

## Influential Cosmetic Packaging Attributes Toward Customer Purchase Intention

Maurel Sara Hasibuan\*<sup>1</sup>, Shimaditya Nuraeni<sup>2</sup>

School of Business and Management, Institut Teknologi Bandung, Bandung, Indonesia<sup>1,2</sup>

Email: [maurel\\_sara@sbm-itb.ac.id](mailto:maurel_sara@sbm-itb.ac.id)

### Abstract

The global skincare industry is experiencing rapid growth, with Indonesia's skincare market expected to be the fastest-growing in the Asia-Pacific region, mainly contributed by the middle-class population. This phenomenon leads to a highly saturated market, requiring brands to differentiate themselves through packaging, increasing companies' investment in packaging. Generational preferences influence packaging design, as Generation Z favors simple and sustainable packaging. This study aims to identify the cosmetic packaging attributes significantly impacting Generation Z's purchase intention. This research identifies visual packaging attributes such as packaging material, closure types, shape, color tone, and graphics as significant factors in customer purchase intention. The study uses a quantitative approach where a questionnaire is distributed to Generation Z residing in Jabodetabek and Bandung. Regression and conjoint analyses are employed to analyze the influence of the independent variable. The regression results indicate that packaging material, shape, and color tone significantly impact customer purchase intention. Conjoint analysis reveals that packaging material is the most important variable, followed by packaging shape, closure, and color tone. The most preferred packaging profile combination comprises glass material, dispensing closure, bottle shape, and tertiary Color. Even though both method results provide different rank significance results, the conjoint analysis provides more relevant results as it depicts packaging as a whole similar to real situations. The findings of this study can be utilized to determine which important packaging attributes need to be focused on during the designing process.

**Keywords:** cosmetic industry; customer purchase intention; generation Z, packaging attributes

### A. INTRODUCTION

Indonesia is the fastest-growing beauty and personal care market in the Asia-Pacific region, as its skincare market rapidly expands with an annual growth rate (CAGR) of 12% between 2014 and 2019 (Euromonitor International, 2020), which was driven by the growth of population, awareness of health and being, and rising disposable income (Amberg & Fogarassy, 2019). Moreover, (UOB Indonesia, 2019) economists found that Indonesians are willing to spend up to 50% of their disposable income on 4S products (Skin, Sugar, Sun, and Screen). These figures indicate the significant potential in the spending power of Indonesian consumers, particularly in the skincare market, with the Indonesian middle class being considered a significant contributor to the rising spending power. This phenomenon has then attracted the attention of both domestic and international players, increasing competition and product innovation in the market.

With numerous brands offering similar products, packaging became an essential element to distinguish themselves from competitors since 80% of the human brain's function is devoted to processing visual information (Brodersen and Manolova, 2008). Skincare companies spend 10%-40% of their product's retail price on packaging (Sagar, 2023) to ensure that it appeals to consumers and effectively communicates the benefits and features of the product. In the world of packaging, the designs, materials, and functionality are heavily influenced by the customer's demands and preferences; whereas millennials prefer sleek and modern packaging for beauty products, baby boomers and Generation X prefer to see the actual product, while Generation Z customers prefer a simple and clean look (UW-Stout, 2019).

\* Corresponding author

These findings remind skincare brand companies to have a deeper understanding of product packaging, including its attributes, since adjusting the packaging according to the market's preferences will reflect their customers' values, encouraging them to purchase the products. The overall packaging design is formed by different attributes integrated to produce a unique and aesthetic appearance (Tajeddini & Nikdavoodi, 2014).

#### *Customer Purchase Intention*

Purchase intentions are described as advancing a planned decision to purchase particular goods in the future; According to (Liat & Wuan, 2014), an individual will develop purchase intentions if they have made plans over time. Their behavior, attitude, and perception of the product will impact their purchase decision (Keller, 2009). Moreover, (Polyakova, 2013) suggested that consumers analyze the product only after the packaging's visual components lure them.

#### *Cosmetic Packaging Attributes*

The definitions of 'packaging' vary, ranging from simple to more holistic interpretations. Arens (1996) argues, "Packaging is the container for a product - encompassing the physical appearance of the container and including the design, color, shape, labeling, and materials used." It is also a differentiation tool that stimulates customer buying behavior among similar products (Wells, Farley & Armstrong, 2007). According to previous studies from (Mohebbi, 2014; Lee & Hoffman 2016; Liyana et al., 2016), we can conclude that packaging attributes can be classified into visual and informational elements, whereas in this context, the visual component of packaging has a more significant influence on cosmetics. Therefore, the researcher focused on analyzing the visual elements; packaging material, types of packaging closure, package shape, color tone, and packaging graphic.

#### *Packaging Material*

Packaging material is used to wrap a product on the outside to prevent any damage to the product (Ali et al., 2015). Moreover, the packaging material may affect the product's perceived quality (Farooq et al., 2015). Packaging material is considered one of the most important aspects when assessing packaging's quality. It is found that consumers are more drawn to high-quality packaging than low-quality packaging (Deliya & Parmar, 2012). Additionally, (Zekiri & Hasan, 2015) claimed that packaging materials significantly influence consumer purchasing behavior and purchase intention.

*H1: Packaging material and customer purchase intention have a significant positive relationship.*

#### *Types of Packaging Closure*

Any closure keeps the product contained and safe by providing integrity to a package (Emblem, 2012). It is one of the most crucial elements of a container and should fit the product to prevent any contents from getting inside or outside the container. Even though closure is rarely the first thing customers notice at a glance, it still significantly impacts the customer experience. Packaging closures can be classified into 2 categories: dispensing closures and non-dispensing closures (Bryant, 2019).

*H2: There is a significant positive relationship between types of packaging closure and customer purchase intention.*

#### *Package Shape*

According to (Plasschaert, 1995), the shape of packaging portrays the personality and nature of the product and emphasizes that it shows consumers how to use the product, which can be a strong form of persuasion. It combines the sense of touch and sight, creating a stronger and more lasting bond. Although the packaging structure is designed to focus on its functional benefits, it also influences the product's shelf

presence and ergonomics. Designers should utilize distinct shapes as a way to convey various emotions. For instance, square shapes display a sense of stability, while circular shapes display a sense of completion (Alervall and Saied, 2013a).

*H3: Packaging shape and customer purchase intention have a significant positive relationship.*

#### *Color Tone*

(Singh, 2006) declares Color as a great source of information, as it is estimated that around 62-90% of an individual assessment is based on colors. Marketers have been utilizing colors as a visual tool to promote cognition and attract attention since it dramatically and deeply affects consumers' thoughts, feelings, and behaviors (Labrecque, Patrick, & Milne, 2013). That is why different colors can convey different meanings, triggering diverse feelings and perceptions. (Keller, 2009) claims that Color is the most crucial element of packaging as it can affect the consumers' views and opinions towards the packaging. (Ibojo & Olawepo, 2015) State that the packaging color influences customer purchase intention.

*H4: Packaging color and customer purchase intention have a significant positive relationship.*

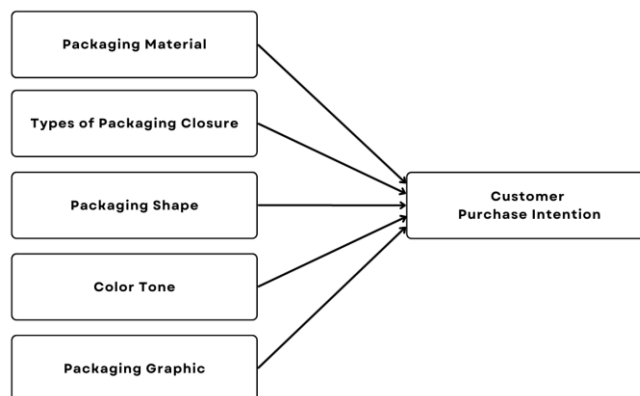
#### *Packaging Graphic*

According to (Silayoi & Speece, 2007), packaging graphic is illustrations and photographs made on the packaging, intentional or unintentional. (Smith, 2004) suggests that the graphic design of packaging will assist in building product branding more uniquely and establish a brand identity as a differentiation from competitors. Moreover, previous research found that a higher graphic packaging quality can positively affect the consumers' confidence in the product (Farooq et al., 2015). According to (Akbari et al., 2014), packaging images are one way to trigger customer purchase intentions.

*H5: There is a significant positive relationship between packaging graphics and customer purchase intention*

#### *Conceptual Framework*

This research will further study the influence of skincare packaging attributes on customer purchase intention. The author claims that the packaging material, types of packaging closure, shape, color tone, and graphics positively influenced customer purchase intention. The conceptual framework is demonstrated in Figure 1. below.



**Figure 1. Conceptual Framework**

## B. RESEARCH METHOD

This research will collect primary data by utilizing online survey methods through questionnaires and analyze it with statistical methods. The survey will be distributed in the form of Google Forms, and the respondents will be given a set of statements in which the researcher will use a 10-point Likert scale to measure how much the respondents agree or disagree with the statement. The results are analyzed using 2 methods: regression analysis to assess the variables individually and conjoint analysis to assess the variables simultaneously.

The research will use a non-probability sampling technique. In other words, the research does not select a random sample of the population and does not give an equal opportunity for the population to be selected. This research will use judgmental sampling, in which the researcher will select the samples that meet the criteria. The criteria are Generation Z (aged 18-26), residing in Jabodetabek and Bandung, and having purchased moisturizer. According to a study by (Hair et al., 2019), the minimum sample size needed should be 5 times the number of indicators used. Since this survey uses 29 indicators, 145 sample sizes will be needed.

Validity results with Cronbach's Alpha value range within 0 to 0.5 is not acceptable, 0.6 to 0.7 is acceptable, and 0.8 to 0.9 is excellent (Ali et al., 2015). Thus, a validity test was run on the data by measuring Pearson's correlation, showing that all variables passed the validity test.

**Table 1. Validity Test Table**

Construct	Item	Sig.	R-Table	R-Value	Validity
Packaging Material	PM1	<.001	0.105	.581**	Valid
	PM2	<.001	0.105	.560**	Valid
	PM3	<.001	0.105	.563**	Valid
	PM4	<.001	0.105	.565**	Valid
	PM5	<.001	0.105	.545**	Valid
	PM6	<.001	0.105	.657**	Valid
Types of Packaging Closure	PC1	<.001	0.105	.433**	Valid
	PC2	<.001	0.105	.637**	Valid
	PC3	<.001	0.105	.352**	Valid
	PC4	<.001	0.105	.393**	Valid
	PC5	<.001	0.105	.503**	Valid
Package Size and Shape	PS1	<.001	0.105	.635**	Valid
	PS2	<.001	0.105	.670**	Valid
	PS3	<.001	0.105	.674**	Valid
	PS4	<.001	0.105	.729**	Valid
	PS5	<.001	0.105	.677**	Valid
Color Tone	CT1	<.001	0.105	.794**	Valid
	CT2	<.001	0.105	.755**	Valid
	CT3	<.001	0.105	.786**	Valid
	CT4	<.001	0.105	.764**	Valid
Packaging Graphic	PG1	<.001	0.105	.757**	Valid
	PG2	<.001	0.105	.767**	Valid
	PG3	<.001	0.105	.696**	Valid
	PG4	<.001	0.105	.758**	Valid
Customer Purchase Intention	CPI1	<.001	0.105	.312**	Valid
	CPI2	<.001	0.105	.336**	Valid
	CPI3	<.001	0.105	.433**	Valid
	CPI4	<.001	0.105	.374**	Valid
	CPI5	<.001	0.105	.417**	Valid

Source: research data, 2023

To measure the reliability of the survey, a reliability test has been tested with 369 respondents and can be shown as measured with Cronbach Alpha below:

**Table 2. Reliability Test Table**

Construct	Cronbach Alpha	Reliability
Packaging Material	0.826	Reliable
Types of Packaging Closure	0.755	Reliable
Package Size and Shape	0.835	Reliable
Color Tone	0.917	Reliable
Packaging Graphic	0.919	Reliable
Customer Purchase Intention	0.657	Reliable

Source: research data, 2023

All variables are regarded as reliable based on the reliability test findings using SPSS, displayed in Table 2., as long as their Cronbach Alpha values are more than 0.6 ( $\geq 0.6$ ). As a result, every variable has met the requirements for the next analysis technique.

### C. RESULTS AND ANALYSIS

#### Multiple Linear Regression

When the significance level is less than 0.05, and the F-value exceeds the F-table, the F-Test determines whether the sample sufficiently represents the chosen population. The F-table equals 0.228 at the significance level of = 5% (0.05) with  $d1 = 5$  and  $d2 = 363$ . The significance level is  $0.001 < 0.05$ , and the F-Value is  $21.520 > 0.228$ . The model can be used to generalize the population because both values show that the model is significant.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3535.603	5	707.121	21.520	<.001 <sup>b</sup>
	Residual	11927.909	363	32.859		
	Total	15463.512	368			

a. Dependent Variable: TOT\_CPI

b. Predictors: (Constant), TOT\_PG, TOT\_PC, TOT\_PM, TOT\_PS, TOT\_CT

**Figure 2. F-Significance Table Test**

In order to assess the relationship between independent and dependent variables, the R-Squared test is used.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.478 <sup>a</sup>	.229	.218	5.73230

a. Predictors: (Constant), TOT\_PG, TOT\_PC, TOT\_PM, TOT\_PS, TOT\_CT

b. Dependent Variable: TOT\_CPI

**Figure 3. R-Squared Table Test**

The adjusted R square is 21.8%, and the R-value is 0.478. The statistics show that customer purchase intention is influenced by independent variable relationships by 21.8% and by other variables that were not studied in this study by 78.2%. These results are consistent with (Keller, 2001) that there are other customer purchase intention factors besides visual packaging.

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	25.132	2.006		12.526	<.001
	TOT_PM	.102	.042	.157	2.443	.015
	TOT_PC	-.074	.057	-.076	-1.289	.198
	TOT_PS	.147	.057	.199	2.585	.010
	TOT_CT	.154	.063	.222	2.454	.015
	TOT_PG	.012	.060	.017	.204	.838

a. Dependent Variable: TOT\_CPI

**Figure 4. T-Significance Table Test**

The significant value and t-value reveal the T-Sig test. Based on the information in Table 5.15, three variables—packaging shape (0.010), packaging material (0.015), and color tone (0.015)—have significance values that are less than 0.05. Based on the result, variables from the strongest to the least effect on customer purchase intention can be sorted as color tone with a 0.154 beta score, packaging shape with a 0.147 beta score, and packaging material with 0.102.

Based on the T-table, packaging material (2.443), packaging shape (2.585), and color tone (2.454), which is higher than the T-table value of 1.97. This suggests that the three variables positively affect customers' purchase intentions. On the other hand, packaging closure and graphics cannot demonstrate a positive connection with the dependent variable since their t-values are smaller than the t-table values of -1.289 and 0.204, respectively. In conclusion, hypotheses two (H2) and five (H5) are rejected.

$$Y = 25.132 + 0.102X1 + 0.147X2 + 0.154X3 + \epsilon$$

Symbol definition:

Y = Customer Purchase Intention

X1 = Packaging Material

X2 = Packaging Shape

X3 = Color Tone

$\epsilon$  = Error

Based on the equation, it is shown that if there is an increase of one unit of packaging material, it will boost customer purchase intention by 0.102, an increase of 0.147 when one point of packing shape variables is added, and an increase by 0.154 for every unit of higher color tone. Below are the hypothesis results of the research:

**Table 3. Hypothesis Table Result**

Hypothesis	Structural Path	T-Values	Result
H1	There is a significant positive relationship between packaging material and customer purchase intention	2.443	Accepted
H2	There is a significant positive relationship between types of packaging closure and customer purchase intention	-1.289	Rejected
H3	There is a significant positive relationship between packaging shape and customer purchase intention	2.585	Accepted
H4	There is a significant positive relationship between packaging color and customer purchase intention	2.454	Accepted
H5	There is a significant positive relationship between packaging graphics and customer purchase intention	0.204	Rejected

Source: research data, 2023

### Conjoint Analysis

According to the respondents' overall preference scale, the importance values table displays the average relevance score between the variables. So, compared to other factors, the larger the number displayed, the more desirable it is.

**Table 4. Importance Value Table**

Importance Values	
Packaging_Material	48.408
Color_Tone	13.387
Packaging_Closure	14.092
Packaging_Shape	24.113
<i>Averaged Importance Score</i>	

Source: research data, 2023

The conjoint results show that, on average, 48.4% of customers' purchase intentions are influenced by the packaging as the greatest impact on consumers' purchase intentions. Next in importance is the shape of the packaging (24.1%), packaging closure (14.1%), and color tone (13.4%).

*Utility Table*

Utility values are shown to identify which combination of variables the respondents prefer. Therefore, higher utility values indicate greater preferences score.

**Table 4. Utility Table**

Utilities			
		Utility Estimate	Std. Error
Packaging Material	Plastic	.525	.097
	Glass	1.073	.111
	Metal	-1.598	.147
Color Tone	Primary	-.179	.089
	Secondary	-.023	.089
	Tertiary	.202	.089
Packaging Closure	Non-Dispensary	-.312	.063
	Dispensary	.312	.063
Packaging Shape	Jar	-.075	.087
	Bottle	-.056	.088
	Tube	.131	.101
(Constant)	6.648	.086	

Source: research data, 2023

According to the result shown in Table 4. above, it is known that each of the variables has the most preferred type. The highest utility value of 1.073 for glass indicates that packaging material is the most important attribute. As for color tone, the tertiary was preferred as it has a positive utility score of 0.202, while the primary and secondary have negative utilities. The positive utility of 0.312 for dispensary closure types indicates it can increase the customer's purchase intention, while the non-dispensary closure has a negative utility score of -0.312. On the other hand, only tube shape has a positive utility compared to jar and bottle. In order to assess the most preferred combination in the survey, the researcher combined each utility score from each variable from the table as shown below:

**Table 5. Profile Utility Score Table**

Profile	Material	Closure	Shape	Color	Utility Score
P27	Glass	Dispensary	Bottle	Tertiary	8.179
P26	Glass	Dispensary	Bottle	Secondary	7.954
P15	Plastic	Dispensary	Tube	Tertiary	7.818

Source: research data, 2023

Based on the utility table, we can conclude that the top 3 profile combination is represented by P27, which has the highest utility score combined (8.179), followed by P26 (7.954) and P15 (7.818). This finding

suggests that the respondents prefer moisturizer packaging with glass material, dispensary closure, bottle shape, and tertiary Color.

*H1: There is a significant positive relationship between packaging material and customer purchase intention*

The packaging material is the third most influential factor in the multiple linear regression analysis and the most significant factor that positively affects customers' purchase behavior in the conjoint analysis. These findings show that packaging material has a significant positive relationship with customer purchase intention and is supported by the previous findings (Adam & Ali, 2014; Mazhar & Mulin, 2015).

*H2: There is a significant positive relationship between types of packaging closure and customer purchase intention*

The type of packaging closures does not significantly influence the customer purchase intention in buying a moisturizer; however, through visualization (conjoint analysis), respondents showed more interest. According to (Srivastava et al., 2022), closures are rarely the first thing customers notice. Nevertheless, it significantly impacts the customers' experience, which may explain why the respondents did not show much interest in the variable in the survey.

*H3: There is a significant positive relationship between packaging shape & size and customer purchase intention*

The packaging shape and size variable is the second most significant factor positively affecting customers' purchase intention on multiple linear regression and conjoint analysis. The findings are supported by previous studies from (Ali et al., 2015; Silayoi & Speece, 2007) that found packaging shape and size consistently affect customers' purchase intention concerning convenience and product quality.

*H4: There is a significant positive relationship between packaging color and customer purchase intention*

Packaging color significantly influences customer purchase intention, placing the first rank in multiple linear regression and the fourth in conjoint analysis. Although the rank results from both questionnaires have a quite notable gap, it still shows that the color tone of packaging positively influences customers' purchase intention. These findings are supported by previous studies (Chitturi et al., 2019; Pallav, 2016). Moreover, it was also proven by past research that Color plays a crucial role in determining the consumer's purchase behavior in the cosmetic industry (Patil, 2012).

*H5: There is a significant positive relationship between packaging graphics and customer purchase intention*

The packaging graphic does not significantly influence the customer's purchase intention in buying a moisturizer. These findings do not align consistently with past studies from Akbari, Gholizadeh, and Zomorodi (2014) as they suggested that the pictures on the packaging are a way to attract consumers buying intentions. Moreover, it was claimed by Lumpkin and Crawford (2015) that textual and artistic features come out as a form of advertisement, crucial factors in influencing consumer purchase intention. The researcher believes that the results of the first questionnaire have its limitations. Therefore, if the researcher is interested in continuing the study, this variable can be further analyzed through different approaches and a broader sample size.

## **D. CONCLUSION**

Based on the results, it is shown that 3 out of 5 packaging attributes were hypothetically proven to have a positive significant influence on customers' purchase behavior in the cosmetic industry; packaging material, packaging shape, and color tone. The variables are valid among Generation Z domiciled in Jabodetabek (Jakarta, Bogor, Depok, Tangerang, Bekasi) and Bandung. On the other hand, packaging closure and packaging graphics do not significantly influence customer purchase intention solely. All-inclusive, the tested variables affect customer purchase intention by 21.8%, and other variables explain the rest. This result is consistent with previous studies from Keller (2001) that state how customer purchase intention is also influenced by various factors outside packaging. Considering the overall results, the researcher, the author, gives some recommendations as follows:



**Table 6. Recommendation Table**

<b>Cosmetic Packaging Attribute</b>	<b>Recommendation from Research Findings</b>
Packaging Material	<ol style="list-style-type: none"><li>1. Determine which type of materials are the most suitable for the skincare ingredient.</li><li>2. Companies can consider using glass on their packaging as it is the most preferred material. However, plastic can also be an alternative since it is more convenient and anti-fragile.</li></ol>
Packaging Shape and Size	<ol style="list-style-type: none"><li>1. Determine shapes that are unique but also convenient to use.</li><li>2. Offer different variants of size (travel size, full size) to give customers more options.</li></ol>
Color Tone	<ol style="list-style-type: none"><li>1. Decide on a color tone that can deliver the mood that the brand is trying to convey.</li><li>2. Design aesthetic layout color mood for packaging.</li></ol>

Source: research data, 2023

#### *Future Research and Limitations*

This research uses regression and conjoint analysis to assess the influence of packaging attributes on customer purchase intention individually and simultaneously. Due to the data collection tool's limitations, there are barriers to the attribute count and combinations. Since this study considers the visual aspects of packaging, designers should also consider its informational components and the costs for each attribute. If other researchers want to expand the study, they can examine the packaging characteristics impacting customers' purchase intentions, including informative and aesthetic factors. Future research should also consider analyzing broader areas and utilizing cluster sampling from representative provinces in Indonesia, as it may result in different findings based on the geographical area.

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