APPLYING TECHNOLOGY ACCEPTANCE MODEL ON ELECTRONIC TICKETING SERVICES IN KAI ACCESS

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Abstract

This study aims to gauge and test the level of acceptance by users of an application operated by PT. Kereta Api Indonesia (KAI), named KAI Access. The model used here is Technological Acceptance Model (TAM) with four main constructs; perceived ease of use, perceived usefulness, attitude toward using, and actual usage. In this study, authors use quantitative methods to test the instrument, its validity and reliability through SPSS 24; while in data analysis, they use PLS Structural Equation Modeling (SEM) in SmartPLS 3.2.9. The samples used in this study are surveys on 200 KAI Access users. The results of the study are as follows: (1) perceived ease of use has a significant effect on attitude toward using, (2) perceived usefulness has a significant effect also on attitude toward using, (3) perceived ease of use has a significant effect on actual usage, (4) perceived usefulness has a significant effect on actual usage (5) attitude toward using also has a significant effect on actual usage.
Keywords: KAI Access, Structural Equation Model (SEM) PLS, Technology Acceptance Model (TAM)

BACKGROUND

In the era of globalization and digitalization, a demanding speed in development is seen as a normal trend. Among companies that made it necessary to seek improvement and find a new way to improvise in respond to the need of the digital era is a state company working on railway business in Indonesia named PT. Kereta Api Indonesia or PT. KAI (Indonesian Railways Ltd, the abbreviated PT. KAI is more used frequently, as would also be in this paper). Around mid-2013, PT. KAI launched an application of ticketing for users of railways to benefit it in Android platform, known as KAI Access. It is loaded with various convenience features that can help making online ticket purchase faster and more convenient than its still running, and maintained

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though outdated, offline counterpart. However, it seems that older customers who cannot keep up with technological developments think that it bothers them to follow the complexity of today modern smart phones, so that they come directly to the counter booths to buy tickets instead.

Since the number of actual passengers of railways is still abundant, the use of the KAI Access application is hoped to increase year to year. However, starting from the initial launch of KAI Access until now, its progress of downloads on the Google Play Store holds still at around 5 million; an amount considered very small compared to the number of train passengers that, in December 2019 alone, has reached 37.5 million. Despite the socialization, it is evident from the fact than more than half of KAI train passengers each year still prefer to buy tickets offline.

Indeed, it is not for all people to understand and accept easily services based on all the way new information technology. It is necessary to measure their level of acceptance and understanding in using the service primarily by measuring the behavior of its users. In the behavioral information system, there are theories that can be used to study and measure user behavior in receiving information systems. Among those theories most often used is TAM (Technology Acceptance Model) (Hartono, 2008). In this paper, this theory will be utilized as a methodological base. The authors are interested in conducting research on how technology in train ticket booking services can be applied for public utility, and are eager to find out how much these services can gain public acceptance.

METHOD

This research uses quantitative methods, namely research used to prove values by measuring the relationship between variables, so that data can be obtained in the form of numbers so that it can be analyzed by statistical ordering (Noor, 2011). In this study, the object that the author examined was the enactment of the technology acceptance model for the use of electronic ticketing. The subject of this research was conducted on users of the KAI Access application. The population in this study were the users of e-ticketing on the KAI Access application. The samples used in this study were on 200 KAI Access users. The sampling technique in this study was incidental sampling, which is a purposive sampling technique using criteria (Sugiyono, 2014), on e-ticketing users in the KAI Access application. The method in collecting data in this study was a survey through online questionnaires of Google Form. To test the instrument, the validity and its reliability, the SPSS 24 program was used. Meanwhile, on the data analysis, the PLS Structural Equation Modeling (SEM) in the SmartPLS 3.2.9 was used.

RESULTS

The variable perceived ease of use has a positive effect on the variable attitude toward using, which explains that the e-ticket service in the KAI Access application is easy to use. The variable perceived usefulness has also a positive effect on variable attitude toward using, this explains that the e-ticket service in the KAI Access application has been considered beneficial by train users. Variable perceived ease of use has a positive effect on variable actual usage, which explains that the ease of e-ticket service in the KAI Access application is accepted by the public. Variable perceived usefulness has a positive effect on variable the attitude toward using, which explains that the benefits of the e-ticket service in the KAI Access application are also accepted by the public. Variable attitude toward using has a positive effect on variable actual usage, which shows that e-ticket service users are satisfied with the KAI Access application, indicated by

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repeated use.

DISCUSSION

Based on the results of processing SmartPLS 3.0, it is evident that the relationship between variables Perceived Ease of Use and Attitude toward Using has a path coefficient value of 0,232 and t-statistic value of 2,463. That t-statistic value > t-table 1,972, so it may mean that hypothesis 1, namely perceived ease of use affects attitude toward using (ATU) of e-ticketing, is accepted. Perceived ease of use in technology is defined as a measure of one's trust in computers that are easy to understand and use (Davis, 1989). This explanation is supported by Wibowo (2006) who restates that a perceived ease of use of technology is a degree in which someone considers that certain technology is understandable and convenient to put into use. Rigopoulos and Askounis (2007), Gefen et al. (2003), and Yahyapour (2008) state that perceived ease of use should be measured through indicators that are clear and understandable.

Based on the results of processing SmartPLS 3.0, it is also clear that the relationship between variables perceived usefulness and attitude toward using has a path coefficient value of 0,605 and t-statistic value of 6,176. The said t-statistic value > t-table 1,972, so it can be interpreted that hypothesis 2, namely perceived usefulness affects attitude toward using e-ticketing is accepted. Following definition by Hartono (2008) that suggests that perceived usefulness is the extent to which individuals believe that using a technology will improve their job performance. If an individual thinks the information media is useful, then he will use it. Conversely, if the individual thinks the information media is less useful then he will not use it. Davis and Venkatesh (2000) suggest that perceived usefulness can be measured using the following indicators: useful, beneficial, effectiveness, and productivity.

Based on the results of processing SmartPLS 3.0, it reveals that the relationship between variables perceived ease of use and actual usage has a path coefficient value of 0,348 and t-statistic value of 3,602. The said t-statistic values > t-table 1,972, so it can be interpreted that hypothesis 3, namely perceived usefulness affects actual usage of e-ticketing is accepted. Perceived ease of use is all sorts of convenience that consumers feel in connection with the use of the internet for various purposes (Lui and Jamieson, 2003). Individual perception regarding the ease of using computers is the level at which individuals believe that using a particular system will be error-free. This perception will then have an impact on behavior, that is, the higher a person's perception of easiness in using the system, the higher the level of utilization of technology (Igbaria and Chakrabarti, 1990).

Based on the results of using SmartPLS 3.0, the relationship between perceived usefulness and actual usage variables has a path coefficient value of 0,234 and t-statistic value of 2,058. The t-statistic value is > t-table 1,972, so it means that hypothesis 4, namely perceived usefulness affects actual usage of e-ticketing is accepted. Davis (1989) states that perceived usefulness is a measure in which the use of a technology is believed to bring benefits to people who use it. According to Shun Wang et al. (2003) perceived usefulness is a stage where someone believes that by using a certain system it will be able to improve their performance. Perceived usefulness can be measured through several indicators such as performance improvement, easier work, and overall benefits of technology experience (Davis, 1989). Likewise, Gefen et al. (2003) and Yahyapour (2008) also explained that perceived usefulness can be measured by indicators of increasing productivity, making work more effective, and speeding up a job.

Based on the results of using SmartPLS 3.0, it is also clear that the relationship between variables perceived usefulness and actual usage has a path coefficient value of 0,300 and a t-statistic value of 3,810. The said t-statistic value > t-table 1,972, so it means that hypothesis 5, namely perceived usefulness affects actual usage of e-ticketing is accepted. Attitude toward using in TAM is conceptualized as an attitude toward the use of systems in the form of acceptance or rejection as a result of using technology in work (Davis, 1989). Hoppe et al. (2001) defines that attitudes betoken a person's acceptance of information technology. This person's attitude consists of elements of cognition, affection, and components related to behavior. Yahyapour (2008) defines attitude as one form of evaluation of the consequences of carrying out a behavior.

All those said results are supporting previous researches by Adhiputra (2015), Yuliyani, et al (2016), Yasa, et al (2014), Sari and Hermanto (2016), Kurniawan, et al (2013), and Joubert and Prihantoko (2013), and suggesting the same notion that perceived usefulness effects on attitude toward using internet banking.

CONCLUSION
1. Variable perceived ease of use has a positive effect on variable attitude toward using.
2. Variable perceived usefulness has a positive effect on variable attitude toward using.
3. Variable perceived ease of use has a positive effect on variable actual usage.
4. Variable perceived usefulness has a positive effect on variable actual usage.
5. Variable attitude toward using has positive effect on variable actual usage.

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