Identifying Online Purchase Behaviour Through Price Perception, Marketing Communication and Web Design

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Abstract
Within the conduct of the study, the research adopted the TAM (Technology Acceptance) theory as the basis for identifying the factors that influence the customers to perform transactions through online sites. Furthermore, within the study as well the researcher would like to adopt the TPB (Theory Planned Behaviour) as the support of TAM theory in predicting the online consumer behaviours within the online sites. On the other hand, in analysing the respondent characteristics the researcher will run the SPSS software while in analysing the data the researcher have been run by using the PLS 3.0. In the same time, survey by means of questionnaire distribution carried out toward the respondents who used to perform transactions through online sites. Finally, this research found that the price perception, marketing communication and web design have positive and significant impact on purchase decisions.

Keywords: Price Perception, Marketing Communication, Web Design, Purchase Behaviour

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Introduction
The development of information technology nowadays have entered an era in which any kind of information might be accessed quickly and easily through gadget. Nowadays, people are able to perform any transaction without having to involve physical contact between the producers and the consumers. Along with the development, the business actors compete with one another to market the products and the service that they possess in order that these products and service might be disseminated through the society layers. With regards to the online phenomenon, the Indonesian tourists nowadays have frequently benefitted the online application for meeting their travelling needs. This also includes benefitting the online travel agent since the transaction involving the online travel agent might be performed in any place and at any time. Such feature becomes additional point in selecting the travel agent for meeting the needs of having holiday since through the online system the Indonesian tourists might check the price, the facility and also the promotion accurately.

Departing from the above elaboration, the decision to purchase or not to purchase is an integral element within each customer since this decision refers to the physical action that might be viewed and measured by other people (Natisusarto, 2012). According to Yulianto & Khuzaini (2013), there are many factors that might influence the purchase decision namely product, price perception, promotion and service. Product refers to the complex characteristics that might be both the tangible and the intangible including package, color, company prestige and retailer. Company service and retailer service are accepted by the customers in order to satisfy their needs and desires (Swastha & Sukotjo, 2007).

Then, price perception refers to the amount of money that has been charged upon the goods or service (Kotler & Armstrong, 2008). Price perception is one of the four variables within the main strategic decisions that have been controlled by the marketing manager. The decision to stipulate price perception might influence the sale volume that a company has attained and the total income that a company has retained.

In relation to price, marketing communication is an important component within the marketing management that might persuade either a customer or a visitor to commit purchase decision (Hanaiah & Permana, 2018). The strength of the marketing communication will be the main determiner within the competition in the digitalization era. Therefore, the online shopping service providers should be able to create effective marketing communication strategy in order to persuade the customers to do transaction upon the products that have been offered (Kim & Kumar, 2018). On the other hand, Mohsen, Jayashree, Razei & Kasim (2018) mention that web design becomes the consideration for an individual to commit the purchase decision toward either goods or service. Therefore, service providers should be able to create interesting yet comprehensible web design so that the web design might imply strong recommendation for the individual to commit purchase decision.

Departing from the above elaboration, within the present study the researcher would like to focus on the influence of price perception, marketing communication and web design on consumer decision to perform online purchase. The results of the studies are expected to provide contributions for the e-marketplace providers in defining the direction of their company strategies from the perspective of the consumer in performing online purchase.
shopping activities. In addition, through the conduct of the study the researcher would like to expect as well that the results of the study might provide contributions for the future studies, especially for the future studies in domain of online purchase behaviours, from the perspective of price perception, marketing communication and web design.

Literature Review and Hypothesis Development
In this chapter, the researcher would like to review the underlying theories for the conduct of the study and also to develop the hypotheses and the framework for the conduct of the study. The theories that will be reviewed within the conduct of the study are related to theory of E-Marketplace, Marketing Communication and Web Design. The theory, the hypotheses and the research framework might be consulted in the following sections.

2.1 E-Marketplace
E-marketplace is essentially part of E-commerce. According to Sadgotra & Saputra (2013), Online Market refers to all efforts that have been pursued in order to market product or service by means of either Internet or www-network while the term place itself refers to a location. Therefore, it might be concluded briefly that E-marketplace refers to the place or the location for marketing products or service through Internet. In a further detail, E-marketplace might be defined as an inter-organizational information system in which both the buyers and the sellers communicate the price of the product and are able to settle transactions through electronic communication channel (Marco & Ningrum, 2017). E-marketplace might be considered as the second wave of E-commerce and as the expansion of the combination of consumer business (B2B, C2B and C2C) into B2B. The core of the supply in E-marketplace brings together the buyers and the sellers in accordance to the needs and the offers of transaction efficiency.

2.2 Price Perception
According to Kotler & Keller (2009), price is one of the marketing mix elements that earns income while the other element earns cost. Thus, how the consumers arrive to the price perception become the highly important marketing priority. On the other hand, Schiffman & Kanuk (2007) state that price refers to the process in which individuals select, organize and interpret the incoming information stimulus into a complete description. In other words, price perception refers to how consumers perceive the price as expensive, affordable and fair. Price perception thus has strong influence on both purchase interest and purchase satisfaction. Last but not the least, Kotler & Armstrong (2001) states that price refers to the amount of money that should be paid by the consumers in order to attain the given product. Price solely depends on the company policy but certainly under the consideration of many aspects.

2.3 Marketing Communication
According to Sutisna in Amir Purba et al. (2006:126-127), marketing communication refers to the effort of delivering messages to public, especially to the targeted consumers, with regards to the difference on the products in the market. Marketing communication activities are a sequence of activities for manifesting products, services and ideas by means of marketing mix namely advertisement, face to face-sale, sale promotion, public relation, publicity and direct marketing. Similarly, Kotler & Keller (2012) state that marketing communication refers to the medium that a company has benefitted in order to inform, persuade and remind the customers directly and indirectly about the product and the brand that has been on sale. Marketing communication thus might be defined as marketing activities that rely on the communication techniques under the efforts of providing information to the public so that the company objectives, namely the increase on the income and the use of service or the purchase of the product that has been offered, might be achieved (Kennedy & Soemanagara, 2006).

2.4 Web Design
Arief (2011) defines that web design is one of the applications that contain multimedia documents (texts, pictures, animations and videos) in the form of HTTP (Hyper Text Transfer Protocol) that might be accessed through software called browser. According to ISO 8402, another definition for web design is the overall features and characteristics of software products that support the capacity to satisfy the desired needs. On the other hand, Habibi, Hagh & Bahabadi (2014) state that web design refers to the superiority of the web site based on the user evaluation toward the features of consumer needs fulfillment.

2.5 Hypothesis Development
After gathering the theories that might support the conduct of the study, the researcher would like to define the hypotheses that will be further investigated within the study. These hypotheses are proposed in relation to the topic of the study and also the theories that have been reviewed within the study. Thus, the hypotheses might be consulted in the following section.

2.5.1 The Influence of Price Perception on Purchase Decision
In perceiving the price, consumers have several views that might be different from one to another (Leliana &
In a study by Larosa (2011), it is found that price has been one of the factors that should be given attention recalling that the average income level among the Indonesian people is moderate to low. Furthermore, the results of a study by Ferdinand & Nugraheni (2013) state that Price Perception, Product Quality Perception and Promotion have positive and significant influence on purchase decision. Similarly, the results of a study by Silvia (2010) show that price has positive influence on Purchase Decision. Departing from the elaboration, the researcher would like to propose the first hypothesis as follows:

**H1**: Price Perception has positive influence on Purchase Decision.

### 2.5.2 The Influence of Marketing Communication on Purchase Decision

Consumer decision refers to the consumer consideration in deciding to use or not to use a product or service. According to the results of a study by Vitalija Butkeviclene (2008), having communication with the consumers on the sale booth has been an important factor that influence the customer choice. Based on the results of her study, Marketing Communication has influence on Purchase Decision of the consumers. Similarly, the results of a study by Susilowati et al. (2012) state that Marketing Communication has influence on Consumer Decision through Consumer Motivation. Departing from the elaboration, the researcher would like to propose the second hypothesis as follows:

**H2**: Marketing Communication has direct, positive and significant influence on Purchase Decision.

### 2.5.3 The Influence of Web Design on Purchase Decision

The design of a website also has influence on purchase decision by a consumer. This statement is supported by the results of a study by Nuseir et al. (2009), which show that E-Promotion, Security and Infrastructure on the Web has influence on Purchase Decision. Similarly, the results of a study by Ghafiki & Setyorini (2017) state that Website Quality has simultaneously significant influence on Purchase Decision. Departing from the elaboration, the researcher would like to propose the third hypothesis as follows:

**H3**: Web Design has positive and significant influence on Purchase Decision.

### 2.6 Research Framework

Based on the theories that have been reviewed and also the hypotheses that have been proposed, the researcher framework for the conduct of the study might be defined as follows:

![Figure 2.1 Research Framework](image-url)

#### 3.1. Research Methodology

The empirical study was carried out in Indonesia cosmetics Industry. Looking at the characteristics of the existing population and the purpose of this study, the sampling technique in this study is purposive sampling, which is the determination of respondents from the population with certain criteria. The target population for the study was regional residents live in DKI Jakarta. Sample selection was a result of the purposive method; determining the number of representative minimum samples depends on the number of indicators multiplied by five to ten, then the number of samples used in this study is a minimum of 120 respondents (Hair et al, 2011). Data were gathered during the months of January and February 2020.

The collected data would be analyzed with SmartPLS. It is a structural equation modeling (SEM) software which is intended to analyze the significance on each relationships. Due to the variance based on its statistical algorithm, the fit indices is not necessary to be conducted (Hair et al., 2016). Data analysis would be conducted on two steps: (1) outer model, which includes the testing of composite reliability (CR), discriminant and convergent validity, outer loading, and collinearity assessment; (2) structural model, which includes the evaluation of t-value for hypotheses testing, coefficient of determination (R2), effect size (f2), and predictive relevance (Q2).

#### 4.1. Analysis

The Component/Variance-Based Structural Equation Modelling is an alternative of the Covariance-Based Structural Equation Modelling. This Component/Variance-Based Structural Equation Modelling is also known as Partial Least Square (PLS). This method is intended to perform the causal-predictive analysis within the situations of high complexity and low theoretical support. In line with the intention, the aim of PLS is to find the predictive...
linear variable among the variables (the component-based predictive model) (Ghozali, 2014). The procedures that should be proposed for meeting the assumptions of the variance-based SEM become the guidelines for the variance-based SEM modelling both within the data gathering process and within the data processing by means of Smart PLS 3.

Measurement Model
Convergent Validity
The convergent validity test of the measurement model with the reflexive indicators is assessed based on the correlation between the item score/component score and the construct score that has been calculated by using the PLS. The individual indicators will be considered valid if the correlation value is higher than 0.70.

![Figure1. Results of PLS Algorithm](image)

Discriminant Validity
Another method that might be viewed for viewing the discriminant validity is paying attention to the square root of average variance extracted (AVE) value of each construct with the correlation between the one construct and another within the model. The AVE value will determine whether the model is fit or not.

<table>
<thead>
<tr>
<th>Table 1. Result of AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Variance Extracted (AVE)</td>
</tr>
<tr>
<td>Purchase Decision</td>
</tr>
<tr>
<td>Marketing Communication</td>
</tr>
<tr>
<td>Price perception</td>
</tr>
<tr>
<td>Web Design</td>
</tr>
</tbody>
</table>

From the Table 1 above indicates all the value of AVEs are above 0.5. Furthermore, the discriminant validity used Fornell Lacker Criterium that show by Table 2 below:

<table>
<thead>
<tr>
<th>Table 2. Results of Discriminant Validity Test (Fornell Lacker Criterum)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase Decision</td>
</tr>
<tr>
<td>Purchase Decision</td>
</tr>
<tr>
<td>Marketing Communication</td>
</tr>
<tr>
<td>Price Perception</td>
</tr>
<tr>
<td>Web Design</td>
</tr>
</tbody>
</table>

From the results in Table 1 and 2 above, it might be concluded that the square root of the Average Variance Extracted (AVE) for each construct has been higher than the correlation value between one construct and another within the model. From the AVE and Discriminant Validity Value, it might be concluded that the construct within the model that has been estimated already meets the discriminant validity criteria.

Composite Reliability
The composite reliability test aim at testing the reliability of the instrument within a research model or at measuring the internal consistency. The value of the composite reliability and Cronbach’s alpha test should be higher than
0.60. If all of the latent variables have both the composite reliability test score and the Cronbach’s alpha test score that has been equal to or higher than 0.70 (≥ 0.70) then the indication will be that the constructs have good reliability or the questionnaire that has been implemented as the data gathering tool in the study has been reliable or consistent.

<table>
<thead>
<tr>
<th>Table 3. Results of Composite Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composite Reliability</td>
</tr>
<tr>
<td>Purchase Decision</td>
</tr>
<tr>
<td>Marketing Communication</td>
</tr>
<tr>
<td>Price Perception</td>
</tr>
<tr>
<td>Web Design</td>
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</tbody>
</table>

Based on the results in Table 6.5 and Table 6.6 above, it is apparent that the composite reliability test has shown satisfying results since the composite reliability value of all latent variables have been equal to or higher than 0.70 (≥ 0.70).

Structural Model
The inner model measurement or the inner model test refers to the development of the concept and theory-based model in order to analyse the relationship between the exogenous variable and the endogenous variable that has been elaborated in the conceptual framework. The stage in the inner model test, or also known as the structural model test, consists of the procedures that will be elaborated below.

Table 4 $R^2$ Value of the Endogenous Variable

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

Structural models, indicate that the model on the purchase decision variable can be said to be moderate, because it has a value between 0.33 and 0.67. The influence model of independent latent variables (price perception, web design, and marketing communication) on online purchasing decisions gives an $R^2$ value of 0.654 which can be interpreted that the construct variability of price perceptions, service quality, and marketing communication is 65.4%; while the remaining 34.6% can be explained by other variables outside the study.

Goodness of Fit Model
The Goodness of Structural Model test in the Inner Model Measurement makes use of the Predictive-Relevance ($Q^2$) value. The $Q^2$ Value that has been higher than 0 (zero) shows that the model has the predictive-relevance value. The $R^2$ Value of each endogenous variable in the study might be viewed in the following calculation:

$$Q^2 = \sqrt{R^2 \times AVE}$$
$$Q^2 = \sqrt{0.654 \times 0.638}$$
$$Q^2 = \sqrt{0.4177425}$$
$$Q^2 = 0.646$$

Hypothesis Test (Path Coefficient)
The estimates value for the path relationship in the structural model should be significant. The significant value might be attained by using the bootstrapping procedures. The significance value in the hypothesis might be viewed by looking at the parameter coefficient value and the T-statistics significance value in the algorithm bootstrapping report. In order to identify whether the estimates value is significant or insignificant, the T-table at alpha 0.05 (5%) = 1.96 might be used. Then, the T-table value should be compared to the T-count value (T-statistics). The figure below shows that the result of structural model.
According to figure 2, all the predictor variables have a positive and significant impact on purchasing decisions. The conclusion of the result of the hypothesis test explains the table 5 below:

### Table 5. Results of Hypothesis

<table>
<thead>
<tr>
<th>Original Sample (O)</th>
<th>Standard Deviation (STDEV)</th>
<th>T Statistics</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>KM -&gt; KPM</td>
<td>0.338</td>
<td>0.108</td>
<td>3.134</td>
</tr>
<tr>
<td>PH -&gt; KPM</td>
<td>0.18</td>
<td>0.081</td>
<td>2.215</td>
</tr>
<tr>
<td>WD -&gt; KPM</td>
<td>0.378</td>
<td>0.1</td>
<td>3.769</td>
</tr>
</tbody>
</table>

Based on the hypothesis test in this study, the results of the T-statistic value were 3.134 and the original sample value was 0.38. The T-statistic value is more than the T-table value of 1.96 and the original sample value shows a positive value, this result shows that marketing communication has a positive and significant effect on purchasing decisions. Similarly, price perception has a positive and significant impact on purchasing decisions, as supported by the value of T statistic 2.215 (greater than 1.96). And in the same vein, web design has a positive and significant impact on purchasing decisions, as proved by the value of T statistic 3.769 (greater than 1.96).

**Discussion**

Based on testing the first hypothesis, it is known that the proposed H1 is accepted. Thus the H1 hypothesis in this study states that marketing communication has a positive and significant influence on purchasing decisions. The results of this hypothesis are in line with the results of research conducted by Vitalija Butkeviclene (2008) examining that communicating with consumers at the point of sale, has become an important factor influencing consumer choices. Based on this research, there is an influence between marketing communication with consumer purchasing decisions, and based on research. Research conducted by Susilowati, et al (2012) states that marketing communication influences consumer decisions, while in Hendri's research (2009) shows that marketing communication influences the purchase decision. This means that from the description above it can be concluded that marketing communication has a positive and significant influence on purchasing decisions. Because it has a t-statistic above 1.96 which is 3.223 with a positive original sample estimate value of 0.338. If people already know Pegipegi then the attitude that is formed will be even better towards Pegipegi.com.

In testing the hypothesis explained that the proposed H2 was received. Thus the H2 hypothesis in this study states that website quality has a significant influence on purchasing decisions. The results of this hypothesis are in line with research conducted by Nuseir, et al (2009) under e-promotion, security and infrastructure on the web influencing purchasing decisions. Research conducted by Ghafiki and Setyorini (2017) states that simultaneous website quality has a significant effect on purchasing decisions. Alhasanah, et al (2014) research results show that website quality simultaneously influences online purchasing decisions. Based on previous research above it can be concluded that the quality of the website has a positive and significant influence on purchasing decisions. This is evidenced by the t-Statistics value above 1.96 which is 3.982 with a positive original sample estimate value of 0.378.
If the public understands the features on the Pegipegi website well, the more positive purchasing decisions on Pegipegi.

Based on testing the hypothesis explained that the proposed H3 is accepted. Thus the H3 hypothesis in this study states that price perception has a significant influence on purchasing decisions. These results are in line with research conducted by Ferdinant and Nugraheni (2013), stating that price perceptions, product quality perceptions, and promotions have a positive and significant effect on purchasing decisions. Research by Mirawati, et al (2016) revealed that entrepreneurial attitudes had a positive and significant effect on intention to become entrepreneurs. This finding has supported by Silvia (2010) that the variable price has a positive effect on purchasing decisions.

From the description above it can be concluded that price perception has a positive and significant influence on purchasing decisions. Because it has a t-statistic value above 1.96 which is 2.231 with a positive original sample estimate value of 0.180. After the public knows Pegipegi and knows the ease of transactions through an online website and assesses the price sold, a purchasing decision is formed at Pegipegi. Thus it can be said that the hypotheses H1, H2, and H3 in this study were accepted.

Recommendation
Departing from the conclusions that have been elaborated in the previous section, there are several suggestions that might be proposed as the matter of consideration for both the management of Pegipegi and the conduct of the future studies. Price perception has proven to have a significant influence on Pegipegi consumer purchasing decisions in the city of West Jakarta, because it has been proven by respondents' statements that have the largest number of presentations, namely "Products sold have prices that are in accordance with the services and quality offered". While the lowest number of respondents' statements were on "The price is cheaper than similar Online Travel Agents", then with that statement Pegipegi parties need to check on similar companies so that prices offered to consumers are not more expensive than similar companies.

Marketing communication has a positive and significant effect on the purchasing decisions of Pegipegi consumers in West Jakarta, this has been proven by the respondent's statement, namely "I decided to use Pegipegi services because of good service". While the statement of respondents with the lowest number is in the statement "Pegipegi credibility has been tested and known to the public", so with that statement Pegipegi should approach the customer more by listening to consumers' comments or complaints and becoming a solution provider for consumers who have difficulties when going make a purchase.

Web Design has a positive and significant influence on purchasing decisions, this is evidenced by the statement of respondents, namely "Website design in accordance with the products offered" and "Website provides information in the right format". While the statement of respondents with the lowest number is on "Website appearance is very attractive", then with that statement Pegipegi needs to make an update on the website's appearance to be more attractive to consumers.

For further researchers who want to conduct similar research, it is recommended to use other variables besides price perception, marketing communication, and web design that can influence purchasing decisions on Pegipegi customers, because it is known that the results in this study are still other factors that can explain purchase decision variables, such as brand trust, experiential marketing, and loyalty.

References


Alfabeta.


