Antecedents to Website E-Commerce Satisfaction and Loyalty

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Abstract
This study explores the major determinants of feedback on shopping satisfaction. This research is essential to provide empirical evidence about the factors that can ensure customer satisfaction and loyalty. By surveying respondents that are users of e-commerce website services, this study uses the construct validity test using the Partial Least Square (PLS) method with SmartPLS software application version 2.0. The results explain the visual involvement variable does not correlate with customer satisfaction and loyalty. The interactivity website variable has a strong relationship with customer satisfaction and loyalty. Therefore, customers need service communication interactivity for service providers and merchants. This research contributes to the development of consumer experience theory and online consumer experience.

Keywords
Online Consumer Experience; Website Quality; e-Satisfaction; e-Loyalty

Introduction
In recent years, the development of the internet has led to commercial channels. The electronic commerce (e-commerce) market has a considerable number, where distance and time are the advantages of e-commerce. Currently, the target market is more than 3,600 million users worldwide and 123 million users in Indonesia (Kominfo, 2019). This data explains that e-commerce opportunities are almost unlimited. Therefore, the company seeks to improve competence and service quality. The fundamental question is, how can electronics companies get the best results. The starting point for the answer is understanding what the user wants. For this reason, several studies have focused on factors that influence the success of electronic commerce websites through user perspectives (e.i. Gazzar and Mourad, 2012; Karimov et al., 2011; Lee et al., 2016; Scarpi et al., 2014 Verhagen and van Dolen, 2011). Several studies have identified web design as a critical factor for developing interfaces that both meet consumer needs. Designs web is relevant for companies to compete in the highly competitive World Wide Web (e.i.Abumalloh et al., 2020; Nilashi et al., 2016; Rita et al., 2019).
This study discusses the principal analysis from the perspective of the marketing discipline. This research pathway is motivated by interface prosecution that results in positive responses to users (Hasanov and Khalid, 2015). Furthermore, web design is essential for achieving website satisfaction (Rita et al., 2019) or increasing customer satisfaction and customer loyalty (Abumalloh et al., 2020).

In the late nineties, academics and practitioners agreed that the quality of experience of electronic commerce websites and retail stores was not much different. Functionally, the two channels facilitate the searching for products, evaluations, and transactions (Teo and Yeong, 2003). Therefore, the right marketing construction will affect satisfaction and customer loyalty. Furthermore, E-Enjoyment (Sharma et al., 2020), navigation and ease of use (Tandon et al., 2016; Ladhari and Leclerc, 2013), visual involvement (Tandon et al., 2016; Ladhari and Leclerc, 2013; Bressolles et al., 2014; Karimov et al., 2011), web interactivity (Ladhari and Leclerc, 2013; Gehrt et al., 2012), are essential factors that influence the quality of surfing experiences on e-commerce websites that have the potential to impact customer satisfaction.

The rapid growth of e-commerce and the importance of understanding customer behavior in e-commerce, several researchers developed measurement models and explained the quality of website experience (see, Blut et al., 2015; Hasanov and Khalid, 2015; Loiacono et al., 2007, Parasuraman et al., 2005, Yoo and Donthu, 2001). However, the model for explaining and predicting the relationship between satisfaction and loyalty has not yet completed. Loiacono et al. (2007) developed WebQual with 12 constructs and 36 statement items from the technology acceptance model (TAM). Yoo and Donthu (2001), and developed the SiteQual scale with nine elements in measuring reuse intention. However, this model is not a critical antecedent in customer satisfaction and loyalty.

Customer satisfaction and loyalty are paramount in diagnosing service quality by Marketers. Therefore this study seeks to identify and test the main factors that influence construction in an online shopping environment. This study also aims to explain and measure the construct in practical use as feedback on online shopping satisfaction.

**Literatur Review**

Satisfaction is a positive emotion that comes from the customer's experience at the company (Oliver, 1999). The concept of satisfaction is following the principles where rewards cause repetitive behavior. In the marketing context, when customers get a satisfying purchasing experience, customers are interested in returning to the same vendor to make repeat purchases (Anderson & Sullivan, 1993).

Satisfaction, trust, intention to revisit, repurchase intention and loyalty have all been identified as a result of the positive experience of customers (Kleinberger et al., 2007; Oliver, 1999; Verhoef et al., 2009), so that customer experience is considered necessary in the field of research (Homburg et al., 2017) Focus on customer experience is the best value for organizations to have profit competitiveness, moving beyond assessing service quality (Verhoef et al., 2009).

Based on the traditional service quality scale (SERVQUAL) (Parasuraman et al., 1985), Yoo and Donthu (2001) developed the SITEQUAL scale to evaluate service quality from online retailer websites. The dimensions of the SITEQUAL scale include ease of use, aesthetic design, processing speed, and safety. However, SITEQUAL does not provide a comprehensive evaluation of the website (Parasuraman et al., 2005). On the other hand, Zeithaml et al. (2001) developed an e-SERVQUAL measure and identified 11 dimensions of
service quality such as access, ease of navigation, efficiency, flexibility, reliability, personalization, security (privacy), responsiveness, assurance (trust), site aesthetics, and price knowledge. Using customer and website interview designers, Loiacono et al. (2002) developed a WebQual instrument consisting of 12 dimensions: disk fit information, interactivity, trust, response time, ease of understanding, intuitive operation, visual appeal, innovation, flow (emotional appeal), consistent image, online completeness and better than alternative channel. The development of the SITEQUAL scale model Yoo and Donthu (2001) and WebQual Loiacono (2002) do not yet represent an essential antecedent in shaping customer satisfaction and loyalty.

Pandey and Chawla (2018) develop the functional and psychological dimensions of online consumer experience (OCE) towards customer satisfaction and loyalty. The functional and psychological psychology model developed from the Klaus (2013) model, where the functional dimensions of OCE are technical attributes on websites such as usability, communication, social presence, product presence, and interactivity. Meanwhile, the psychological dimension of OCE is the composition of trust, value for money and context familiarity (e-enjoyment). Therefore, the model in this study adopts and validates the functional and psychological psychology model, which consists of e-enjoyment, navigation, and easy access, visual engagement, website interactivity towards customer satisfaction, and loyalty.

**Hypothesis Development**

**E-Enjoyment**

E-enjoyment is one of the critical factors that influence customer attitudes and behavior in the context of online shopping (Kim et al., 2007). Online shopping provides an opportunity for customers to avoid physical contact and emotional hassles while shopping. Online shopping can also produce utilitarian and hedonic benefits (Srinivasan, 2015; Koufaris, 2002). This method allows customers to get easy access to various shopping media with shorter time and effort and can increase customer security (Gehrt et al., 2012; Tong, 2010; Kim and Niehm, 2009). Shopping behavior that is driven by pleasure will lead to higher levels of satisfaction and loyalty (Scarpi et al., 2014).

The previous study has shown a positive relationship between perceptions of pleasure and online shopping attitudes, as well as customer emotions and satisfaction with the company (Verhagen and van Dolen, 2011; Lee et al., 2016). Furthermore, the level of customer satisfaction will lead to the level of customer loyalty to the company (Pandey and Chawla, 2018). Based on this relationship, the research hypothesis is proposed as follows:

H1: E-Enjoyment has a positive impact on website satisfaction and loyalty

**Navigation and Ease of Use**

Website navigation is an essential component of web experience. In the context of e-commerce, the use of technology refers to the comfort of consumers browsing websites and finding products. This process can provide benefits felt by customers while shopping online. It is an experience that can increase the likelihood of customers making repurchases (Ladhari and Leclerc, 2013). Thus, this process will lead to higher online shopping satisfaction and intention (Ha and Stoel, 2012; Tong, 2010).

Customer perceptions about website navigation and satisfaction with website performance have a positive correlation (Yoo and Donthu, 2001). Furthermore, Huizingh and Hoekstra (2003) found that navigation has a direct influence on changes in consumer attitudes towards websites. Therefore, this study proposes that the perception of navigation has a positive correlation on satisfaction with the website.
experience, which leads to the second hypothesis in this study.

Hypothesis 2: The ease of use of navigation correlates with satisfaction Customers and customer loyalty.

**Visual Engagement**

Today, internet technology allows online retailers not only to sell products and services online but also to customize online websites for satisfied customers (Vrechopoulos, 2010). Conventionally, the term atmosphere is used to describe space and store design. Meanwhile, the term is currently also used in an electronic commerce environment to define the layout and design of online websites (Abbott et al., 2000). Some researchers further asserted that using marketing elements in website design proved to be quite useful in gaining competitive advantage (Baloglu and Pekcan, 2006; Caballero-Luque et al., 2010; El Gazzar & Mourad, 2012).

Karimov et al. (2011) developed a general classification scheme for website design, such as visual design, content design, and social cues design. Website aesthetics such as a well-organized layout and animated presentations that show products in detail are essential in encouraging positive customer associations towards the website (Wang et al., 2010). Therefore, the technical and aesthetic performance of the website encourages consumer evaluation of the performance of the website, and consumer perceptions about the performance of the website are the driving factors for the importance of the satisfaction of the website experience. Based on the above review, the hypotheses tested in this study are:

Hypothesis 3: Visual Attraction is positively correlated with customer satisfaction

**Web Interactivity**

The interactivity discussed in this study is rooted in the study of machine interactivity, namely interactions in online shopping that are mediated by the internet (Sicilia et al., 2005; Steuer, 1992). Understanding this concept does not imply that online buyers only interact with technology, but buyers and sellers interact through internet media. Xu and Sundar (2016) explain that interactivity is the ability of an interface to allow customers to access content through a variety of different interactive features. An important point in this definition is that online shopping companies facilitate customers with content that allows sellers and buyers to communicate digitally, as well as creating a trade-off between the two (Jiang et al., 2010; Xu and Sundar, 2016).

Empirical evidence also supports the idea of interactivity having a large influence on perception. For example, Cyr et al. (2009) found that interactivity affects customer perceptions about efficiency, effectiveness, trustworthiness, and enjoyment of the information provided. Jiang et al. (2010) found that website interactivity leads to greater customer involvement and increased purchase intention. Signals that trigger positive cognitive or emotional perceptions of customers more than that might be considered reliable information. However, signals that fail to produce positive cognitive or emotional perception are considered unreliable. Therefore, the interactivity feature of a quality signal might influence the perception of a reliable signal.

Website informativeness refers to relevant, detailed and accurate information about product features, prices, policies, and so on (Bressolles et al., 2014). Buyers prefer websites to provide relevant and updated information if it allows them to make decisions, especially when shopping online that doesn't allow customers to test and physically shape their products (Bansal & Chen, 2011). Website informativeness in terms of product information, prices and promotions have been identified empirically as an important driver of electronic satisfaction and loyalty (Ganguly et al., 2010). Based on this relationship, the research hypothesis is proposed as follows:
H4: Website interactivity has a positive impact on website satisfaction and loyalty

**eSatisfaction and eLoyalty**

By identifying the attributes that comprise the user experience during surfing and shopping on electronic commerce websites. This study will explore the impact of these variables on the consequences of customer behavior, and test whether the user experience on the website is satisfactory. In addition, this research explains and predicts consumer behavior towards electronic commerce websites in the future. The emphasis is on the perception of experience using electronic commerce websites, this research focuses on attitudes towards the website itself and not the intention of consumers to conduct financial transactions.

Bansal et al (2004) prove a strong correlation between website performance satisfaction and intention to re-visit the website. This helps validate existing theoretical beliefs about how satisfied customers are to revisit in the future, and dissatisfied customers are more likely to go and look for alternative web sites (Anderson and Srinavasan 2003). A more recent study by Loiacano et al (2007) found further evidence that satisfaction with website performance has a positive correlation with online customers' intention to revisit. Based on the above review, the hypotheses tested in this study are:

H5: Satisfaction Has a positive correlation on website loyalty

**Method**

This research uses quantitative methods with a type of explanatory research conducted using surveys by taking samples directly from the population. Explanatory research is research based on a theory or hypothesis to test a phenomenon. Explanatory research is a study of the relationship between two or more variables which further explain the phenomena that occur. Judging from the problems examined, this study is a causality study that aims to analyze the relationship and influence of causation from two or more phenomena (Hair et al., 2006). This research is assisted with a statistical test tool as a deductive approach that aims to test the research hypothesis.

The population in this study is online shopping website users such as Bukalapak, Tokopedia, Shopee, Lazada, and JD.id. The purposive sampling approach is considered the most appropriate sampling method for this study, given that this technique allows researchers to obtain accurate and reliable information. This technique also allows researchers to select respondents who have experience in online shopping websites (Denzin and Lincoln, 2005).

This study uses primary data types and sources obtained directly from the research object in the form of questionnaires. Data collection in this study was carried out by distributing questionnaires online to all respondents, during June-August 2019. During the three months of data collection, the total questionnaires filled out and returned were 203. This number represented the respondent level of 97 percent. only 194 respondents were declared valid for statistical analysis (see Table 1).
Table 1. Respondent Characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Man</td>
<td>108</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>Women</td>
<td>86</td>
<td>44</td>
</tr>
<tr>
<td>Age</td>
<td>Below 20</td>
<td>74</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>20-24</td>
<td>59</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>25-29</td>
<td>45</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>30-34</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>35-40</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Education</td>
<td>High School/Vocational School</td>
<td>91</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>Diploma</td>
<td>17</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Graduate</td>
<td>83</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>Master</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Profession</td>
<td>Collage</td>
<td>86</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>Civil Servants/ Private</td>
<td>77</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Freelancer</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Entrepreneur</td>
<td>21</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Housewife</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Experience of using online</td>
<td>1-2</td>
<td>37</td>
<td>19</td>
</tr>
<tr>
<td>website in the last 3 months</td>
<td>2-3</td>
<td>22</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>3-4</td>
<td>72</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>5-6</td>
<td>51</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>above 8</td>
<td>12</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: Data Primer, 2020

The sample provides an overview of gender, age, education, occupation, and shopping website experience from over the past three months. Based on age respondents, most of them are in the age range under 20 years. The data explains that most respondents are the digital generation, so the general finding in this study is a groups who are skilled with technology and the internet (Dwiggins-Beeler, 2014). Therefore, it is expected that respondents can represent this research, as well as their experience in using an online shopping sites.

Result

To be able to establish that the theory is in accordance with the sample data, the construct validity and reliability measured can be confirmed. The reflective model is used to measure construct related parameters. The PLS algorithm is calculated to test steps including composite reliability to assess the reliability of internal consistency, indicator reliability, convergent validity, AVE and discriminant validity (Hair et al., 2014) (Table 2).

Based on internal consistency reliability, composite reliability values must be greater than 0.708 in order to be accepted. Convergent validity is defined as the degree of a positive correlation between alternative measures of a construct.

Reflective construct indicators show that AVE must be greater than 0.50 or higher to show the construct’s ability to explain more than half the variation of the indicator. Table 2 also presents figures of internal reliability that are higher than 0.7 for all latent variables measured. The AVE value as an evaluation criterion is used to assess convergent validity. The construct value registered with AVE is above 0.50.

Based on the outcome of the PLS measurement model in Table 1, the empirical model tested in this research has
fulfilled the criteria of validity and reliability test. Result of composite reliability greater than 0.708. Reflective construct indicators show that AVE is higher than the recommended threshold 0.50 or greater which indicates the construct's ability to explain more than half of the indicator variation. The square root AVE of each latent variable is greater than the highest correlation with other constructs. This, in summary, shows that the theory fits the sample data, confirming the validity and reliability of the construct being measured. Based on the results of the PLS model measurements in Table 3, the empirical 
The model tested in this study has fulfilled the validity and reliability of test criteria.

The results on the assessment of the relationship between structural models show that a number of path coefficients recorded relatively small values. A complete bootstrap procedure is carried out to confirm the importance of construction following the Thumb Rules. The minimum recommended number of bootstrap samples adopted is 5,000. For two-tailed tests, significant values of 1.65, 1.96 and 2.57 were considered satisfactory at a probability error rate of 10, 5 and 1 percent, respectively.

| Table 2. Validity and Reliability |
|------------------|----------------|-----------------|------------------|-----------------|
| Cronbach’s Alpha** | Rho_A | R Square | Composite Reliability** | AVE* |
| e-E | 0.976 | 0.979 | 0.984 | 0.953 |
| NT | 0.757 | 0.732 | 0.757 | 0.732 |
| VE | 0.873 | 0.884 | 0.925 | 0.805 |
| WI | 1.000 | 1.000 | 1.000 | 1.000 |
| CS | 0.928 | 0.929 | 0.702 | 0.954 | 0.875 |
| CL | 0.8994 | 0.895 | 0.761 | 0.926 | 0.758 |

Source: Data Proces (2020)
Note: *Valid if AVE > 0.5
**Reliable if Composite Reliability or Cronbach’s alpha > 0.6

For this study, the path coefficient with a probability level of 5 percent was considered statistically significant. As already shown in the structural model, the path coefficient represents the hypothesized relationship between latent variables. The results of the analysis for the level of significance of the structural model path coefficients as presented in Table 3, show that the visual engagement variable does not have a positive correlation with the customer e-satisfaction and customer e-loyalty variables. Meanwhile, e-enjoyment, navigation, and interactive website variables have a positive correlation with customer e-satisfaction and customer e-loyalty variables.

Discussion

This study adapts, expands and validates OCE theory and web quality in the context of electronic commerce in Indonesia. The findings in this study contradict some previous studies (Pandey and Chawla, 2018). Visual engagement is considered as an important variable in increasing customer satisfaction and loyalty. In this case, the respondent considers that the current appearance, image, color, and design aspects on the electronic commerce website need to be improved. The business model of electronic trading companies in principle is to bring together sellers and end buyers. Thus, the visual aspects of the product are the responsibility of the final seller. This factor is one of the reasons that respondents doubt the level of image quality and the professionalism of the display
presented by the final seller. There is one term that, products received by customers sometimes do not match the images shown. Therefore, electronic trading companies need to pay attention to visual factors that enable the creation of low switching costs for customers.

Furthermore, e-enjoyment has a positive impact on satisfaction (Scarpi et al., 2014; Gehrt et al., 2012). E-enjoyment can be improved by the diversity of types of products available, especially those products not available on the offline market. Customers will enjoy online shopping driven by various brands on online websites (Faqih, 2016).

The interactivity variable has a positive impact on satisfaction, which corroborates the results of previous studies (Ganguly et al., 2010; Jiang et al., 2010; Ha and Stoel, 2012). Respondents explained that aspects that were adjusted to the needs would reduce the desire to move to other websites. In addition, to facilitate customers who want certainty over a product. Customers need to be given space to interact directly with sellers. In addition, online chat features can be considered to increase social involvement in online shopping.

The presence of social features can help customers to actualize themselves to others, and help to find out the latest trends through cross-community interaction (Park and Cho, 2012). This feature can also help customers to interact and discuss issues such as product details, orders, returns and recommendations according to customer needs. Therefore, communication and feedback mechanisms at all stages of the purchasing process need to be improved (Ganesh et al., 2010; Park & Cho, 2012).

<table>
<thead>
<tr>
<th>Tabel 3. Hypothesis Test</th>
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<tbody>
<tr>
<td>Original Sample (O)</td>
</tr>
<tr>
<td>eE &gt; CS</td>
</tr>
<tr>
<td>WI &gt; CS</td>
</tr>
<tr>
<td>VE &gt; CS</td>
</tr>
<tr>
<td>NT &gt; CS</td>
</tr>
<tr>
<td>CS &gt; CE</td>
</tr>
<tr>
<td>eE&gt;CS&gt;CE</td>
</tr>
<tr>
<td>WI&gt;CS&gt;CE</td>
</tr>
<tr>
<td>VE&gt;CS&gt;CE</td>
</tr>
<tr>
<td>NT&gt;CS&gt;CE</td>
</tr>
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</table>

Source: Data Process (2020)

**Conclusion**

Websites and E-commerce services can collectively manage application communications to connect online systems, business partners and customers in a cost-effective manner through the Internet. Emerging web service standards and technologies allow individuals and companies to provide various e-business functions and services through the web to be integrated by internal business processes or with trading partners. Web services will change the way businesses design their applications to serve, integrate with other business entities, manage business process workflows, and carry out e-business transactions.
Research opportunities investigating web services and e-commerce are beneficial and important for academics and practitioners. The main significance of this research is the conceptualization of e-commerce website effectiveness for user satisfaction. However, the performance of e-commerce websites seems to be a concept that cannot be captured in a single measure but must be treated as a multidimensional phenomenon. A limitation of previous work is that the literature in this field limits discussion from the perspective of online consumers as evaluators. The assessment is carried out on an e-commerce website with the system's appearance as a product. The quality of e-commerce websites is an important factor in attracting potential consumers, encouraging first-time purchases, and maintaining repeat purchases. It has been emphasized that the quality of electronic commerce websites is an important component for consumers in choosing the most preferred websites which ultimately results in more revenue for service providers.

Limitation and Future Research

This study refers to the general context of digital websites in Indonesia. Therefore, further research can explore more deeply on one particular research object. The development of smartphone users and mobile applications, especially in the millennial generation can be a suggestion for further research. To develop research, the research framework can be expanded to cover the impact of cellular technology on the online shopping experience. In addition, differences in character and motivation between men and women become very interesting in subsequent studies, where factors of gender, age, and experience can moderate the relationships between variables. Our consideration for future research areas can be to validate quality elements from various perspectives.

Notes on Contributors

Effed Darta is an Associate Professor. He has written article on a variety of topics in the customer satisfaction and loyalty, and online shopping behavior such as, deploying marketing indicators to ensure greater smes international performance in mediating role of customer satisfaction: a glance of indonesian pharmacies (2020); Indonesian millenials online shopping behavior (2019).

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Willy Abdillah is an Associate Professor of Management Information system. The author of 5 books on information management systems, research methods, and multivariate statistics. He is also the supervisory board of the polytechnic health policy (Ministry of Health) (2017-2022) and lecturer at several universities in the country and abroad (UPSI Malaysia, UGM, Unair, PPM School of management, Unila and Trisakti).

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