ANALYSIS OF CONTINUANCE USE INTENTION OF TIKTOK AS EDUCATIONAL INFORMATION WITH EXPECTATION CONFIRMATION MODEL (ECM) AND INFORMATION SYSTEM SUCCES MODEL (ISSM)

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Abstract

Social media is one of the main technologies currently used by billions of people around the world, especially TikTok. TikTok contains popular content such as comedy, dancing, and increasingly educational information. TikTok presents the #SerunyaBelajar program with 1.4 million posts. Despite the existence of interesting programs, problems were found such as inappropriate keywords about education, short video duration, inconsistent quality of information and distraction. So TikTok needs to focus on user satisfaction and retention by continuing to innovate. The purpose of this study is to measure satisfaction and intention to continue using TikTok as educational information. This study uses 2 models, namely the Expectation Confirmation Model with four variables (confirmation, perceived usefulness, satisfaction, and intention to continue) and the Information System Success Model with two variables (system quality and information quality). Respondents used totaled 96 TikTok users who accessed educational content and were processed using SEM-PLS. This study found that confirmation (T: 19.558) affects perceived usefulness. Thus, many users feel that TikTok provides useful features. In addition, satisfaction (T: 6.364) and continuance intention (T: 3.602) are influenced by perceived usefulness related to TikTok. And satisfaction (T: 3.809) influences TikTok users' continued intention to access educational content.

Keywords: *Continuance Use Intention, ECM, ISSM, TikTok*

1. INTRODUCTION

The rapid advancement of technology and the internet is evidenced by the majority of people having smart phones or using the internet [1], [2]. Social media is one of the key technologies currently used by billions of people around the world [3], [4]. TikTok has a huge user base, with over 1.5 billion monthly active users globally, making it one of the most widely used social media platforms. TikTok is an innovative music app with interactive short videos [5], [6]. TikTok has reached an estimated 106 million active users in Indonesia as of October 2023, making it the second largest user in the world after the United States [7]. TikTok contains popular content such as comedy, dancing, and other talents that entertain users. In addition, educational information content has also begun to increase [8]. In May 2021, Tiktok presented the #SamaSamaBelajar Guidebook program in collaboration with the Indonesian Teachers Association and the Indonesian Digital School Network. Educational content with the hashtag #SamaSamaBelajar generated more than 56 billion views [9]. A year after the #SamaSamaBelajar program, TikTok launched a new educational campaign entitled "#SerunyaBelajar Ada di TikTok". This June 2022 educational campaign focuses on inviting users to enjoy and share the spirit of learning in a fun way [10]. In August 2023, Tiktok came back at #SerunyaBelajar. To date, there are 1.4 million posts with this hashtag. Tiktok provides opportunities for users who take part in this program to get scholarships at the university or institution of choice. These programs also provide interesting themes such as Science & Experimentation, Health, and others [11].

Although there are interesting programs, Rahimullah et al (2022) found that TikTok experienced a significant uninstallation rate of 9.43%, surpassing other social media platforms [8]. In addition, parents are also worried about their children using TikTok because of privacy settings, because there is usually a lack of clarity regarding the use of data from social media platforms, this is explained in Dasoo's research (2022) [12]. The review also found that there are no restrictions on content that leads to bad opinions on the internet, and TikTok still has not responded favorably to the report [13]. From the interviews conducted, several problems were found in accessing educational content on TikTok. First, when searching for content

by entering keywords about education but the content that comes out sometimes does not match the desired information. Second, the duration of the video provided by TikTok is too short to explain about education or learning about the world of education. Third, factors such as inconsistent information quality, distraction, and duration limitations may be a consideration in the decision to continue or stop using TikTok as a learning platform.

Based on the above problems, TikTok needs to focus on user satisfaction and retention by continuing to innovate and meet user demand, especially in terms of educational content [8]. This research uses 2 models, namely ECM and ISSM. In the research [8] It was found that TikTok users' perceived usefulness and satisfaction influenced their desire to access further educational content. According to [14], Students' perceptions of interactivity, course content and good course design have a positive and significant impact on their usefulness, confirmation and satisfaction with the cloud-based e-learning system. This directly or indirectly causes students to want to continue learning. Research [15] found that confirmation, information quality, system quality, teacher self-efficacy, perceived benefits, and satisfaction are factors that directly or indirectly influence the desire to continue learning through the internet in elementary schools. In the research [16] research demonstrates that the utilization of the TikTok application in education yields positive effects on student learning outcomes due to its capacity to cultivate an engaging and stimulating learning atmosphere. In addition, some previous studies conducted are still lacking for understanding satisfaction and intention to continue using TikTok as educational information. So to overcome these shortcomings, it is necessary to conduct this research with the aim of measuring satisfaction and intention to continue using TikTok as educational information. So that the results of this study can be used as recommendations for developing the TikTok application.

2. RESEARCH METHODS

This study uses 2 models, namely ECM and ISSM. According to Bhattacherjee (2001) ECM is a conceptual model used to explain user behavior towards information technology or information systems. ECM is widely used to test user satisfaction and intention to continue after using a system or product, so it is the theoretical basis of this research [14]. In the context of e-learning, it has been shown that the factors of confirmation, perceived benefits, satisfaction, and desire to continue have contributed to users' desire to continue using ECM [17]. According to DeLone and McLean (1992) ISSM is a model to assist in understanding and measuring the success of information systems in an organization.

Information and system quality factors in ISSM have been shown to have an impact on continuance intention and user satisfaction in an e-learning context [18]. In this study, ISSM is used to determine how system and information quality affect user satisfaction. By using ECM to understand and adjust user expectations and satisfaction, and ISSM to evaluate and improve the technical and information quality of the system, the authors were able to effectively address the problems identified.

Image 1. Research Methods
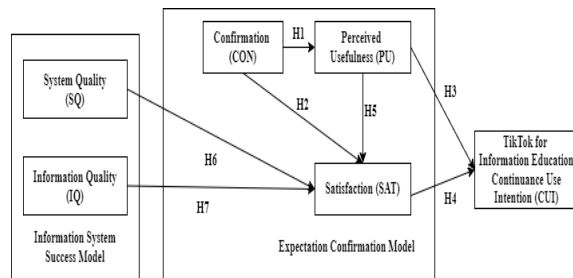
This study uses the Expectation Confirmation Model (ECM) research model with variables Perceived Usefulness (PEU), Confirmation (C), Satisfaction (S), Continuance Use Intention (CUI) and Information System Success Model (ISSM) with variables Information Quality, System Quality. Respondents in this study were TikTok users who accessed educational information content. This research uses an online questionnaire instrument based on a Likert scale.

Table 1. List of Statements and References

Variable	Code	Statement	References
System Quality	SQ1	I feel that the TikTok app is not slow	[15], [19]
	SQ2	I feel that the TikTok application can be used whenever I need it	
	SQ3	I think the TikTok app is easy to use	
	SQ4	I feel that the TikTok app provides the features I need	
Information Quality	IQ1	I feel that the education information in the TikTok app is of high quality.	[19]
	IQ2	I feel that the higher education content I get from the TikTok application is easy to understand	
	IQ3	I feel that the higher education content I get from the TikTok application is accurate	[15]
	IQ4	I believe that the higher education content available	

	on TikTok is current and relevant	
Confirmation	CON1	My experience utilizing the TikTok app for higher education content surpassed my expectations	[20]
	CON2	I believe the service offered by the TikTok app for higher education content exceeds my expectations	[21]
	CON3	I believe the TikTok app adequately meets my needs for higher education	[15]
Perceived Usefulness	PU1	I believe the TikTok app enhances my motivation to continue engaging with higher education content	[22]
	PU2	I feel the TikTok app helps me get and share higher education content with others	
	PU3	I feel the TikTok app makes it easier for me to get higher education content	[23]
	PU4	I consider the TikTok app to be useful for acquiring higher education	[24]
Satisfaction	SAT1	I am satisfied with using the TikTok app to access higher education content	[14]
	SAT2	I am pleased with using the TikTok app to access higher education content	
	SAT3	I am happy with TikTok's features (search, hashtags, comments, etc.) in relation to acquiring higher education content	
Continuance Use Intention	CUI1	I intend to continue using the TikTok app to acquire higher education content	[25]
	CUI2	I will frequently use the TikTok app to obtain higher education content	[26]
	CUI3	I would recommend the TikTok app to individuals seeking to obtain higher education content	[19]

In this study, researchers cannot determine the exact population size to be studied because there is no relevant data. So the calculation of the sample size uses the Lemeshow formula (2019) as follows [27]:

$$n = \frac{z^2 pq}{e^2}$$

n = Number of samples required
z = Price on the normal curve for a 5% deviation, with a value of 1.96
p = Chance of being correct 50% = 0.5
q = Chance of being wrong 50% = 0.5
e = Sampling error 10% = 0.1

$$n = (1,96)^2 \times 0,5 \times \frac{0,5}{(0,1)^2} = 96,04$$

2.1 Research Flow

The first step is to formulate the problem, study the literature, objectives and benefits, and limit the problem regarding the TikTok application. Second, the model development that will be carried out. Third, data collection by means of interviews and distributing questionnaires. Fourth, data processing with the help of PLS-SEM to obtain outer model, inner model and hypothesis testing results. Finally, the contribution of research findings to the problem under study will be explained, as well as suggestions for developing further research knowledge in this area. The following are the stages of research that can be seen in Figure 2.
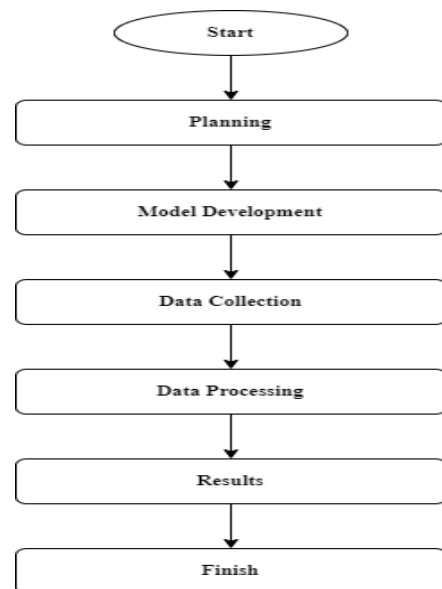

Image 2. Research flow

3. RESULTS AND DISCUSSION

3.1 Outer Model
3.1.1 Convergent Validity Test
Convergent validity is a measurement method that aims to evaluate the validity of each

relationship between indicators and latent variables. The outer loading value is considered ideal if the outer loading value is ≥ 0.7 [28]. The diagram below indicates that all indicators meet the convergent validity assessment criteria, namely a factor loading value that exceeds 0.7. The following are the results of outer loading which can be seen in Figure 3.
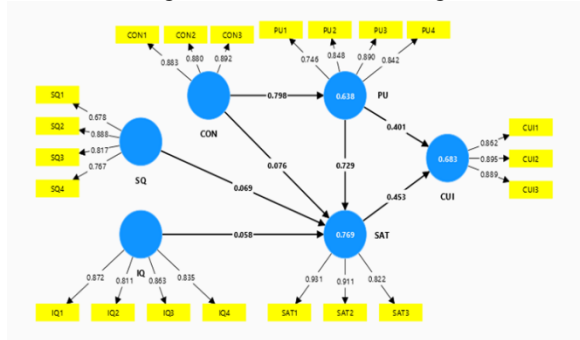

Image 3. Outer Loading Results

Figure 3 shows the R-Square results of 0.683, 0.638, 0.769. By showing that confirmation has a significant effect on perceived usefulness (β = 0.798). Confirmation has a significant effect on satisfaction (β = 0.076). System quality has a significant effect on satisfaction (β=0.069). Information quality has a significant effect on satisfaction (β=0.058). Satisfaction has a significant effect on continuance use intention (β=0.453). Perceived usefulness has a significant effect on continuance use intention (β=0.401).

3.1.2 Reliability Test

The reliability test was carried out using two measurement methods, namely Composite Reliability and Cronbach's Alpha and was tested with a value of more than 0.700 [29]. Average Variance Extracted (AVE) in this research shows that each construct and indicator obtained a value of >0.500. The results of the reliability test in this research can be seen in table 2 below:

Table 2. Reliability Test Results

Variabel	CR	CA	AVE	Ket
Confirmation	0.869	0.862	0.784	*Realibel*
Perceived Usefulness	0.859	0.852	0.695	*Realibel*
Satisfaction	0.873	0.866	0.791	*Realibel*
Continuance Use Intention	0.862	0.858	0.778	*Realibel*
System Quality	0.809	0.798	0.626	*Realibel*
Information Quality	0.871	0.867	0.715	*Realibel*

3.2 Inner Model

3.2.1 R-Square Results

The R-Square result for the structural model variable is 0.67 indicating good model quality, while a value of 0.33 indicates a moderate

model, and a value of 0.19 indicates that the model is inadequate. Development on a charging scale between 0.50 and 0.60 is acceptable [28]. The R-Square results in this research can be seen in Table 3.

Table 3. R-Square Results

	R-*square*	R-*square adjusted*
CUI	0.683	0.676
PU	0.638	0.634
SAT	0.769	0.759

Based on Table 3, the results of the R-Square value on the Continuance Use Intention variable = 0.683, Perceived Usefulness = 0.638, Satisfaction = 0.769. This value means that the R-Square results are acceptable.

3.2.2 T-test

The results of the T-test were measured using the T-Statistics test, which showed a significant relationship. A T-test value that is greater than the T-table value indicates that the results are statistically significant, as shown in Table 4.

Table 4. T-test Results

	Original Sampel	T-statistics	P values
CON => PU	0.798	19.558	0.000
CON => SAT	0.076	0.686	0.493
IQ => SAT	0.058	0.595	0.552
PU => CUI	0.401	3.602	0.000
PU => SAT	0.729	6.364	0.000
SAT => CUI	0.453	3.809	0.000
SQ => SAT	0.069	0.963	0.336

3.2.3 Hypothesis Test

The results of hypothesis testing in this research can be seen in Table 5.

Table 5. Hypothesis Test Results

	Hypothesis	Results
H1	*Confirmation => Perceived Usefulness*	Accepted
H2	*Confirmation => Satisfaction*	Rejected
H3	*Perceived Usefulness => Continuance Use Intention*	Accepted
H4	*Satisfaction => Continuance Use Intention*	Accepted
H5	*Perceived Usefulness => Satisfaction*	Accepted
H6	*System Quality => Satisfaction*	Rejected
H7	*Information Quality => Satisfaction*	Rejected

H1: Confirmation (CON) influences users' perceived usefulness (PU) of educational information content on TikTok. This hypothesis is **accepted** based on the T test value of 19.558. The

CON – PU path has a path coefficient of 0.000, which implies that the influence on this relationship is significant.

H2: Confirmation (CON) influences user satisfaction (SAT) regarding educational information content on TikTok. This hypothesis was rejected based on the T test value of 0.686. The CON – SAT path has a path coefficient of 0.493, which implies that the influence on this relationship is not significant.

H3: The perceived usefulness (PU) significantly influences users' intention to continue using educational content on TikTok (CUI). This hypothesis is accepted based on the T test value of 3.602. The INT – PU path has a path coefficient of 0.000, which implies that the influence on this relationship is significant.

H4: User satisfaction (SAT) plays a significant role in influencing users' intention to continue using educational information services on TikTok (CUI). This hypothesis is accepted based on the T test value of 3.809. The SAT – CUI pathway has a path coefficient of 0.000, which implies that the influence on the relationship is significant.

H5: The perceived usefulness (PU) of educational information services on TikTok has a direct influence on user satisfaction (SAT). This hypothesis is accepted based on the T test value of 6.364. The PU – SAT path has a path coefficient of 0.000, which implies that the influence on the relationship is significant.

H6: System quality (SQ) has a direct impact on user satisfaction (SAT) with educational information services on TikTok. This hypothesis was rejected based on the T test value of 0.963. The PU – CUI path has a path coefficient of 0.336, which implies that the influence on this relationship is significant.

H7: Information quality (IQ) directly influences user satisfaction (SAT) regarding educational information services on TikTok. This hypothesis was **rejected** based on the T test value of 0.595. The PU – SAT path has a path coefficient of 0.552, which implies that the influence on this relationship is not significant.

4. DISCUSSION

In previous research [8] with the title Assessing The Factors Influencing Users Accessing Higher Education Content On TikTok, it is explained that the problem of this research is user retention. This research data was collected through an online questionnaire from a total of 629 respondents. Then, respondent data was processed using a covariance-based structural equation model. This research found that perceived usefulness and satisfaction influence TikTok users' continuance intentions toward higher education content. This aligns with research conducted by the author, which substantiates that users' satisfaction stemming from the tangible

benefits of the content encourages them to persist in using TikTok.

Then in previous research [30] with the title Unveiling the Confirmation Factors of Information System Quality on Continuance Intention towards Online Cryptocurrency Exchanges: The Extension of the Expectation Confirmation Model, it is explained that the problem of this research is that there is not much research regarding improving the quality of information systems on cryptocurrency platforms. This study found that perceived usefulness and satisfaction were significantly correlated with continuance intention. Furthermore, information quality, system quality, and service quality exhibit significant correlations with perceived benefits and satisfaction. Ultimately, perceived usefulness was also found to be significantly correlated with satisfaction. This research has differences with the author's research, namely that the relationship between information quality and system quality and satisfaction does not have a significant effect. This proves that not all educational information on TikTok is accurate and trustworthy.

5. CONCLUSION

From this research, it can be concluded that perceived usefulness (PU) is indeed a significant factor in influencing users' satisfaction (SAT) and continuation intention (CUI) towards educational information content on TikTok. In addition, satisfaction (SAT) has also been proven to influence TikTok users' continuation intention (CUI). This shows that the satisfaction felt due to the real benefits of the content then motivates users to continue using TikTok. Meanwhile, confirmation (CON) has a significant effect on perceived usefulness (PU) but not on satisfaction (SAT). System quality (SQ) and information quality (IQ) do not show a significant influence on user satisfaction (SAT). So TikTok needs to optimize the system, such as ensuring the platform runs smoothly and responsively, with minimal technical problems. In addition, TikTok can ensure that the information presented is accurate and trustworthy by conducting a strict verification process before publishing educational content.

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