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Measuring Tools for Analyzing Factors InfluencingCustomer Continuance Intention towards Travel Mobile Application (A Case Study on KAI Access from PT. Kereta Api Indonesia)

Firda Amalia[1], Indrawati[2]
[1,2]*Telkom University, School of Business and Economics, Bandung, Indonesia*
Corresponding Author: Firda Amalia

ABSTRACT: *PT. KeretaApi Indonesia (KAI) is a state-owned company that provides railroad transportation services in Indonesia. The company launched KAI Access in 2015, it is an official mobile application from PT. KAI that helps the customer to order, manage and assist themselves with the service from pre, on until post train trip. However, the usage of the application still below the expectation because there were several channels that had provided the services to order a train ticket from another application, web or counter. It is the challenge that the company should compete and this study intends to propose a measurement tool to analyze the factor influencing continuance intention of using KAI Access. The measurement tool has been tested to 40 respondent that choose to used KAI Access as their main channel to order and manage train ticket besides other option. The pilot test revealed that the measurement tool of 9 variables and 45 items fulfilled the requirements of validity and reliability. Therefore, this proposed measurement tool is ready to be used in further study.*
KEYWORD*: UTAUT, Travel, Technology Adoption, Continuance Intention*

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I. INTRODUCTION AND LITERATURE REVIEW

PT. KeretaApi Indonesia (KAI) is a state-owned company that provides railroad transportation services in Indonesia. It has provided a service to people all around Indonesia which want to travel by train. Last year reported PT. KAI had served 389 million passengers in 2017[2]. Thus, the passenger could obtain a train ticket from several kinds of channel. The passenger can buy a train ticket from the ticket counter, website, or e-commerce third party. In order to fulfilled the needs of a million passenger, PT. KAI had to innovated their business strategy in boosted up their train ticket sales. Following the technologies nowadays, the availability of ICT-based infrastructure is one of the most useful indicators to build up smart mobility stated by Griffinger in Indrawati et al. (2017) [5]. The company has a possible chance to build up facilities that can help passenger to order and manage their services in their smartphone. Therefore, the company launched its official mobile application named KAI Access in 2015. KAI Access provides facilities from purchasing train tickets online, ordering food before the trip, and access to customer service chat via the artificial intelligence provided by the company under the name of Chat with Loko. This application can also provide passenger e-tickets and provide new features called e-Boarding. This e-Boarding feature made it possible to passenger to go directly to boarding gate by only showing the booking code in the form of a QR Code that will be scanned by the officer before entering the train platform area, so no need to reprint the ticket at the check-in counter. By using KAI Access application, passengers will also get information about attractive promotions that can only be used when people ordering tickets through KAI Access.

From the data that the authors obtained from the company through email, KAI Access already has 1.4 million active users that have been ordered and manage the service from PT. KAI through the application. From 1.4 million active users, 2.2 million transactions were made from the application. Compared to the total passenger in 2017, which was 389 million passengers [2], these totals of active user still could not represent the success of the application usage to the customer. Many of them still used another channel option to buy train ticket rather from its official channel KAI Access. However, this research conducted to analyze the factors that customer might have to the continuance intention of using KAI Access. The study was to determine what factors that influence the customer to choose KAI Access as their main channel. It was created in the form of a questionnaire, distributed in online to KAI Access active users whose at least use the application 3 times to help them ordered and managed train ticket services.

1.2 Research Objectives

The objective of the research was to propose a suitable measurement to analyze the factors that positively influence customer continuance intention in using KAI Access, an official mobile application from PT. KAI.

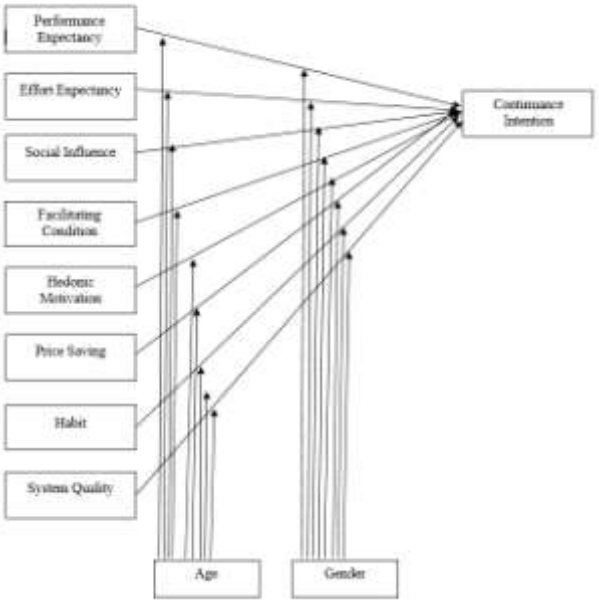
1.3 Literature Review

In order to achieve the objectives of the study, the literature review was filled by the consumer technology adoption theories. According to Indrawati (2017: 17) There were several technology adoption theories that has been applied worldwide starting from Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivational Model (MM), Theory of Planned Behavior (TPB), Combined TAM-TPB (C- TAM-TPB), Model of Personal Computer Utilization (MPCU), Innovation Diffusion Theory (IDT) and Social Cognitive Theory (SCT) [7]. Innovated from those previous theories, Venkatesh et al. (2003) had invented the technology adoption model called Unified Theory of Acceptance and Use of Technology (UTAUT) [11]. It is able to explain about 70 percent of the variance in behavioral intention to use technology [11]. According to Indrawati (2017: 32) UTAUT model was proven to be more accurate than previous theories that only explained about 17 to 53 percent [7]. However, the UTAUT model is created to fit the organizational context. Therefore in 2012, Venkatesh et al. (2012) had developed the model with additional extensions that now popularly named as UTAUT 2 model [12]. The model was developed for supporting research of technology adoption to be perfectly suitable for consumer context of technology use.

UTAUT 2 model was built from UTAUT and additional extensions which now consist with 9 constructs namely Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Condition (FC), Hedonic Motivation (HM), Price Value (PV), Habit (H), Behavioral Intention (BI) and Use Behavior (UB) [12]. It also consists of three moderating variable as Age (A), Gender (G), and Experience (E) [12]. This model can be modified based on the context of the different user population and cultural setting (Indrawati et al., 2017) [6].Indrawati et al., (2017) stated that one model that can be implemented well in a country might not be directly well implemented in another country due to customers' characteristics, social and economic background [6]. Before the study was conducted and the measurement model was created, the authors gathered preliminary data from the customer and it was stated that the customer would pay attention to the information, performance, and appearance of an application that they used. Considering these findings, the authors added new construct to the model namely System Quality (SQ). System Quality is considered will affect the intention of the customer to use KAI Access. System quality has been proved to positively influence customer intention in Alshehri et al. (2017) [1]. The authors also adopted Price Value (PV) to Price Saving (PS). Venkatesh et al. (2012) added Price Value as extensions in UTAUT 2 was because there is monetary cost implied in consumer context compared to the organizational context that has not implied any cost the employee in UTAUT model [12]. In this research, there are no different price applied from each channel that provided train ticket transaction. However, there were different privileged in using each channel. In this case, KAI Access provides several promotions and price reduction benefit if the customer chooses to order a train ticket from the official mobile application. Therefore, the authors adapted Price Value to Price Savings.

Based on the Venkatesh et al. 2003 & 2012 [11][12], UTAUT model was created to help researcher determined customer behavioral intention to technology adoption that existed as the subject of the research, which was customer intention of using that product or services they once never know or use before. But this research implied the intention on a different perspective, it is conducted to the customer who has used KAI Access for at least 3 times and choose to use it rather than another option existed. Therefore, the authors adapted behavioral intention to continuance intention. The previous studies that have been applied continuance intention on UTAUT model are Anggraini et al. (2018) and Mouakket et al. (2015) [8],[10]. The authors also dropped Experience (E) as a moderate variable because this study took a cross-sectional method which was taken in one period of time. The overall proposed model for this research can be seen in Figure 1 below:

Figure 1: Authors's proceed of Conceptual Model adapted from UTAUT 2 Model(Venkatesh et al. 2012)



This study defined each of variable adapted and based from Venkatesh et al. (2003 & 2012) [10] [11]. The definition of each variable described as follow: Performance Expectancy (PE) is defined as the degree to which using KAI Access will provide benefits to consumers in performing certain activities. Effort Expectancy (EE) defined as the degree of ease associated with consumer use of KAI Access. Then, Social Influence (SI) defined as the extent to which consumers perceive that important others believe they should use KAI Access. Next, Facilitating Condition (FC) is consumer perceptions of the resources and support available to perform KAI Access. Hedonic Motivation (HM) is the fun or pleasure derived from using KAI Access. Adapted from Jensen (2012) in Anggraini et al. (2018) [8] stated that Price Saving (PS) is consumer perceptions of the reduction in prices or monetary costs that can be obtained using KAI Access. Habit (H) can be defined as the extent to which people tend to perform KAI Access automatically because of learning. Adapted from Al-shehri et al. (2012) [1], System Quality (SQ) is consumer evaluations of the features, uses, and advantages of KAI Access. Last, Continuance Intention (CI) is adapted from the definition of Behavioral Intention. Thus, continuance intention is defined as the degree to which a person has formulated conscious plans to continuously perform KAI Access.

II. MEASUREMENT MATERIAL

In conducting research, proposed validity and reliability is needed to prove that the research framework model is suitable for the study. In this research, the researcher first conducted content validity. According to Indrawati (2015:147), content validity is obtained by checking on each item that will be used on questionnaire logically valid to measure items from definition and indicator that has been applied[4]. The authors has been adopted and modified Questionnaire item on this research have been adapted and modified from the previous study by Venkatesh et al., (2012), Escobar-Rodriguez et al., (2014), Martin & Herrero et al. (2012), Indrawati et al., (2017), Anggraini et al., (2018), Alshehri et al. (2017), [12];[3];[9];[6];[8];[1].

The items are created to measure the perception level of Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Condition, Hedonic Motivation, Price Saving, Habit and System Quality from the respondent of KAI Access users in Indonesia. Next, the authors test the questionnaire item with four experts related in the field of marketing and technology adoption. The objective of this test is that the authors will obtain a suggestion or recommendation from the experts to improve the questionnaire item to meet the needs of this research. After that, the authors conducted readability test to a few respondents in order to make sure that each item in the questionnaire is understandable. The result is the respondent found no difficulties in understanding the questionnaire. The item of each variable are presented below in Table 1:

Table 1: Questionnaire Item

Item Code	**Items of Performance expectancy**
PE1	KAI Access is useful for ordering train ticket.
PE2	KAI Access help me get train ticket faster
PE3	KAI Access help me get train ticket easier
PE4	KAI Access help me get train ticket effectively
PE5	KAI Access help me get train ticket efficiently
Item Code	**Items of Effort Expectancy**
EE1	Learning to use KAI Access is easy for me.
EE2	KAI Access is easy to understand.
EE3	KAI Access is easy to use.
EE4	Using KAI Access implies little effort for me.
EE5	Using KAI Access is an activity that I consider myself skillful
Item Code	**Items of Social Influence**
SI1	People who I familiar with think that I should use KAI Access.
SI2	People who influence my behavior think that I should use KAI Access
SI3	People whose opinions that I value prefer that I use KAI Access
SI4	People around me recommend to use KAI Access
SI5	People around me use KAI Access
Item Code	**Items of Facilitating Condition**
FC1	I have the resources (smartphone or tablet) necessary to use KAI Access.
FC2	I have the knowledge necessary to use KAI Access.
FC3	KAI Access can be used in any devices that I use.
FC4	I feel comfortable using KAI Access.
FC5	I can get help from others when I have difficulties using KAI Access
Item Code	**Items of Hedonic Motivation**
HM1	Using KAI Access is fun.
HM2	Feature in KAI Access makes me happy
HM3	Using KAI Access makes me proud.
HM4	I feel trendy for ordering train ticket from KAI Access
HM5	Using KAI Access makes me satisfied.
Item Code	**Items of Price Saving**
PS1	I can save money by purchasing ticket on KAI Access
PS2	I like to search cheap travel deals on KAI Access
PS3	KAI Acces offer better value for my money
PS4	KAI Access offer valueable promotion for me.
PS5	KAI Access has reasonable prices
Item Code	**Items of Habit**
H1	The use of KAI Access has become a habit for me.
H2	I must use KAI Access.
H3	I have already used to online based self-service
H4	I have already used to online transaction through mobile application
H5	If I want to buy traveling ticket, I automatically buy it from online.
Item Code	**Items of System Quality**
SQ1	KAI Access look attractive.
SQ2	KAI Access apps look well organized
SQ3	KAI Access are available 24/7
SQ4	Content of KAI Access is updated regularly.
SQ5	KAI Access appear safe for carrying out transaction.
Item Code	**Items of Continuance Intention**
CI1	I intend to continue using KAI Access
CI2	I will keep using KAI Access regularly
CI3	My intention is to continue using KAI Access than use any alternative channel.

CI4	I will strongly recommend that others use KAI Access
CI5	I intend to increase my use of KAI Access in the future

III. RESEARCH METHOD AND ANALYSIS

The authors first conducted a pilot study to test the questionnaire in this research had completely valid to be applied for further study. The pilot test has participated in 40 respondent for the preliminary data. These data collected from 40 users of KAI Access will be used for validity and reliability test. The authors proceeds data using IBM SPSS Statistic 25. The authors conducted validity test using "Corrected Item – Total Correlation" or CITC method. According to Indrawati (2015: 149), the main principle for measuring convergent validity using the CITC method is to find the highest possible correlation coefficient value and discard the questionnaire item whose correlation coefficient value is negative or close to zero [4]. Friedenberg and Kaplan suggested on Indrawati (2015:149) that the correlation coefficient should be at least or greater than 0.30 to be claimed as valid [4]. From the result that has been proceeded by the authors, the validity test of each item using the CTIC method had proven to be valid with coefficient correlation above 3.0 presented in Table 2. Next, the authors used Cronbach-Alpha to test the reliability of each item. Each item of the construct can be stated have good reliability if the Cronbach-Alpha > 0.70. (Hair et al., 2010; Kaplan and Saccuzzo 1993:126; Nunnally& Bernstein, 1994; Pedhazur&Pedhazur, 1991) in Indrawati (2015:155) [4]. To be summarized, the result of the pilot study presented below in Table 2:

Table 2: Pilot Test Result

PE Code	**CTIC**	**CA**
PE1	0,584	0,868
PE2	0,678	
PE3	0,684	
PE4	0,830	
PE5	0,707	
EE Code	**CTIC**	**CA**
EE1	0,826	0,908
EE2	0,782	
EE3	0,809	
EE4	0,755	
EE5	0,684	
SI Code	**CTIC**	**CA**
SI1	0,942	0,968
SI2	0,927	
SI3	0,925	
SI4	0,970	
SI5	0,781	
FC Code	**CTIC**	**CA**
FC1	0,588	0,755
FC2	0,605	
FC3	0,539	
FC4	0,615	
FC5	0,366	
HM Code	**CTIC**	**CA**
HM1	0,624	0,904
HM2	0,871	
HM3	0,744	
HM4	0,791	
HM5	0,820	
PS Code	**CTIC**	**CA**
PS1	0,761	0,907
PS2	0,778	
PS3	0,845	
PS4	0,807	
PS5	0,655	
H Code	**CTIC**	**CA**
H1	0,753	0,805
H2	0,661	
H3	0,826	
H4	0,687	
H5	0,588	
SQ Code	**CTIC**	**CA**
SQ1	0,559	0,783
SQ2	0,783	
SQ3	0,500	
SQ4	0,506	

SQ5	0,529	
CI Code	**CTIC**	**CA**
CI1	0,746	0.932
CI2	0,845	
CI3	0,872	
CI4	0,803	
CI5	0,849	

IV. CONCLUSION

The measurement material that conducted in this research had been tasted to 40 respondents of KAI Access users who had at least use the application 3 times to buy or help them organize their train ticket transaction. The result of this study had proven that the instruments consist in the modified UTAUT 2 model which include 9 construct and 45 items are valid and reliable. Therefore, this proposed measurement model is ready to be used in further study.

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