Consumer Preferences in Purchasing Traditional Medicine Considering Products, Taste Sensory, and Certification Label

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Abstract. The benefits of traditional medicine have been known since ancient times in Indonesia, functioning as an alternative to treat various diseases and maintain the body's immune. This research aims to determine consumer preferences and the dominant attributes that are the main priority for traditional medicine. The analytical tool in this research used conjoint analysis. This research is descriptive using primary data. Sampling was done by purposive sampling method from 61 respondents. The research instrument was tested using validity and reliability tests. The research results were analyzed descriptively, and a trend test was conducted. The research results regarding the dominant attributes that will become the main priority in consumer preferences for traditional medicines indicate that the research instruments are valid and reliable to be used in research. The analysis shows that most consumers love traditional medicine in a liquid form with a mint taste and labeled with BPOM and Halal certification. In choosing traditional medicine, consumers tend to prioritize the value of the certification label first with an importance of 58.390%, followed by taste sensory with an importance value of 28.531%, and the last is related to the type of product with 13.079%. The correlation output to measure predictive accuracy obtained a high and significant correlation value.

Keywords: Traditional Medicine · Consumer Preferences · Product · Taste Sensory · Certification Label · Conjoint Analysis

1   Introduction

The benefits of traditional medicine for health have been known for a long time. Traditional medicines are made from herbs such as ginger, rice cutcherry mixture, ginseng, and other herbs, and they are that are often used to treat various diseases. Apart from that, there are many other benefits of consuming herbal medicine. Indonesia has known as a country rich in spices and herbal medicines. These ingredients are often processed into drinks that have many benefits and are good for health. Based on the National Agency of Drug and Food Control [1] Act on the classification and labeling of natural medicines, they are classified into three types: traditional medicine (herbal medicine, imported traditional medicine, and licensed traditional medicine), standardized herbal medicine (those

that have been proven through pre-clinical trials), phytopharmaceutical medicine (those that have been through clinical trials). This classification is based on the manufacturing process and method with the level of evidence regarding the benefits and quality of the product. Traditional medicine is a substance from animals, plants, minerals, extraction (galenic preparation), or a mixture of those substances used for generations for treatment. Jamu (herbal medicine) is classified as traditional medicine. Jamu medicine must meet the following criteria: (1) Safe according to the specified requirements, (2) Claims of efficacy are proven based on empirical data, (3) Meet the applicable quality requirements, (4) Claim of efficacy labelling must be started with statement "Traditionally used for …" and not allowed to use claims of efficacy using pharmacological/medicinal terms such as herbal medicine for hypertension, hyperlipidemia, diabetes, tuberculosis, asthma, fungal infection, etc. OHT is a traditional medicine whose safety and efficacy have been scientifically proven through pre-clinical trials on animals (toxicity and pharmacodynamic test). The raw material of OHT must meet the following criteria: (1) Safe in accordance with the specified requirements, (2) Claims of efficacy have been proven scientifically/preclinically (in experimental animals), (3) Carried out standardization of the raw materials used in a finished good, and (4) Meet the applicable quality requirement. Phytopharmaca is traditional medicine whose safety and efficacy have been proven through pre-clinical tests (on animals) and clinical trials (on humans), standardized raw materials, and finished products. Moreover, phytopharmaceuticals are herbal medicines prescribed by doctors considering that they have been tested on animals and humans.

Phytopharmaceuticals are traditional medicines whose safety and efficacy have been proven through pre-clinical trials (on animals) and clinical trials (on humans), with standardized raw materials and finished products. Phytopharmaceuticals are herbal medicines prescribed by doctors considering that they have been tested on animals and humans. Phytopharmaceuticals must meet the following criteria: 1) Safe according to the specified requirements. 2) Claims of efficacy are proven scientifically or preclinically (on animals) and clinically (on humans) 3) Using standardization of raw material for its finished products. 4) Meet the applicable quality requirements 5) Claim of efficacy must be based on one medium and high-level evidence.

According to BPOM regulation no 21 of 2019, October 23, 2019, about the safety and quality requirements of traditional medicines: all preparation of traditional medicines, OHT or phytopharmaceuticals must meet the requirement of all parameters for safety and quality for finished drugs. In addition, OHT and phytopharmaceutical products must meet qualitative and quantitative tests of raw materials (for OHT) and active ingredients (for phytopharmaceutical).

All the tests must be carried out in an accredited or internal laboratory for the industry/traditional medicine business certified by BPOM. Identify the process of making a purchase decision for traditional medicines. Identify consumer's preferences in purchasing traditional medicines by considering the products, the taste sensation and certification labels. As an effort to update previous research on consumer preference factors with label attributes and the level of attributes of BPOM certification and Halal in traditional medicines.

Consumer preference refers to a consumer's attitude towards a choice of product brands formed by evaluating various brands available. There are several stages to be

passed by consumers to describe their satisfaction with a product brand. Consumer preference appears in the evaluation of alternatives in the purchase decision process; at this stage, consumers are faced with a wide choice of product brands with various attributes. Therefore, preference is a choice taken and chosen by consumers from the various available options [2].

This preference can be formed through a consumer mindset based on several reasons: (1) Previous experience, (2) Satisfaction and suitability in consuming the product brands so the consumer will continue to use the product brands, (3) Beliefs and traditions, and (4) The family's influence of using the product/service, being loyal and also because of the benefit of the product.

Product is anything physical or non-physical that producers offer that consumers will request, seek, purchase, use, or consume to fulfill their needs or problems [3]. Product attributes are important elements in building differentiation with other brand products [4]. For companies that can optimize their product attributes, they will be able to compete with other products [5]. According to Ramadani et al. [5] product attributes are product elements considered important by consumers and are used as the basis preference decisions consumer.

Perception of taste sensory quality has an important role in determining consumer satisfaction [6]. Sensory quality is the interaction between the product and the consumer. This is necessary to establish a relationship between the physical and chemical composition of a product and its sensory attributes, such as color, texture, aroma, and taste, and between sensory perception and acceptance for consumers [7].

A halal certification label proves that a product has obtained a halal certificate from LPPOM MUI. The Halal Certificate label is a written fatwa from MUI on a product, stating that the product is Halal through an audit by LPPOM MUI. In contrast, the BPOM label is a label issued by BPOM authorized to audit product safety from a health perspective. A label is a brand as a name, term, sign, symbol, design, or a combination thereof, which is intended to identify the goods or services of one seller or group of sellers and to differentiate them from those of competitors [8]. The study results of Ita Novita, Himmatul Miftah, M. Abdurohman Sunaryo [2], who studied Consumer Preferences in Purchasing White Turmeric Herbal Medicine, showed that the purchase decision-making process was carried out in four stages: the need recognition stage, information search, evaluation purchase alternatives, and post-purchase evaluation.

Consumer preferences refer to attributes of efficacy, expiration date, halal label, packaging, and price. The study results of Rosita Dewati and Wahyu Adhi Saputro [9], who studied consumer perceptions of herbal products in Sukoharjo Regency showed that halal label, product prices, taste, efficacy, ease of obtaining, proximity to sellers, information in brochures, information from friends, and the concept of back to nature affect public perception in making decisions to purchase herbal products in Sukoharjo Regency.

2   Research Methods

This study used conjoint analysis to find out how consumers prefer traditional medicine. Conjoint analysis was used to find out how a person's perception of an attribute consists

Table 1. Attribute and level of attribute evaluation of traditional medicine.

Attribute	Level
Product form	Powder
	Liquid
Taste Sensory	Sweet
	Mint
	Lemon
Certification label	BPOM
	Halal
	BPOM and Halal

Source: Researcher, 2022.

Table 2. Stimuli Table Design.

Product Form	Taste Sensory	Certification Label	Card
Powder	Sweet	BPOM	01
Powder	Sweet	Halal	02
Powder	Sweet	BPOM and Halal	03
Powder	Mint	BPOM	04
Powder	Mint	Halal	05
Powder	Mint	BPOM and Halal	06
Powder	Lemon	BPOM	07
Powder	Lemon	Halal	08
Powder	Lemon	BPOM and Halal	09
Liquid	Sweet	BPOM	10
Liquid	Sweet	Halal	11
Liquid	Sweet	BPOM and Halal	12
Liquid	Sweet	BPOM	13
Liquid	Mint	Halal	14
Liquid	Mint	BPOM and Halal	15
Liquid	Lemon	BPOM	16
Liquid	Lemon	Halal	17
Liquid	Lemon	BPOM and Halal	18

Source: Researcher, 2022.

of one or many levels of traditional medicine. The main result of the conjoint analysis was a form of product or service, or a specific object desired by most respondents. In the beginning, conjoint analysis was popularly used in marketing research, especially in various research to find out how consumers prefer various product designs. The attribute and level of an attribute in this study are as shown in Tables 1 and 2.

Stimuli are combinations of attribute variables and attribute level indicators. Because there are three attributes (product form, taste sensory, and certification label) and eight levels of the attribute (two levels of product form, three levels of taste sensory, and three levels of certification label), the possible combination is $2 \times 3 \times 3 = 18$ stimuli.

The listed stimuli were obtained from a questionnaire completed by the respondents using a google form survey. Respondents were able to assess each stimulation separately by giving a value or rating ranging from 1 to 6. Then a conjoint analysis was carried out to estimate the shape of the product that consumers wanted. The next step was to test the validation of the stimuli using SPSS as a tester and whether the conjoint process using the sample could be in line with the population. The correlation between Pearson's R and Kendall's tau was carried out for the validity of the conjoint analysis.

3 Results and Discussion

Table 3 exhibits the characteristics of the respondents. 79 respondents completed this study's questionnaire. Based on conjoint data processing, only 61 respondents were considered valid, while the rest (18) respondents answered the same stimulus value for all values; thus, they were classified as invalid respondents. The majority of the respondents were 36–45 years (28 respondents), worked as employees (88.5%), and the rest were students, entrepreneurs, and housewives. Most respondents (68.9%) had a bachelor's degree, 19.7% graduated from elementary/junior/high school, and 3.3% from a diploma degree.

The traditional medicinal products for this study were herbal medicine, imported traditional medicine, and licensed traditional medicine, made from a mixture of herbs such as ginger, rice cutcherry mixture, ginseng, and other spices, which are often used to treat various diseases and maintain health.

Table 4 exhibits the frequency of traditional medicine consumption. The table shows that the majority of respondents rarely consumed traditional medicines (82.0%), 16.4% of total respondents often consumed traditional medicines, and 1.6% never consumed traditional medicine.

Table 5 exhibits some objectives of consuming traditional medicines. From the table, it can be seen that the majority of respondents (39.3%) consumed traditional medicines to improve health (promotive), 36.1% to prevent a disease (preventive), 18.0% to treat a disease (curative), and 6.6% for restoring health (rehabilitative).

The results of utilities for all respondents are as follows:

From the conjoint outputs, it can be seen which indicators/attributes are considered the most important and less important than the output importance values (Tables 6, 7 and 8).

There are two levels of product attributes: powder and liquid. The utility estimate value is -0.029 for powder and 0.029 for liquid; thus, it can be concluded that the value

Table 3. Characteristics of Traditional Medicine Consumer Respondents.

Age group	Frequency	Percentage
<17 years	0	0.0%
18−25 years	7	11.5%
26−35 years	17	27.9%
36−45 years	28	45.9%
>46 years	9	14.8%
Job		
Student	3	4.9%
Employee	54	88.5%
Entrepreneur	3	4.9%
Housewife	1	1.6%
Education		
Elementary/Junior/High School	12	19.7%
Diploma	2	3.3%
Bachelor	42	68.9%
Master	5	8.2%
Doctor	0	0.0%

Source: Researcher, 2022.

Table 4. Frequency of traditional medicine consumption.

Frequency of traditional medicine consumption	Frequency	Percentage
Never	1	1.6%
Rarely	50	82.0%
Often	10	16.4%

Source: Researcher, 2022.

of liquid product form has a positive value and the largest is 0.029. Liquid product form is the most desirable or preferred. On the other hand, powder product form with a negative value of −0.029 is the least desirable or least preferred product form. There are three levels of taste sensory attributes: sweet, mint, and lemon. The utility estimates are sweet 0.018, mint 0.024, and lemon −0.042. The largest value of taste utility from this study is mint; thus, it can be concluded that mint is the most desirable of preferred flavor. While the lemon flavour with a negative value of −0.042 is the least desirable or least preferred taste sensory.

Table 5. The objectives of traditional medicine consumption.

The aim of traditional medicine consumption	Frequency	Percentage
Promotive (health improvement)	24	39.3%
Preventive (disease prevention)	22	36.1%
Curative (disease treatment)	11	18.0%
Rehabilitative (health restoration)	4	6.6%

Source: Researcher, 2022.

Table 6. Utilities Value Analysis.

Utilities		Utility Estimate	Std. Error	
Product Form	Powder	−.029	.010	
	Liquid	.029	.010	
Taste Sensory	Sweet	.018	.014	
	Mint	.024	.014	
	Lemon	−.042	.014	
Certification Label	BPOM	−.236	.014	
	Halal	−.151	.014	
	BPOM Halal	.387	.014	
(Constant)		.010		

Source: Researcher, 2022.

Table 7. Average Importance Score.

Importance Values	
Product	13.079
Taste Sensory	28.531
Certification Label	58.390

Source: Researcher, 2022.

There are three attributes of certification utility labels: BPOM, Halal, BPOM and Halal. The value of utility estimates is BPOM −0.236, Halal −0.1515 and BPOM and Halal 0.387. It shows that the value of label certification of BPOM and Halal has a positive value and the largest is 0.387; thus, it can be concluded that BPOM and Halal certification label is the most desirable or preferred, while the BPOM certification label only with a negative value −0.236 is the least desirable or least preferred. From the results of the conjoint output, it can be seen that attributes level indicators are considered the most

Table 8. Measurement of Predictive and Significance Test (Correlations).

Correlations[a]		
	Value	Sig.
Pearson's R	.993	.000
Kendall's tau	.834	.000

Source: Researcher, 2022.

important and the least important from the output importance values. Each respondent has a value of importance according to their respective preferences. Based on the results above, it can be concluded that the consumers preferred liquids with mint flavor and are labeled with BPOM and Halal certification. Based on the results of all respondents, it can be seen that the most attribute level indicator in choosing traditional medicine is the certification label attribute which is 58.390%, followed by the taste sensory attribute with 28.531%, and the last is the product form attribute with 13.079%.

Measurement of correlation, either by Pearson or Kendall, produces a relatively strong number above 0.5. This indicates a strong relationship between estimates and actual, or there is a high accuracy of prediction in the conjoint process. Meanwhile, to test the significance of the two correlations above is, if the significance below 0.05, then the two correlations have a reasonably strong relationship; on the other hand, if above 0.05, the two correlations have a strong relationship.

4   Conclusion

As the respondents' opinion has high accuracy, the significance test is shown to be significant from the above analysis. Thus, it can be concluded that the most important relative relationship of the three attributes above is the certification label. We can conclude that respondents are sensitive to the certification label of traditional medicine.

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