumed		



### C.3. Research Data

The results showed that the empirical mean in the group was 98.88 with a standard deviation of 10,826. The lowest total score obtained in the group obtained the lowest total score was 63 and the highest total score was 143.

On the other hand, based on the calculation using the formula listed, the empirical mean of the two groups of respondents which is higher than the theoretical mean indicates that the group of respondents both have a high level of purchasing decisions due to the effect of packaging design.

#### *Group Statistics*

	<i>kelompok</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Std. Error Mean</i>
	<i>N</i>	30	98.8800	10.82559	2.16512

#### **Product Selection Statistics**

<b>Product</b>	<b>N of Items</b>	
	<b>Male</b>	<b>Female</b>
2 Tang	1	0
Le Minerale	3	9
Vit	0	0
Oasis	2	0
Nestle	2	1
Ades	0	1
Crystalline	2	3
Club	0	0
Aqua	4	1
Prima	1	0
TOTAL	15	15



## 2. Hypothesis Testing

Testing the hypothesis in this study using the Independent Sample T-test method. Obtained a significance of 0.111. The value is greater than 0.05, so it can be said that there is no difference in scores between subjects.

### Independent Sample Test

	t-test for Equality of Means						
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Equal variances assumed	-1.625	48	0.111	-5.44000	3.34833	-12.17227	1.29227
Equal variances not assumed	-1.625	46.747	0.111	-5.44000	3.34833	-12.17694	1.29694

From the respondents' answers above, it can be used to determine the responses given by respondents to aspects of packaging design (graphic design; design structure; and product information) as factors that influence the purchase of bottled mineral water in Yogyakarta. Based on the data collected, the answers from respondents have been recapitulated and then analyzed to find out descriptive of each aspect.

The results of the respondents' assessment of the packaging aspects of mineral beverage product design can be seen in the table above. Based on the table above, it can be explained that of the 30 respondents, on average, they gave the most and highest ratings to Le Minerale. Thus, it shows that the design aspects of mineral drink products can have an important influence in assessing Le Minerale as having a good visual appeal in Yogyakarta. Judging from the results of research results that have been obtained from the field, as stated by Aaker (2004), it is said that the design on the packaging is an image of the brand which can be said to be a company promise to consistently provide certain values, benefits, and features for buyers. The packaging design in this study is an effort to build a company image in providing a perception of good quality that is easy for consumers to remember, which indicators can be seen in: 1) The graphic design aspect is a visualization on the packaging consisting of brand name, color, typography, and pictures / illustrations. 2). The design structure related to features and ergonomics in packaging construction can be divided into three dimensions, namely shape, size and material. and 3). The product information aspect, where the elements that build the brand image in the communication business provide information on the product to help consumers make purchasing decisions.

While the purchase decision is a solution to a problem in human activities to buy goods or services in fulfilling their wants and needs, which consists of identifying needs and wants, searching for information, evaluating alternative purchases, purchasing decisions, and behavior after purchasing According to Kotler (2009), purchasing decisions are a series of elements that describe how consumers decide in choosing a product to buy based on variable considerations: 1). Transactional, namely individual decisions to buy mineral drink products. 2). Referential is an individual encouragement to provide product references for others. 3). Preferential is a tendency towards preferential behavior in a product. 4). Explorative is the tendency of individual behavior to deepen information about the product of their interest.

#### **D. Conclusion**

This research was carried out in conjunction with the COVID-19 outbreak / pandemic situation, so that it slightly impeded getting data in interviews to dig and get data. This technical obstacle is related to the implementation of research in the field and the relatively short time span of the research implementation (effective time is only two and a half months / mid-June to September 2020). However, for the conclusion of the results of the research, it shows that there is no difference in scores between respondents, so it can be concluded that all respondents show a positive correlation between purchasing decisions and packaging design on mineral water bottles. Meanwhile, Le Minerale was in first place with 13 voters followed by Crystalline and Aqua who were both chosen by 5 respondents. All of these mineral water packages have an unusual shape in other packaging bottles, so this provides a point of interest on the mineral drink shelf and storefront so that potential consumers are interested in seeing and buying it.

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