ANALYSIS OF USING QUIZIZZ TO THE STUDENTS OF GRADE XII SMK N 1 SURABAYA USING THE TECHNOLOGY ACCEPTANCE MODEL

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Abstract

The use of learning aid media in this pandemic era is very much needed to support the running of online schools so that they run smoothly. One of the supporting media for the teaching and learning process is the Quizizz application. The purpose of this study was to analyze the understanding of the use of learning applications in secondary schools. This study adopts the Technology Acceptance Model (TAM) by incorporating perceived playfulness, perceived ease to use, perceived usefulness, and behavioral intention of use. The technique is based on probability sampling using the Slovein formula. This study involved 126 people from 178 populations from class XII OTKP who have uses Structural Equation Modeling - Partial Least Square (SEM PLS) through Smart PLS version 3. By using 2 PLS calculation models, namely the measurement model (outer model) and the structural model (inner model), these finding indicate that the perceived playfulness has positive insignificant effect on behavioral intention of use, perceived ease to use has negative insignificant effect on behavioral intention of use, perceived usefulness has significant positive effect on behavioral intention of use, and perceived ease to use has significant positive effect on behavioral intention of use by perceived usefulness. This study shows that perceived usefulness, perceived ease to use perceived playfulness are strong predictors of behavioral intention of use.

I. INTRODUCTION

The development of communication information at this time increases faster, both in the field of industry and in the field of education, to follow the development of digital that encourages the use of innovative, effective, and efficient learning media needed digital-based learning media to be utilized in an effort to improve student learning outcomes. Learning is a systematic and systemic process or activity that is interactive and communicative between educators (teachers) and students, learning resources, and the environment to create a condition that allows the occurrence of student learning actions. Therefore, the learning support media at this time is adapted to existing technology in order to help and facilitate students to learn a material. There are various ways and media during the teaching and learning process.

Based on a preliminary study conducted by researchers at SMK N 1 Surabaya, researchers used direct observations on the learning process of public relations and protocol subjects. Previous research conducted by [4] which stated that the more someone feels happy when using the application, the higher the intention of using the application again, but the results of this study are different, that the pleasure is not obtained when using the *Quizizz* application these results support previous researchers conducted by [20] who stated that not always when *gamers* play *online games* get pleasure. This research is supported by research from [3] which explains if a person feels the ease of using technology will be able to improve performance. Another study from [17] states that ease has a significant correlation to reusability desires.

Researchers chose the location of the study at SMKN 1 Surabaya because when the Introduction of School Environment (PLP) researchers learned that students at SMK N 1 Surabaya had used *quizizz* learning media, therefore researchers decided to conduct research at SMK N 1 Surabaya to analyze the use of the application. When delivering materials teachers use lecture methods and use board media and power *points,* so that the students are less interested and less attentive to the lessons in class. At the time of assignment and evaluation to measure the understanding of students by the teacher of public relations and protocol subjects, the teacher provides a

text for the evaluation media that is read at the end of the lesson makes students less excited in answering questions as evidenced when given questions students are just silent.

Therefore, the researcher conducted an interview to the teacher of PUBLIC RELATIONS and Protocol, he explained the main learning media used is a whiteboard and *power points* that are considered to help to make it easier to understand the lesson materials that have been taught by teachers. The reason for the selection of the entire class XII in this study is because class XII has used *quizizz* support application during public relations and protocol lessons from grade XI, so to know if this application is effective or not used as an evaluation medium. Many media that can be applied by teachers, one of which is educational *game-based* media can be used as an evaluation to measure students' understanding as long as students get the material that has been taught is learning media based on *quizizz* educational *games.* Classroom learning activities can be a boring activity for students if the learning evaluation is done by reading the text in the board or in the package book, so teachers can use varied learning media to be more attractive to students.

Based on the background outlined above, then this study aims to analyze the use of *Quizizz* as an evaluation media in class XII SMK N 1 Surabaya using Technology Acceptance *Model* (*TAM*), by measuring whether *perceived playfulness* has a significant positive effect on behavioral intention of *use,* whether *perceived ease to use* has a significant positive effect on behavioral intention of *use,* whether *perceived usefulness* has a significant positive effect on behavioral *intentions of use,* and whether *perceived ease to use* has a significant positive effect on behavioral intention of *use* through *perceived usefulness* selection technology Acceptance *Model* (*TAM)* as a research model is considered appropriate researchers to analyze the acceptance of the use of *quiziz* application because Technology *Acceptance Model* (*TAM)* is the most common theory used in measuring the behavior of one's acceptance of certain information systems or technologies. This model aims to explain the key factors of information technology users' behavior towards acceptance of the adoption of such information technology[2]. *Technology Acceptance Model* (*TAM)* theorizes that a person's intention to use the system or technology is determined by two factors namely usefulness (*perceived usefulness)* and ease of use (*perceived ease to use*).

By testing the influence of pleasure perception (*PP*), perception of ease (*PEOU*), perception of ease (*PEOU*) through the perception of usefulness (*PU)* to the intention of using behavior (*BIOU*). A study entitled the influence of usability perception, ease perception, and pleasure perception of the intention of using is done by [4] proving that the intention of the

user's behavior to adopt new technology is determined by the perception of benefits and perception of the ease of use of the technology. The perception of pleasure in the use of researched technology is also part of several models that have been applied in the theory *of Technology Acceptance Model* (*TAM)* to explore the adoption of such technology.

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II. LIBRARY REVIEW
2.1. *Technology Acceptance Model (TAM)*

Technology Acceptance Model (TAM), introduced by Davis in 1986 is an adaptation of *Theory of Reasoned Action (TRA)*which is devoted to modeling user *acceptance* of technology. This model was redeveloped by several researchers such as [5], [6] and [3]. This model shows that user behavior is directly determined by the user's attitude and perception of usability. User attitudes are considered significantly influenced by two main beliefs, perception of usability*(PU)*and perception of ease of use*(PEOU)*and that such beliefs act as mediators between external variables (e.g. design features, usage, and prior experience and pleasure in the use of technology) and the intention to use further, *TAM* theorizes that PEOU directly *affects BIOU* through *PU[* 3].

Using insights from the above study, these researchers conceptualized the *TAM* framework that was applied to the *Quizizz app*. The research model uses the original construction technology acceptance *model (TAM)*: perceived usefulness, ease of use, intention to use. Additional construction is incorporated into the model: perceived pleasure.

2.2. *Perceived Playfulness (PP)*

According to [3] *perceived playfulness* is the assumption that activities in using a system can be enjoyable in the user and the use of a system is a consequence of performance caused by the use of a system. The findings resulting from the study [7] show that the higher the perception of pleasure felt the higher the intention of reusing. While according to [8] the higher the sense of pleasure and comfort that information technology users have, the better the attitude of the user that will be related to the acceptance of the system technology. Pleasure in the context of the use of a technology or application can be seen from the extent to which the activity of using the technology service is considered as a pleasant thing in itself because it is more motivated supported by intrinsic motivation to facilitate all operations[8].

If the user feels a pleasure when using a system, then the user will continue to be motivated and will provide intrinsic motivation to continue using a system. Users expect to get fun and information when they use a technology or app. When these expectations are met then the user will feel satisfaction and will make the user reuse the

technology. If the user is unable to enjoy the use of technology, they can discontinue its use due to unpleasant signaling, this influence of pleasure is felt by the user[9].

The assumption of *perceived playfulness* will have a positive influence on the implementation of a system. Whereas according to [10] the definition of *perceived playfulness* is the extent to which the individual: (a) feels that his attention is focused when interacting with a system; (b) feeling curious during interaction; (c) find interactions that are intrinsically pleasant or interesting.

2.3. *Perceived Ease to Use (PEOU)*

Perceived ease to use is defined as a level or circumstance where one believes that by using a particular system or application is not required any effort (free *of effort)*or in other words the technology can be easily understood by the user [11]. Application usage believes that more flexible, easy-to-understand, and easy-to-operate applications are characteristic of ease of use. According to [3] *perceived ease to use* is defined as the extent to which one believes that using technology will be free from effort.

The intensity of usage and interaction between users and the system can also indicate ease of use. More frequently used systems will be easier to understand, easier to operate[8]. The perception of user convenience affects the attitude of individuals in using technology because it gives ease to its users in utilizing application services.

Frequently used applications indicate that the system is better known, easier to operate and easier to use by its users. It can be concluded that the user is more interested in using a system if the system is easy to understand operation. The perception of ease of use is based on the extent to which prospective users expect the new system to be used free from difficulties.

2.4. *Perceived Usefulness (PU)*

Perceived usefulness is the extent to which one believes that using a technology will improve its performance. If the user believes that using an information technology system can be useful and can improve performance, then the user will accept the use of information technology systems. Conversely, if the user does not feel the benefit of using a system, then the user will refuse to reuse the application system.

Perception of usability is defined as a person's level of confidence that using technology will be able to improve his performance. In other words, this construct contains a *belief* iin the decision-making [14].

Perceived usability represents the user's view of the extent to which technology facilitates improved workperformance.

Perceived usefulness can be interpreted as a perception of the benefits of an activity. Based on some opinions from experts can be concluded that *perceived usefulness* as a concept about the benefits of the use of technology, such as educational *game* applications.

2.5. *Behavioral Intention of Use (BIOU)*

Behavioral intention of use is a person's tendency to keep using a technology[3]. The level of use of an application technology can be seen from the attitude and intensity of its users in using the application. Users are more likely to be motivated to stick with the app and support other users to use it.

A person will do a *behavior (behavior)*if he has the desire or interest (behavioral *intention)* to doit. Interest can also indicate future behavior and repeat it in the future. *Behavioral intention of use is* defined as a person's likelihood or subjective possibility that he or she will engage in certain behaviors[9]. Perception of behavioral control is how a person believes that the behavior shown is the result of control exercised by him. This theory as a whole explains that basically humans will rationally consider the implications or impacts of their behavior before deciding to conduct in real or actual such behavior, including other opinions and attitudes towards such behavior.

Behavioral intention to *use* technology as an interest (desire) someone to perform certain behaviors. A person will engage in a behavior if he has the desire or intention to do so [18]. The results of previous studies showed that *behavioral intention*s a good prediction of the use of technology by system users in addition there is a strong correlation between behavioral intentions and actual behavior.

2.6. Quizizz app

Application is the application, storing a thing, data, problems, work into a means or media that can be used to implement or implement existing things or problems so that it turns into a new form without eliminating the basic values of data, problems, and the work itself [19].

Quizizz app is a game-based educational app, which brings multiplayer activities to the classroom and makes it an interactive and fun practice class. *Quizizz* has player characteristics such as avatars, themes, and entertaining music in the learning process. Students take quizzes at the same time and see their live rankings ranked.

Quizizz game is one of those digital *games* that is a fun multiplayer classroom activity, allowing all students to practice together with computers, *iPad,* tablets, and Smartphones.

III. RELATIONSHIP BETWEEN VARIABLES AND RESEARCH METHODOLOGY
3.1. Influence *of Perceived Playfulness* with Behavioral Intention *of Use*

Pleasure in the use of new technologies, can feel comfortable or happy after using it [22]. [10] states that the pleasure felt in the use of new technology is an internal motivation that causes the user to want to reuse the technology. The pleasure and pleasure that is felt is able to increase the sense of self-fulfillment, in other words the excitement felt, offering more value to the user when using an application [22].

Users assume that this aspect of fun is more important than the functional aspect, because this app can provide its own fun when playing it. In the context of this *Quizizz* app users will find pleasure in the process of working on the problem. *This* educational game also provides presentation of aesthetically appealing visual images that can satisfy the user, and will create a sensory sensation to the user. Research conducted by [4] states that pleasure is a powerful influence on the user's intention to use electronic money. The perception of pleasure felt by the user towards the use of a technology will give satisfaction to the user, if the user feels satisfaction in using it then the user will continue or continue to use the technology and advise others to use it [9]. Pleasure in the use of the computer will affect the intention of reusing by user [23].

Therefore, if the user feels the pleasure will keep the user motivated to use this educational *game* app and advise other individuals to use it as well. Based on the studies outlined above, researchers make the following hypotheses:

H1: *Perceived Playfulness* has a significant positive effect on Behavioral Intention of *Use.*

3.2. Effect of *Perceived Ease to Use* on Behavioral Intention *of Use*

Perception of ease (*perceived ease to use*) is defined as one believes when using technology is not required much effort. So if a person feels facilitated then he will continue to use the technology and [18]. *Perceived ease to use* has an influence on behavioral intention of use on the use *of* technology, *variable perceived ease to use* is considered as the highest variable in its influence on behavioral intention to *use* because using technology easily is one of the determining factors of successful use of technology or application[17].

Perceived ease to use positively affects the attitude of the use of technology [24]. *Perceived ease to use* will then have an impact on behavior, i.e., the higher the user feels the ease in using a technology, the higher the level of utilization of information technology.

Based on the studies that have been outlined, researchers tried to examine the effect *of perceived ease to use* on the use of *quizizz* educational application. So, the researchers formulated the hypothesis as follows:

H2: *Perceived Ease to Use* has a significant positive effect on Behavioral Intention *of Use.*

3.3. Effect of *Perceived Usefulness* on Behavioral Intention *of Use*

Perceived usefulness is a level where one believes that the use of a particular technology will improve its work performance. Based on the definition, it means that the benefits of using technology can improve the performance and performance of its users. Users benefit from the use of technology in improving performance as well as in carrying out tasks[25]. *Perceived usefulness is* defined as the extent to which one believes that using a technology will improve its work performance.

[3] it proves that benefits have a strong and consistent relationship with technology acceptance compared to other variables. [21] His research suggests that *perceived usefulness* is the main factor that determines a person's attitude in the use of the system. Both perceptions of ease and perception of usability all have a significant effect on the intention of using technology. The perceived benefits of using technology make users reuse[15].

From the above studies the perception of usefulness affects the intention of reusing. Based on the theory and results of previous studies, researchers propose the following research hypotheses:

H3: *Perceived Usefulness* has a significant positive effect on Behavioral Intention of *Use.*

3.4. Effect of *Perceived Ease to Use* on Behavioral Intention *through Perceived Usefulness*

Increased *perceived ease to use* should be associated with increased *perceived usefulness[26]* . New users can benefit from a technology or system if the user is already using or using the system. According to [3] also suggested that the smaller the effort in using a system, the more performance of its users will also improve. In other words, the smaller the business used, the user will feel the benefits of a system.

Easy or difficult to use an application or technology if it feels a lot of benefits for the user then the user will continue and continue to use the application again (*behavioral intention of use*), the easy use of a technology or application is a determining factor in the successful use of a technology [27].

From the above study *perceived ease to use* has a significant positive effect on b*ehavioral intention of use* through *perceived usefulness*. Based on previous research, researchers propose the following hypotheses:

H4: *Perceived Ease to Use* has a significant positive effect *on Behavioral Intention to Use* through *Perceived Usefulness.*

3.5. Research Methods

Method is a way or technique that is done in the research process. While research is an effort in the field of science that is used to obtain facts in the principles patiently, carefully, and systematically to answer the truth. So, research methods are a scientific way to obtain data with research purposes and uses.

The method used in this study is quantitative method, according to [29] quantitative research method is the activity of researchers to acquire knowledge or facts of conclusions by using numerical data as the initial foundation to analyze what will be known and understood.

The development of questionnaires and data collection in the study *of Technology Acceptance Model (TAM),* information about the intention of use and actual use is required, therefore this study collects user information through questionnaires. Research related to Technology Acceptance Model *(TAM)* is also reviewed to gain insights on various factors that can affect users. Pre-testing of questionnaires is conducted through cognitive mapping. This study presents words (e.g., happy, satisfied, and easy) to students.

Therefore, the questionnaire is designed with the following sections: 1). Information about the research - this section introduces students to the research, highlighting its purpose as well as the confidentiality of the information provided. Here the researchers also present instructions in answering questionnaires. 2). Information from the students who are respondents, aims to find out who has filled out the questionnaire. 3). Statements relating to perceived usefulness, ease of use gained, perceived pleasure, and intention to use. The statement is presented in 1 screen of each variable to explain the acceptance of technology and questionnaires are disseminated through *the google form.*

The population and sample of this study include all students of class XII SMK N 1 Surabaya who have used the quizizz educational *game* application with a sample of 126 students. In sampling techniques used fall into the category of *non-probability sampling* [30]; [31] In accordance with the characteristic that has been determined by researchers, namely *quizizz* application users, the sampling technique of *non-probability sampling* chosen is *judgmental technique (purposive).* This technique was chosen to ensure that only samples that have a specific element set by the researchers will be taken as samples.

The sample is an element of population that G selected representing population in the study [31]. In this study, the size of the sample was adjusted to the analysis model used, namely *Structure Equation Model (SEM).* With sampling techniques using Slovin formula to set minimum sample size based on error rate or margin of *error,* 126 respondent students were obtained as samples from 178 populations.

3.6. Variable Operational Definitions

There are 4 (four) variables used in this research that include *perceived playfulness* that is defined as the perception of pleasure felt by the user towards a technology. The second variable is *perceived ease to use* which means ease in the use of a system or technology that motivates to reuse that system. The third variable is *perceived usefulness* defined as usefulness when using a system or technology. The fourth variable is *behavioral intention to use* which is defined as the desire to use (system or technology application), from the individual and advises other individuals to use it.

3.7. Validity and Reliability Test

Validity consists of external validity and internal validity. External validity indicates how far a study's results are valid can be generalized to all objects, situations and different times. Internal validity demonstrates the ability and instrument of research to measure what should be measured from a concept[30].

Construct Validity shows how well the results of research obtained from the use of a measurement according to the theories used to define a construct [32]. A strong correlation between the construct and its question items and weak relationships with other variables is one way to test the validity of the construct (construct *validity).* The validity of the construct consists of the validity of the convergent and the validity of the discriminant.

The criteria used in the measurement of construct reliability of a latent variable are *using composite reliability* and cronbach *alpha.* According to [33] a construct in a latent variable will be summed up reliable if the composite *reliability* and *cronbach alpha* values ≥ 0.60. In addition, in the study [2] *composite reliability* values between 0.60 to 0.70 were considered adequate in research exploration and while for values between 0.70 to 0.95 were considered satisfactory.

3.8. Analytical Techniques

The analysis techniques used by researchers in this study are descriptive statistical analysis and inference statistical analysis. Descriptive statistical analysis aims to describe the characteristics of the respondents studied as well as each variable in the form of the number of respondents and *the percentage* number. While inference analysis is used to determine the level of strong or weak influence between independent variables with dependent variables which is the influence of causality. This study used *Structural Equation Modeling* – Partial *Least Square* (*SEM PLS*) through *Smart PLS software* version 3. By using 2 PLS calculation models namely measurement model (outer *model)* and model structural (inner *model). Outer model* is required for evaluation of the results of measurement of validity

and reliability of the construct. Where in this *outer model* there are three measurement criteria, namely *convergent validity, discriminant validity,* and *composite reliability* [33].

Table 1. *Outer Model* Criteria

Evaluation	criterion
Convergent validity, loading factor, Average Variance Extracted (AVE)	*Outer loading* ≥ 0.5
Discriminate validity, Root AVE > Correlation between variables	≥ 0.5
Reliability Test, Composite reliability	≥ 0.5

Source: Urbach &Ahlemann (2010)

Hypothesis test using *loading factor* by looking at the magnitude of *critical ration* value (*CR*) (t count) with table t with provisions, that if *CR* > t table with $p \leq 0.05$ means significant and if *CR* < t table with p $\geq$ means insignificant. This test was conducted with t-statistics, when t value > t table (±1.98 in error rate of 5 percent or ± 1,658 in error rate of 10 percent). If the model test results are significant, then there is an influence between latent variables[33].

Table 2. *Inner Model* Criteria

Evaluation	criterion
Inter-Endogenous Latent Variables	R^2 good (0.67) R^2 moderate (0.33) R^2 weak (0.19)
Effect size	The bigger the^{F2,} the greater the influence
Relevance of predictions	Q^2 is getting closer to 1, so the model can predict based on the data

Source: Urbach &Ahlemann (2010)

The inner model describes the relationship between latent variables based on substantive *theory. The inner model* is evaluated using *R-square* for dependent constructs, Stone-*Geisser Q-Square test* for *predictive relevance* and t test as well as the significance of the coefficient of structural path parameters. *The inner model* is used for research hypothesis tests where the t-statistical value >1.96 indicates the influence between variables is significant[33].

IV. RESEARCH RESULTS
**4.1. Respondent Overview**
Respondents to this study are students of class XII OTKP SMK N 1 Surabaya who have used *quizizz* **application** as a media evaluation in subject Public Relations and Protocol. The study involved 126 people from 178 populations of OTKP class XII.

Based on the questionnaire obtained characteristics of study respondents aged 15-19 years. Based on predominantly female gender, as much as 95.2% and male 4.8%. Of the 178 respondents of class XII OTKP SMK N 1 Surabaya, there were 126 questionnaires which meant that only 126 respondents filled out questionnaires with a return rate of 30.5% or 54 questionnaires.

4.2. Measurement Model Results (*Outer Model*)
Outer model is required for evaluation of the results of measurement of validity and reliability of the construct. Where in *this outer model* **there are three measurement** criteria, namely *convergent validity, discriminant validity,* **and composite** *reliability.*
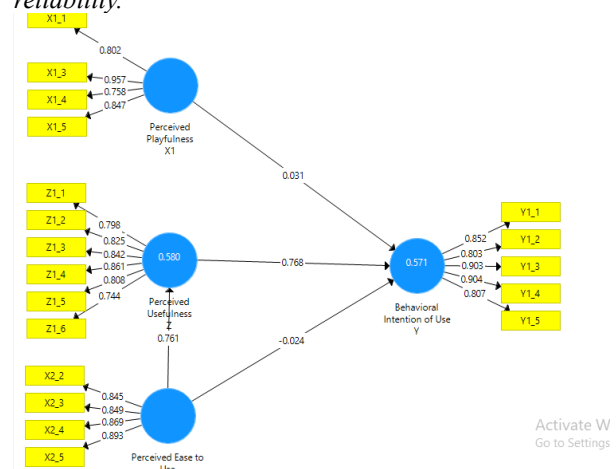
Figure 1. *Outer Model*

4.3. *Convergent Validity*
Convergent Validity relates to the principle that the gauges of a construct should be highly correlated. Convergent validity occurs if the score obtained from two different instruments to measure the same construct has a high correlation. The high correlation between items used to measure the concept indicates that they are in a single concept.

Convergent validity is done to determine the relationship between each indicator and its latent variable the expected *convergent validity* value of > 0.7. Table 3 shows that all *t-statistics* values are above 1,960 (>1,960) and *p-values* are below 0.05 *(p-value* < 0.05) [34]. So that the measurement can be concluded if the indicator of each latent variable is valid and significant as a condition for measuring the construct. And based on the evaluation of *the AVE* value located in table 3 it is concluded that the *convergent validity* value is more than 0.050 which concludes the *convergent validity* value is good.

4.4. *Discriminant Validity*
Discriminant validity measurement is performed as proof if a latent variable predicts the size of the block better than other block sizes.

The reflective indicator measurement model used to measure *discriminant validity* can be viewed based on the cross-*loading* value of the destination variable measurement result and compare it with other variables. According to [35] an indicator will be valid if the intended cross *loading* has a greater number than the cross *loading* value of other constructs.

Table 3. *Cross Loading* Value

Item Indic ator	Behavioral Intention of Use_Y	Perceived Ease to Use_X2	Perceived Playfulne ss_X1	Perceive d Usefulne ss_Z
X1_1	0.056	0.097	**0.802**	0.075
X1_3	0.155	0.147	**0.957**	0.164
X1_4	-0.033	0.017	**0.758**	0.010
X1_5	0.079	0.154	**0.847**	0.090
X2_2	0.529	**0.845**	0.115	0.657
X2_3	0.440	**0.849**	0.218	0.597
X2_4	0.457	**0.869**	0.186	0.644
X2_5	0.525	**0.893**	0.081	0.724
Y1_1	**0.852**	0.632	0.101	0.744
Y1_2	**0.803**	0.354	0.104	0.491
Y1_3	**0.903**	0.471	0.164	0.629
Y1_4	**0.904**	0.464	0.104	0.641
Y1_5	**0.807**	0.451	0.152	0.672
Z1_1	0.610	0.688	0.105	**0.798**
Z1_2	0.611	0.644	0.145	**0.825**
Z1_3	0.598	0.608	0.097	**0.842**
Z1_4	0.663	0.604	0.138	**0.861**
Z1_5	0.634	0.617	0.123	**0.808**
Z1_6	0.566	0.548	0.150	**0.744**

Source: *PLS* Processed Data

Based on table 3 it is known that the cross-*loading* value of each indicator located in each latent variable (whose value is reversed) has a greater value when compared to the cross-*loading* value on other variables. Thus, it can be concluded that all indicators in each research variable have a required *discriminant validity* value.

Based on table 2, all the values of *each indicator's loading factor* Perceived *Playfulness* (X1), Perceived *Ease to Use* (X2), and Perceived *Usefulness* (Z) are all worth > 0.7. From the statement it is concluded that all indicators of latent variables are considered valid and significant to measure their constructs. To test *the convergent value validity* can be done by evaluating each of the average *variance extracted* values (*AVE*), while the value on(*AVE*) is recommended with a value of .0.5 [19].

4.5. *Composite Reliability*

The criteria used in measuring the reliability of the construct of a latent variable are using composite *reliability* and cronbach *alpha*. According to [33] a construct in a latent variable will be summed up reliable if the composite *reliability* and *cronbach alpha* values ≥ 0.60. In addition, in the study [2] *composite reliability* values between 0.60 to 0.70 were considered adequate in research exploration and while for values between 0.70 to 0.95 were considered satisfactory.

Table 4. *Construct Reliability and Validity*

Latent Variable	Cronb ach's Alpha	Composi te Reliabili ty	Average Variance Extracted (AVE)
Behavioral Intention of Use_Y	0.908	0.931	0.731
Perceived Ease to Use_X2	0.887	0.922	0.747
Perceived Playfulness_ X1	0.902	0.908	0.713
Perceived Usefulness_ Z	0.898	0.922	0.662

Source: Data Processed by Researchers

According to Table 4, shows the VALUE of AVE owned by four latent variables with all values > 0.50 so that from the comparison can be concluded that the value of composite *reliability* is good and from table 4 also the value of *cronbach alpha* and composite *reliability* is greater than 0.06 and is between 0.70 to 0.95 so that the conclusion of the measurement is that the four variables have good reliability and satisfactory.

Table 5. *Discriminant Validity*

Latent Variable	Behavio ral Intentio n of Use	Percei ved Ease to Use_	Percei ved Playfu lness_	Percei ved Useful ness_
Behavioral Intention of Use_Y	0.855			
Perceived Ease to Use_X2	0.566	0.865		
Perceived Playfulness_X1	0.146	0.169	0.844	
Perceived Usefulness_Z	0.755	0.761	0.155	0.814

Source: Data Processed by Researchers

The last measurement in *the outer model* is Criterion [36]. According to [36] the measurement shows that all variable values that display the square root result of AVE are higher in value compared to correlations that connect one factor to another. Based on table 4 shows the criteria value [36] of each variable is higher than the correlation that connects one factor to another. From some measurements in

the outer model specification shows an acceptable result to be able to take measurements to the next stage.

4.6. Measurement Model Results *(Inner Model)*

Structural models in *PLS (Inner Model)* are evaluated using R^2 for dependent constructs, and path *coefficients* or *t-values* values of each *path* for significance tests between structural model constructs. The value R^2 is used to measure the rate at which variations of independent variables change against dependent variables. The higher the R_{-value} of ^{2} means the better the predictive model of the proposed research model. For example, if R^2 is 0.7, then the value means that the variation in dependent variable changes that can be described by an independent variable is 70 percent, while the rest is described by other variables that cannot be specified in the research model. However, R^2 is not an absolute parameter of the accuracy of the prediction model because the theoretical relationship base is the most important parameter for explaining such causality relationships.

The *path coefficients* or *inner model* values indicate a degree of significance in hypothesis testing. The path *coefficients* or *inner model* score is indicated by the *T-statistics* value, should be above 1.96 for *two-tailed* hypotheses and above 1.64 for *one-tailed* hypotheses. Both values are used at *alpha* rate of 5 percent and *power* of 80 percent [32].
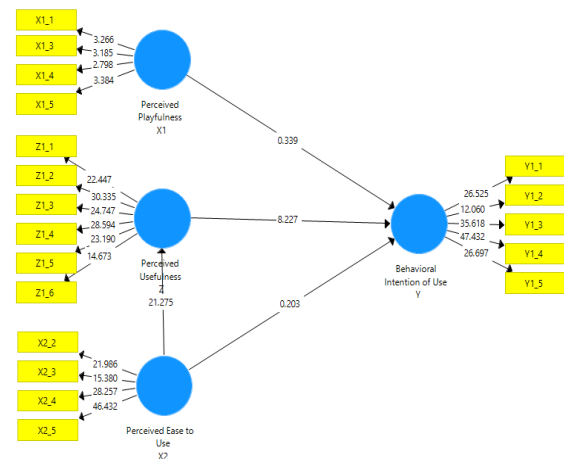
Figure 2. Model Image

The picture above is a structural model that shows the influence to reuse the *Quizizz*app. From the picture the R-*Square* value of the application usage is 0.571. This means that free variables have an influence of 57.1%. The remaining 42.9% is described by other variables.

4.7. Hypothesis Testing

The next analysis is to analyze the relationship between variabel and the use of the application. With PLS-*SEM,* relationship analysis is measured by calculating the *coefficients path* value for each path analysis this relationship analysis is done by first

resampling with bootstrapping method is intended to minimize the problem of abnormality of research data.

Based on the data after *boostraping,*obtained data relationship between variables as follows.

Table 6. Path Coefficients

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	information
PP_X1 -> BIOU_Y	0.031	0.022	0.089	0.353	0.724	H1 rejected
PEOU_X2 -> BIOU_Y	-0.024	-0.042	0.114	0.210	0.833	H2 rejected
PU_Z -> BIOU_Y	0.768	0.783	0.092	8.344	0.000	H3 received
PEOU_X2 -> PU_Z	0.761	0.764	0.035	21.449	0.000	H4 received

Source : Processed By Researchers

The Effect of *Perceived Playfulness* on *Behavioral Intentions of Use*

The first hypothesis proves that *perceived playfulness* has no significant positive effect on behavioral *intentions of* use. Variable perceived *playfulness* (*PP*) against behavioral intention to *use* (*BIOU*)resulted inat-count value of 0.031 < the t-table value of 1,966 with a significant value of 0.724 > 0.05. Thus variable perceived *playfulness* (*PP*)positive has no significant effect on behavioral intention to *use* (BIOU). Based on the *PLS* calculation above, the hypothetical results are different from the hypothesis development developed by researchers. From the results of the calculation, positive *playfulness perceived* has no significant effect on behavioral intention to *use,* while the development of hypotheses by researchers perceived *playfulness* has a positive and significant effect on behavioral intention *of use.*

The results of this study showed that *variables perceived playfulnes* have no significant positive effect on behavioral intention of *use* with a correlation coefficient of 3.1 percent thus when the variable perceived *playfulness* when increased once then *behavioral* intentional variable *of use* will increase by 3.1 percent anyway. Such insignificant positive influences indicate that the pleasures of quizizz app users in class XII have no effect on the desire to reuse. Grade XII students tend to only follow the instructions to do the evaluation using the *Quizizz* app suggested by the teacher but the intention of reusing on the basis of pleasure and personal initiative

is not shown by class XII students, the lack of pleasure of students when using the *Quizizz* application is due to the duration of answering questions only 30 seconds persoal, this is expressed by students through interviews conducted by researchers.

This indicates that the value of user pleasure is not a guideline for users will use *the Quizizz* app again. Previous research conducted by [4] which stated that the more a person feels happy when using an electronic money application, the higher the intention of behavior to reuse electronic money, but the results of this study are different, that pleasure is not obtained when using the *Quizizz* application these results support previous researchers conducted by [20] who stated that not always when *gamers* play *Online games* get pleasure, similar to the results of this study which mentions that *perceived playfulness* has an insignificant positive effect that shows that grade XII students have less pleasure when using the *Quizizz* app as an evaluation medium in learning. In addition, teachers should be able to increase curiosity as a creative and innovative learning medium so that students feel happy when using the *Quizizz* app. From the results of the above research, the **H1 hypothesis is rejected.**

Effect of *Perceived Ease to Use* on Behavioral Intention *of Use*

Based on the above tabel, the hypothetical result on the variable *perceived ease to use* (*PEOU)*against behavioral intention *of use* (*BIOU*) resulted in a coefficient of path value of -0.024 and t-count of 0.210 < t-table 1,966 with a significant value of 0.833 > from 0.05. Thus perceived *ease to use* (*PEOU)*negative has no significant effect on behavioral intention *of use* (*BIOU)*. Based on the *PLS* calculation above, the hypothetical results are different from the hypothesis development developed by researchers. From the results of the calculations, perceived ease *to use* negative has no significant effect on behavioral intention to *use,* while the development of hypotheses by researchers perceived ease to *use* positive and significant effect on behavioral intention of *use*.

From the results above shows the variable *perceived ease to use* negative has no significant effect on the *variable behavioral intention of use*. So when the *variable perceived ease to use* is increased once then the behavioral intentional variable of *use* also increases by -2.4 percent. This negative and insignificant influence is felt because after using *quizizz* application students still feel or need *effort* in their use, so students still feel it is not easy to use this application. Students haven't found it easy to use the app because some features in the app are elusive such as the user account sign-in feature. Students found this in an interview conducted by a researcher

Perceived ease to use positively *affects behavioral intention of use* in application use, but the results of this study are different from the above research, this study found that the variable *perceived ease to use* negatively has no significant effect on *the behavioral intention of use Quizizz* application. These results support research from [37] which explains that there is no significant influence between *perceived ease of use* and behavioral intention *of use* of a technology. This indicates that when students are still having difficulty in operating or using technology will make the student do not want to reuse the *Quizizz*. From the above study, it can be concluded that the **H2 hypothesis is rejected.**

The Effect of *Perceived Usefulness* on *Behavioral Intentions of Use*

Meanwhile, *variables perceived usefulness* (*PU*) against behavioral intention of *use* (*BIOU*) resulted in a coefficient of path value of 0.768 and t-count of 8,344 > from the t-table value of 1,966 with a significant value of 0.000 < from 0.05. Thus variable perceived *usefulness* (*PU)* has a significant positive influence on behavioral intention to *use* (*BIOU)*. This study is also in line with *tam* theory that explains that *perceived usefulness* has a significant positive effect on behavioral *intentions* the results of this study support research from [3] which explains if a person feels the ease of using technology will be able to improve performance.

The results of the study showed that varibel perceived *usefulness* has a significant positive effect on behavioral *intentions of use*. This means that when the value of perceived *usefulness* is raised once then the value of behavioral intention of *use* increases to 76.8 percent. This positive influence is because when grade XII students feel that using quizizz application can improve performance in the learning process it is proven that students' grades are getting better when class XII students often reuse quizizz application, this statement is expressed by students during the questionnaire filling process.

The above research is also supported by previous research by [17] which concluded that the variable *perceived usefulness* is in the high category of 75.81 percent, meaning that respondents feel the benefits provided for the application used, the results of previous research are the same as the results of this study. In addition, previous research using respondents 400 users of the application throughout Indonesia from various circles who have felt the benefits of using this application, as well as users of the *Quizizz* application that can benefit the ease of use of the *Quizizz* application. Another study from [18] also mentioned that *useful perceivedness positively affects behavioral intentions of use* in *internet banking* use. Thus, the usability value greatly affects the user to reuse the *Quizizz*. From the

results obtained it is stated that the **H3 hypothesis is accepted.**

Effect of *Perceived Ease to Use* on Behavioral Intention *of Use* **through *Perceived Usefulness***

Then *the variable perceived ease to use* (*PEOU*)against behavioral intention *of use* through *perceived usefulness* (*PU*) produces a coefficient of path value of 0.761 and a t-calculated value of 21,449 > the value of t-table 1,966 with a significant value of 0.000 < 0.05. Thus variable *perceived ease to use* (*PEOU*)has a significant positive influence on *perceived usefulness* (*PU).*

The results of this study stated that the influence of *variables perceived ease to use* on behavioral intention *of use* through *perceived usefulness* with a coefficient of path of 76.1 then if increased by one time then behavioral intention of *use* variable will also increase by 76.1 percent. Therefore, when students feel the ease of use of an application, students will tend to reuse the application which is considered that if using the application can improve performance during the evaluation process of classroom learning.

The fourth hypothesis proves that *perceived ease to use* has a significant effect on behavioral intention *of use* through *perceived usefulness* in favor of research from [17] which states that ease has a significant correlation to the desire to reuse thus if reuse the application will improve student performance and can improve the results of learning evaluation. *Perceived ease to use* has a significant positive effect on the interest (*intention*) through *perceived usefulness* to the interest of user behavior in using the application [17], the findings have similarities with the research conducted by researchers that obtained the same results despite the different applications used. From the results of the above research stated that the **H4 hypothesis is accepted.**

V. CONCLUSION
5.1. Conclusion
This study uses primary data that is data collected directly from the field by disseminating questionnaires to respondents. Respondents to this study were students of class XII OTKP SMKN 1 Surabaya. This study was conducted to analyze the use of *Quizizz* application in students of class XII OTKP SMK N 1 Surabaya using *TAM (Technology Acceptance Model).*

Based on the results of the data processing above using SEM-PLS, it can be concluded *that perceived playfulness* has an insignificant positive effect on *behavioral intentions of use* in the use of *Quizizz* application in grade XII OTKP SMK N 1 Surabaya students. *Perceived playfulness* has no influence on the use of *Quizizz* application in grade XII students SMK N 1 Surabaya where when students use *quizzes*

application feel less happy which causes class XII students do not consider to reuse quizzes *application*, it also encourages for other users (students) less motivated in reuse (behavioral *intention of use) Quizizz* app. *Perceived ease to use* has an insignificant negative effect on behavioral intention of use on the use of *Quizizz* application in grade XII smkn 1 Surabaya students. The ease felt by the user is also a factor in the success of a technology, if the user feels the application is difficult to use or operate then the user will rethink to use it (behavioral intention of *use)*and vice versa. *Perceived usefulness* has a significant positive effect on *behavioral intention of use* in the use *of* Quizizz application in grade XII students of SMK N 1 Surabaya. One of thefactors talent success in the use of technology is a factor of usefulness or usefulness, the more students of class XII use quizzes application and feel useful then students or users will remain and continue to use the technology (behavioral*intention of use). Perceived ease to use* has a significant effect on behavioral intention of use through *perceived usefulness* as an *intervening* variable on the use of *Quizizz* application in grade XII students *of* SMK N 1 Surabaya. From the results above shows that the ease or difficulty of using an application or technology if it feels a lot of benefits for the user then the user will continue to use the application (behavioral intention *of use*).

5.2. Suggestions
It is recommended to those who have used *quizzes* application, schools, teachers, and students to further maximize the use of learning media in the form of educational *games Quizizz,* because *Quizizz games* are very helpful in learning evaluation and easier for teachers and students in the teaching and learning process. It is also expected that other teachers at SMK N 1 Surabaya can use this application to help conduct the learning evaluation process because there are still few teachers who use *quizizz* educational *game* application. In addition, for the company that made *the Quizizz* application is recommended to add new features and there are always updates offered.

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