Abstract

The purpose of this study is to investigate the impact of lifestyle, product innovation, and product knowledge on purchase decision of Smartphone. The population of this study is 115 students of postgraduate STIE Malangkucecwara. The 115 questionnaires distributed, only 85 were returned and of those 85, only 48 students use smartphone. Thus the data processed was 48 respondents. The results of the questionnaire were analyzed to determine the influence of each variable which was calculated using Partial Least Square (PLS) analysis. The test results show that lifestyle does not significantly influence the decision to purchase Smartphone. Product innovation and product knowledge have a significant influence on the decision to purchase smartphones among postgraduate students at STIE Malangkucecwara Malang.

Keywords: Lifestyle, Product Innovation, Product Knowledge, Purchase Decision

1. Introduction

1.1 Background

In the current era of globalization, innovation must be carried out in order not to lose consumers and to grow demand for products because they are deemed to be able to meet needs. Smartphone business competition in Indonesia is quite tight. Some vendors Smartphones experience fluctuations in their market share from year to year, others remain consistently increasing.

Many companies in the information technology sector, Smartphones in particular have had an impact on the increasing variety of products Smartphones on the market. Nowadays there are various kinds of companies Smartphones in Indonesia have competed well with new players in the market or those that have long entered the Indonesian market, for example Samsung, Iphone, Xiaomi, Huawei, Honor, Oppo, Vivo, Realme, and various other brands. Every company certainly tries to provide products that can compete with competing products in their respective classes. This will certainly put consumers in a similar situation. It is quite difficult where they have to choose and make the right decision to buy Smartphone products. The right purchasing decision will be lead consumers to satisfaction with product use. Consumers who make inappropriate decisions will feel dissatisfied with the goods consumed.
In the purchasing decision process, consumers must overcome problems where they have to choose between various product options before finally make a decision to buy, therefore consumers must have material for consideration in the decision making process. To obtain consideration, consumers need a variety of information about products. A collection of various kinds of information about a product is referred to as product knowledge. A positive attitude regarding an item often reflects consumer knowledge of a product (Sumarwan, 2011: 169). One of the importance of product knowledge for consumers is to prevent consumers from buying counterfeit or substitute products instead buy products with various attributes that are not suitable what consumers need as consumers have identified the problem before making the purchase. Both of these things are certainly possible disappointing consumers. Therefore, every consumer needs to be more careful in the behavior of searching for and receiving information about products, in this case it is a Smartphone product.

Other factors that influence smartphone purchasing decisions are product innovation and lifestyle. Consumer satisfaction in the era modern is very diverse, no longer limited addresses physical needs but also psychological needs. One of psychological need is to buy exclusive, famous and impressive items expensive to achieve certain satisfaction one of which is a sense of recognition from the social environment and increase self-confidence.

Lifestyle, as defined by Kotler & Keller (2009), is a person's way of life as indicated by interests, activities, and his opinion. Lifestyle refers to how a person is as a whole interact with the environment. A person's entire pattern of behavior and interactions with other people is called his lifestyle. Even in that profession similarly, people from different social class subcultures may have diverse life. Apart from socioeconomic status and personality, style life also reflects other factors. Lifestyle provides implicit meaning regarding individual patterns of action and interaction (Solihin, Tewal, & Wenas, 2020). Lifestyle interpreted as an individual's way of life identified through activities, interests, as well as opinions (Kartika, 2018). Differently, Mowen & Minor (2002:282), think about style life refers to how a person lives, manages his income, as well as time management (Kapantouw & Mandey, 2015). Based on the background above, this study aims to investigate the effect of lifestyle, product innovation, and product knowledge on decision to purchase smartphone. Object of this study is postgraduate’s students of STIE Malangkucecwara Malang, East Java, Indonesia.

1.2 Importance of the Problem

Product innovation becomes important for companies to able to survive in business competition. Implemented product innovation must be able to respond to needs and the desire to achieve consumer satisfaction. Research by Harun al Rasyid (2018) explains product innovation has a significant positive effect on purchasing decisions. So there is innovation Attractive products will be able to attract consumers to realize them buying decision. The research results of Ryan & Nuruni (2022) show product innovation significant negative effect on the decision to purchase a Samsung smartphone in Sidoarjo while lifestyle has a positive but not significant effect on purchasing decisions Samsung smartphone in Sidoarjo.
Smartphones are often seen as status symbols. People with lifestyles that focus more on social status tend to choose premium smartphones to show their status. This can be seen from the trend of purchasing flagship models from well-known brands which are often used as symbols of status in society. An active and mobile lifestyle often requires a smartphone with a long-lasting battery, high-quality camera, and good multitasking capabilities. Meanwhile, consumers with simpler lifestyles may only need a smartphone with basic features for communication and internet access.

Good knowledge about the product helps consumers feel more confident and confident in their decisions. They will feel more secure that they made the right choice based on a deep understanding of the smartphone's features, specifications and benefits. Consumers who have good knowledge of different brands and models of smartphones can compare features, quality, prices, and user reviews more effectively. This allows them to make more informed decisions and choose the smartphone that best suits their needs and preferences.

1.3 Relevant Scholarship

Purchase Decision

Purchasing decisions are all internal experiences learning, selecting, using and even getting rid of products (Kotler & Keller, 2009). Purchasing decisions are a process integration that combines knowledge to evaluate two or more alternative behaviors and choose one of them (Setiadi, 2010). Kotler stated that the consumer purchasing decision process consists of five stages carried out by a consumer before arriving at purchase decision and subsequent post-purchase (Kotler and Keller, 2009). Those stages are problem recognition, information search, evaluation of alternatives, buying decision, and post-purchase behavior.

Kotler and Keller (2009) stated that there are four factors that influence the buying decision. Those factors are culture, social, personal, and psychologies. Social factor consists of reference group, family, role, and status. Personal factor consists of age, job, economy, lifestyle, and personality. Psychological factor consists of motivation, perception, learning, memory, and emotional.

Lifestyle

Lifestyle is a person's pattern in the world that is revealed in activities, interests and opinions. Lifestyle describes the whole person consumers who interact with their environment (Priansa, 2017:85). Style Life is the main idiographic principles explain a person's uniqueness. (Semiun, 2013:257). According to Kotler and Keller (2009), consumers make their purchasing decisions are not in an isolated place surrounding environment. Their buying behavior is strongly influenced by consumer lifestyle factors which also influence their decisions buy a product. Lifestyle is often described by activities, someone's interests and opinions (activities, interests, and opinions). Style a person's life is usually not permanent and changes quickly. Consumers involved in different activities and have opinions and interests. Different ones can provide
different lifestyle segments for marketer. Lifestyle research can help marketers to understand how the product fits into general consumer behavior patterns.

In an economic perspective, lifestyle shows how a person allocates his income, chooses products and services and various other options when choosing alternatives in one existing product type category. From a marketing perspective, consumers have style the same lives will group themselves into one groups based on their interest in using free time, and spend the money." (Suryani, 2008). By understanding style life, then this is an opportunity for business people to use lifestyle concept in communicating its products so that it can influencing consumers in making purchasing decisions.

**Product Innovation**

Product innovation is a combination of various processes which mutually influence one another. So innovation is not the concept of a new idea, new discovery or neither is it a development of a new market, but innovation is overview of all these processes.

According to Schiffman & Kanuk (2008) innovation has 4 (four) characteristics that is: has uniqueness/specialty, has characteristics or elements of novelty, innovation programs are implemented through planned programs, and the innovation that is rolled out has a purpose. According to Kotler & Keller (2009) there are six indicators of product innovation that is: new product for the world, new product line, additions to existing product lines, improvement and revision of existing products, redetermination, and cost reduction.

The similarity in appearance of similar products from competitors is a factor driving force for product innovation, generally competing products appear without experience significant changes and even tend to be static. This is the situation can be profitable, because of the competition that arises with the emergence of competing products can be overcome by implementing product innovation. Product innovation is something that can be seen as progress functional products that can take the product one step further compared to competing products. If the product has advantages that are seen as added value for consumers. Development New products require effort, time and ability including a large amount of risk and failure.

**Product Knowledge**

According to Firmansyah (2016:27), knowledge A product is a collection of various kinds of knowledge about something goods. This knowledge includes categories, brands, product terms, attributes, price, as well as beliefs about the product. Peter & Olson (2014:74) defines product knowledge as consumer knowledge related to knowledge about the characteristics or characteristics of the product, the consequences of using the product and the value of the level of satisfaction that will be achieved by product. Knowledge about the character or characteristics of a product causes consumers to be able to differentiate between a product and a product other. Knowledge is a conceptual variable about what is important in consumer behavior and is influenced by information gathering. Product knowledge includes categories, terms, attributes, brands or characteristics, and beliefs about a specific product category.
There are three categories of product knowledge. They are subjective knowledge/perceived knowledge, objective knowledge, and experience-based knowledge. Subjective knowledge refers to how many respondents there are known about a product. Objective knowledge is how much information and type of information is available in the consumer's memory. Experience-based knowledge is how much consumer experience in purchasing and use of a product.

1.4 Hypotheses Development

The influence of lifestyle on smartphone purchasing decisions

Lifestyle is a combination and totality of ways, procedures, habits, choices and objects that support it, the implementation of which is based on a particular value system or belief system. The lifestyle desired by a person influences his or her purchasing behavior, and in turn will influence or even change that individual's lifestyle. The research results of Salsabila et al. (2021) states that lifestyle has a significant influence on purchasing decisions. Therefore, hypothesis one of this research can be formulated as follows:

H1: Lifestyle has a significant influence on smartphone purchasing decisions

The influence of innovation on smartphone purchasing decisions

Product innovation is the process of introducing a new product or system that brings economic success to the company and social success to consumers and the wider community or environment. Innovation can also be said to be a new change leading to improvement, different or different from what previously existed, which is carried out deliberately and planned or not by chance. Innovation products are expected to meet consumer expectations. Consumer expectations are intended to represent, among other things, price, lifestyle and motivation. When an innovative product is able to meet consumer expectations, there is an opportunity for a purchasing decision to occur. Previous research conducted by Imon et al. (2020) and Dharmawan & Berlianto (2018) state that innovation has a positive effect on purchasing decisions. Therefore, hypothesis two of this research is as follows:

H2: Innovation has a significant effect on smartphone purchasing decisions.

The influence of product knowledge on smartphone purchasing decisions

Product knowledge is very important both for companies and for consumers themselves. Product knowledge plays a very important role in the purchasing process. During the purchasing process, the amount of knowledge consumers have about the product they own will not only influence their information search behavior, but also at the same time will influence decision-making processing. Consumer product knowledge is a combination of several types of information about products (Sumarwan, 2017). The main source of product knowledge is consumer experience of actual products and advertisements created to influence consumer decisions to buy products (Wang & Hazen, 2016). Research by Nurhayati & Hendar (2020) states that product knowledge has a positive and significant effect on consumer purchase intentions (Nurhayati & Hendar, 2020). Therefore, the first hypothesis in this research can be formulated as follows:

H3: Product knowledge has a significant effect on smartphone purchasing decisions
2. Method

The population of this study was active students of Postgraduate STIE Malangkucecwara, totaling 115 people. The sampling technique is a saturated sample, meaning the entire population is sampled. Thus, the questionnaire was distributed to 115 postgraduate students at STIE Malangkucecwara. However, of the 115 questionnaires distributed, only 85 were returned and of those 85, only 48 people use smartphones. Thus the data processed was 48 people or respondents. This study has independent variables (lifestyle, product innovation, and product knowledge) and dependent variable (purchase decision).

Lifestyle is how a person lives his life, including from what products they buy, how to use them as well what you think and feel after using the product or lifestyle is related to the actual reaction on purchases made by consumers. The indicators of lifestyle are help with assignments, have specifications according to needs, makes shopping easier, prices according to ability, and have good quality. Product innovation is creating new products that can meet consumer needs and desires so that interest arises buy the product, which is expected to be realized through purchasing decisions. Indicators of product innovation are innovation in operating systems, more reliable, attractive feature innovation, complete and sophisticated specifications, and innovation in elegant appearance. Product knowledge refers to various types of knowledge, meaning, and beliefs recorded in consumers' memories (Peter & Olson, 2014). Indicators of product knowledge are durable quality, positive recommendations from other consumers, easy to get, easy to operate, and have a good brand image. The purchasing decision is part of consumer behavior, consumer behavior is about how individuals, groups, and organizations select, buy, use, and how goods, services, ideas, or experiences to satisfy their needs and their desires (Kotler & Armstrong, 2014). Indicators of purchase decision are confidence in purchasing after knowing product information, deciding to buy because of the brand you like best, buy because it suits your wants and needs, and buy because you get recommendations from other people.

In this research, data was collected using a questionnaire. The results of the questionnaire were analyzed to determine the influence of each variable which was calculated using Partial Least Square (PLS) analysis. The measurement model was assessed using reliability and validity. Outer Model Analysis by testing Convergent Validity and Discriminant Validity. Meanwhile, reliability testing is carried out using composite reliability. Structural models are models for predicting causal relationships between latent variables. Through the bootstrapping process, T-statistic test parameters are obtained to predict the existence of a causal relationship. The structural model in PLS is evaluated by looking at the percentage of variance explained by R2 (R-Square) to see the magnitude of the structural path coefficient. The R2 value is used to measure the level of variation in changes in the independent variable towards the dependent variable. The higher the R2 value means the better the prediction model of the proposed research model. The inner model really functions to show the level of significance in hypothesis testing.
3. Results

Based on the distribution of the questionnaire, data was obtained regarding the gender and age of the respondents as follows:

Table 1: Respondents based on gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Amount</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>24</td>
<td>50%</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>50%</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>100%</td>
</tr>
</tbody>
</table>

The table above shows that 50% of respondents were men and 50% of respondents were women. Thus it can be concluded that the share of male and female respondents is balanced. Based on age, it can be seen that the majority of respondents were aged between 20 – 30 years, namely 64.6%, while those aged more than 41 years were only 4 students or 8.3%. This shows that smartphone users are mostly young people.

Table 2: Respondents based on age

<table>
<thead>
<tr>
<th>Age</th>
<th>Amount</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 – 30 year</td>
<td>31</td>
<td>64.6%</td>
</tr>
<tr>
<td>31 – 40 year</td>
<td>13</td>
<td>27.1%</td>
</tr>
<tr>
<td>&gt; 41 year</td>
<td>4</td>
<td>8.3%</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>100%</td>
</tr>
</tbody>
</table>

Evaluation of the research outer model was carried out by Convergent Validity, Discriminant Validity, Composite Reliability and Cronbach Alpha. To test convergent validity, the outer loading or loading factor value is used. An indicator is declared to meet convergent validity in the good category if the outer loading value is > 0.7. Figure 1 below is the outer loading values for each indicator in the research variables.
Based on the value of factor loading measurement results, it is known that some of the research indicators have met the criteria to be used as variable measurement indicators because they have an outer loading value greater than 0.7 (outer loading > 0.7). However, there are also many indicators that have a loading factor value of less than 0.7. Validity can be determined by convergent validity (outer model) with a loading factor value of 0.50 to 0.60 which is considered sufficient. Based on this opinion, this research determines that indicators with loading factors between 0.50 and 0.60 can be considered valid. One indicator of the product knowledge variable, namely X35 ("Having a good brand image") has a loading factor value of 0.443. Because the loading factor value is less than 0.5, the indicator is considered invalid and the process is reprocessed by removing the X35 indicator. Figure 2 below is the new loading factor values (without X35).
After reprocessing without the X35 indicator, all indicators have a value greater than 0.5 so they are declared suitable or valid for use in research and can be used for further analysis.

Discriminant validity can be measured by looking at the square root of average variance extracted (AVE) value. The recommended value is above 0.5. The following are the AVE values in this research.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Average Variance Extracted (AVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Style</td>
<td>0.560</td>
</tr>
<tr>
<td>Product Innovation</td>
<td>0.577</td>
</tr>
<tr>
<td>Product Knowledge</td>
<td>0.522</td>
</tr>
<tr>
<td>Purchase Decision</td>
<td>0.583</td>
</tr>
</tbody>
</table>

Based on table 3, it is known that all research variables have met the standard AVE value above 0.5 (AVE > 0.5), namely the Life Style variable has an AVE value of 0.560, the Product Innovation variable has an AVE value of 0.577, the variable Product Knowledge has an AVE value of 0.522, and the Purchase Decision variable has an AVE value of 0.583. Based on consideration of the AVE value of each variable, it can be concluded that all variables meet the Discriminant Validity value because they have an AVE value is greater than 0.5. Thus, it can be stated that each variable has good discriminant validity.

The next test is the composite reliability of the indicator block that measures the construct. A construct is said to be reliable if the composite reliability value is above 0.70. The following are the results of the outer model which shows the composite reliability of each construct:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Composite Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Style</td>
<td>0.805</td>
</tr>
<tr>
<td>Product Innovation</td>
<td>0.818</td>
</tr>
<tr>
<td>Product Knowledge</td>
<td>0.740</td>
</tr>
<tr>
<td>Purchase Decision</td>
<td>0.788</td>
</tr>
</tbody>
</table>

Based on table 4, it shows satisfactory composite reliability results, namely Life Style (X1) has a Composite Reliability value of 0.805, Product Innovation (X2) has a Composite Reliability value of 0.818, Product Knowledge (X3) has a Composite Reliability value of 0.740, and Purchase Decision (Y) has a Composite Reliability value of 0.788. These results indicate that each variable has met composite reliability so it can be concluded that all variables have a high level of reliability.
The reliability test with composite reliability above can be strengthened by using Cronbach's alpha value. A variable can be declared reliable or meets Cronbach's alpha if it has a Cronbach's alpha value > 0.7. The following is the Cronbach's alpha value for each variable:

Table 5: Cronbach’s Alpha

<table>
<thead>
<tr>
<th></th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Style</td>
<td>0.709</td>
</tr>
<tr>
<td>Product Innovation</td>
<td>0.724</td>
</tr>
<tr>
<td>Product Knowledge</td>
<td>0.703</td>
</tr>
<tr>
<td>Purchase Decision</td>
<td>0.714</td>
</tr>
</tbody>
</table>

Based on the data presented in table 5, it can be seen that the Cronbach's alpha value for each research variable is > 0.7. Thus, these results can show that each research variable has met the Cronbach's alpha value requirements, so it can be concluded that all variables have a high level of reliability.

Based on the path coefficient value which can be seen in Figure 2, it can be seen that the influence of lifestyle on purchasing decisions is -0.168, the influence of product innovation on purchasing decisions is 0.669 and the influence of product knowledge on purchasing decisions is 0.350. Based on these results, it shows that the product innovation and product knowledge variables in this model have a path coefficient with a positive number. This shows that the greater the path coefficient value on the product innovation and product knowledge variables on the purchasing decision variable, the stronger the influence of product innovation and product knowledge on purchasing decisions. The lifestyle variable has a negative path coefficient value, meaning that if the path coefficient value increases, the influence of lifestyle on purchasing decisions will be weaker.

Variant Analysis (R2) or Determination Test is to determine the magnitude of the influence of the independent variable on the dependent variable. The fundamental weakness of using the coefficient of determination is that it biases the number of independent variables included in the model. Therefore, it is recommended to use adjusted R Square (R2) when evaluating the best model (Edeh et al., 2023). The value of the coefficient of determination from this research can be shown in table 6 below.

Table 6: Coefficients Determinant

<table>
<thead>
<tr>
<th></th>
<th>R Square</th>
<th>R Square Adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase Decision</td>
<td>0.694</td>
<td>0.673</td>
</tr>
</tbody>
</table>

The Adjusted R Square value for purchasing decisions is 0.673, this means that lifestyle variables, product innovation and product knowledge are able to explain 67.3% of purchasing decision variables while the remaining 32.7% is explained by variables that are not included in the research model.
Hypothesis testing in this research was carried out by looking at the T-Statistics values and P-Values values. The research hypothesis can be declared accepted if the P-Values < 0.05. The following are the results of hypothesis testing obtained in this research.

Table 7: Results of Hypothesis Test

| Original Sample (O) | T Statistics (|O/STDEV|) | P Values |
|---------------------|-----------------|----------|
| Lifestyle -> Purchase Decision | -0.168 | 1.448 | 0.148 |
| Product Innovation -> Purchase Decision | 0.669 | 5.291 | 0.000 |
| Product Knowledge -> Purchase Decision | 0.350 | 3.177 | 0.002 |

4. Discussion

The results of hypothesis testing show that the influence of Lifestyle (X1) on Purchasing Decisions (Y) has a T-statistic value of 1.448 and a P-Value value of 0.148 and the original sample value is -0.168. The T-statistic value is smaller than the T-table (1.448 < 1.677) and the P value is 0.148 or greater than the alpha standard of 5% (0.148 > 0.05) indicating that there is no significant influence of lifestyle on purchasing decisions. This means that improvements in lifestyle do not influence purchasing decisions. Thus the first hypothesis (H1) is rejected.

Lifestyle is a person's lifestyle expressed in their activities, interests and opinions. Lifestyle is basically how a person lives. The lifestyle desired by a person influences his or her purchasing behavior, and in turn will influence or even change that individual's lifestyle. The lifestyle carried out by the Postgraduate students of STIE Malangkucecwara is in the form of activities which consist of two statements, interests which consist of two statements and opinions. From these five statements, it turns out that student lifestyle does not influence the decision to purchase smartphone. The results of this research contradict research by Agung & Warmika (2022). The analytical method used by Agung & Warmika (2022) is the same as this research, namely Partial Least Square, the difference is that Agung & Warmika (2022) researched iPhones, while this research examined smartphones.

The results of hypothesis testing show that the influence of Product Innovation (X2) on Purchasing Decisions (Y) has a T-statistic value of 5.291 and a P-Value value of 0.000 and the original sample value is 0.669. The T-statistic value is greater than the T-table (5.291 > 1.677) and the P value is 0.000 or smaller than the alpha standard of 5% (0.000 < 0.05) indicating that there is a significant influence of Product Innovation on Purchasing Decisions. The original value of the sample is positive, indicating that the influence that Product Innovation has on Purchasing Decisions is positive. So it can be concluded that there is a positive and significant influence by Product Innovation on Purchasing Decisions. In other words, if product innovation gets better, purchasing decisions will also get better. Likewise, if product innovation decreases, purchasing decisions will also decrease. Thus the first hypothesis (H2) is accepted.
Based on the results of research conducted, innovation has a positive and significant effect on purchasing decisions for smartphones among postgraduate students at STIE Malangkucecwara Malang. This is because smartphone products are able to fulfill customer desires so that they are able to maintain student purchasing decisions. The results of this research are in line with several previous studies, including by Novita & Suswita (2017), Agus (2009), Fitriyanti (2018) who stated that innovation has a positive and significant effect on purchasing decisions.

The results of hypothesis testing show that the influence of Product Knowledge (X3) on Purchasing Decisions (Y) has a T-statistic value of 3.177 and a P-Value value of 0.002 and an original sample value of 0.350. The T-statistic value is greater than the T-table (3.177 > 1.677) and the P value is 0.002 or smaller than the alpha standard of 5% (0.002 < 0.05) indicating that there is a significant influence of Product Knowledge on Purchasing Decisions. The original value of the sample is positive, indicating that the influence that Product Knowledge has on Purchasing Decisions is positive. So it can be concluded that there is a positive and significant influence by Product Knowledge on Purchasing Decisions. In other words, if product knowledge gets better, purchasing decisions will also get better. Likewise, if product knowledge decreases, purchasing decisions will also decrease. Thus the first hypothesis (H3) is accepted.

Currently, consumers are increasingly careful in choosing the products to buy, knowledge about a product is one of the reasons for deciding to buy a product. Product knowledge plays a very important role in the purchasing process. The broader the knowledge and insight they have, the more careful consumers will be in choosing a product because before the consumer reaches the decision-making stage, the buyer will go through a learning process which is first marked by developing beliefs about the product, then attitude, and then making wise purchasing choices.

References


