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An Effective Model to Measure Gamification Implementation to Improve Customers' Interest in Using E-Commerce Systems under the Pandemics

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Abstract. The rapid growth of the Information System Technology in recent year reflecting on online business especially e-Commerce marketplace. Study case in Indonesia, has 238 million population as the fourth largest developing country in the world with total internet users around 28.07 million people transacted to meet their needs through e-commerce. As a result of a pandemic, various e-Commerce services have implemented several strategies to compete and survive in pandemic situation considering that several countries in Southeast Asia are experiencing decreasing economic growth. one of the strategies by implemented the gamification concept which is expected to change human behavior by increasing motivation, engagement and loyalty. Therefore, this study aims to determine what dimensions affect the use of the e-Commerce application from the results of measuring the success of its implementation especially the gamification concept. The proposed model in this research combines Information System Success Model with adding advertising and trust construct. It tested by structural equation model - partial least square using SmartPLS software. It conducts using online questionnaire with a total of 469 Shopee user respondent who have transacted or non-transactions by distributing google form questionnaires online through social media in the Indonesia capital city. The model is compatible for predicting the intention to use the e-Commerce system in Indonesia. The result shows the dimension for intention to use e-Commerce system are system quality, advertising quality, and service quality. The findings also indicate intention to use which will affect use dimension are influenced by system quality and service quality in this study have a major impact that can affect the use of the e-Commerce system so that it can compete with other e-Commerce by paying attention to it. This study provides theoretical findings to encourage business strategies in the field of e-Commerce, especially during a pandemic and enhance the measuring information system success using modified Information System Success Model that has never been done by other researchers.

Keywords: E-Commerce, DeLone & McLean, Service Quality, System Quality, Intention to Use, trust e-Commerce, gamification.

1. Introduction

In recent years, information system technology has made businesses grow rapidly, such as a business in online commerce called the E-commerce marketplace and is considered very profitable for its users because it allows sellers to carry out selling and buying process with buyers. (Laudon & Laudon, 2011). E-commerce marketplace defined as an online mediator designed to build b2c relationships and facilitate transactions between them and managed by an e-marketplace provider (Wong H. H., 2010).

Taking the case of Indonesia, which is the country with the 15th largest economy in the world and the fourth largest in East Asia after China, Japan and South Korea. Its domestic market is one of the drivers of Indonesia's economic success. Currently, Indonesia with a population of 238 million is the fourth largest developing country in the world (Medina, 2020). The e-commerce industry in Indonesia promises many foreign investors to start their business in the country because it is developing towards a digital world, densely populated, and infrastructure development continues to increase. although the country is categorized as a developing country, it has more than 130 million internet users and a growing consumer market due to the ever-increasing accessibility of the mobile internet. From all of the total internet users, around 28.07 million people transacted to meet their needs through e-commerce. According to the results of Wearesocial, people are more interested in the fashion category, followed by travel, hobbies, furniture, electronics, video games, food, and digital music (Simon, 2018).

In fact, many people in Indonesia are looking to e-commerce platforms during the COVID-19 pandemic, and most of them will continue to spend money online. Users in Indonesia have differences characteristic when using an e-commerce. Users may use e-commerce to look for goods in online shops, to compare product prices, and to buy or sell products. Therefore, suitable facilities for e-commerce users are an important factor (Garrigs, 2010). However, the last quarter of the year had several large-scale events meant for eCommerce merchants to drive sales by offering promotions and discounts to consumers and this could grab the attention of its users (Tan, 2019). For example, a more developed country like Singapore has experienced decreasing economic growth (ASEAN Secretariat, 2020). In order to curtail the spread of the virus, there have been many changes to the way people live and how they conduct business. This has created a sudden and dramatic change in consumer behavior, with more consumers turning to online shopping. They believe the volume of orders tends to increase this causes packages late to delivery to consumer and poor service quality can cause cancellations (Leong & Yim, 2020).

The pandemic known around the world as COVID-19 has led to unprecedented

economic and public health concerns, which will likely transform how businesses operate going forward. This transformation will be limited not only to how businesses operate but also to how they sustain and grow their brand and customer base (DiResta, 2020). According to data released by the ASEAN Community Relations Division (ASEAN Secretariat, 2020), several large countries in ASEAN experienced decreasing in economic growth. Taking the case from Singapore, one of the developed countries in ASEAN, they are targeting growth in 2020 to increase by 1.5% but due to the pandemic it becomes 0.5%. Unlike Indonesia, they have decreasing economic growth of up to minus 5%, which was initially targeted to grow by around 5% this year.

As a result of a pandemic, such as the case example that has been described, the e-Commerce marketplace service provider must adjust to customer behavior during the pandemic. Even though this situation was the worst ever, they should make good use of it. E-commerce providers must encourage their strategy to implement the right information technology to provide excellence services to their customers.

Nowadays, e-Commerce sites have used several methods to gain customer's attention. Another method is the implementation of gamification features in e-Commerce sites or their application. E-Commerce such as Lazada and Shopee have implemented the gamification concept in various Southeast Asia states such as Indonesia, Malaysia, dan Taiwan (SEA Group, 2015), (Lazada Group, 2012). In order to ensure a unique e-commerce experience to achieve a competitive advantage and make its customers feel comfortable with an e-Commerce system with a game concept in a pandemic that causes them to limit their movements. Gamification, although not an entirely new concept, has experienced significant growth in popularity in recent years (Nah & Tan, 2017). Since gamification makes shopping more attractive and can change human behavior by increasing motivation, engagement and loyalty, retailers have begun to enhance the online customer experience and is it still effective during a pandemic? considering the implementation of this concept needs to require a lot of resources (Lucassen, 2014) (Harword, 2015). Despite this apparent growing relevance, there is no literature available that identifies the level of gamification adoption that has been implemented

Therefore, in Information Systems, an important indication of a successful system is the use of the system. Although a system that is used for a long time or the number of users is large or heavy does not guarantee that this system is successful, but a system that is not used does guarantee failure (Delone & McLean, 2003). The intention to use and the problem of using the system have become the main concern faced by all e-commerce marketplace businesses.

Moreover, Important indications of a successful system include system usage. Although prolonged use or a large or large number of users does not guarantee that a system is successful, an unused system does not guarantee failure (Delone &

McLean, 2003). There are many studies that have been done in order to identify the various factors for the success of e-commerce or to determine the cause to use e-Commerce, for example (Samsuri & Brohi, 2018), (Wang, 2007), (Betty & Sfenrianto, 2020) Thanks to the indication of system use, the organization knows the level of user satisfaction in terms of system quality, service quality and information quality are the main focus factors for supporting its users when shopping at an E-commerce marketplace In order to compete, they are required to develop a better level of quality in terms of services, information or systems (S. Dakduk & Horst, 2017) to serve their customers.

Therefore, this study aims to determine what factors influence the use of the E-commerce marketplace application by customers using (Delone & McLean, 2003) in order to know and explain what dimensions affect using the e-Commerce application that implemented gamification concept from the results of measuring success its implementation. The benefits and contributions of this research are for the e-Commerce service providers to focus on dimensions that can influence the use of the e-Commerce system and increase competitiveness among competitors then knowing how effective the gamification concept from the dimension from (Delone & McLean, 2003).

Based on this explanation, we propose a combining model (Delone & McLean, 2003) to measure information system of e-Commerce by adding the trust and advertising construct. We are very sure that this model can be applied not only to e-Commerce but other information systems because the model in research combining (Delone & McLean, 2003) and has been adapted to the current phenomenon as previously explained. Researcher (Betty & Sfenrianto, 2020), (Hsu, 2014), (Lee & Chung, 2009) has conducted research using (Delone & McLean, 2003) about the factors that influence the intention to use or use the information system to support the success of the information system. This is in line with (Pengnate, 2017) trust is part of the information system. Websites can generate cognitive-based trust primarily through vendor attributes, such as reliability, familiarity, and professional credentials. (Shiau, 2012) In his research, trust was able to play a good role in describing the phenomenon of using information systems and has a significant positive effect on User Satisfaction. The advertising construct is added because of the intense competition in the e-commerce business, various strategies are carried out (Safrezi, 2019). Advertising provides attractive offers that are given to its users, there will be an interest in owning and an inner drive, then there will be an interest in buying consumers to own and buy products (Kotler & Armstrong, 2017). Study in (Martins, How Smartphone Advertising Influences Consumers' Purhcase Intention, 2018) verify the advertising value can affected customer purchase intentions of a product. Why advertising? The pandemic known around the world as COVID-19 has led to unprecedented economic and public health concerns, which will likely transform how businesses operate going forward. This transformation

will be limited not only to how businesses operate but also to how they sustain and grow their brand and customer base. Central to this concern is how businesses attract consumers and promote their products and services. A business' advertising, marketing campaigns and promotional practices will be a core focus of its ability to thrive in the future (DiResta, 2020) because relatively people take advantage of online shopping (Garrigs, 2010). This research will be conducted on e-Commerce users will focus on the scope of Greater Jakarta and use (Delone & McLean, 2003).

2. Related Works

E-commerce marketplace defined as an online mediator designed to build b2c relationships and facilitate transactions between them and managed by an e-marketplace provider (Wong H. H., 2010). The e-commerce marketplace is considered very profitable for its users because it allows buyers to interact with sellers, make it easier for buyers who want an item without having to go somewhere to buy it (Laudon K. C., 2014). Thanks to the indication of system use, the organization can know the level of user satisfaction. (Alencia, 2018) explains system quality, service quality and information quality are the main focus factors to support users when shopping at an e-commerce marketplace. Moreover, Gamification concept known as gamification is the use of game design elements in nongame contexts (Lucassen, 2014).

We offer a research model that comes from (Delone & Mclean, 1992) was first introduced in 1992. According to DeLone and McLean, measuring success is important to be able to determine the value of the steps taken in information system management and information system investment. DeLone and McLean developed a model named the DeLone and McLean Information Systems success model. The factors or components of measuring the success of the Information System from this model are quality of system, quality of information, user satisfaction, use, and individual impact (Delone & Mclean, 1992). This success model based on processes and causal relationships from the dimensions of the model. The variable consists of system quality, information quality, use, user satisfaction, individual impact, and organizational impact.

Many researchers have conducted a study to identify the factors that lead to the success of information technology systems. One of the well-known research study is by DeLone and McLean is the Delone and Mclean Information Systems Success Model. Then, the DeLone and McLean models are widely used by researchers to conduct research related to information systems. Delone and McLean in 1992 developed a model they called the information system success model (Delone & Mclean, 1992).

Then the (Delone & Mclean, 1992) model experienced additions and improvements by adding several variables. In 2003, DeLone and McLean added variables to the previous model (Delone & Mclean, 1992) to address the changing

management needs and growth of e-Commerce (Delone & McLean, 2003). The model was developed with various inputs received by DeLone and McLean so as to produce a new model written in their research, namely DeLone and McLean Information Success Model; A Ten Year Update (Delone & McLean, 2003) the variables are system quality, information quality, service quality, use, user satisfaction, and net benefits. The differences between The Updated D&M IS Success (Delone & McLean, 2003) with the previous model located in the dimension of adding service quality as a new dimension for the success of information systems. It is combining all impact measures into one called net benefit. This success model is based on processes and causal relationships from the dimensions of the model and does not measure the six dimensions of measuring the success of information systems independently but measures entire dimension, affecting each other. The six dimensions of the (Delone & McLean, 2003) can be applied to the e-commerce environment are as follows:

System Quality

The quality of the system in an e-Commerce system is the quality between hardware and software in e-Commerce system. The performance of the system, which refers to how well the capabilities of the software, hardware, procedures, policies of the information system provide to user needs (Delone & McLean, 2003). In the e-commerce, characteristics that can be measure such as usability, availability, adaptability, and response time (e.g., download time) are examples of qualities that are valued by e-commerce users (Delone & Mclean, 2004).

Information Quality

Information Quality specifically in the e-Commerce system is content contained in the system. The content must be well visible, provide complete, relevant, easy to understand and secure information. Information Quality can be measured based on accuracy, timeliness, ease of understanding, completeness, relevance, security, and consistency (Delone & McLean, 2003), (Delone & Mclean, 2004).

Service Quality

Quality of service in e-Commerce is a service provided by the system to users, either directly or indirectly. It Can be measured by responsiveness, accuracy, reliability, technical competence, and empathy from assurance, empathy, and following-up service members as well as how effective online support capabilities are, such as answers to frequently asked questions, customized site intelligence, and order tracking (Delone & Mclean, 2004) (Petter, DeLone, & McLean, 2008).

Intention to Use and Use

Intention to Use is an attitude or interest in someone wanting to use a system while Use is a behavior in the use of the system by the User (Petter, DeLone, & McLean, 2008), the level of use will discuss the level and ways in which users take advantage of the capabilities of an information system, for example the level of the

number of uses, the level of frequency of use, and the level of usage needs. These measurements range from visits to Web sites and navigation within the site to information retrieval and execution of transactions. Use can be measured based on Nature of Use, Navigation patterns, Number of Visits, Number of Transaction executed (Delone & McLean, 2003). Intention to Use can be measured by the influence potential users receive on how often they use it (Tao, 2009). Other researchers suggest the need to examine use from perspectives at the individual and organizational levels to allow a better understanding of these constructs (BURTON-JONES A, 2007).

User Satisfaction

User satisfaction system defined as an attitude and feedback from the user after using the information system (Petter, DeLone, & McLean, 2008) and measuring customer opinion about the e-commerce system. This covers the entire cycle and experience or customer behavior using the application, starting from information retrieval through purchases, payments, receipts, and overall services. User Satisfaction can be measured based on Repeat Purchases, Repeat Visits, and User Surveys (Delone & McLean, 2003)

Net Benefit

The positive and negative impacts of e-commerce are felt by customers, suppliers, employees, organizations, markets, industry, economy, and even the surrounding environment. It can be measured by Cost Savings, Expended Markets, Incremental additional sales, Reduce search costs, and Time savings (Delone & McLean, 2003).

Previous Research Comparison

In the study (Samsuri & Brohi, 2018) explains that influence the success of e-commerce among Malaysian consumers. The researcher modified the (Delone & McLean, 2003) by inserting 2 additional variables, namely, Privacy and Trust. The main findings from the overall results of this study are system, service, privacy, trust variable affecting the success of e-commerce and has significant effect.

Next, (Yakubu & Dasuki, 2018) the result of this study is that the relation between information and system quality on intention to use is significant. Likewise, the factor of service quality on user satisfaction rs significant, user satisfaction and behavioral intentions on actual use have a significant effect.

Then, (Ali, Rasool, & Pathania, 2017) with his research trying to test the role of each critical success factor as suggested by (Delone & McLean, 2003) the success in the e-commerce platform. The result is information, service, system quality, user satisfaction, net benefit and usage are the most crucial factors for the success in any e-commerce platform. Researcher, (Costa, 2018) explain advertising value, flow experience, web design quality, and brand awareness are affecting the purchase intention. The conclusion of this study is to provide results that allow e-Commerce market players the dimension or the factor that influence customer using the e-Commerce application system in this pandemic situation and to measure how

effective the gamification concept for their system, is it help to influence their customer?

3. Result and Discussion

3.1. Data and Sources

This study used primary data using a questionnaire obtained through WhatsApp, Line, Facebook, Instagram and others in densely populated areas in the Indonesian capital city to explore more specific information about the description of cause to use e-Commerce conducted for users of e- Commerce marketplace who has made transactions or non-transactions. Research model and variables used were adopted from the (Delone & McLean, 2003) which was tested using one of the Smart-PLS 3.0 software. To determine the sample from biggest e-Commerce population in Indonesia using slovin formula with an error of 5% and the minimum sample that must be obtained is 400 respondents.

3.2. Data Collection Technique

Data collection was carried out through a questionnaire which will be distributed through online surveys via social media to users of e- Commerce marketplace who has made transactions or non-transactions in Indonesia capital city. The measurement scale used in the questionnaire is Likert 1-5, the used scale is:

(1) Strongly Disagree
(2) Disagree
(3) Neutral
(4) Agree
(5) Strongly Agree.

3.3. Proposed Model and Variable Identification

Proposed Research model in figure 6 based on (Delone & McLean, 2003) with the additional construct of trust and advertising which can be applied to measure e-commerce success environment as follows:

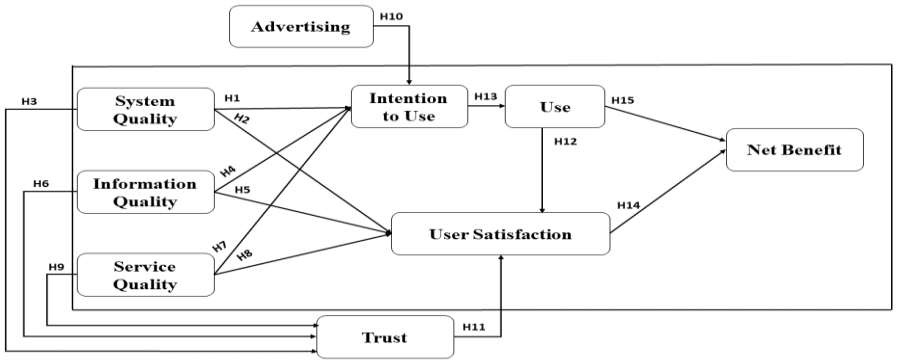

Fig.1: Proposed research model.

The dimensions variable used to find out the factors affecting intention to use using e-Commerce are shown in table 1.

Table 1: Research indicators

Variabel	Definition	Indicator	Sources
System Quality	The performance of the system to be able to provide user needs	Adaptability	(Delone & Mclean, 2004) (Delone & McLean, 2003)
		Availability	
		Reliability	
Information Quality	Output quality in the form of information generated by the system used.	Completeness	(Delone & Mclean, 2004)
		Ease of Understanding	
		Relevance	
		Accuracy	
Service Quality	Identify the level of services quality using technology in helping to solve problems	Assurance	(Delone & McLean, 2003)
		Empathy	
		Responsiveness	
Use	User behavior towards the technology used	Frequency of Use	(Delone & McLean, 2003)
		Navigation Patterns	
		Number of Transaction Executed	
		Repeat Visits	
User Satisfaction	identify the user satisfaction with the use of technology	Repeat Purchases	(Delone & McLean, 2003) , (Seddon, 1992)
		Repeat Usage	
		Effectiveness	
		Efficiency	
Net benefit	The benefits felt by users using a technology	Time Savings	(Delone & McLean,
		Usefulness	

		Reputation	2003), (Chien, 2007), (Livari, 2005)
Trust	User trust in the system used	Application is Secure	(Hsu, 2014)
		Application is Trustworthy	
		Product is trustworthy	
Intention to Use	Interest in using the application	motivate	(Davis,, 1989), (Taylor, 1995), (Teo, 2014), (Walton & Johnston, 2018)
		Consistency	
		Behavioral Intention to Use	
Advertising	the activity of producing advertisement for commercial products or services.	Entertainment	(Disastra, 2018), (Costa, 2018),
		Informative	
		Discount	
		Persuasion	

3.4. Purposed Hypothesis

Based on the conceptual framework of the influence between variables, a hypothesis is formulated as shown in Table 2.

Table 2: Hypothesis

No	Hypothesis	Description
1	Hypothesis 1 (H1)	System Quality Have an Impact on Intention to Use
2	Hypothesis 2 (H2)	System Quality Have an Impact on User Satisfaction
3	Hypothesis 3 (H3)	System Quality Have an Impact on Trust
4	Hypothesis 4 (H4)	Information Quality Have an Impact on

		Intention to Use
5	Hypothesis 5 (H5)	Information Quality Have an Impact on User Satisfaction
6	Hypothesis 6 (H6)	Information Quality Have an Impact on Trust
7	Hypothesis 7 (H7)	Service Quality Have an Impact on Intention to Use
8	Hypothesis 8 (H8)	Service Quality Have an Impact on User Satisfaction
9	Hypothesis 9 (H9)	Service Quality Have an Impact on Trust
10	Hypothesis 10 (H10)	Trust Have an Impact on User Satisfaction
11	Hypothesis 11 (H11)	Use Have an Impact on User Satisfaction
12	Hypothesis 12 (H12)	Intention to Use Have an Impact on Use
13	Hypothesis 13 (H13)	User Satisfaction Have an Impact on Net Benefit
14	Hypothesis 14 (H14)	Use Have an Impact on Net Benefit
15	Hypothesis 15 (H15)	Advertising Have an Impact on Intention to Use

3.5. Research Data Analysis Technique

In this study, the data collection method uses Non Probability Sampling. Then, the analytical method used is the PLS (Partial Least Square) method with a focus on examining the relationship between variables in the information system success model using the modified (Delone & McLean, 2003). This study uses SEM-PLS with basic reasons:

- Many related literature reviews use SEM PLS.
- It can test the suitability of a model and its hypothesis.
- It can test the relationship between variables in the model
- It can analyze cause and effect relationships between constructs

After getting the data, data analysis will be carried out. In this study, data analysis used Measurement Model (Outer Model) in validity and reliability tests to measure the validity and reliability of data to measure the validity, the Average Variance extracted (AVE) value should be 0.5 or more, which means that exogenous can explain 50% or more of the variance. (Wong K. K.-K., 2013). An indicator can pass the convergent validity test if the loading factor value is between 0.6-0.7 for exploratory research is still acceptable. (Latan & Ghozali, 2015). Then the reliability test was carried out using Cronbach's Alpha and Composite Reliability. To consider a good question, the reliability value between 0.6 and 0.7 then the construct can be category as good if the construct validity is also considered good

(Hair, Black, Babin, & Anderson, 2014). The Structural Model (Inner Model) is used to test the hypothesis. Researchers use the p-value to determine the level of significance in the relationship between one exogenous and another exogenous. The p- value must be ⩽0.05 for the relationship to be considered significant.

4. Result And Discussion

After the data were obtained from the questionnaire, data were tested for validity and reliability first before test the hypothesis to ensure the data are valid and reliable (Latan & Ghozali, 2015). Respondent data collected 469 respondents who have filled out the questionnaire in this study.

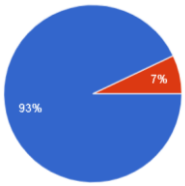

Fig. 2: Respondent Identification.

A total of 469 respondents filled in, there were 436 respondents (93%) who had used the e-Commerce application in Indonesia and 33 respondents (12%) who had never used the e-Commerce application. Respondent data in line with the scope of this study amounted to 436 and the remaining 33 were not used because they were not in accordance with the scope of this study.

Validity Test

Measurement of the model in the SEM-PLS method to test the validity of a variable by looking at the loading factor value of the latent variable with each indicator and the Average Variance Extracted (AVE) value. The results of data processing from the respondent data that have been collected using the SmartPLS tool can be seen below.

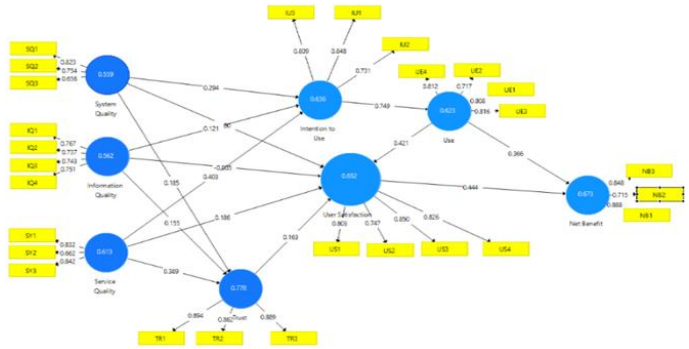

Fig. 3: Loading factors & AVE results in using SmartPLS.

Figure 3 shows the result of validity and reliability tests to find out valid and realizable items and invalid and non-reliable items with AVE above 0,5 and Loading factor above 0,6. The detail result describe in table 3.

Table 3: Validity test

Variable	Indicator	Loading Factor	AVE	Result
System Quality	SQ1	0,823	0,559	Valid
	SQ2	0,754		Valid
	SQ3	0,656		Valid
Information Quality	IQ1	0,767	0,562	Valid
	IQ2	0,737		Valid
	IQ3	0,743		Valid
	IQ4	0,751		Valid
Service Quality	SY1	0,832	0,613	Valid
	SY2	0,662		Valid
	SY3	0,842		Valid
Trust	TR1	0,894	0,778	Valid
	TR2	0,862		Valid
	TR3	0,889		Valid
Intention to Use	IU1	0,848	0,636	Valid
	IU2	0,731		Valid
	IU3	0,809		Valid

User Satisfaction	US1	0,803	0,652	Valid
	US2	0,747		Valid
	US3	0,850		Valid
	US4	0,826		Valid
Use	UE1	0,808	0,623	Valid
	UE2	0,717		Valid
	UE3	0,816		Valid
	UE4	0,812		Valid
Net Benefit	NB1	0,888	0,673	Valid
	NB2	0,715		Valid
	NB3	0,848		Valid

Reliability Test

Reliability test is needed to measure consistency in each statement complied in a questionnaire. It uses the Cronbach's alpha and composite reliability value. The minimum value is between 0.6-0.7 or above so the construct is good if the construct validity is also meet the minimum requirement (Hair, Black, Babin, & Anderson, 2014). Reliability test results can be seen in table 4.

Table 4: Reliability Test

	Cronbach's Alpha	Composite Reliability
Information Quality	0,740	0,837
Intention to Use	0,714	0,839
Net Benefit	0,754	0,860
Service Quality	0,678	0,824
System Quality	0,607	0,790
Trust	0,857	0,913
Use	0,797	0,868
User Satisfaction	0,822	0,882

Based on the table above, it is known that the Cronbach's Alpha value of each variable is greater than 0.6 and the composite reliability value of each variable is greater than 0.7, so it can be concluded that all variables used in this study can be said to be reliable.

Inner Model Structural Test

Furthermore, after the data is suitable for use, it analyzes the hypothesis. The acceptable hypothesis has a value above 0.05, then the hypothesis is rejected if a value below 0.05 means that the hypothesis is accepted. T-statistics and T-tables compared to find out whether the relationships between variables will be accepted or rejected as shown in table 5 bellow.

Table 5: Hypothesis test

Relationship	**T-Stat**	**P -Values**	Results
Information Quality -> Intention to Use	1,891	0,059	Rejected
Information Quality -> Trust_	2,439	< 0,05	Significant
Information Quality -> User Satisfaction	0,108	0,911	Rejected
Intention to Use -> Use	31,168	< 0,05	Significant
Service Quality_ -> Intention to Use	8,887	< 0,05	Significant
Service Quality_ -> Trust_	6,722	< 0,05	Significant
Service Quality_ -> User Satisfaction	3,261	< 0,05	Significant
System Quality -> Intention to Use	5,344	< 0,05	Significant
System Quality -> Trust_	3,051	< 0,05	Significant
System Quality -> User Satisfaction	3,679	< 0,05	Significant
Trust_ -> User Satisfaction	3,432	< 0,05	Significant
Use -> Net Benefit	6,440	< 0,05	Significant
Use -> User Satisfaction	7,527	< 0,05	Significant
User Satisfaction -> Net Benefit	7,831	< 0,05	Significant

The results of data processing in table 5 show that 2 of the 14 proposed hypotheses, namely that the intention to use is strongly influenced by 2 main factors as follows: System and service quality. As seen in table 5, H1, that is system quality affects intention to use or use shows that system quality could increase the number of e-Commerce users and this result is accordance with the study conducted by (Betty & Sfenrianto, 2020) the samples they use are online shop website users. In assessing the use variable in e-Commerce website, system quality implementation aims to develop their online shop website to provide a sense of comfort, convenience, and responsive in making transactions so buyers can make purchases

on a large scale to make transactions now and in the future on their website so that the level of use will increasing in the future. This finding has in common with (Delone & McLean, 2003) who are able to prove that the system quality has a positive significant effect to intention to use, meaning that users consider that the online marketing system (e-commerce) has a good quality system so that users want to use the system.

Hypothesis results H2, System Quality has a significant effect on User Satisfaction. The result obtained in line with the research (Sharkey & Scott, 2010) that there is a significant influence between system quality factors and user satisfaction in his research on the influence of quality on the success of e-commerce by measuring the quality of information and system quality attributes of the e-commerce system which are measured as reliability and download time of assets such as image or information load. in an e-commerce system with user satisfaction.

H3, System Quality has a significant effect on Trust. These findings are in line with research conducted by (Damabi, 2018) which states that the construct of system quality affects a person's trust in wanting to use a system, then trust can affect user satisfaction which makes users believe that the use or purchase of a product through e-commerce applications.

Then, Hypothesis H4 and H5 were rejected in this study because the statistic said the p-value was below 0.05 and the t-stat was less than 1.96. This finding differs from research (Sharkey & Scott, 2010). The results show that there is a significant influence between information quality and use on the use of e-commerce that the information quality factor, personalization has the strongest influence on Intention to Use. Respondents who rated the Personalization system strongly indicated an intention to return to the site. This implies increased awareness by the target market. The personalization feature in the online system will increase the number of returning visitors to the system or customer loyalty.

Hypothesis H6, Information Quality has a significant effect on Trust. These findings are in line with research conducted by oleh (Damabi, 2018) shows that Information Quality has a significant positive effect on trust, meaning that the quality of information presented by the online system (e-commerce) has a positive impact on the trust exercised by users about how their experience is using mobile apps.

Hypothesis H7, service quality affects the intention use or use, indicating that service quality can increase the number of system usage. Research conducted by (Chong, 2010)found that service quality is effects on attitudes or intentions to use a service or product. Those findings an organization should focus more on the quality of system, information, and service provided on website to be successful in student loan B2C. This effort will lead to a higher customer satisfaction and ultimately to a better performance.

Hypothesis H8, that Service Quality has a significant effect on User Satisfaction.

The results obtained are in line with the research conducted by (Dirgantari & Hidayat, 2020) said that the greater the success of the two variables, the greater the satisfaction of system users Then, the higher the user satisfaction will affect the use of the system.

H9, Service Quality has a significant effect on trust. The results obtained are in line with the research conducted by (Pham, 2020) that service quality has a relationship to (trust). In Web services, the quality of service has an influence on trust in the online environment. H10, Trust has a significant effect on User Satisfaction. The results obtained are in line with (Shiau, 2012) who found that there is a positive and significant relationship between trust and user satisfaction, meaning that trust in online marketing systems (e-commerce) has an important role in human behavior. When someone is faced with risks and cannot control the behavior of others, the importance of trust becomes clear, especially in the successful adoption of new technologies such as e-commerce.

H11, use variable has a significant effect on User Satisfaction. These findings are in line with (Dirgantari & Hidayat, 2020) said that there is a significant influence between usage and usage satisfaction which involves the quality of the e-commerce system and the use of the system positively influences consumer attitudes so that it is related to user satisfaction. H12, Intention to Use has a significant effect on Use. The above statement is in line with the research conducted by (Tao, 2009) found that the intention to use factor significantly predict actual use behavior.

H13, User Satisfaction has a significant effect on Net Benefit. These findings are in line with (Samsuri & Brohi, 2018) said that the more users use the more benefits they get, the higher the e-commerce user satisfaction and intention to reuse it. H14, Use has a significant effect on Net Benefit. These results are in line with research conducted by oleh (Ali, Rasool, & Pathania, 2017) said that the net benefits include the positive and negative impacts of e-commerce felt by its users so that if it has a positive impact it is possible to have the intention to visit again in the future.

Last hypothesis, which Advertising has a significant effect on Intention to use are accepted. advertising affect the intention-to-use by (Disastra, 2018) explained that to buy products through the e-Commerce application system, namely explaining that advertising has a significant effect on purchase intention. The study shows advertising effecting consumer perception. Therefore, companies must find a way to improve their advertising value in any media and attitude to increase purchase intention for user to use the application. benefit more, and privacy must be designed more securely. Third, the most important thing is to secure customer satisfaction. It was found that customer satisfaction gives great influence on use intention. Therefore, it is most important for financial companies to develop financial products with customer satisfaction in mind.

5. Conclusions

Answering the challenges that occur e-Commerce war is taking place in Indonesia, the authors have developed a comprehensive mode to measure the e-Commerce success in pandemic condition that combines the (Delone & McLean, 2003) with advertising and trust dimension that is compatible for finding the drivers of e-Commerce adoption in Indonesia. The results of data processing show that 3 of the 15 proposed hypotheses, namely that the intention to use is strongly influenced by 3 main factors, namely advertising, system quality and service quality. System Quality has a significant effect on Intention to Use, which means that most respondents measure the system from the suitability, availability, reliability, response time, and usability of the system. This mean the existence of the implementation of gamification in an e-Commerce today in terms of the system is going well and the system quality factor is one of the factors determining the customer of using an e-Commerce system

The use of the e-commerce information system is strongly influenced by several factors, where these factors are very dependent on the conditions and environment of the system being implemented. Service Quality has a significant effect on intention to use. The services provided in response to complaints and problems that arise due to abnormalities in the system and the user's lack of understanding quickly to the system affect the intention to use the system. We recommend that the developer develop a live chat feature in the system in order to shorten the handling time.

System Quality has a significant effect on Intention to Use, which means that most respondents measure the system from the suitability, availability, reliability, response time, and usability of the application system. However, there are some of them who feel that the application system is not running well and this needs to be a concern for application developers because it can reduce the results achieved this year. Respondents consider the e-commerce application system to affect interest in use because it can relate to the needs of its users, especially in the process of selling and purchasing a product and the concept of gamification so that it creates a sense of interest in using the system.

Then, information quality on the e-commerce system based on statistical testing has no effect to intention to use. This is cause by the intention to use is not due to the quality of the information but other factors that influence it such as the system quality of the gamification concept, services or the attractive offers offered. In conclusion the study shows that system quality, and service quality are affecting the user using biggest e-Commerce in Indonesia among several e-Commerce. The findings may give theoretical foundation for the parties concerned to develop strategies for increasing competitiveness and encouraging the competition in e-commerce. Then, the Intention to Use factor which is influenced by system quality and service quality in this study has a major impact which can affect the use of the e-Commerce system so that it can compete with other e-Commerce by paying

attention to these variable factors.

Advertising has a significant effect on Intention to Use, which means that the offering factor given to its users becomes a factor for buying a product through the e-commerce system. We recommend that the offers given be combined with the concept of gamification and improving the system quality each modules while information quality on the e-commerce system has no effect to intention to use. This is because the intention to use is not due to the quality of the information but other factors that influence it such as the system quality of the gamification concept, the services or the attractive offers offered.

In conclusion, it shows the advertising, quality of the system, and quality of the service are affecting user to uses e-Commerce in Indonesia among several e-Commerce. The findings provided by the study may give empirically justified foundation for the parties concerned to develop strategies for encouraging the competition in e-commerce. Then, the Intention to Use factor which is influenced by advertising, system quality and service quality in this study has a major impact which can affect the use of the e-Commerce system so that it can compete with other e-Commerce by paying attention to these variable factors.

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