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An application of conjoint analysis to explore user's preference on product attributes

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Abstract

Social messenger has been booming so far. This paper was aimed to analyse user preferences on product attributes of social network, which has been known as social messenger by using conjoint analysis. Conjoint analysis is applied for the measurement of user's preferences on product attributes by three attributes and between three to six levels for each attribute. To apply the approach, three significant points were designed: the first point investigates importance score index, then attribute utility, and the last on correlating and significance. Consequently, it weighed the preferences by the virtual profiles of the product attributes, which represent the ideal systems. Very good agreement is found between theoretical and measurement tools using conjoint analysis. It was found that not all products attributes affected preferential attitudes of using social messengers.

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Keywords: Product attributes; preferential attitudes; conjoint analysis; social messenger.

1. Introduction

The development of information technology which is increasingly and rapidly advanced indirectly forces people to be aware of new technologies around them. Technological products are created around the world in almost every second. People have to appreciate this technological development since it surely will help human's life. Along with the rapid of technological development, internet development is increased as well. Indonesia is one of internet user countries which are quite high in the world. A survey conducted by Indonesian Internet Service Provider's Association (APJII) [1] says that the number of Indonesian internet users in 2013 has reached 82 million users. It increases by 19 million users from 2012 which recorded that there were 63 million internet users in Indonesia.

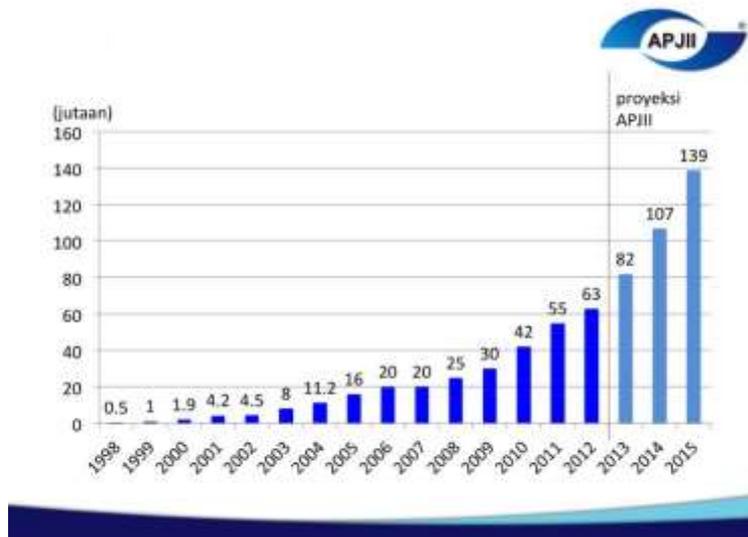


Fig. 1. Number of internet users in Indonesia [1]

Based on Fig. 1, internet users in Indonesia will continue to grow and they are projected by 2014 to reach 107 million active users and 139 active users by 2015. Nowadays, communication can be done not only physically, but also virtually in cyberspace with using computer and Smartphone in social network. People have recognized the existence of social messenger where chatting becomes one of ways to communicate. A means of communication does not only depend on phoning and texting. Currently, there has been messenger application which enables people to instantly send messages to others. Messenger has advantages compared with text messaging. Text Message can only send messages in form of texts but messenger can send messages in forms of text, video, voice message, and stickers. Instant messenger application has shifted the position of text message service. In accordance with information analysis agency, in 2012 the number of messages sent through instant messenger service ultimately has successfully exceeded the number of messages sent through text message service. With 19 billion messages, for the first time, the number of sent text messages which is 17.6 billion has been exceeded by various instant messenger application

The development of instant messaging application users is supported by the existence of various messenger applications offering towards people today.

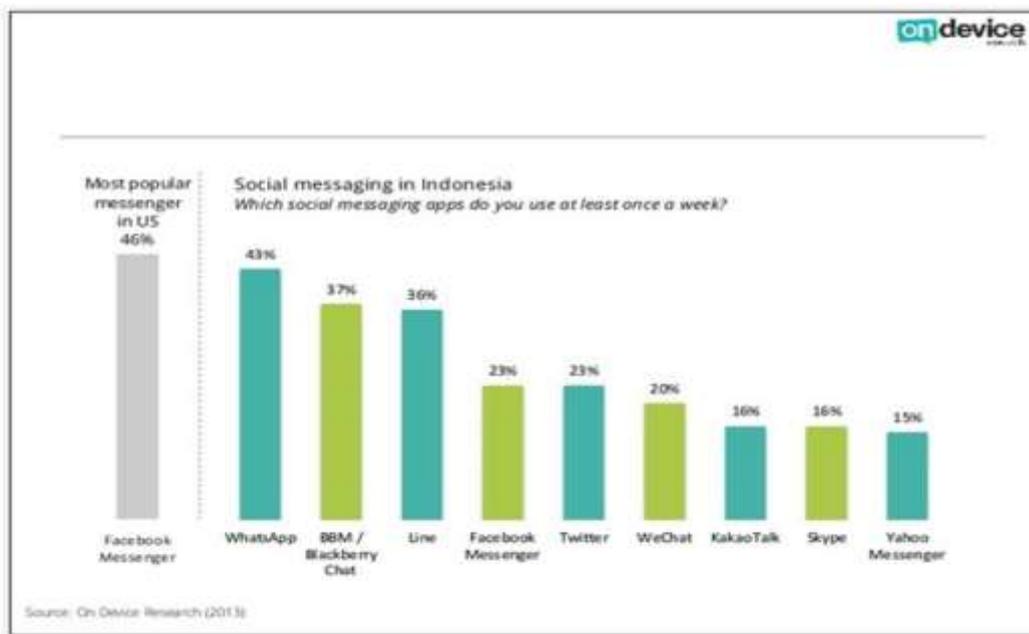


Fig. 2 Social Messaging in Indonesia [2]

Based on Fig. 2, it can be seen that there are some instant messaging service providers in Indonesia: WhatsApp, Line, KakaoTalk, WeChat, BlackBerry Messenger, Facebook Messenger, Skype and Yahoo Messenger. In accordance with a report by *OnDevice* marketing research institute, the applications which are competing are LINE, WhatsApp, WeChat and KakaoTalk. This competition is indicated by the increasing of the number of users from each application. It is also indicated by the continued innovation by messenger application developer companies. This innovation is created to attract the Smartphone users' interests in order they uses that messenger application [2]. According to Kotler & Keller [4], a company is able to design and apply a strategy which can stimulate consumers' interests towards products by understanding the consumer's preference.

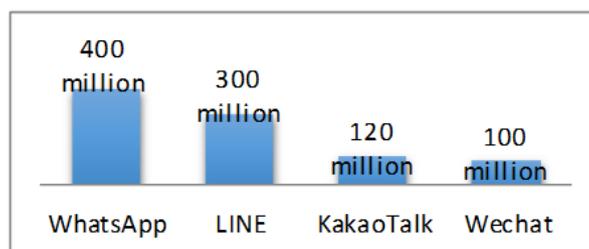


Fig. 3. The Number of Social Messenger Users [3]

Figure 3 explains that WhatsApp has the highest number of users, followed by LINE users, then followed by KakaoTalk users and WeChat users which are 100 million users. Seeing the high number of social messenger users

today, it can be predicted that those numbers will continue to grow by 2014. How many numbers of the growth are, it depends on efforts of each instant messaging application developers to do interesting approaches to the users all over the world including Indonesia. Bandung city is chosen as the object of research since Bandung is the third rank city which belongs to seven cities that have the most population in Indonesia with a population of 2,771,138 people [5].

The aim of this research is to find out how the consumers' preference of social messenger usage in Bandung with the limitation in the importance level of each attribute, and the result of attribute combination and social messenger level, which is the most desired by the consumers.

2. Methodology

2.1 Customer Behaviour

According to Mothersbaugh [6], "consumer behaviour is the study of individuals, groups, or organization and the processes they use to select, secure, use and dispose of products, services, experiences, or ideas to satisfy needs and the impacts that these processes have on the consumer and the society". Schiffman and Kanuk [7] stated that the study of consumers' behaviour is centred on ways of individuals to decide in utilizing their available resources (time, money, effort) in order to buy the goods related to consumption.

Consumption is used as the central attention point in marketing process. Learning what consumers need and desire will lead marketers to a right and efficient marketing policy. Consumer's study gives a guidance to fix and introduce a product or service, to set prices, to plan channels, to arrange messages, and to develop other marketing activities. In a model of consumer's behaviour [4], a process is started from marketing stimuli and other stimuli from the outside like economy, technology, culture, and politics. A set of stimuli will be influenced and will influence the consumers' psychological side and characteristics, which further continues on the process of purchase decisions.

In the process of purchasing decision, there are some steps which is initiated by identifying problems by consumers regarding what they need and desire. The next step is where consumers search information related to the products. Then, there will be some alternatives products which will be evaluated. In the evaluation step, consumers will form a preference of product options series which ultimately, determine the purchase decision.

2.2 Purchase Decision

According to Kotler and Armstrong [8], in the evaluation step, consumers will determine brand ranks and will form the purchasing intention. Generally, purchase decision of consumers is purchasing the most preferred brands. However, two factors can be different between purchase intention and purchase decision. The first factor is another's behaviour. A desire in purchasing can be influenced by the closest factor or by people who have been trusted or who have significance for the buyer, so that the buyer's opportunity to follow his/her own desire is diminished.

The second factor is the situational factor which is not anticipated. The consumer may form purchase intention based on factors such as income, prices, and advantages of the expected products. Nonetheless, unexpected events can change the purchase intention [8].

2.3 Purchase Decision Behaviour

There are four purchase behaviours of consumers in accordance with the involvement level of consumer and the differentiation level of brands [8], they are (a) *Complex Purchase Behaviour*; Complex purchase behaviour is the purchase behaviour of consumers in a situation determined by the high involvement of consumers in purchasing and by the significant differences among the brands. (b) *Dissonance Reduction Purchase Behaviour*; Dissonance Reduction Purchase Behaviour is the purchase behaviour of consumers in a situation which has high involvement character but few differences among the brands. (c) *Habit Purchase Behaviour*; Habit Purchase Behaviour is the purchase behaviour in a situation which has low involvement character and few differences among the brands, and (d) *Variety-Seek Purchase Behaviour*; Variety-seek purchase behaviour is the purchase behaviour which has low involvement character but with the significant differences among the brands.

2.4 Decision-Making of Consumers

In consuming a product or service, there are steps taken by consumers, to know about these steps can help the marketers or companies to understand consumer's behaviours [9]. Basically, the purchase decisions made by the consumers are divided into five steps as affirmed by Kotler and Armstrong [8]. It is initiated by needs recognition, information retrieval, alternatives of evaluation, purchase decision-making and post-purchase behaviours, as can be seen in Fig. 4:

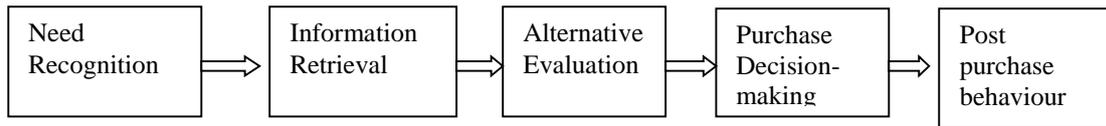


Fig. 4. Decision-making Process [8]

(1) *Needs Recognition*; Purchasing process is initiated by needs recognition where consumers are aware of a problem or needs. The needs can be triggered by internal stimuli when one of one's normal needs - like hunger, thirst, sex - emerge in the high level so it becomes an impulse. The needs also can be triggered by external stimuli.

(2) *Information Retrieval*; Consumers who are interested may search more information or maybe not. If the consumers' impulse is strong and the satisfying product exists in those consumers, they may buy it then. If it is not, the consumers can bear the needs in their minds or search the information related to their needs.

(3) *Alternative Evaluation*; This is a decision process step of consumers where they use information to evaluate the alternative brand in a group of options. It is also how consumers process information to arrive at the brand choice. Unfortunately, the consumers do not use a simple and single evaluation process in all purchase situations. Instead, some evaluation processes are conducted.

(4) *Purchase Decision-making*; In the evaluation step, consumers determine the brand rank and form their purchase intention. Generally, purchase decision of consumers is purchasing the brand they like the most, but the two factors can be different between the purchase intention and purchase decision. The first factor is another's behaviour. The second factor is an unexpected situational factor, and (5) *Post-purchase Behaviour*; The decision-making of consumers where they take the next action after the purchase is based on their satisfaction or dissatisfaction. The larger the gap between expectation and performance is, the larger the dissatisfaction of consumers is. It indicates that the seller is only allowed to promise what brand can give so that the consumers feel satisfied. How to evaluate the consumers' complaints has to be handled effectively.

2.5 Alternative Evaluation and Selection

The complication of a process of alternative evaluation which is done by consumers highly depends on the model of decision made by the consumers. The obtained information is further processed to get the decision or consideration of values of a product, and it will result some attributes. After that, it will be given the quality of various alternatives. Hawkins and Motherbough [6] illustrated the alternatives evaluation and selection of a product before executing the purchase decision. The alternatives evaluation explained by Hawkins and Motherbough [6] were divided into three parts: evaluation criteria, important criteria, and considered alternatives. Each consumer has different perspective about those three given evaluation.

The third step of this decision-making process of the consumer is conducting the alternatives evaluation. First, the general description above is the consumers' processes to use or choose, and compare the available alternative products. Then, the consumers describe the situation and the characteristics of evaluation criteria (for instance, the advantages of choosing that products). After examining the evaluation criteria, important criteria, and the available alternatives, the consumers will focus on seeing the capability of assessing performance of a product. Ultimately, the consumers examine the decision rules which will be applied by those consumers to choose a single alternative which is considered as a good product and can fulfil a satisfaction for them.

Some basic concepts will help in understanding the consumers' evaluation process; firstly, they attempt to meet the needs. Secondly, they look for certain advantages of product solution. Thirdly, they see each product as a set of attributes with different capabilities in giving the advantages which are used to satisfy those needs. The attributes which are interesting for the consumers are various depending on the types of products.

2.6 Preference

Consumer's preference is a consumer's behaviour towards a single choice of brand formed through an evaluation of various brands in various available choices [9]. Meanwhile, according to Frank [10], preference is a ranking process of all things which can be consumed in order to obtain the preference of a product or service. Based on Kotler and Keller [11], there are some steps which will be experienced by the consumers so that they can draw their satisfaction feeling of a product.

According to Schiffman and Kanuk [7], the stimuli nature of a consumer covers many variables which will influence the perspective of a consumer, like the condition of product, its physical characteristics, packaging design, print ads and TV commercials. Stimuli discrimination is a capability of a consumer to differentiate among similar stimuli which are as the basis for strategy of position settings which attempt to develop a typical image of certain product in the consumer's mind. In addition, Schiffman and Kanuk [7], stated that a conditioning means as a response towards a situation which occurs through the repeated explanation.

The consumer's preference emerges in the alternative evaluation step in the process of purchase decision, where in that step; the consumer is faced with various product choices or services with different attributes. Hence, it can be concluded that preference is a choice taken and selected by a consumer from various available choices. In this step, it can be seen when the preference step exists in the consumer, that step can be seen in Fig. 5 below:

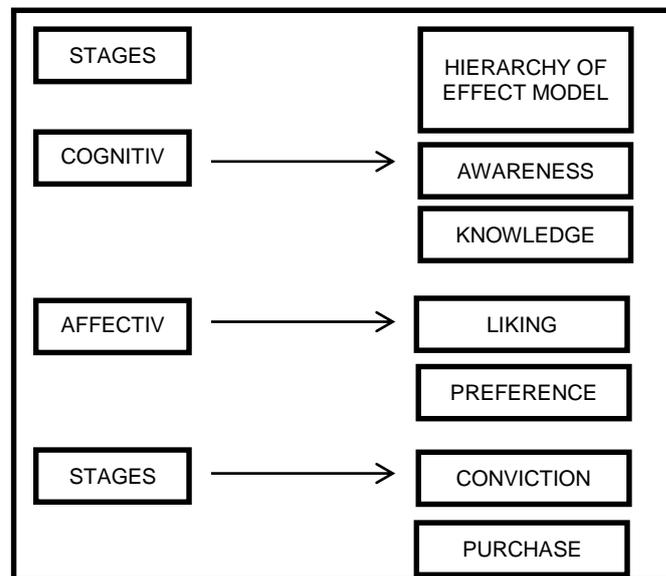


Fig. 5. Model of Hierarchy of Effect [11]

In the Fig. 5, it can be seen that there are six steps in the model of hierarchy of effect, namely, (a) Awareness; this step is a step where the consumer is aware of the existence of a product either in the form of goods or services. (b) Knowledge; in this step the consumer has recognized the product and understands about the product which is in the form of goods or services. (c) Liking; this step is a step where the consumer begins to like that product which is in the form of the offered goods or services. (d) Preference; this step is a step where the consumer begins to prefer that products to other products. (e) Conviction/intention to buy; in this step, the consumer has a desire to buy, and ultimately, decide to buy the product. (f) Purchase; this step is a step where the consumer can be said as a loyal consumer of a product, so that consumer feels no doubt anymore to purchase that product without any consideration.

The preference step owned by a consumer towards a product, is the early step of consumer's loyalty towards that product so that the company has to learn how to cause preference taste in consumer. It can be known by a producer from learning that consumer's behaviour, by influencing and manipulating each decision step made by the consumers.

A preference can be used by the businessmen to recognize the consumers' needs in order to get the products with the market-orientation, which is based on the preference level of consumers for each product attribute. The preference also can be used to identify the different preference segments. According to Kotler and Keller [11], there are three formed preference patterns; i.e. (a) Homogeneous Preference; Homogeneous Preference shows one market where all consumers roughly have the same preference. (b) Scattered Preference; Scattered Preference shows that the consumers are different in their preferences. (c) Group Preference; Group Preference is where the market shows groups of different preference.

By understanding the consumer's preference, a company is able to design a right strategy to respond their consumer's expectation and to make differentiation strategy of that company to its competitor. Based on Kotler and Keller [11], there some steps which have to be undergone until the consumers form a preference; (1) It is assumed that the consumers see a product as a set of attributes. The different consumers have different attributes about a relevant product, (2) The consumers have different emphasis in assessing which attribute is the most important. The consumers with big purchasing power concern with the most important price attribute, (3) The consumers develop number of trust about the product location on each attribute, (4) The level of consumers' satisfaction will vary in accordance with attribute difference, and (5) The consumer will arrive at the attitude to different brands through the evaluation procedures.

2.7 Definition of Product and Classification of Product

Products is an output from what is produced by the company which is offered to the society as affirmed by Kotler and Armstrong [8] saying that product is all things which can be offered to the markets in order to draw attention, acquisition, usage, or consumption which is able to satisfy desires or needs. Product is a result of

creativity and performance of a company where this product finally becomes a medium for consumer to assess and to possess a perspective about that company, seen from the products they create.

In addition, Kotler and Armstrong [8] classified a product into two big groups based on the type of consumers who use it, they are consumer product and industry product. Consumer product is a product which is either consumed or purchased by the final consumer for personal consumption purposes while industry product is a product which is purchased by an individual and an organization for the further processing or to be used in running their business. Both consumer product and industry product have some groups, namely:

a. Consumer Product

1. Daily needs product, is a consumer product which is usually and immediately purchased by the consumer with minimum comparing and purchasing effort.
2. Shopping product is a consumer's goods where they, in the process of selecting and purchasing, characteristically compare the products based on the suitability, quality, price, and style.
3. Specific product is a consumer's goods with a unique characteristic or brand identification where a group of significant buyers are willing to make a specific purchasing effort.
4. Not-sought product is a consumer's product which is not recognized by the consumer or may be recognized by the consumer but he never thinks to purchase it.

b. Industry Product

1. Materials and spare parts
Materials and spare parts include raw materials, manufacture materials and spare parts.
2. Capital goods
It is a product industry which helps the production or operation of a buyer, including the installation and accessories tools.
3. Supplies and services
Supplies include operational supplies as well as fixing and maintaining goods. Supplies are a daily needs product in industrial field since it is usually purchased with minimum effort and comparison.

2.8 Product Attribute

According to Kotler and Armstrong [8], product attribute is a communication of advantages from development results of a product or service which will be offered by the product and service itself. The product attribute covers quality, feature, style, and design.

a. Quality of product

Quality of product is a positioning medium for marketers, this quality of product is closely related to value and satisfaction of a consumer since quality of product directly impacts on the performance of product and services which can be experienced by the consumers. Quality of product has two main dimensions: level and consistency. Level means that a company, at first, has to get the level of quality of product which is further used for that product positioning. Then, the consistency towards the level of quality of a product has to be maintained so the consumer is able to experience the consistency of quality as expected.

b. Feature of product

Feature is a competitive medium to differentiate the company's product from the competitor's product. A product can be offered with various features, either old feature or new feature. Becoming the first producer which introduces new valuable feature is one of the most effective ways to compete. Meanwhile, Kotler and Keller [9] argue that most products can be offered by varying the features which complete their basic functions.

c. Style and Design of product

Design has a bigger concept than style has. Style only describes the product display and style is the heart of a product and is not merely the outer appearance. A good design is started with a deep understanding of the needs of consumers. More than just creating the attribute of product or service, design involves the forming of product usage experience for the consumers. Meanwhile, according to Kotler and Keller [9], design is the totality of features which influence the display, taste, and product function based on the needs of consumers.

2.9 Levels of Product

According to Kotler and Keller [9], there are five groups of products in the process of development designing of a product. Those five groups of products are (a) Core Product; it is the core of what is actually needed from a product. The marketer has to understand the core product which will be purchased by the consumer, (b) Basic Product; It is a characteristic of a product which covers the level of quality, model, brand, packaging, and the characteristic of a product, (c) Expected Product; It is a set of attribute and a level expected by the consumer towards a product, (d) Augmented Product; It is the augmented advantages which exist in a product given by the company, and (e) Potential Product; It is a concept of a future product which offers some new features.

Based on those theories, it can be drawn the framework of this research as following:

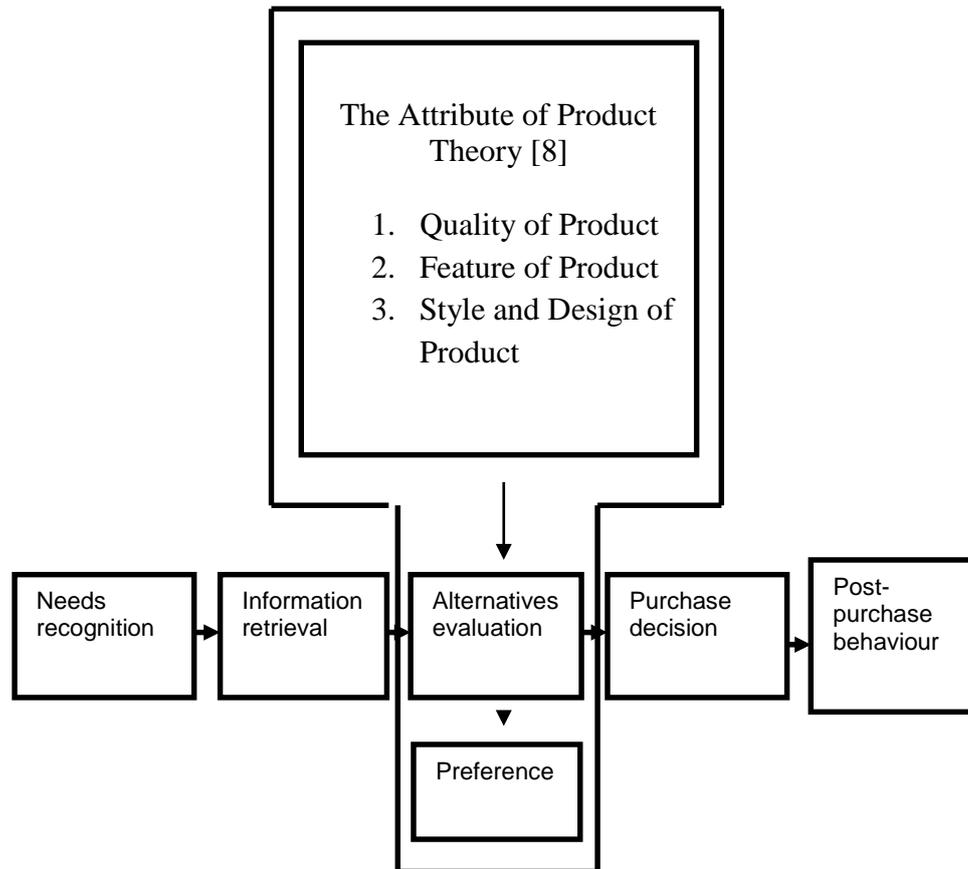


Fig. 6. Framework of research

2.10 Research methodology

a. Conjoint Analysis in developing product attributes

Conjoint analysis is a useful tool in developing new products and resolving the trade-offs between product attributes. Conjoint analysis was introduced in 1920 and was used widely from the beginning of the 1970s for purchasing decisions [12], [13]. Because of to the comprehensive research and many applications of conjoint analysis in marketing, transportation, product design, and many other industries, the analysis is also used in the design and assessment of product. However, scarcely did researchers analyze product attributes. The writer mostly used some researchers using conjoint analysis for information systems management.

Lee and Rim [14] applied conjoint analysis for the measurement of user preferences on information systems by seven properties and three levels for each property. To apply the approach, two surveys were designed: the first survey investigates the main properties affecting the end-users' satisfaction for using the current information systems based upon literature review and expert interview in Phase I. The second survey weighed the preferences by the virtual profiles of the information systems, which represent the ideal systems.

Other example, Wyatt et al. [15] conducted research for general practitioners' (GP) preference for a medical information system and Schwarz et al. [16] applied the analysis to determine important factors for information system outsourcing. The analysis has also been used to examine consumers' preferences for e-book readers [17], [18] investigated the key determinants of internet banking service quality, such as banking service, customer

service quality, and online systems quality using content analysis. The online systems quality factors include content, accuracy, ease of use, timeliness, aesthetics, and security. Among them, they found ease of use and accuracy were the key dimensions.

The content analysis for these dimensions could be converted into relative importance by using conjoint analysis. In the study, the writer created four different attributes divided into fifteen different levels. They are quality of product level, feature facility, augmented features, and product design accordance with consumers' needs.

b. Operational Variables and Measurement Scale

According to Sugiyono [19], variables of research are an attribute or nature or value of a person, an object or an event which has particular variety determined by the research to be observed and to be concluded. Meanwhile, Zikmund [20] argues that variable is something that varies or changes from one example to another example. A variable usually shows the difference of a value, for instance, mass, strength, and direction. In conjoint analysis, the term of variable is called as an attribute, and the sub-attribute is called a level. According to Hair et al [21], in determining a level, we have to see the actual condition of reality, and the irrelevant and unrealistic level has to be eliminated. Hence, level determining in this research has adjusted in accordance with the actual condition.

The used attributes in the research of preference about social messenger are taken from the theory of product attributes proposed by Kotler and Armstrong [8]. That attributes are quality of product, feature of product, style and design of product. In the table 3.1, it will be explained more details about the used variables.

Table 1. Operational Variables

Attribute	Degree	Level
Quality of product level	1	A product which has complete service and high quality.
	2	A product which sends messages quickly.
	3	A product which is able to be used easily.
Feature Facility	1	Free Chat
	2	Free Call
	3	Video Call
	4	Voice Call
	5	Sticker
	6	Chat Group
Augmented Features	1	Game
	2	Official Accounts
	3	Sticker Shop
The design is accordance with consumers' needs.	1	Themes which can be changed as desired.
	2	Backgrounds which can be changed as desired.
	3	It has fascinating display.

c. Measurement Scale

Sugiyono [19] said that measurement scale is an agreement which is used as a reference to determine the length of an interval in a measuring device. According to Sekaran and Bougie [22], a scale is an instrument or a mechanism where it is used by an individual to distinguish one variable to another variables which are used in the research. In this research, the used scales are nominal and ordinal scale.

Martono [23] explains that nominal scale is a scale which is used to classify an object or an event into a particular group so that the similarities and the difference of certain characteristics can be observed. According to Sekaran [24], nominal scale is a measuring scale which depicts categories, or groups of a subject. In this research, the nominal scale is used in the question of respondents' profiles which exists in the questionnaire.

According to Rangkuti [25], ordinal scale which aims to differentiate among the categories in a variable with an assumption that there is an order and a level of scale. The ordinal numbers tend to show the rank order. Meanwhile, Sekaran and Bougie [22] argues that ordinal scale is a scale which not only classifies the existing variable but also gives the rank among those categories. In this research, the ordinal scale is used in the question which refers to the respondents' preference.

d. Population and Sample

Based on Zikmund [20], a population is an entire set of elements which are able to give a datum from a research. According to Sedarmayanti [26], a population is whole set of characteristics of an observed object. Meanwhile, Sugiyono [19] says that a population is a generalization area which consists of object or subject which has particular quality and characteristic set by the research to be learned and to be concluded. In this research, the used population is social messenger users in Bandung.

According to Sedarmayanti [26], a sample is an observed small group and is a part of population so the nature and characteristic of population are also owned by sample. Meanwhile Sugiyono [19] says that a sample is a part of the amount and the characteristic owned by population. If the population is big, and the research is not possible to learn all things in that population, for instance because of limited funds, energy and time, so the research will use the sample which is taken in that population.

Since the number of population is unknown, the writer uses the Bernoulli equation as following if he wants to determine the number of samples which will be observed:

$$n \geq \frac{[z_{\alpha/2}]^2 p \cdot q}{e^2} \dots\dots\dots (1)$$

Explanation:

n= the minimum numbers of sample

Z = Square of interval confidence

$\alpha/2$ =Trust level which is still acceptable (95%=1,96)

e = Error rate which is still acceptable

p = Estimate of success proportion

q = Estimate of failure proportion / $1-p$

This research uses 95% trust level so it is obtained the value of $Z = 1.96$. The error rate is determined by 5%. Meanwhile, the probability of right (acceptable) or rejected (wrong) questionnaire is 0.5 for each. Based on the accuracy level, trust level, the value of Z, error rate and the acceptable probability which has been determined, it is further put into Bernoulli formulation equation:

$$n \geq \frac{(1,96)^2 0,5 \times 0,5}{(0,05)^2} = 384 \dots\dots\dots (2)$$

The numbers of the taken samples are $n \geq 384$ samples. And in this research, it is taken 400 respondents as samples. According to Sugiyono [19], sampling technique is a technique to take the samples. The sampling in this research uses *nonprobability* sampling, which is the sampling by giving unequal opportunities to the related elements as the samples. Subsequently, the sampling technique which is used is purposive sampling.

Based on Martono [23], purposive sampling is a technique to determine samples where the researcher sees a certain consideration, in this research, the researcher chooses his own respondent which will be sampled in which the research thinks is suitable, really know, or have competence with this research. In this research, the writer chooses the consumers or people in Bandung who have been using social messenger.

3. Results and discussions

a. Importance value and entire utility value

From the results of conjoint analysis data using SPSS b.20, it is obtained that the overall importance value of each attribute.

From Table 2 and 3, it shows that the attribute of feature facility is the attribute which has the highest importance level by 48.361., followed by the attribute of augmented features with 18.552 of importance value, the attribute of product quality level with 17.731 of importance value, and the lowest importance value is the attribute design which is in accordance with consumer's needs by 15.256.

Table 2. The Overall importance value of each attribute

Attribute	Utility	Level
Quality of Product Level	-0.094	A product which has complete service and high quality.
		A product which sends messages quickly.
Feature Facility	0.200	A product which is able to be used easily.
	0.603	Free Chat
	0.154	Free Call
	0.231	Video Call
	-0.450	Voice Call
Augmented Features	-0.538	Chat Group
	0.130	Game
	-0.058	Official Accounts
Design which is in accordance with consumers' needs.	-0.072	Sticker Shop
	-0.128	Themes which can be changed as desired.

Table 3. Importance Level of Each Attribute

Importance	Attribute
17.731	Quality of Product Level
48.361	Feature Facility
18.552	Augmented Features
15.256	Design which is in accordance with consumers' needs

b. Ideal Profile of Respondents as A Whole

Preferences desired by the consumers about social messenger, it can be formed an ideal profile which is desired by the respondents as a whole.

Table 4. Attribute Preference

Attribute	Level
Quality of Product Level	A product which is able to be used easily
Feature Facility	Free Chat
Augmented Features	Game
Design which is in accordance with consumers' needs.	It has a fascinating display

The table above shows that in choosing social messenger, the respondents desire a social messenger with the quality of product level in which the product is able to be used easily, with feature facility which is free chat, with augmented feature which is game, and with the design which is in accordance with consumers' needs, in which it has a fascinating display.

4. Conclusion

Based on the research done by the writer, it can be drawn a conclusion about consumers' preferences in using social messenger in Bandung which is ranked from the highest importance level; The attribute which has the highest until the lowest importance level are (1) Feature Facility, (2) Augmented Features, (3) Quality of Product Level, and the lowest; (4) Design which is in accordance with consumers' needs.

In this research, it also can be known the preference of each level in each attribute by seeing the utility value, or in other words, the part worth. For the feature facility, the respondents tend to like free chat with 0.603 of its utility value. For the augmented feature, the respondents tend to like game with 0.130 of its utility value. For quality of product level, the respondents tend to like the product which is able to be used easily with 0.200 of its utility value, and for design which is in accordance with consumers' needs; the respondents tend to like the product which has a fascinating display.

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