

THE EFFECT OF ONLINE STORE DESIGN QUALITY ON CONSUMER PURCHASING DECISIONS

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Abstract: The purpose of this research is to enable online stores to develop effective strategies in focusing on the development of their existing design quality to ensure their platforms can maintain customer loyalty, encourage customers to make purchases, and generate other positive effects. The model in this study has a stage, namely design quality, which consists of usability, functionality, and sociability factors to shape purchasing decisions. Sampling was conducted using *non-probability sampling* and *purposive sampling* techniques with a sample size of 230 respondents. The criteria set for the sample were respondents who had made purchases at online stores within the last year. The questionnaire was distributed online to all respondents in the Special Region of Yogyakarta Province to meet data collection requirements. This study used multiple regression analysis processed with *SPSS for Mac* software. In general, the results of this study indicate that the variables of usefulness, functionality, and sociability have a positive effect on the variable of purchasing decision. The implication for online stores is to develop strategies to ensure that the quality of their platform design can trigger consumers to make purchases and even spread other positive effects, in line with the main objective of this study.

Keywords: design quality, social commerce, usability, functionality, sociability, purchase decision.

INTRODUCTION

The emergence of internet-based technology has had a major impact on the use of technology and user behavior. The use of technology today is driving the world's population towards greater connectivity. A report released by PricewaterhouseCoopers (PwC) through Indonesia Investments estimates that the world population will reach 7.4 billion in 2020, and nearly 52 percent of this population is expected to be connected to the internet via smartphones or portable tablets (Indonesia Investments, 2016). Observations by wearesocial.com of internet users worldwide show that there were 4.4 billion users in January 2019. This figure represents a 9 percent increase from the previous year (Wearesocial.com, 2019).

Based on the results of a survey conducted by the Indonesian Internet Service Providers Association (APJII) in 2017, the number of internet users in Indonesia has experienced significant growth from year to year to 143.260 million internet users. This number has doubled compared to 2012, which only had around 63 million internet users (APJII, 2017). The high number of internet users is accompanied by a high number of mobile devices used to access the internet. Mobile device ownership in Indonesia is largely dominated by smartphones or tablets, with a percentage of 50.08 percent of the population, compared to laptop or computer ownership, which is only around 25.72 percent of the population (APJII, 2017). By the fourth quarter of 2017, smartphone ownership was the highest among other mobile devices, with almost equal ownership proportions between men and women (JAKPAT.net, 2017).

In Indonesia, the prospects for online commerce are increasingly positive. Almost all goods and services are now offered online (Nugroho, 2019). Online shopping is a popular activity among Indonesians. Indonesian consumers prefer to use smartphones to search for products or services and read relevant and credible information (Indonesia Investments, 2017). Hootsuite and wearesocial.com (2019) reported that 93 percent of e-commerce user activity in Indonesia is to search for products and services to be purchased online (Wearesocial.com, 2019). Data from the same institution also reports that 76 percent of internet users in Indonesia make online purchases via mobile devices, with the remainder using computers (desktops). This statement is supported by a survey conducted by APJII, which reports that

internet usage in Indonesia, particularly in the economic sector, is for searching for information and making online purchases (APJII, 2017).

The rapid development of modern wireless communication technology, accompanied by high internet penetration rates, has made mobile app-based commerce one of the most popular channels for shopping (Zheng *et al.*, 2019). This has placed Indonesia among the top three mobile app-based commerce markets in the world after China and India (Indonesia Investments, 2017). Through social commerce, consumers can more easily make purchasing decisions by participating online in social media to obtain knowledge about the desired product (Huang & Benyoucef, 2015). The concept of social commerce allows an online store to have many features such as product recommendations to friends, customer experience reviews, discussion forums between consumers, and ratings for products or sellers (Haji, 2014). These features are part of the design quality found in social commerce. Design quality has a significant effect on connecting consumer interactions with the online store in question (Cebi, 2013).

Wagner *et al* (2014) state that design quality in the social commerce concept can be maximized by strengthening three important factors, namely usability, functionality, and sociability. Almost all online stores in Indonesia have adopted the social commerce concept, but they have not maximized the development of their design quality, resulting in fierce competition among these online stores. Several online store websites that use the social commerce concept are Kaskus Buy and Sell Forum (FJB), Facebook Discussion and Buy and Sell Group Forum, Instagram, Lazada, Bukalapak, Blibli, Shopee, JD ID, Tokopedia, and others.

The main factor in strengthening the social commerce concept for an online store is improving the quality of its design. This can have a positive effect on the online store's website because consumers will feel comfortable, making it more likely that they will make a purchase. When this happens, consumers will certainly spread the word to other consumers, which will have a positive impact on the online store's website.

The usefulness factor is related to the ease of use of online store applications, reduction of errors, and positive attitudes (Wagner *et al.*, 2014; Helmi *et al.*, 2022). This has been proven to increase consumer intensity in purchasing a product as well as the level of system usage or duration of access to an online store application (Lee & Kozar, 2012). According to Fernandez *et al* (2011), the usability factor is defined as the capacity of a software product to be easily understood, learned, operated, and attractive to use. Luna Nevarez & Hyman (2012) state that there are six attributes of the usability factor in design quality, namely content quality, navigation, textual information, advertising, social media support, and visual design. Online stores can make consumers feel comfortable if they have sufficient usability factors in their design quality, which can indirectly provide benefits for the online store.

The functionality factor in the design quality of online stores refers to functions that satisfy consumer needs in online shopping. Stefani & Xenos (2011) state that the functionality factor consists of several elements such as suitability, accuracy, interoperability, and security. For example, good interoperability allows an online store website to integrate with other specific systems such as shipping services, payment methods, and official product websites. The security of consumer data must also be protected by online stores so that consumers feel comfortable shopping online. The sociability factor is the last component of design quality (Huang and Benyoucef, 2015) that influences consumer interaction, consumer engagement, consumer confidence, and consumer purchasing decisions (Curty & Zhang, 2013; Indratno & Supardin, 2022; Supardin *et al.*, 2022).

A capable sociability factor can further increase consumer interaction with sellers at the same time. Discussions between consumers on online store websites can increase consumer comfort. In addition, the chat feature with *sellers* and *review* columns also increase the credibility of an online store. Consumers who feel comfortable because they feel served and receive good responses from *sellers* will be more likely to make purchases on these online sites.

In recent years, there have been many studies in the field of mobile application-based commerce, such as *Introduction to the Special Issue Mobile Application-Based Commerce: The Past, Present, and Future of Mobile Application-Based Commerce Research* (Kourouthanassis & Giaglis, 2012); *Trust and satisfaction: the keys to client loyalty in mobile application-based commerce* (Jimenez & San-Martin, 2016); *Exploring convenience in mobile application-based commerce: Moderating effects of gender* (Okazaki & Mendez, 2012). These studies have examined mobile application-based commerce extensively, but relatively few have researched impulsive buying among users of mobile application-based commerce. In fact, impulsive buying is the most common purchasing behavior (Zheng *et al.*, 2019). (Lee *et al.*, 2014) states that mobile app-based commerce will increase impulsive buying due to its characteristics of convenience and high interactivity. The increasing interest of Indonesian consumers in making online purchases through mobile devices makes research on the impulsive buying behavior of mobile app-based commerce consumers an interesting topic to study.

Mastercard research released by CNN Indonesia reveals that half of Indonesia's millennial generation are the most impulsive consumers in the Asia Pacific region (Primadhyta, 2015). Piron (1991 in Zheng *et al.*, 2019) defines impulsive buying as "an unplanned purchase, resulting from exposure to stimuli and made on the spot". This behavior often occurs and results from certain stimuli during the shopping process (Floh & Madlberger, 2013). Several previous researchers have adopted motivation theory to understand consumer motivation and determine their responses under certain stimuli (Park *et al.*, 2011; Zheng *et al.*, 2019). Piron (1991 in Zheng *et al.*, 2019) found that both hedonistic and utilitarian motivations have the effect of encouraging people to engage in certain behaviors, such as shopping. These findings are supported by research conducted by Zheng *et al.* (2019), which shows that there is a relationship between hedonistic and utilitarian motivations and impulsive purchasing.

Hedonistic motivation is related to feelings of pleasure when consumers engage in an activity. When conducting a search activity, which is the process by which consumers access information in an online environment (Zheng *et al.*, 2019), consumers obtain instant satisfaction and pleasure, which is referred to as a hedonistic search activity. Previous research has revealed that consumers who browse for pleasure and disregard the results of their shopping tasks tend to obtain hedonistic value, which ultimately shapes impulsive buying behavior (Zheng *et al.*, 2019).

However, Zheng *et al.* (2019) also revealed that utilitarian motivation, on the other hand, has an indirect influence on the urge to buy impulsively by first influencing hedonistic browsing behavior. Consumers with utilitarian motivation pay close attention to completing their shopping tasks and focus on consumption needs that match their expectations, and do not have any direct intention or desire to make impulsive purchases (Palupi *et al.*, 2023; Rokhmawati *et al.*, 2022, 2023; Supardin, 2022). If consumers search for the information they need so that the items they purchase meet their expectations, they will then have hedonistic motivation and make impulsive purchases (Zheng *et al.*, 2019).

When making decisions or choices, people often seek advice and opinions from others (Tuk *et al.*, 2019). Users of mobile app-based commerce are more influenced by their peers (Pedersen, 2005). Consumers tend to discuss with their peers because, according to Lee (2014), people tend to behave similarly to those close to them to create a good image with them (Lee, 2014).

According to To *et al.* (2007 in Zheng *et al.*, 2019), consumers who have utilitarian motivation usually know their initial shopping goals and, to achieve those goals, will seek more and better quality information. Parker & Wang (2016) argue that consumers prefer to browse through mobile app-based commerce for everyday use and prefer to communicate with others in traditional ways rather than through their own consumer experiences (Parker & Wang, 2016). Impulsive online purchases are influenced not only by product characteristics but also by shopping environment characteristics (Parboteeah *et al.*, 2009).

The internet in Indonesia has become one of the infrastructures that has grown significantly every year. The internet has been present in Indonesia for 24 years. At that time, IndoNet emerged as the first Internet Service Provider (ISP) with a capital of Rp 14.7 trillion. The presence of the first ISP opened the door for Indonesia to enter the international digital world. The opportunity to independently regulate and utilize information and telecommunications technology has also become a promising opportunity for the future. Shortly after the arrival of the internet in Indonesia, several websites created by Indonesians emerged, including Bhinneka.com and Sanur.com. Although the initial capital investment was quite large, the functions of the internet at that time were not as complex as they are today. The two main functions of websites at that time were as a means of communication and as a digital showcase. Only a few people knew about the functions of the internet, such as email and chatting, which were all done through computers at that time. Technology continued to grow rapidly every year until it reached Indonesia, where it was utilized by local internet users to develop and maximize the benefits of the internet itself. Various examples of internet engineering for the future began to be designed by a group of users and virtual communities. Online buying and selling sites were one of the plans at that time and have proven to be a part of life for some Indonesians today. This plan did not just disappear when the Kaskus forum officially appeared in the Indonesian cyberspace in 1999. Not only that, Bhinneka.com also updated their website, which was originally a *company profile*, and is now a platform for buying and selling goods.

In the early 2000s, the *internet economic bubble* phenomenon emerged, causing many digital business players to leave the industry. This phenomenon left only a few old players who had a strong foundation in terms of capital and technology. By the mid-2000s, internet and communication technology infrastructure had developed sufficiently in several regions. The emergence of Tokobagus.com and Berniaga.com as newcomers in the world of *e-commerce* further intensified competition with the Kaskus and Bhinneka buying and selling forums in an effort to attract people to trade and shop online.

The prevalence of fraud cases in the virtual world has become an obstacle for consumers and sellers in conducting online buying and selling activities. These cases are not only committed by sellers, but also by prospective buyers. This has resulted in many people still doubting the credibility of online buying and selling activities. Through the development and utilization of improved information technology, several online store websites have emerged with security features that can minimize these fraud problems. Among these websites are Tiket.com, Traveloka, Bukalapak, Lazada, Zalora, Tokopedia, and so on. These online websites use the concept of social commerce in their application, thereby minimizing the prevalence of fraud at that time. This is very helpful from the consumer's perspective when deciding to buy goods from an online store because consumers can more easily gather information about a product (Bai *et al.*, 2008).

Through the concept of social commerce, consumers can more easily make purchasing decisions by participating online in available social media to obtain knowledge about the desired product (Huang & Benyoucef, 2015; Aziz *et al.*, 2023; Indratno *et al.*, 2021; Sjukun *et al.*, 2022; Supardin, 2022). The concept of social commerce allows an online store website to have many features such as product recommendations to friends, customer experience reviews, discussion forums between consumers, and ratings for products or sellers (Haji, 2014). These features are part of the design quality found in social commerce. Design quality has a significant effect on connecting consumer interactions with the online store in question (Cebi, 2013).

Wagner et al (2014) state that the quality of design in the concept of social commerce can be maximized by strengthening three important factors, namely usability, functionality, and sociability. Almost all online store websites in Indonesia have adopted the concept of social commerce, but have not maximized the development of their design quality, resulting in fierce competition among online stores. Several online store websites that use the social commerce concept are Kaskus Buy and Sell Forum (FJB), Facebook Discussion and Buy and Sell Forum, Instagram, Lazada, Bukalapak, Blibli, Shopee, JD ID, Tokopedia, and others. Currently, Tokopedia still ranks first as the *e-commerce* site with the social commerce concept that is most visited by Indonesian consumers, as shown in Figure 1 below.

Table 1. E-Commerce Map in Indonesia in 2022

Store Online	Visitors per Month	Ranking App Store	Ranking Play Store	Twitter	Instagram	Facebook	Number Employees
Tokopedia	153,639,700	2	4	174,300	903,260	5,829,100	1,917
Shopee	95,932,100	3	3	139,150	365,480	2,377,600	1,853
Bukalapak	38,882,000	1	1	41,120	1,101,070	13,246,900	1,717
Blibli	31,303,500	6	5	473,710	339,970	7,956,800	998

Source: iprice.co.id

The intense competition and large number of monthly visitors based on statistics from iprice.co.id show that *e-commerce* sites in Indonesia have quite high traffic. This is not surprising, given the ease with which people can access the internet anywhere and anytime. Social media also influences the table above because it has a *search engine* with a high ranking and is frequently accessed by internet users when searching for specific keywords (sis.binus.ac.id). This is supported by data obtained from the Indonesian Internet Service Providers Association (APJII). APJII states that the most frequently visited commercial content in 2018 was online shop content.

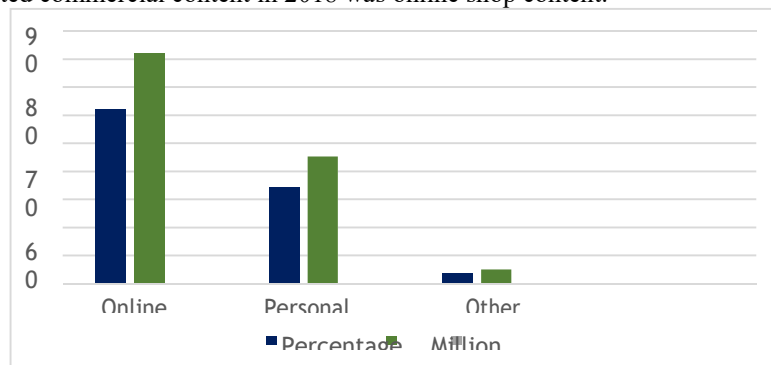


Figure 1. Commercial content frequently visited in Indonesia.

Source: isparmo.web.id

When visiting an online store website, consumers tend to pay attention to several things, including the credibility of the seller, the convenience of the online store website, and the ease of conducting online transactions. This can be supported by maximizing the quality of the online store website design so that it can increase interaction between consumers and sellers and the online store itself. Of course, this interaction has a strong connection in influencing purchasing decisions (Supardin, et al., 2022).

Previous literature reviews show that design quality can be achieved by addressing issues related to usability, functionality, and sociability factors. Quoting Wegner et al (2014), these three factors are key to strengthening the concept of social commerce for an online store website. Strengthening the design quality sector can have a positive effect on online store websites because consumers will feel comfortable, making it more likely that they will make a purchase (Supardin et al., 2022). When this happens, consumers will certainly spread this comfort through word of mouth to other consumers, thereby having a positive impact on the online store website.

The usability factor is related to the ease of use of the website, reduction of errors, and positive attitudes (Wagner et al., 2014). This has been proven to increase consumer intensity in purchasing a product as well as the level of system usage or the duration of access to an online store website (Lee and Kozar, 2012). According to Fernandez et al (2011), the usability factor is defined as the capacity of a software product to be easily understood, learned, operated, and attractive to use. Luna Nevarez & Hyman (2012) state that there are six attributes of the usability factor in design quality, namely content quality, navigation, textual information, advertising, social media support, and visual design. Online stores can make consumers feel comfortable if

they have sufficient usability factors in their design quality, which can indirectly provide benefits for the online store.

The functionality factor in the design quality of an online store website refers to functions that satisfy consumer needs in online shopping. Stefani and Xenos (2011) state that the functionality factor consists of several elements, such as suitability, accuracy, interoperability, and security. For example, good interoperability allows online store websites to integrate with other specific systems such as shipping services, payment methods, and official product websites. The security of consumer data must also be protected by online stores so that consumers feel comfortable shopping online.

Sociability is the final component of design quality (Huang and Benyoucef, 2015) that influences consumer interaction, consumer engagement, consumer confidence, and consumer purchasing decisions (Curty & Zhang, 2013). A high level of sociability can further enhance consumer interaction with sellers. Discussions among consumers on online websites can increase consumer comfort. In addition, the availability of chat features with *sellers* and *review* columns also increases the credibility of an online store. Consumers who feel comfortable because they feel served and receive good responses from *sellers* will be more likely to make purchases on these online websites.

Yadav et al (2013) state that the quality of design in online stores must focus on all stages of the decision-making process, not just the purchasing stage. Previous research conducted by Liang & Lai (2002) has developed the consumer decision-making process into 5 stages, namely product recognition, information search, evaluation, purchase, and post-purchase. These five stages will be the dimensions in this study.

Theoretical Framework

Usability Factor

The usability factor is one of the important factors of design quality to support the concept of social commerce (Hassanein & Head, 2007). According to Fernandez et al (2011), the usability factor is defined as software products that are intended to be understood, learned, operated, and attractive to users. Websites supported by competent usability factors will have their own advantages because they can make it easier for users to achieve their goals. Similarly, Venkantesh et al (2014) stated that by maximizing the usability factor, a website can work effectively, efficiently, and satisfactorily for its users in finding what they are looking for.

Functionality Factor

Functionality is a factor that refers to a set of functions and properties that meet user needs (Stefani & Xenos, 2011). The literature review also states that functionality has four characteristic qualities, including suitability, accuracy, interoperability, and security. According to Huang & Benyoucef (2017), the suitability characteristic describes access to available functions to complete user tasks. Accuracy relates to a website's ability to obtain the correct results with the required level of precision. A website that has spell check features, advanced search options, and accurate and fast search engines can increase user satisfaction. Interoperability in functionality refers to a system's ability to interact with one or more other systems.

Sociability Factor

According to Guo & Barnes (2011), sociability is an important factor in design quality that contributes significantly to the concept of social commerce. Research by Huang & Benyoucef (2017) explains that sociability factors consist of several attributes such as social community, sharing with others, social communication, participation, and electronic word of mouth. Another literature review by Yang *et al* (2015) states that consumer participation in a website is very important because it can enrich the content produced by consumers. Consumer participation in a website allows consumers to interact with each other, find new friends, obtain new information from others, and communicate directly while shopping online. In addition, the participation feature can be a prominent criterion for the performance of the website.

Purchase Decision-

According to Kotler & Keller (2016), the purchasing decision-making process consists of five stages, beginning with product awareness, information search, evaluation, purchase decision, and post-purchase. Consumers do not always go through all five stages because certain consumer behaviors may skip specific stages.

Product Awareness

When entering the product recognition stage, consumers tend to become aware of what they need. Consumer awareness is triggered by two signals: internal signals and external signals. Internal signals arise from normal human needs such as hunger and thirst, while external signals arise from the surrounding

environment and the media. Ultimately, these two signals lead consumers to consider making a purchase (Kotler & Keller, 2016). Therefore, the social environment of each consumer plays a significant role in influencing the product recognition stage (Yadav et al., 2013).

Search

Huang & Benyoucef (2017) explain that in the information search stage, consumers will seek information about their needs in order to make the right choice when making a purchase. According to Kotler & Keller (2016), there are four main sources of information for consumers, namely personal, commercial, public, and experiential. Each source has a different role in influencing each consumer. Next, consumers will compare all the information they have obtained and then review it. Yadav et al (2013) state that reviewing information obtained from sources will make it easier for consumers to make decisions.

Evaluation

The evaluation stage in purchasing decision-making according to Huang & Benyoucef (2017) is the stage when consumers review the information or alternative products they have obtained and then make a final decision to determine the best choice. When consumers are in the evaluation stage, they will consciously and rationally assess a product. Basic concepts are needed to carry out this process. According to Kotler & Keller (2016), there are three basic concepts for understanding the consumer evaluation process, namely the effort to meet needs, the search for specific benefits from the solutions offered, and viewing each product as a collection of attributes that have many benefits.

Purchase Decision

There are five consumer considerations in the purchasing process, namely brand, place of purchase, product quantity, timing, and payment method (Kotler & Keller, 2016). The environment greatly influences consumer behavior when considering these five factors. Kim et al (2011) also stated that emotional and social values are key to consumer behavior in the purchasing process. According to Huang & Benyoucef (2017), the purchasing stage is an activity of conducting the purchasing process to complete a transaction.

Post- s of Purchase

Post-purchase is the final stage in the purchasing decision process. After making a purchase, consumers will generally experience dissonance, where they will hear about the perceived advantages and benefits of other brands (Kotler & Keller, 2016). A well-designed online store should provide several features that support marketers in their efforts to convince consumers experiencing dissonance, thereby encouraging repeat purchases. There are several aspects of design quality that can influence the post-purchase dimension, including consumer discussion forums to discuss products that have been purchased, *order tracking status* that helps build consumer trust in sellers and online store websites, refund or product replacement policies in case of problems, and flexibility of related shipping services (Huang & Benyoucef, 2017).

The Relationship between Usability Factors and Purchase Decision Making

Huang & Benyoucef (2017) state that previous literature has proven that there are a number of features in the usefulness factor that have an impact on purchasing decisions. Another opinion from Liu et al (2013) says that the quality of information, visual appeal, and ease of use on a website can influence consumer emotions by triggering purchasing decisions. This is in line with the research by Pallud & Straub (2014), which states that consumer product recognition activities can be aided by the ease of use of navigation instructions in the utility factor. Similarly, Venkantesh (2014) states that the aesthetic design of a website can influence product recognition. Improving the quality of these factors can ease the cognitive load on consumers during the purchasing decision-making process. Not only during the product recognition stage, but consumers will also be assisted during the information search process. Huang & Benyoucef (2017) state that a high-quality website design can make it easier for consumers to search for information.

The above statement indicates that an online store website should have a user-friendly design. Nowadays, consumers can easily access anything they want through their gadgets, so usability has become the main gateway for consumers to shop online. Through a good *user interface* design integrated with adequate information, it is possible that this will stimulate consumer confidence in an online store website. According to Vila & Kuster (2011), when consumers are in the post-purchase stage, they may reconsider the features they encountered during the purchasing process. Consumers who are satisfied with their online shopping experience delivered by good usability may create positive word of mouth or make repeat purchases. Based on previous research, the author developed the following first hypothesis:

H1. Usability factors have a positive effect on purchasing decisions

The Relationship between Functionality Factors and Purchase Decision-

Huang & Benyoucef (2017) state that design quality must provide adequate support for functionality in order to help consumers meet their needs at every stage of the purchasing decision-making process. A

previous literature review by Liang & Lai (2002) states that the alternative evaluation stage in purchasing decisions can be influenced by price comparison features and the availability of pages displaying other consumers' comments on a website. According to Kim et al (2011), the purchasing stage can be triggered by the availability of ordering features, a variety of payment methods, and product delivery services. When an online store website has these services, it is not impossible for consumers to be motivated to engage in positive word-of-mouth activities. Vila & Kuster (2011) expressed a similar opinion, stating that the post-purchase stage can be influenced by emphasizing the functionality of the online store website. The functionality referred to is the flexibility of delivery services, order tracking, and product returns, which will increase consumer satisfaction.

Changes in consumer lifestyles due to *disruptive* technology and the industrial revolution 4.0 have led to new habits, namely the desire for instant and fast activities. Maximizing the functionality factor of design quality on online store websites can help overcome this and encourage consumers to make purchases. According to Shaouf et al (2016), robust functionality features will help consumers use online store websites more effectively. Stefain & Xenos (2011) explain that security is part of functionality. Improving transaction security and privacy features for personal data can influence consumer confidence when making purchases. Based on previous research, the author formulates the following hypothesis:

H2. Functionality factors have a positive effect on purchasing decisions

The relationship between sociability factors and purchasing decisions

According to Park & Lee (2009), the success of the social commerce concept is largely due to the role of sociability factors that provide social value to consumers. Supporting this opinion, Moham et al (2008) state that social value is closely related to word of mouth and consumer-generated content because both are powerful functions that can influence purchasing decisions. Enhancing the sociability factor in design quality through the development of online social communities can assist consumers in the stage of recognizing the products and services available on an online store website (Hajli in Huang & Benyoucef, 2017). According to Huang & Benyoucef (2017), consumer product recognition can also be aided by review functions, social recommendations, and product information sharing.

Social interaction between consumers and sellers on online store websites can increase consumers' knowledge and experience in selecting and filtering alternative evaluation stages in more detail (Coun et al., 2009). Social interaction can also be realized through various *platforms*. Creating chat applications, message boards, discussion forums, and general reviews can increase consumer engagement with online store websites, thereby enabling purchases to occur (Kim et al., 2011).

The creation of good design quality in terms of sociability also strengthens consumer confidence in both online stores and the *sellers* involved. Established consumer trust can have a positive effect when spread through word of mouth. Verhagen & Van Dolen (2011) also state the importance of discussion forums and online communities in the post-purchase stage because they can stimulate repeat purchases and create post-purchase branding strategies at the same time. Based on the above explanations, the author has formulated a hypothesis, namely:

H3. Sociability has a positive effect on purchasing decisions

Model Research

This research model is divided into two major parts, namely design quality and purchase decision making. Design quality consists of three factors, namely usability, functionality, and sociability, all of which are variables in this study (Huang & Benyoucef, 2017).

The purchase decision variable has five dimensions, including product recognition, information search, evaluation, purchase, and post-purchase (Kotler & Keller, 2016). This study aims to determine the influence of each design quality factor on purchase decisions so that online sellers or online *start-ups* can develop branding strategies to meet consumer desires and needs. The following is an illustration of the research model applied by the author.

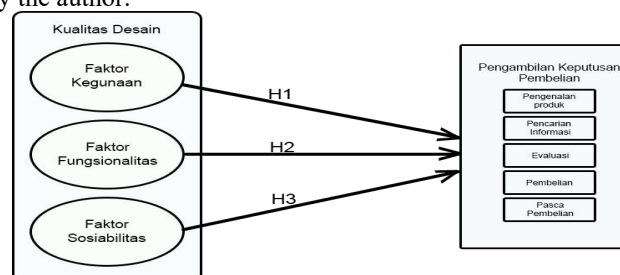


Figure 2. Research Model
Source: (Huang & Benyoucef, 2017)

Data Collection Method

This research is quantitative research using a survey data collection technique. Quantitative research is conducted based on data that is collected, processed, and presented as information that is meaningful for managerial and economic decision making (Kuncoro, 2011:3). Quantitative research attempts to measure something accurately (Cooper & Schlinder, 2014).

The population in this study is all Indonesian consumers who use mobile devices connected to the internet and have made purchases through online marketplaces, thereby directly experiencing search activities in online marketplace applications. If respondents do not use mobile devices to make purchases in online marketplace applications, it will be difficult and prone to bias when filling out the distributed questionnaire.

In this research, sampling was conducted using *non-probability sampling*, meaning that the samples in this research were not randomly selected by the researcher. The researcher used *purposive sampling* to collect research samples, where samples were taken according to certain criteria with the aim of obtaining samples with the desired characteristics (Cooper & Schindler, 2014). In this study, 195 respondents were sampled. The type of data used was primary data, and the data was collected using an online questionnaire.

The criteria for respondents in this study were that they were at least 16 years old, owned a mobile device, were able to make their own purchasing decisions in online stores, used online marketplace applications, made online purchases through online marketplace applications, used mobile devices such as smartphones, tablets, or laptops, and had made at least one purchase in the last six months. The six-month time limit was set so that the answers provided by respondents could accurately represent the current situation.

Hair et al (2010) state that a good sample size for a study is at least 5 to 10 times the number of indicators in the questionnaire. This study used 40 questions, which were then multiplied by 5, meaning that this study required a minimum of 200 respondents. Furthermore, to avoid the possibility of invalid data, the researcher set the sample size at 230, exceeding the minimum number of respondents required.

The respondents in this study were consumers who had purchased any type of product from an online store within the past year. The questionnaire was compiled using *Google Forms* and then distributed online through social media applications such as *WhatsApp*, *Line*, and *Instagram*. The table below shows the distribution of the profiles of the total 230 respondents in this study.

Table 2. Respondent Profile

No	Profile		Frequency	Percentage
1	Residence	Sleman Regency	112	48.69
		Yogyakarta City	77	33.47
		Bantul Regency	37	16.08
		Gunung Kidul Regency	3	1.30
		Kulonprogo Regency	1	0.43
2	Gender	Female	137	59.56%
		Male	93	40.43
3	Age	24-31	179	77.82%
		16-23	40	17.39%
		32-39	8	3.47%
		40-48	2	0.86
		>55	1	0.43
		48-55	0	0.00
4	Occupation	Students	112	48.69
		Operational Staff	50	21.73
		Professional	27	11.73%
		Entrepreneur	20	8.69
		Managerial Employees	14	6.08
		Housewives	7	3.04
		Bachelor's Degree/Equivalent	162	70.43

5	Highest Education	Master's Degree	30	13.04
		High School/Equivalent	30	13.04
		D1/D3	7	3.04
		Others	1	0.43%
6	Monthly Expenses	IDR 1,000,000–IDR 1,999,999	59	25.65
		Rp2,000,000–Rp2,999,999	54	23.47
		>Rp4,000,000	41	17.82%
		IDR 3,000,000–IDR 3,999,999	38	16.52
		Rp0–Rp999,999	38	16.52
7	Average Single Purchase Value Transactions	IDR 0–IDR 500,000	159	69.13%
		Rp500,000–Rp1,000,000	44	19.13
		>Rp.2,500,000	10	4.34%
		Rp1,000,000–Rp1,500,000	9	3.91
		IDR 1,500,000–IDR 2,000,000	6	2.60
		IDR 2,000,000–IDR 2,500,000	2	0.86%

Source: Primary data processed

The analysis method used in this study is *Structural Equation Modeling* (SEM), a multivariate technique that combines aspects of factor analysis and multiple regression to explain the relationships between variables measured simultaneously (Hair *et al.*, 2006:711). SEM is a multivariate technique for determining structural relationships and is used to assess how well the proposed model fits the results obtained from the collected data. The SEM analysis was conducted using *Analysis Moment of Structural* (AMOS) software version 23.

Table 3. Variables and Indicators

Variables	Indicators	Source
Usability Factor	FK1 I find the online store website easy to use.	Fernandez <i>et al.</i> , 2019 Huang & Benyoucef, 2017
	FK2 I find the online store page aesthetically pleasing.	
	UF3 I find the online store page to have well-organized content.	
	FK4 I find the information on the online store website easy to access.	
Functionality Factors	FF1 I feel that the online store page protects consumers' personal information.	Stefani (2011) Xenos (2011) Huang & Benyoucef, 2017
	FF2 I feel that online store websites provide several payment methods.	
	FF3 I feel that online store websites provide help features to explain things that consumers do not know.	
Sociability Factor	FS1 The online store page I accessed provides a feature that gives product recommendations.	Yang <i>et al.</i> , 2017 Huang & Benyoucef, 2017
	FS2 The online store page I accessed provides a feature for consumers to interact with each other.	
	FS3 The online store page I accessed provides an online discussion feature for sharing experiences and knowledge.	
al Purchase Decision Making	PKP1 The ease of use of the online store page helps me recognize products in the online store.	Huang & Benyoucef, 2017
	PKP2 Good navigation features help me recognize products in the online store.	
	PKP3 The product recommendation feature helps me identify products in the online store.	
	PKP4 Comprehensive information helps me search for products in online stores.	
	PKP5 Real-time social support features help me search for products in online stores.	
	PKP6 Fast and accurate search features help me search for products in online stores.	
	PKP7 Real-time social support features help me evaluate products in online stores.	

PKP8	Quality information helps me evaluate products in online stores.
PKP9	The availability of seller identity information helps me evaluate products in online stores.
PKP10	The aesthetic design of online stores encourages me to purchase products.
PKP11	The availability of useful information encourages me to purchase products in online stores.
PKP12	Well-organized content encourages me to purchase products in online stores.
PKP13	Good consumer information protection encourages me to purchase products in online stores.
PKP14	An easy-to-use online store page encourages me to make product purchases.
PKP15	The availability of a quick search feature encourages me to purchase products at online stores.
PKP16	Responsive sellers encourage me to make purchases at online stores.
PKP17	Flexible payment methods encourage me to make purchases at online stores.
PKP18	Product review features encourage me to make purchases at online stores.
PKP19	The irrelevant product return feature encourages me to engage in post-purchase activities at the online store.
PKP20	The consumer order tracking feature encourages me to engage in post-purchase activities at online stores.
PKP21	Online discussion forum features encourage me to engage in post-purchase activities at online stores.
PKP22	The product recommendation feature encourages me to engage in post-purchase activities at online stores.
PKP23	The consumer review feature engages me in post-purchase activities at online stores.

Source: Processed primary data

The questionnaire used for this study consists of three parts. The first part contains a brief introduction and profile of the researcher explaining the purpose and objectives of the research. The second part is about the identity of the respondents, including gender, age, occupation, domicile, monthly expenses, and average nominal expenditure per transaction. The third section covers the variables of Utility Factor (FK), Functionality Factor (FF), Sociability Factor (FS), Utilitarian Search (PU), Hedonic Search (PH), and Purchase Decision Making (PKP). The fourth section contains an expression of gratitude for the respondents' willingness to participate in this study.

3 Results and Discussion

The results of the data analysis show that the number of female respondents (64.5 percent) is greater than the number of male respondents (35.5 percent). The largest number of respondents were from Java (62.1 percent), followed by Sulawesi (20.7 percent). Most respondents (47.8 percent) opened the online marketplace application more than 10 times in the last six months, followed by respondents (7.2 percent) who only opened the online marketplace application three to four times in the last six months. In addition, Shopee is the online marketplace application most used by respondents to make online purchases, with a percentage of 73.8 percent, followed by Tokopedia (46.1 percent) and Lazada (18.0 percent). The mobile devices used by almost all respondents to access online marketplace applications are smartphones (96.1 percent), followed by laptops (3.0 percent). Most respondents had expenditures ranging from IDR 1,500,001 to IDR 2,500,000 (34.0 percent). Most respondents also had an average nominal expenditure in the range of IDR 150,001 to IDR 300,000 (54.2 percent).

Table 4. Bartlett's Sphericity Test and KMO

<i>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</i>		0.938
<i>Bartlett's Test of Sphericity</i>	<i>Approx. Chi-Square</i>	6014.524
	<i>df</i>	780
	<i>Sig.</i>	0

Source: Primary data processed

Based on the tests conducted above, the KMO MSA value shows good results with a value of 0.938, which is greater than the requirement of 0.5, so the variables in this study are considered valid. In addition, the Bartlett test with Chi-Square produced a value of 6014.524 and was significant at 0.000. It can be concluded that the items in this study can be further processed for factor analysis.

Table 5. Results of Rotated Component Matrix Factor Loading Measurement ^a

	Component			
	1	2	3	4
FK1			0.521	
FK2			0.595	
FK3			0.687	
FK4			0.532	
FK5			0.66	
FK6			0.73	
FK7			0.676	
FS2				0.806
FS3				0.663
FF1		0.555		
FF2		0.677		
FF3		0.756		
FF4		0.741		
FF5		0.669		
FF6		0.731		
PKP1	0.614			
PKP2	0.608			
PKP3	0.614			
PKP6	0.612			
PKP7	0.579			
PKP8	0.582			
PKP9	0.605			
PKP11	0.699			
PKP12	0.719			
PKP13	0.537			
PKP14	0.727			
PKP15	0.684			
PKP16	0.624			
PKP17	0.71			
PKP18	0.649			
PKP19	0.561			
PKP20	0.63			
PKP22	0.568			
PKP23	0.61			

Source: Primary data processed

The results of the *Loading Factor* measurement can be seen in the table above. There are several variable items that are insignificant and not correlated with the variables they represent. As stated in the table, variable items FS1, PKP5, PKP10, and PKP21 are not significant in this study. In addition, variable items FS4 and PKP4 are not grouped together with the variables they represent. Variable item FS4 is more correlated with the third factor, which belongs to the Utility Factor variable, while variable item PKP4 is more grouped with the second factor, which is the Functionality Factor variable. Therefore, these six variable items will not be included in further analysis. The table below summarizes the research instrument in the *factor loading* table above.

Based on Table 5, it can be seen that the items in the Utility Factor (FK), Functionality Factor (FF), Sociability Factor (FS), and Purchase Decision (PKP) are grouped according to their respective variables. It can be concluded that this research data meets the construct validity criteria, namely a value greater than 0.50, so it can be processed further.

Table 6. Summary of Loading Factor Measurement Results

No.	Variable	Statement Instrument
1	Utility Factor	FK1, FK2, FK3, FK4, FK5, FK6, FK7
2.	Sociability Factors	FS2, FS3
3.	Functionality Factors	FF1, FF2, FF3, FF4, FF5, FF6
4.	Decision Making Purchasing	PKP1, PKP2, PKP3, PKP6, PKP7, PKP8, PKP9, PKP11, PKP12, PKP13, PKP14, PKP15, PKP16, PKP17, PKP18, PKP19, PKP20, PKP22, PKP23

Source: Processed primary data

Cooper & Schindler (2014) state that reliability is a necessary contributor to validity, but reliability alone is not sufficient for validity. A measure is reliable when it produces consistent results. This reliability test is related to estimating the degree to which a measurement is unaffected by random errors or instability. The instruments used are robust and work well under different conditions and at different times. The purpose of conducting this reliability test is to determine the value of the questionnaire instrument, which is an indicator of a variable in providing similarity in measurement results or measurement consistency. A questionnaire will be considered reliable if the same results are obtained when the measurement is repeated.

Ghozali (2013) states that the requirement for a reliable questionnaire is that it has a *Cronbach's alpha* > 0.60. This reliability test will be conducted without including the six variables that were removed in the previous validity test. The table below shows the reliability test results for each variable.

Table 7. Reliability Test Results

Variable	<i>Cronbach's Alpha</i> Value	Description
Usability Factor	0.864	Reliable
Functionality Factor	0.857	Reliable
Sociability Factor	0.627	Reliable
Purchase Decision Making	0.953	Reliable

Source: Processed primary data

Descriptive statistics is a method related to the presentation of data sets and displays statistical summaries that aim to provide an overview of the data used in the study. The following table contains the descriptive statistics results for each variable in this study.

Table 8. Descriptive Statistics

	<i>N</i>	<i>Min</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Variance</i>
<i>SUM FK</i>	230	12	35	28.8913	4.15753	17,285
<i>SUM FS</i>	230	2	10	7.1261	1.73752	3,019
<i>SUM FF</i>	230	6	30	24.4435	3.61629	13,078
<i>SUM PKP</i>	230	21	95	78.2565	10.95562	120.026
<i>Valid N (listwise)</i>	230					

Source: Primary data processed

Referring to the table above, it can be seen that the Usability Factor variable has a minimum value of 12 and a maximum value of 35, with an average value of 28.89 and a standard deviation of 4.15. The Sociability Factor variable has a minimum value of 2 and a maximum value of 10, with an average value of 7.12 and a standard deviation of 1.73. The Functionality Factor variable has a minimum value of 6 and a maximum value of 30, with an average value of 24.44 and a standard deviation of 3.61. The Purchase Decision variable has a minimum value of 21 and a maximum value of 95 with an average value of 78.25 and a standard deviation of 10.95. Referring to the standard deviation values found in all variables, it can be concluded that the data obtained has a fairly high variation.

Table 9. Correlation Matrix between Variables

		Correlations			
		FK	FF	FS	PU
FK	Pearson Correlation	1	.278** 0.000	.514** 0.000	.698** 0.000
FF	Pearson Correlation	230	230	230	230
FS	Pearson Correlation	.278** 0.000	1	.286** 0.000	.395** 0.000
PU	Pearson Correlation	230	230	230	230
**. Correlation is significant at the 0.01 level (2-tailed).					
*. Correlation is significant at the 0.05 level (2-tailed).					

Source: Primary data processed

Based on the table above, the correlation values between the variables are positive overall. This means that an increase in one variable will result in a positive correlation with the variable being compared. The highest correlation is between the social environment variable and the utilitarian search variable, at 0.486. This indicates that these two variables have the strongest relationship. Meanwhile, the variable with the lowest correlation is the time perspective variable and the impulsive buying urge variable, which is 0.064. These results indicate that low correlations occur in variables that do not directly influence each other. Referring to the table above, it can be seen that all variables show a one-way correlation with a positive value. The variable of Usefulness Factor with Purchase Decision Making has the highest correlation value of 0.698. Meanwhile, the variable of Usefulness Factor with Sociability Factor has the lowest correlation value of 0.278.

The results of the *goodness of fit* test, which includes the influence of the usefulness factor, sociability factor, and functionality factor on purchasing decision-making, can be seen in the table below.

Table 10. Multiple Regression Model Results

Model Summary

Model	R	R Square	Adjusted R-Square	Standard Error of the Estimate
1	.779a	0.607	0.602	6.91174

a Predictors: (Constant), SUM FF, SUM FS, SUM FK

Source: Primary data processed

Table 11. Multiple Regression Model Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
1 (Constant)	9.738	3.704		2.629	0.009
SUM FK	1.276	0.13	0.484	9.832	0.00
SUM FS	1.056	0.278	0.167	3,799	0.000
SUM FF	0.988	0.15	0.326	6,603	0.00

a Dependent Variable: SUM PKP

Source: Processed primary data

Based on the table above, it can be seen that the *adjusted R²* value is 0.607. This means that the variations in the variables of Usefulness Factor (FK), Sociability Factor (FS), and Functionality Factor (FF) can explain 60.7 percent of the variations in the variable of Purchase Decision (PKP). Meanwhile, the remaining 39.3 percent of variation is explained by variables outside the research model. Furthermore, referring to the regression analysis results, the variables of Usefulness Factor (FK), Sociability Factor (FS), and Functionality Factor (FF) have a positive and significant effect on the variable of Purchase Decision (PKP) ($\beta_1 = 1.276$; $t_1 = 9.832$; $p < 0.05$; $\beta_2 = 1.056$; $t_2 = 3.799$; $p < 0.05$; $\beta_3 = 0.988$; $t_3 = 6.603$; $p < 0.05$).

Seeing the relatively small value of R^2 concludes that *the goodness of fit model* in this study is not yet optimal, especially since this study is closely related to human behavior, which is difficult to predict. Therefore, to complete the analysis of the accuracy of the model in this study, an F test was conducted. The table below shows the results of the F test.

Table 12. F Test Values with the Dependent Variable of Purchase Decision Making

Model	Sum of Square	df	Mean Square	F	Sig.
1 Regression	16689.356	3	5,563.119	116,451	.000b
Residual	10,796.509	226	47,772		
Total	27,485.865	229			

a Dependent Variable: SUM PKP

b Predictors: (Constant), SUM

FF, SUM FS, SUM FK

Source: Processed primary data

The table above shows that the Fcount value for the Purchase Decision variable is 116.451. Meanwhile, the Ftable calculation results in a figure of 8.5386 (calculated using the FINV function in Microsoft Excel). It can be concluded that $F_{\text{calculated}} > F_{\text{table}}$ and *the p-value* is lower than the significance level used in this study ($\mu = 0.05$), so the independent variables have a significant effect on the dependent variables in this research model.

Table 13. Hypothesis Testing Results

No	Parameter	Estimate	CR	Conclusion
1	The utility factor has a on purchasing decisions.	→ PKP	0.484	H1 Supported
2	Functionality factors have a positive effect on purchasing decisions purchase decisions	FF→ PKP	0.326	H2 Supported
3	Utility factors have a positive effect on purchasing decisions purchase decisions	FS→ PKP	0.167	H3 Supported

Source: Processed primary data

The results of this study indicate that the first hypothesis, namely that the Utility Factor has a positive effect on Purchase Decision Making, is supported. Based on the results of hypothesis testing in Table 13, it can be seen that the Utility Factor has a positive effect on Purchase Decision Making. This hypothesis is supported by a β value of 0.484 and a significance value of 0.000. The significance value obtained is less than 0.05, so it can be said that the Utility Factor has a significant effect on Purchase Decision Making.

The above hypothesis supports the results of previous research conducted by Huang and Benyoucef (2017), namely that the better the usability factors on an online store website, the higher the purchase decision will be. An online store that excels in ease of use and accessibility, contains quality information, has good content organization and design, capable navigation features, and good aesthetics can lead consumers to their goal of shopping online. Ease of use can help consumers who are accessing an online store for the first time when searching for a product, evaluating alternatives, and making purchases. In addition, an aesthetic design combined with good content organization can make consumers linger in an online store, so that purchasing decisions can be made more quickly. This also applies to the ease of access to information and the quality of the information contained therein. The easier it is for consumers to access quality information on an online store, the more knowledge they gain, which in turn influences their evaluation of alternatives and makes them feel comfortable about making a purchase. Meanwhile, a simple or unobtrusive design also provides comfort for consumers when accessing an online store. The comfort provided certainly influences consumers in spending time browsing the online store, making it easier to achieve what consumers aim for, which is making a purchase.

The above explanation is in line with what was stated by Liu et al (in Huang & Benyoucef, 2017), namely that elements of the usefulness factor, which include visual appeal or design and ease of use, are the

main determinants for consumers in making purchasing decisions. These findings can serve as a perspective for online stores in determining a more mature strategic direction to guide consumers towards making purchasing decisions.

The second hypothesis in this study is that the Functionality Factor has a positive effect on Purchase Decision Making.

Based on the results of hypothesis testing, the functionality factor has a positive effect on Purchase Decision Making. This hypothesis is supported by results showing that the β value obtained is 0.326 with a significance value of 0.000. The significance value obtained is less than 0.05, so it can be said that the Functionality Factor has a significant effect on Purchase Decision Making.

This hypothesis is in line with the results of research by Huang & Benyoucef (2017), which states that the better the functionality of an online store website, the more consumers will be encouraged to make purchases. The ability of an online store website to provide four functional characteristics, namely suitability, accuracy, interoperability, and security, has been proven to help consumers complete their online shopping activities with satisfaction. The more an online store website has these four characteristics, the higher the level of satisfaction and comfort consumers feel when browsing the online store. This increase can trigger online purchasing activities based on a sense of security, comfort, and satisfaction.

The results of this hypothesis are similar to those presented by Shaouf et al (2016), who stated that the good functionality of an online store makes consumers comfortable in interacting with the information and services available on it. Therefore, online store companies must also pay attention to the functionality of the system in order to increase consumer comfort so that purchasing decision-making activities, especially making purchases, can be easily achieved.

The third hypothesis in this study states that Sociability Factors have a positive effect on Purchase Decision Making. Based on the results of hypothesis testing, Sociability Factors have a positive effect on Purchase Decision Making. This hypothesis is supported by the regression analysis results, which show a β value of 0.167 and a significance value of 0.000. The significance value obtained is less than 0.05, so it can be said that the Sociability Factor has a significant effect on Purchase Decision Making.

The above hypothesis supports the research by Huang & Benyoucef (2017), which states that sociability has a significant impact on purchasing decisions. Current technological advances have successfully integrated a website with social features into a single platform. The social features in question are the availability of means for online interaction that allow consumers to interact with each other, share education and information, and participate in and conduct online word-of-mouth marketing. When consumers access online sites with good social features, product recognition and consumer evaluation activities will be easier to get through because various information has been provided by previous consumers. In addition, there is the possibility of online word-of-mouth, where consumers can share their experiences with other consumers, which can also trigger purchasing decisions.

In line with the above hypothesis, Constatinides (in Huang & Benyoucef, 2017) states that sharing experiences and information between consumers can bind consumers when they use the same services and applications. In addition, Yang et al (2015) also state that consumer participation that allows them to communicate directly when shopping online is crucial and important for online stores. Therefore, online store companies can consider creating a system with increasingly mature and reliable sociability factors. Through better sociability services, social activities in online stores can increase and influence consumer interest and attraction in using them.

4 Conclusion

The results of this study conclude as follows:

1. The application of the right usability factors on an online store website significantly influences consumer behavior in the purchasing decision-making process. Online stores that are easy to use, have an aesthetic yet simple design, organized content, easily accessible and high-quality information, and capable navigation will influence consumers' emotions by providing convenience at every stage of the purchasing decision-making process. In general, most online stores in Indonesia have a busy or crowded design, such as Bukalapak, Shopee, and Bilibli. Only Tokopedia seems to have a more concise homepage design compared to the three previous online stores. In addition, Tokopedia and Shopee also include product category content on the homepage in an attractive way, giving a good impression when first visited. Without realizing it, consumers will be helped in recognizing products and searching for information when faced with a comfortable design, good content arrangement, and good quality information. The next effect that arises is that it can trigger consumers to make purchasing decisions, so it is not impossible that positive word of mouth will spread. Other online

stores such as Bukalapak or Blibli would do well to consider modifying usability factors to resemble those implemented by Tokopedia and Shopee. Statistically, Tokopedia and Shopee rank first in terms of monthly visits and mobile app downloads.

2. The more an online store improves the functionality of its design, the higher the chance of consumers making a purchase. Supporting functions in the purchase decision stage, such as payment method options, online assistance, delivery service offers, and tracking information for purchased items, increase consumer confidence. The higher the level of confidence gained, the more it triggers a purchase decision. Several online stores such as Tokopedia, Bukalapak, Shopee, and Blibli have made the right decision by applying several payment methods in their transaction processes and providing shipping service options. However, uniquely, online assistance is only available on Blibli and Bukalapak. The security of consumer information also increases consumer trust in an online store because it is considered to protect matters related to their privacy. The four online stores mentioned above have a fairly good level of search accuracy, which helps ease the burden on consumers when searching for products. At the end of the purchase process, these four online stores also provide information on tracking the products purchased by consumers. This openness of information also increases consumer confidence in online stores and generates positive word of mouth among other potential consumers.

3. The sociability factor in the quality of online store design plays an important role in influencing consumer purchasing decisions. The availability of social features such as discussion forums and reviews on an online store can increase consumer knowledge when they are in the product introduction, information search, and alternative evaluation stages. In addition, the availability of services for interaction between consumers and sellers also increases consumer trust in the seller and the online store concerned. The importance of these features has been implemented by Tokopedia, Bukalapak, Shopee, and Blibli, which provide chat features with sellers. In this regard, every online store should pay attention to the responsiveness of its sellers, because if many sellers have slow or poor responses, it can tarnish the image of the online store. Focusing on interactions between consumers, Tokopedia is the only one that provides this function through its product discussion feature. Furthermore, the opinions and experiences of other consumers can be a reference for consumers to decide to make a purchase. This is in line with Verhagen & Van Dolen (2011), who stated that repeat purchase behavior can be stimulated by the existence of discussion features and online communities. Consumers who already have a high level of trust in online stores can spread the word to their peers both online and offline. Therefore, the more online stores improve the quality and service of their sociability factors, the higher the chance of influencing consumer purchasing decisions, especially at the purchasing stage.

The managerial implications of this research related to marketing strategy are as follows:

1. Today's consumers tend to be more critical of what they feel. Not only that, but issues related to consumer perceptions spread very quickly. Therefore, consumers' first impression of an online store will definitely be based on what they see first. In this case, an aesthetic and attractive design, ease of use of the website, and quality of information should be the focus to attract consumers when they first visit an online store's website. There is nothing wrong with online stores improving the quality of these three components. Changing the color theme is a potential way to improve consumer comfort when browsing the online store. Online store companies should compromise on the idealism of the current color and design concepts if they feel that these make consumers uncomfortable. Furthermore, online store companies also need to emphasize the ease of use of their systems for consumers. Online store companies that have systems with complicated operations can minimize the flow of programs on their online store websites. Finally, online store companies can combine the above with well-organized content in order to give a positive first impression and make consumers want to stay longer on the site.

2. Many online stores currently offer several functional services but have not maximized their application. Some things that online store companies need to emphasize are ensuring the availability of various payment methods, shipping services, consumer order tracking information, and direct assistance services. Currently, there are several online stores that offer multiple payment methods, but in the future, it is hoped that payment method features can be further integrated with the systems that consumers currently use on a daily basis. Furthermore, online store companies must ensure that their shipping facilities are able to accommodate consumers throughout Indonesia.

This must be supported by a feature that allows consumers to track their paid orders. Currently, only a few online stores have implemented this feature. The implementation of these features can foster consumer trust and encourage consumers to make purchases. Finally, it is common but very important to provide direct assistance to consumers who experience difficulties in operating online stores. Online store companies can provide online administrators with chat media on their websites to accommodate this. When consumers feel enlightened, there will be many positive effects for the online store itself.

3. Currently, consumers can access information anywhere and anytime using their devices. Positive or negative information can quickly change consumers' mindsets regardless of whether the information is true or not. Referring to such consumer habits, online stores should pay attention to several things related to social functions in order to anticipate negative word of mouth that could be detrimental. Providing communication or interaction features between consumers and sellers is one solution. Through these features, consumers can evaluate everything related to the product or assess the seller's behavior so that consumers will make purchases based on satisfaction and trust. Another thing is to provide a discussion forum for consumers on the online store website. This online discussion forum is intended to assess the quality of the seller's service so that the information contained therein is expected to be useful for consumers who are about to shop online. Furthermore, providing product recommendation features should be prioritized by online store companies. This feature greatly helps consumers in evaluating a product and its seller. This also has a positive effect on the quality of the online store itself. Finally, if possible, online store companies should involve their consumers in providing input related to evaluation and system development to become even better.

Some limitations in this research are as follows:

1. This study generalizes product categories for consumers in the sense that it does not focus on a specific product category that is highlighted as a reference for filling out the questionnaire. This is because the focus of the study is on consumer behavior in making purchasing decisions at an online store.
2. The questionnaire was distributed online, so there was a possibility of multiple responses from a single individual, which could cause bias in the research.
3. The rapid development of technology and information in Indonesia may cause the topics and managerial implications in this study to become less relevant. It is possible that online stores have realized this at the same time this study was being conducted.

The directions for future research are as follows:

1. Subsequent research could add product categories as research subjects so that the element of generalization can be reduced with more specific subjects.
2. In future research, it is advisable to distribute questionnaires to more targeted respondents, meaning that researchers know that the respondents truly meet the criteria required in the research.
3. For future research, it is hoped that the research can be completed in the shortest possible time to anticipate the rapid advancement of technology and information in Indonesia, so that the research results are still relevant to the actual situation.

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