HEDONIC TEST OF PEEL-OFF MASKS CIRCULATED IN THE CITY OF BANDUNG

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The level of acceptance of a product by consumers can be done through a **hedonic test** test that can be used as a measuring tool as a reference for producers before the product is marketed in the market area. So the purpose of this study is how a researcher conducts a **hedonic test** on products that have been circulating on the market where the panelists were previously not informed about the brand of the product and placed in the same packaging to avoid bias and impressions that have been attached to certain brands, the samples tested came from 6 brands of **peel off masks** from the Bandung coat marketing area. The descriptive method was carried out in this study where an observantly using a **questionnaire** as a test tool by filling out the **questionnaire** by responding to the sample by giving sensory responses by providing assessments with a score range between 1 to 5, so that conclusions could be drawn from the six samples tested which sample got the highest score from 20 panelists. The results obtained from the six samples obtained from the test by the panelist showed that sample number 5 was the sample with the highest score in terms of texture, color and odor as the three criterias given to the panelists.

Keywords: *Hedonic test; Peel Off Masks; Questionnaire.*

Introduction

The skin is naturally composed of several layers, one of which is a thin layer of fat on the surface that protects the skin from dehydration caused by excessive water evaporation. Skin care and maintenance, especially in the facial area, can be done with a facial mask. There are several types of facial mask preparations available in the market, including a gel mask or a so-called peel-off mask. A peel-off facial mask is a facial mask that can be easily removed without rinsing again (Rahmawanty et al., 2015). Peel-off masks are widely used to maintain healthy skin, including cleansing, protecting against ultraviolet hazards, maintaining moisture, preventing premature aging, whitening, maintaining skin firmness, and preventing acne (Mitsui, 1997).

Compared with other forms of mask preparation, namely paste and powder form, peel-off masks have advantages including the creation of a cooling effect due to the slow evaporation of water on the skin and not the formation of a waxy layer covering the skin surface. Therefore, it does not inhibit the physiology of the skin, especially the delicate respiratory and pore skin, can be applied on hairy skin surfaces, has good adhesive and spreading power and good release of active ingredients (Voigt, 1994).

Basic Theory

Peel-off gel masks are masks composed of polymers and materials such as latex and natural rubber compounds (Shai et al., 2009). Peel-off gel mask is a transparent or semi-transparent gel facial mask that is easy to spread and forms an easy-to-remove layer, leaving a moist and soft feeling on the facial skin after removing the film layer (Mitsui, 1997).

One criterion for a peel-off mask is that it dries quickly and can form a film layer on the facial skin that is easy to clean by peeling. In addition, peel-off masks must be safe and non-toxic (Mitsui, 1997).

Peel-off gel masks have practical advantages in use and can remove residual contaminants that remain stuck on the facial surface when the mask is removed (Syarifah et al., 2015).

In this study, peel-off mask preparations were selected for evaluation by the panelists based on the responses to all the samples provided. The selection of peel-off mask preparations was made based on consumer interest in this type of product. The product enjoys great popularity as evidenced by the high demand for this product, which is not only limited to the demand in the domestic market but also the demand in foreign markets.

Sensory testing (panel testing) plays an important role in product development by minimizing risks in decision making. Panelists can identify sensory characteristics that contribute to the description of the product. Sensory evaluation can be used to assess

desirable or undesirable changes to a product or a formulation ingredient, identify areas for development, determine whether optimization has been achieved, evaluate competing products, observe changes that occur during processing or storage, and provide data necessary for product promotion. Consumer acceptance and preferences as well as correlations between sensory and chemical or physical measurements can also be obtained through sensory evaluation.

In addition to responsible safety aspects, cosmetic care products, from the packaging to the dosage form itself, are characterized by an appealing aesthetic appearance, namely through the organoleptic or sensory assessment of their color, smell and texture. In order for cosmetics to become competitive, market-accepted and high-selling products when sold as consumables, consumers of cosmetic care products decide whether the product is accepted by the consumer or not. For this reason, evaluations to determine the acceptance of a product among product users are important as a basis for decisions on the design of suitable formulations to ensure sufficient consumer acceptance.

Sensory evaluation, also called organoleptic evaluation or sensory assessment, is one of the most primitive evaluation methods. Sensory evaluation became a field of science after the evaluation procedures were standardized, rationalized, linked to an objective assessment, data analysis became more systematic and statistical.

Organoleptic evaluation, also called sensory evaluation or sensory assessment, is a long-known and still very common evaluation method. This evaluation method is widely used because it can be applied quickly and directly. In some cases, sensory evaluations have a higher accuracy than the most sensitive measuring instruments (Meilgaard et al, 2016). The practical application of organoleptic evaluation is called organoleptic testing and is done using certain procedures. This test will provide data that will be further analyzed using statistical methods (Kartika, 1992).

Organoleptic testing is a method of measuring, assessing or testing the quality of goods using the sensitivity of human sensory organs, namely the eyes, nose, mouth and fingertips. Organoleptic testing, also called subjective measurements, is based on human subjective reactions as a measuring tool (Soekarto, 1990). Organoleptic evaluation is very commonly used for quality assessment in the food industry and other agricultural product industries. This assessment can sometimes provide very thorough evaluation results. The assessment by the senses in some cases exceeds the accuracy of even the most sensitive instruments, including the hedonic (liking) test. A liking test is basically a test in which the test subjects answer whether or not they are satisfied with the properties of the material being tested.

Liking tests are also called hedonic tests. Panelists were asked for their personal feedback on likes and dislikes. In addition, panelists also expressed their liking. This level of liking is called a hedonic scale. For example, in the sense of "like", it can have

a hedonic scale such as: very, very similar, very similar, similar, quite similar. On the other hand, if the idea of "dislike" can have a hedonic scale such as "like" and something is similar, there is a response that is called neutral, that is, it is on the border between dislike and "like".

The hedonic scale can be stretched or compressed depending on the desired scale range. The hedonic scale can also be converted into a numerical scale with quality ratings according to preference levels. Statistical analyses can be performed using these numerical data. The use of hedonic scales can be used in practice to determine differences. Therefore, hedonic tests are often used for the organoleptic assessment of raw materials or similar development products. Hedonic tests are often used to evaluate final products.

So, in this research, the problem arises how to apply an example of a patient/consumer acceptance test called “Hedonic Test”, since this test is an important aspect that cannot be ignored, especially in the manufacture of a consumer product, which in this case is a cosmetic mask product.

Methodology

This research was conducted using a descriptive observational study focused on Bandung city, where participants were given a questionnaire on organoleptic sensory responses to samples of several brands of peel-off masks without allowing participants to see the packaging or brand of the samples tested.

1. Tools and Materials.

The equipment used in this research is a questionnaire as a research tool and also samples. The samples used in this research are peel-off masks representing three price range categories, namely two samples with prices below Rp. 100,000.00 to represent the price range. relatively cheap, two samples with a price range between Rp. 100,000.00 and Rp. 250,000.00. Rp. 250,000.00 represents a relatively expensive price, the sample was obtained from an online market or online store in Bandung city area. Researchers select samples that are most popular or purchased by consumers and can be browsed through reviews in the online store that offers the product.

2. Preparing panelists.

The researchers involved in this research were 20 panelists with the following intrinsic and extrinsic criteria:

- Intrinsic criteria: female, 20–30 years old, able to communicate, willing to take hedonic tests and fill out questionnaires, and sensory sensitivity to the five senses.
- Extrinsic criteria: they have limitations in responding to sensory senses.

3. How to present samples.

Hedonic test samples should be presented and coded randomly. When giving a rating, panelists are not allowed to repeat the rating or compare the examples presented. Therefore, an untrained rater should be presented with the samples one at a time so that the rater does not compare one sample with another.

4. How to evaluate.

The hedonic test assessment must be spontaneous. Afterward, panelists can fill out the questionnaire. In this case, the panelists first conducted an acceptance test of peel-off masks of 6 types of brands and the evaluation was done on 5 preference levels. Then proceed to the hedonic test.

5. Observation Table

Panelist Name :

Sample Type : Masker peel off

Sample Quantity : 6

Test Date :

Instructions: Test the samples from left to right, test and evaluate each sample thoroughly and then neutralize your sight and smell for 1 minute. Then continue with another sample until the 6th sample.

Hedonic/Likeability Test

Rate it using the following scale:
1 = Strongly dislike
2 = Dislike
3 = Normal/Neutral
4 = Like
5 = Strongly like

Sample ID	Evaluation Criteria		
	Texture	Color	Smells

The variable used is a single variable, namely the degree of preference for serum cosmetic preparations in terms of texture, color and smell of peel-off masks of 6 brands circulating in the online market of Bandung City.

The data analysis used by the researchers is a descriptive quantitative data analysis based on a Likert scale, where the highest score divided by the maximum score is calculated for each indicator.

Data analysis activities include:

1) Scoring

Scoring is the process of providing values in the form of numbers as answers to questions to obtain quantitative data. In this study, the ratings given are based on the level of responses received from panelists, namely:

a) Strongly Like (score 5)
b) Like (score 4)
c) Normal/Neutral (score 3)
d) Dislike (score 2)
e) Strongly dislike (score 1)

2) Tabulation

Tabulation involves ordering and grouping responses in a comprehensive manner, then calculating and adding them in tabular form.

Increasing respondent preferences by calculating the percentage of each question indicator (texture, color and smell). Using the Sugiyono Formula, 2010.

$$\% = \frac{Total\ Score\ from\ Test}{Maximum\ Score} \times 100\%$$

Here are the scale of respondent's response :

a) Strongly Like (81-100%)
b) Like (61-8 %)
c) Normal/Neutral (41-60%)
d) Dislike (21-40%)
e) Strongly dislike (0-20%)

Results and Discussion

Based on the results of the peel-off mask hedonic test, the following results were obtained:

1) Hedonic test of the texture of the peel-off mask preparation

The hedonic test of the texture of the peel-off mask preparations was conducted by directly observing the six preparations as test samples. A high level of liking represents the texture appearance that the panelists liked the most and can be observed in Table 1 below.

Table 1. Hedonic Test on Peel Off Mask Preparation Texture

Panelist	Sample					
	1	2	3	4	5	6
P1	3	4	5	4	5	4
P2	2	4	3	3	4	5
P3	4	3	2	4	5	4
P4	5	2	2	4	4	4
P5	2	3	3	5	4	3
P6	3	2	2	2	5	3
P7	2	3	4	3	4	4
P8	4	5	4	5	5	4
P9	3	3	3	3	3	3
P10	2	2	3	2	3	2
P11	5	5	5	5	5	5
P12	3	4	4	3	3	2
P13	5	2	3	2	5	5
P14	3	3	4	3	3	3
P15	2	2	3	2	3	2
P16	4	3	4	5	5	5
P17	4	4	4	3	3	4
P18	3	3	3	4	4	4
P19	4	3	4	4	4	5
P20	3	2	3	3	4	4
Skor Total	66	62	68	69	81	75

Description : P = Panelist

Preference Level :
1 = Strongly Dislike
2 = Dislike
3 = Normal/Neutral
4 = Like
5 = Strongly Like

From the panelists' responses to six samples of peel-off masks based on the texture of the preparation, it was found that sample 5 received the highest overall score compared to the other five samples, namely 80, which when converted into a liking rating, is in the "Strongly Like" category, according to Sugiyono, 2010, while samples

6 and 4, for 2nd and 3rd place, received scores of 75 and 69 respectively, meaning that both samples were in the "like" category.

2) Hedonic test of the color of the peel-off mask preparation

The color hedonic test was conducted by direct observation on the six test sample preparations. The high level of preference represents the most color appearance chosen by panelists, which can be observed in Table 2 below.

Table 2. Hedonic test of the color of the peel-off mask preparation

Panelist	Sample					
	1	**2**	**3**	**4**	**5**	**6**
P1	4	3	4	3	5	4
P2	2	4	3	3	4	5
P3	4	3	2	4	5	4
P4	5	2	2	4	4	4
P5	2	3	3	5	4	3
P6	3	2	2	3	5	3
P7	2	3	4	3	4	4
P8	4	5	4	5	5	4
P9	3	3	3	3	3	3
P10	2	2	3	2	3	2
P11	5	5	5	5	5	5
P12	3	4	4	3	5	5
P13	5	2	3	2	5	5
P14	3	5	4	3	3	3
P15	2	2	3	2	3	2
P16	4	3	4	5	5	5
P17	4	4	4	3	3	4
P18	3	3	3	5	5	4
P19	4	3	4	4	4	5
P20	3	2	3	5	5	3
Total	67	63	67	72	85	77

Description : P = Panelist

Preference Level :
1 = Strongly Dislike
2 = Dislike
3 = Normal/Neutral
4 = Like
5 = Strongly Like

Based on the panelists' responses to six peeling samples based on the color of the preparation, it was found that Sample 5 received the highest overall score compared to the other five samples, namely 85, which when converted into a liking level, according to Sugiyono, 2010, is in the "Strongly Like" category, while the other samples, namely Samples 1, 2, 3, 4 and 6, are each in the "Like" category.

3) Hedonic test of the smells of the peel-off mask preparation

The hedonic test of smells evaluation of preparations is carried out by direct observation of the six preparations as test samples. A high level of liking represents the smells presentation that the test participants liked best, which can be seen in Table 3 below.

Table 3. Hedonic test of the smell of the peel-off mask preparation

Panelis	Sampel					
	1	2	3	4	5	6
P1	5	4	5	4	5	5
P2	2	4	3	3	4	5
P3	4	3	2	4	5	4
P4	5	2	2	4	4	4
P5	2	3	3	5	4	3
P6	3	2	2	3	5	3
P7	2	3	4	3	4	4
P8	4	5	4	5	5	4
P9	3	3	3	3	3	3
P10	2	2	3	2	3	2
P11	5	5	5	5	5	5
P12	3	4	4	3	5	5
P13	5	2	3	2	5	5
P14	3	5	4	3	3	3
P15	2	2	3	2	3	2
P16	4	3	4	5	5	5
P17	4	4	4	3	3	4
P18	2	2	2	4	4	3
P19	4	3	4	4	4	5
P20	3	2	3	5	3	3
Total	67	63	67	72	82	77

Description : P = Panelist

Preference Level :
1 = Strongly Dislike
2 = Dislike
3 = Normal/Neutral
4 = Like
5 = Strongly Like

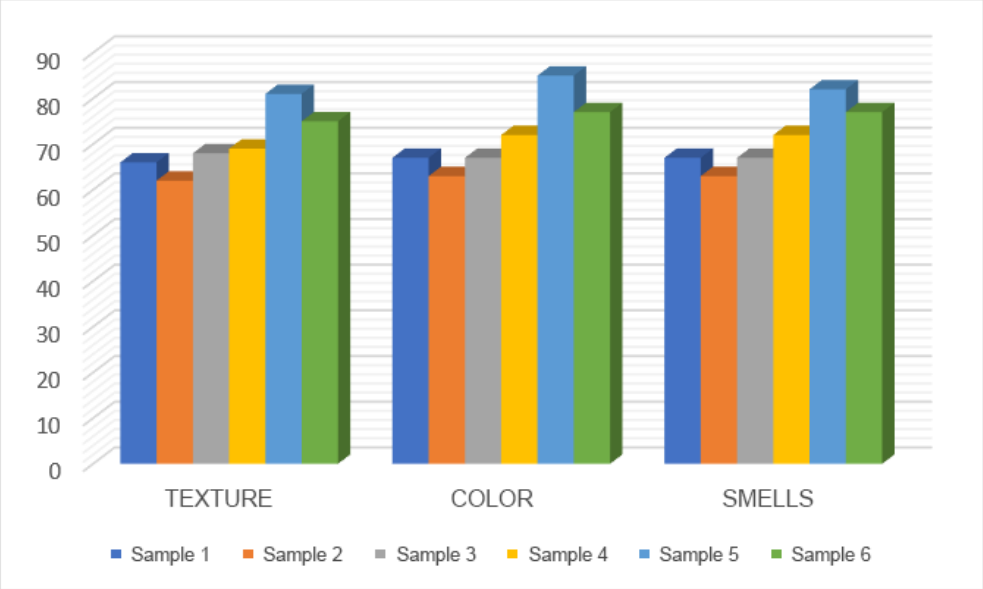
From the responses given by the panelists to the six peel-off mask samples based on the smell of the preparation, it was found that sample 5 received the highest total score compared to the other five samples, namely 82, which if converted to the level of preference according to Sugiyono, 2010, is in the "Strongly like" category, while the other samples are in the "like" category.

4) Recapitulation of Hedonic Tests from Each Test Component

If the data from the previous table is presented in the form of tables and diagrams, the acquisition of each sample based on the three criteria can be seen in the following table:

Table 4. Hedonic Test Recapitulation

PARAMETER	SKOR TOTAL					
	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4	SAMPLE 5	SAMPLE 6
Texture	66	62	68	69	81	75
Color	67	63	67	72	85	77
Smells	67	63	67	72	82	77
TOTAL SCORE	200	188	202	213	248	229



Picture 1. Diagram for Hedonic Test Recapitulation

Conclusion

Based on the results of data analysis obtained from hedonic testing of 6 brands of peel-off mask preparations as test samples, the following conclusions can be drawn:

1) Sample 5 is the sample that received the most ratings from the reviewers as a peel-off mask preparation according to various test criteria, both in terms of texture, color and smell.
2) The rating obtained by Sample 5 is in the “Strongly Like” category, while the other five samples are in the “Like” category.

For further investigation, it is recommended to add all components of this hedonic test, both in terms of the number of samples, the number of panelists and the tests performed with the new formula.

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