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Preface

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PREFACE

It is with great pleasure that I introduce the proceedings of the **2nd International Conference on Advance Engineering and Technology (ICATECH 2020)** is an international seminar organized by Institut Teknologi Adhi Tama Surabaya (ITATS). ITATS is private university located in Surabaya, East Java, Indonesia. The conference is held on September 26th 2020.

This seminar has the main purpose to bring researcher and scholar to share their knowledge and experience in Material, Metallurgy, Energy, Design, Engineering, Applied Science, Information System and Technology area. The conference serves as an excellent opportunity to meet each other and to exchange ideas with theme of **"Empowering Research and Innovation for Sustainable Technology"**.

The conference is initially planned to be an offline meeting in the venue, but within the outbreak of COVID-19, it is changed into a virtual conference instead of being postponed. The conference is organized through online virtual mode using Internet Communication Technologies (ICT) via Zoom. Authors shared the screen and attendees could discuss their work via online platform. Overall, the conference was held successfully through the platform. Our conference committee and authors were dedicated to support the success of the seminar.

The conference program is consisted of keynote speaker session and oral presentation session. The Distinguished Professor from Taiwan and Korea were invited to be our keynote speaker regarding their latest research in their respective areas of expertise in 45 minutes of presentation. After keynote speaker session was done, it continued to oral presentation session for selected paper. The participants were divided into 3 room of Zoom with respect to topic areas and were given 15 minutes time to present their work, following by questions and answers. One excellent presenter will be chosen among them, depending on the technical merit, presentation file, Language fluency, and application etc for the best paper award. It is worth the option of virtual participation that allows expanding the geography significantly and increasing the number of participants. More than 200 participants participated in the conference and 66 papers from different countries are selected for presentation during the conference sessions.

We thank all of reviewers for their time and effort in reviewing the papers even in the COVID-19 pandemic situation, as well as the authors, who took into account recommendations of reviewers and improved their papers to ensure the publication high quality in IOP Conference Series: Materials Science and Engineering Series.

Syamsuri, ST., MT., PhD.
On behalf of ICATECH 2020 Organizing Committee
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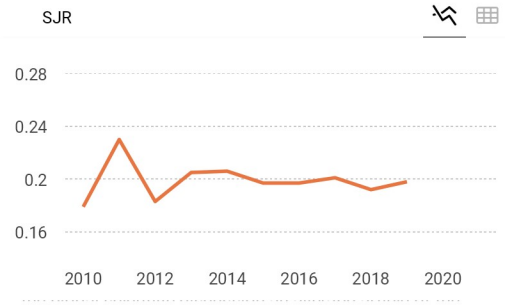

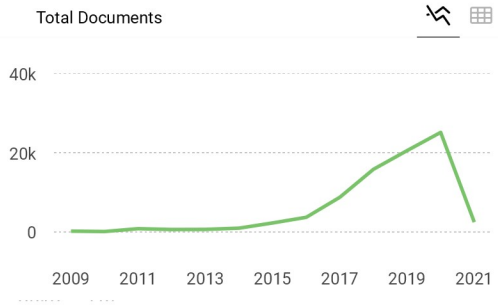

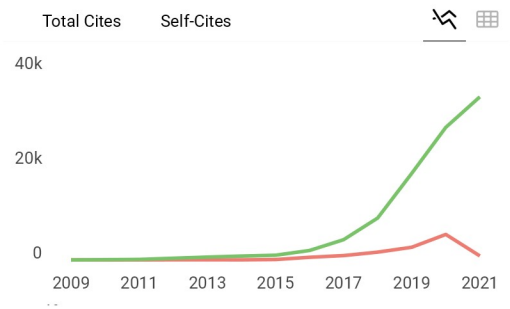

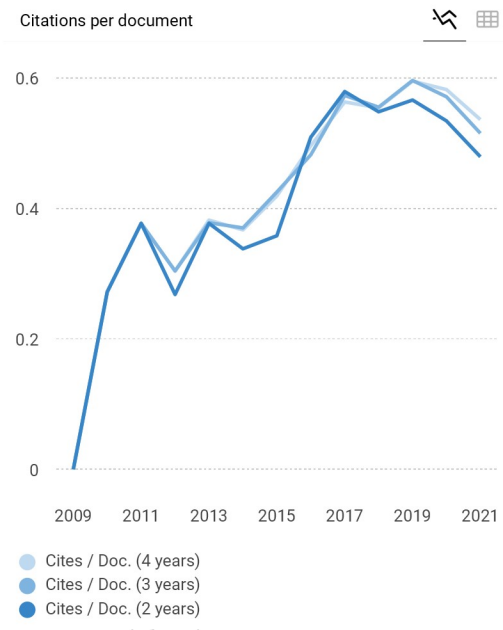

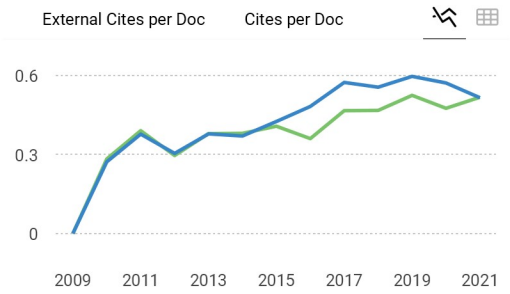

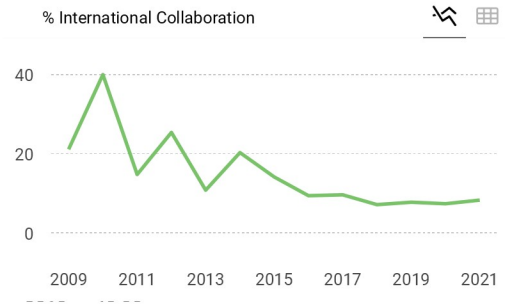

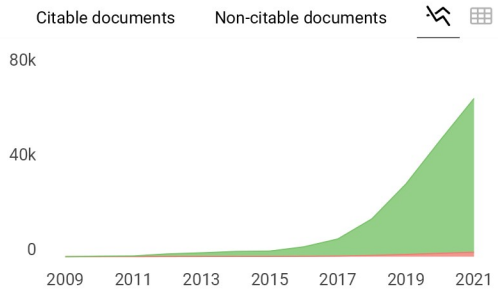

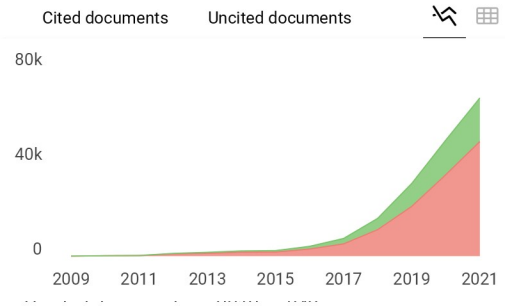

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Dear Authors of the 2nd ICATECH, 2020

Palumian

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Thank you for your participation in the event on September 26th, 2020. The 2nd ICATECH committee has cooperation with IOP Material Science and Engineering. Now we are going to announce the result from IOP, your article with title of **"Technology Acceptance Model for Online Cinema Ticketing Among Moviegoers in Java Island Indonesia: An Empirical Study on TIX ID Application"** is **Accepted** by IOP Material Science and Engineering. These conference proceedings are now in the publishing process. Please wait patiently until we get upcoming information from IOP.

We hope all of your articles give contributions to the development of future technology. All of you are part of this pride moment, you are always welcomed to join again at the next event. See you again on the 3rd ICATECH, 2022

Sehubungan dengan diselenggarakannya Seminar Internasional tanggal 26 September, 2020, kami selaku Panitia ICATECH telah bekerjasama IOP Material Science and Engineering sebagai penerbit. Bersama ini kami informasikan bahwa artikel Anda dengan judul **" Technology Acceptance Model for Online Cinema Ticketing Among Moviegoers in Java Island Indonesia: An Empirical Study on TIX ID Application "** *dinyatakan* ***diterima*** *untuk diterbitkan oleh IOP. Saat ini artikel anda sedang dalam tahap produksi oleh publisher. Mohon untuk bersabar menunggu kabar baik selanjutnya dari IOP.*

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Best regards,

--
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Institut Teknologi Adhi Tama Surabaya

Building A 1st Floor, ITATS Campus

Arief Rachman Hakim 100 Rd., Surabaya, East Java, Indonesia 60117

Phone : (+6231) 594 5043 ext. 810

Fax : (+6231) 599 5537

Technology acceptance model for online cinema ticketing among moviegoers in java island Indonesia: an empirical study on tix id application

Technology acceptance model for online cinema ticketing among moviegoers in java island Indonesia: an empirical study on tix id application

Y Palumian[1], S C K Jayanti[1], R Indriyani[1], Z Tarigan[1]

[1]Petra Christian University, Surabaya, East Java, Indonesia

ypalumian@petra.ac.id

Abstract. Based on the technology acceptance model, factors that form the intention to use of technology product of performed by individual users are perceived ease of use and perceived usefulness. The purpose of this study is to examine the effect of these two variables along with the attitude toward using as a part of the theory of planned behavior as the intervening variable. This research is conducted under quantitative with partial least square (PLS) method. The results show that perceived ease of use has no effect on other variables while perceived usefulness has a significant effect 0.191 on attitude toward using and effect 0.490 intention to use. In addition, there is a significant effect influence perceived usefulness as 0.581to attitude toward using and effect as 0.338 intention to use.

1. Introduction

Internet technology has become aa primary need for the wider society in Indonesia. Based on the report written by Kemp[1] regarding the penetration of internet users in Indonesia in 2020, currently it has reached 175.4 million people who use internet and will surely continue to grow. This indicates that 65.05% of the total population in Indonesia has been touched by this advanced technology. Growing align with this advancement, film industry is one of the areas affected by the widespread influence of the internet, particularly in terms of ticket purchases. According to the data held by Cinema XXI Indonesia, online ticket sales transactions compared to offline ticket sales in the second quarter of 2019 successfully reached more than 40%[2] By this increasing number of movie viewers in theaters, many cinema e-ticketing applications continue to appear. The most downloaded and popular e-ticketing cinema application in Indonesia according to the Entertainment Top Charts on the Apple Store is TIX ID[3]. TIX ID is the most recent e-ticketing cinema application among other cinema e-ticketing applications and has received the attention of the Indonesian movie watchers.

Online cinema ticketing can be beneficial and promote ease of use when it is used with technology acceptance attitude. This technology acceptance attitude is usually known as the Technology Acceptance Model (TAM). TAM is a widely recognized and widely used theoretical model that predicts whether a technology is accepted by users. There are two primary variables of TAM, namely perceived ease of use and perceived usefulness[4]. This study aims to examine the effect of the two main factors of TAM on intention to use with factors from Theory of Planned Behavior, namely attitude toward behavior, more precisely attitude toward using as an intervening variable. Theory of Planned Behavior (TPB) was developed by Ajzen in 1988. This theory has become one of the most popular and most influential conceptual frameworks for the study of human action[5].

One of the closest approaches to technology acceptance model can be seen through intention to use. In their research, Suki and Suki[6] stated that the definition of intention to use is a measure of the emergence of an individual's intention to use a technology product. Chi[4] also explains that intention to use can be affected by attitude toward using. According to Drew and Alharbi[7] the intention to use variable is also directly influenced by the variable perceived ease of use and perceived usefulness.

Attitude toward using is an attitude that refers to the evaluation or judgment of the user about the desire to use a specific information system application[8]. In addition, attitude toward using can be affected by perceived ease of use and perceived usefulness. Perceived ease of use is a user's perception that describes the level of effort that is felt when using a technology, while the definition of perceived usefulness is the level of one's belief that using a technology will improve job performance[4].

1.1 Research Questions and Research Objective

The formulation of the problem proposed based on the background of this research can be describe as follows:

RQ1. Does perceived ease of use affect attitude toward using among TIX ID users?
RQ2. Does perceived usefulness affect attitude toward using among TIX ID users?
RQ3. Does attitude toward using affect the intention to use of TIX ID users?
RQ4. Does perceived ese of use affect the intention to use of TIX ID users?
RQ5. Does perceived usefulness affect the intention to use of TIX ID users?

The purpose of this study is to analyze the effect of perceived ease of use, perceived usefulness, and attitude toward using on intentional behavior of using TIX ID application among users in Java Island in Indonesia.

1.2 Literature Review

1.2.1 Technology Acceptance Model (TAM) In their research, Kanchanatanee, Suwanno, and Jarernvongrayab[9] explains that the Theory of Reasoned Action (TRA) developed by Davis in 1989 was applied to the field of information technology and developed it into a Technology Acceptance Model (TAM). Chi[4] explains that TAM is a theoretical model that has been widely recognized and utilized and predicts whether an information technology is accepted by its users. TAM refers to the behavior of information technology adoption through two primary factors, namely perceived ease of use and perceived usefulness.

1.2.2 Perceived Ease of Use Perceived Ease of Use can be described as the level of effort performed by users when using or accessing information technology. The easier information technology, the more consumers accept that technology[9]. According to Hubert, Blut, Brock, Backhaus, and Eberhardt [10], perceived ease of use refers to a person's level of confidence that using or accessing information systems will be easy as without effort. From the explanation above, it can be concluded that perceived ease of use is the level of one's trust when using or accessing technology or information systems feel easy as without effort to use it. Hubert et al. [10]state that there are four items to measure perceived ease of use: an application must be easy to learn, an application must be easy to use on the smartphone, an application must support users to master it easily, and an application must be easy to use shop mobile.

1.2.3 Perceived Usefulness According to Chi[4]perceived usefulness cab be defined as the level of a person's belief that using technology will improve his job performance. In the context of online shopping, this definition refers to consumers' belief that using the internet as a media can increase their productivity or performance so that it will improve their shopping experience[11]. From these definitions, it can be concluded that perceived usefulness is the perception or level of confidence of users and potential users that using internet technology will increase their productivity and performance.

Chi[4] explains that there are four items to measure perceived usefulness of an application. Firstly, increasing performance which refers to the extent to which a technology can increase the shopping ability of its users. Secondly, promoting productivity which means usefulness in making purchases and users can carry out their daily activities productively. Thirdly, giving more convenient. A technology is perceived more convenient when it has become a better option for purchasing compared to other options such as buying directly in the cinema. Finally, effective. the refers to which an application can help users to achieve goals precisely through a series of alternatives or choice of means.

1.2.4 Attitude Toward Using Attitude refers to a person's process of determining the value of an object that leads to developing trust in that object[12]. Attitude toward using is an attitude that is related to the user's assessment of the desire to use a specific information application technology[13]. In another description, Theo and Noyes[14] describe attitude toward using is a person's positive or negative feelings when the individual uses an object, such as technology. According to Lee et al. [13] attitude toward using can be measured by four indicators, namely: evaluation of an object which refers to evaluation that can occur when an individual has assessed the object; feelings or emotions that arise when using a certain object; attraction, feeling attracted to use, reuse, or continuously use an object; goodness and positive values, a feeling in the form of good things and have a positive impact that is felt when or after using a certain object.

1.2.5 Intention to Use Lee[15] explains intention as a level of strength in measuring an individual's willingness to exert effort when carrying out certain behaviors. Yoganathan and Kajanan[16] explain that intention to use has a definition as a measure of the strength of a person's intention to actually use a technology. According to [17], if users are provided with a specific technology that meets their expectations, they will give an assessment and feel positive emotions about the technology. As a result, satisfied users are more likely to intend to reuse the technology. According to Lee[15] intention to use has two indicators. Firstly, willingness to use which means how much is an individual willing to use a technology in the future. Secondly, plan to use. This defines the measurement of the interest of an individual in using a technology in the future.

1.2.6 Hypothesis Development

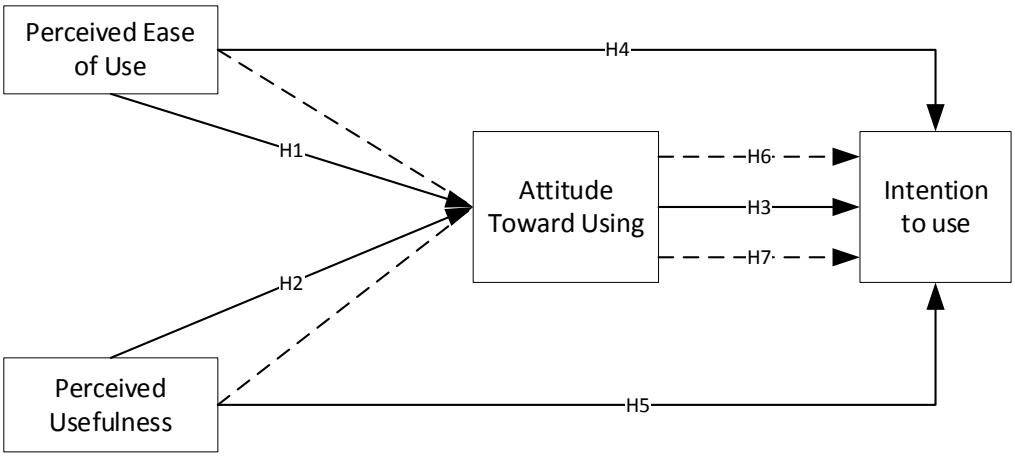

Figure 1 Conceptual Framework

H_1: Perceived ease of use significantly gives impact to attitude toward using.
H_2: Perceived usefulness significantly gives impact to attitude toward using.
H_3: Attitude toward using significantly gives impact intention to use.
H_4: Perceived ease of use significantly gives impact to intention to use.
H_5: Perceived usefulness significantly gives impact to intention to use.
H_6: Perceived ease of use has a significant influence on intention to use through attitude toward using.
H_7: Perceived usefulness has a significant influence on intention to use through attitude toward using.

2. Research Method

This study was conducted under the quantitative approach using five-score Likert scale questionnaire. Answer for score 1 represents strongly disagree and 5 (the highest) represents strongly agree. Then, the answer collected was included to the data pre-processing step. In addition to setting all the variables as latent variables, we placed attitude toward using as the intervening variable while perceived ease of use and perceived usefulness as the independent variable. Finally, we set intention to use as dependent variable. Furthermore, for the multivariate data analysis, partial least square (PLS) were chosen to test the hypothesis. The path diagram accordingly drawn to the hypothesis development can be described as follows:

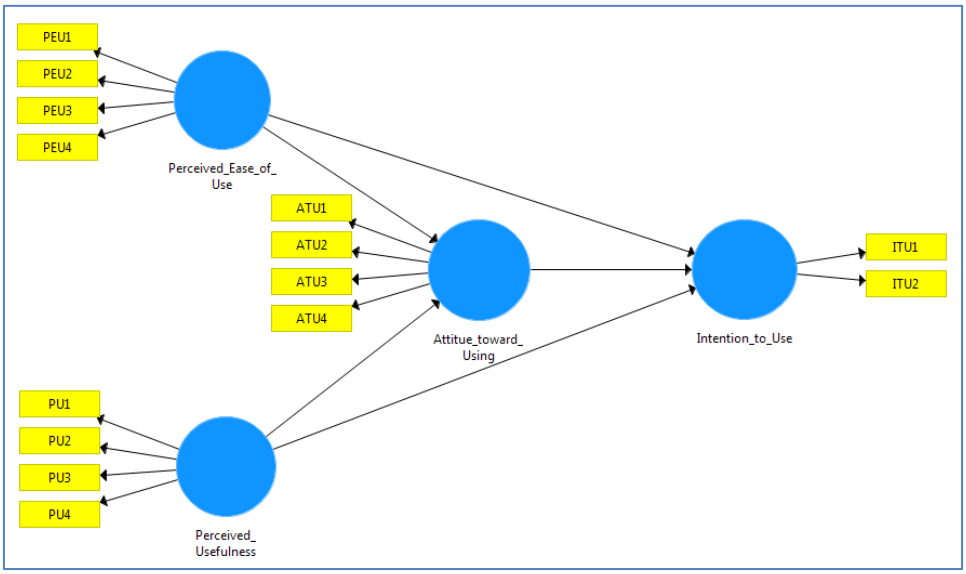

Figure 2 Path Diagram

This study focuses on TIX ID application users who live on the Indonesian island of Java, which is the most populous island in Indonesia. The number of respondents who have filled in the questionnaire online through the online form application is 123 respondents with valid answers consisting of 54 men and 69 women. Based on the data collection, there are 101 respondents aged 17-24 years while the rest are aged 25-35 years, totaling 22 people. Seeing from occupation perspective, student is the dominating occupation out of all the respondents which is 87 respondents. The rest, 36 respondents, were divided into several types of work, namely, self-employed, private employees, and civil servants.

3. Result

The first test conducted prior to the inferential testing validity and reliability test. These tests are to determine the validity and reliability of measuring instruments (indicators) in research. To see the results of data validity, it can be seen through the loading value. Indicators that are considered valid are those that have a loading value of > 0.50[18]. Meanwhile, reliability is considered consistent if the value obtained > 0.70 [19].

Using Smart PLS 3.0 and according to table 1, it can be concluded that the AVE value of all variables has met the minimum limit, namely 0.5 with the respective values of 0.725, 0.584, 0.914, 0.742 for PEU, PU, ITU, and ATU. Outer loading of all indicators has exceeded the minimum limit of 0.5 and is declared valid and can be used to measure the latent variables. In addition, Cronbach's Alpha value where the reliability value of 0.6 is considered, 0.7 is accepted and 0.8 is good [19]. The Cronbach's Alpha value of all variables in this study exceeded 0.7 which means that it is declared reliable.

Table 1. Outer Model Evaluation

Variable and AVE Score	Cronbach's Alpha	Indicator	Description	Factor Loading	Remark
Perceived Ease of Use (PEU)	0.875				Reliable
(AVE = 0.725)		PEU01	Learning TIX ID application is easy	0.759	Valid
		PEU02	TIX ID application gives me an easy way to book seats in the cinema with movie I want	0.906	Valid
		PEU03	TIX ID application is easy and quick to use	0.85	Valid
		PEU04	I feel so easy to book the ticket mobile	0.884	Valid
Perceived Usefulness (PU)	0.762				Reliable
(AVE = 0.584)		PU01	Using TIX ID application, I feel my ticket purchase performance improved	0.717	Valid
		PU02	Buying movie ticket from TIX ID does disturb my productivity	0.702	Valid
		PU03	It is easier to book the movie tickt online than to buy in on the spot.	0.809	Valid
		PU04	TIX ID application gives effectiness when buying movie ticket.	0.821	Valid
Intention to Use (ITU)	0.906				Reliable
(AVE = 0.914)		ITU01	I will always use TIX ID for buying movie ticket in the future	0.956	Valid
		ITU02	I plan to continue using TIX ID when I want to buy movie ticket	0.956	Valid
Attitude toward Using (ATU)	0.884				Reliable
(AVE = 0.742)		ATU01	I think that using TIX ID is useful	0.854	Valid
		ATU02	I feel happy because I have downloaded and used TIX ID	0.868	Valid
		ATU03	I feel attracted by TIX ID	0.884	Valid
		ATU04	I feel the positive effect after buying ticket	0.84	Valid

The next step is to interpret the coefficient determination or R^2 value. Running the bootstrapping results, the R2 values of intention to use and attitude toward using are 0.587 and 0.528. This means that intention

to use is influenced by attitude toward using, perceived ease of use, and perceived usefulness of 58.7%, the remaining 41.3% is explained by other variables outside the proposed model. In addition, this also indicates that the attitude toward using is influenced by 52.8% of perceived ease of use and perceived usefulness, while the remaining 47.2% is explained by other variables unmentioned in this study.

According to table 2, with a path coefficient of 0.581, perceived usefulness has a positive and significant effect on attitude toward using since the p-value is 0.000 and the T-statistic is 5.481, where the p-value is < 0.05 and the T-statistic is > 1.96, then H_2 is supported. Furthermore, with a path coefficient of 0.490 and 0.338, attitude toward using and perceived usefulness respectively have a positive and significant effect on intention to use indicated by the p-value is <0.05 and the T-statistic is> 1.96. Therefore, it can be concluded that H_3 and H_5 are supported.

Table 2. Inner Model Evaluation - Direct Effect

Hypothesis	Direct Effect	*Path Coefficient*	*T Statistics*	*P Values*	Remarks
H_1	PEU→ATU	0.191	1.679	0.094*	Supported*
H_2	PU→ATU	0.581	5.481	0.000	Supported
H_3	ATU→ITU	0.490	5.748	0.000	Supported
H_4	PEU→ITU	0.004	0.043	0.965	Not supported
H_5	PU→ITU	0.338	3.402	0.001	Supported

*: Significat at α = 10%

On the other hand, at a significance level of 10%, perceived ease of use has a direct positive and significant effect on attitude toward using because the p-value is 0.094 and the T-statistic is 1.679, where the p-value is < 0.1 and the T-statistic is > 1.96. Then, H_1 is accepted when using α = 10%. Finally, based on the calculation results, perceived ease of use has no direct effect on intention to use because the p-value is 0.965 and the T-statistic is 0.043, where the p-value is > 0.05 and the T-statistic is < 1.96, then H4 is not supported.

Table 3. Inner Model Evaluation - Indirect Effect

Hypothesis	Indirect Effect	*Path Coefficient*	*T Statistics*	*P Values*	Remarks
H_6	PEU→ATU→ITU	0.094	1.584	0.114	Not Supported
H_7	PU→ATU→ITU	0.285	4.103	0,000	Supported

Based on table 3, with a path coefficient of 0.285, perceived usefulness has a positive and significant effect on intention to use through attitude toward using because the p-value is 0.000 and the T-statistic is 4.103 where the p-value is <0.05 and the T-statistic is> 1.96, then H_7 accepted. However, perceived ease of use has no effect on intention to use through attitude toward because the p-value is 0.114 and the T-statistic is 1.584, where the p-value is> 0.05 and the T-statistic is <1.96, then H_6 is supported.

4. Discussion

In this study, the TAM concept used as a variable is consumer perceptions that are directly related to the use of the TIX ID application. Perceived ease of use and perceived usefulness are variables that have been widely used in previous research. In that study, it was proven that ease of use did not affect the intention to use of TIX ID users. In other words, it is not the convenience that builds technology acceptance among moviegoers to use application-based ticketing. This means that users do not see the ease of TIX ID as something that needs attention, but rather the use of the application which has a stronger appeal which encourages users to be able and continue to use it. This finding contrasts with

what was stated by[10] confirming that ease of use has a significant effect on the intention to use on smartphone-based applications. The use of the application that is considered more important by users is the features of TIX ID that can provide benefits for prospective moviegoers, including ordering cinema tickets, describing cinema seats that are still empty, and seeing movie showtimes that can be defined as all in the menu. a glance[19].

5. Conclusion

What can be concluded in this research is that the perceived ease of use of the TIX ID application cannot increase or support the formation of an attitude toward using or intention to use, either directly or indirectly. Conversely, what can promote technology acceptance is perceived usefulness which can build an attitude toward using the TIX ID application which will later form an intention to use among moviegoers. Further research that can be suggested is to involve perceived sacrifice or perceived risk from the use of mobile-based ticketing technology as well as expanding the research sample to include other ticketing applications.

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