UTAUT2 Analysis on the Use of On-Demand Services Application with Perceived Privacy as Moderating Effect

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ABSTRACT

Indonesia has a large population and the growth of smartphone users in recent years defines a potential market for digital products. Establishment of the internet and technology advances creates innovations in various industry that allow consumers to access product and services easily and seamlessly. As consumer behavior is changing, digital service provider develops an online platform, which can be accessed anytime and anywhere, to fulfill consumer's needs and wants in the form of On-Demand Services application. Products or services can be easily ordered by consumers in "one-click" on the mobile application and will be delivered to the consumers immediately. By the time, On-Demand Services application provider scales up their business portfolio to high-contact services in several new categories namely housing or cleaning, laundry, repair services, health, and beauty. These new categories offer personalized services as well. This study analyzed the consumer's intention to use On-Demand Services application by examining variables in Extended Unified Theory of Acceptance and Use of Technology (UTAUT2). Data collected from respondents were analyzed using structural equation modeling (SEM) technique. The findings of this study indicated significant positive impact caused by performance expectancy, effort expectancy, habit, and immediacy. However, consumer's acceptance of this kind of technology was also affected by their perceived privacy as they start to concern about personal information exchanging occurred during consumption of the services. This study found that the consumer's intention to use On-Demand Services Application impacted by habit was weakened by their perceived privacy.

Keywords: UTAUT2, on-Demand Services Application, Perceived Privacy.

1. INTRODUCTION

The advent of digital technology initiates many great advantages as of devices can be more compact and faster to offer seamless experience. In order to increase human productivity, digital technology combines with product and services innovation is able to fulfill modern consumer's needs and wants. Marketing is now heading toward being on demand—not only always "on," but also always relevant and responsive to the consumer [1]. Consumers tend to look for instant solutions that are personalized with immediate responses.

With a large population, Indonesia is a potential market for digital-based products or services. The significant growth of digital services provider drives the behavior of modern consumers to explore, choose, purchase, and make payments to various sales channels conveniently. The number of internet and smartphone users in Indonesia illustrates significant potential of Indonesia's digital market and opportunity for service providers through mobile-apps. Modern consumers will choose applications that are considered increasing productivity and carrying out tasks easier. As consumer behavior is changing, digital service provider develops an online platform, which can be accessed anytime and anywhere to fulfill consumer's needs and wants in the form of on-demand services application.

Reference [2] explained that on-demand economy is the economic activity created by technology companies that fulfils consumers' demand via immediate provisioning of goods and services. On-demand services application offer convenient access to and/or fulfilment of goods and services [3] and create digital-based business models that can meet the needs and desires of

consumers in ways that are cost effective, measurable, and efficient. The debut of on-demand services application usage in Indonesia was spearheaded by mobile applications as an online platform that connects transportation service providers with consumers, namely Go-Jek from PT Karya Anak Bangsa and Grab from PT Grab Taxi Indonesia, which has acquired Uber in 2018. In its development, on-demand services application provider developed their category and business portfolio with high-contact services such as housing or cleaning, laundry, repair services, health, and beauty. Technology is a major contributor to improving the quality of services to meet the needs and desires of consumers. The aim of this research was to understand about individual acceptance, as a consumer, which is their behavioural intention to use the technology or innovation.

This study examined the variables on The Extended Unified Theory of Acceptance and Use of Technology theory (UTAUT2) developed by [4]. There are performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivations, price value, and habit [5]. Moreover, as its nature of business, this study also analyzed immediacy as [3] concluded that the tendency of consumers to adopt certain innovations will be higher because it allows consumers to fulfil their wants and needs. Personalization as a variable was also examined as on-demand services application provider must be able to create services that can be arranged according to the needs and wants of the consumers.

Technology usage requires personal information as its business process, which consumers today start to concern about their privacy and security of their personal information. To enjoy services through on-demand services application, consumers must be willing to provide their personal information. Reference [6] explained that consumers often agreed to disclose their personal information regardless of their privacy issues. This study examined consumer's perceived privacy as a moderating effect to UTAUT2 model.

This study analyzed the factors that influence behavioral intention to use on-demand services application in the category of housing or cleaning, laundry, repair services, health, and beauty.

1.1. On Demand Services Application

Services offered through the on-demand services application are part of a developing sharing economy that uses online platforms to connect searchers (consumers) and certain service providers [7]. Reference [8] said that on-demand services through an internet platform dominated by applications has emerged as a business model. The internet-based platform is able to connect demand from consumers with offers from service providers.

1.2. Behavioral Intention to Use

Behavioral intention is the best predictor of actual behavior. Behavior is the action of an object at a certain time. The meaning of intention in this case is the plan of consumers to make purchases in the near future. Furthermore, it was also conveyed that there was a clear time frame between consumer intentions and actual behavior or actions that occurred on that intention [9].

1.3. Extended Unified Theory of Acceptance and Use of Technology (UTAUT2)

Understanding individual acceptance and the use of information technology is one of the most mature streams of information system research [10]. Various models and theories have been developed and designed to predict how one uses and adopts technology. UTAUT2 was designed by Venkatesh et. al. to predict technology acceptance. This model has filtered important factors and possibilities related to predictions of behavioral intention to use technology.

1.4. Perceived Privacy

In general, privacy is based on the idea of a relationship between someone and another person [11]. In communication in various media and the surrounding environment, there is a tendency for conditions that affect people's perceptions of privacy. Through the internet, the convenience of using the digital marketplace arises from the convenience of consumers in accessing the required information and processing business transactions whenever and wherever.

Perceived privacy refers to the status of self-assessment of individuals where external parties have limited access to information about themselves [12]. When privacy is perceived as a condition, an individual or consumer will make a decision by considering his privacy issues. Privacy concerns and trust are two things that describe perceived privacy.

1.5. Immediacy

Immediacy refers to the ability to get products or services that consumers want or need in a short time, immediately, and now without delay [13]. The faster consumers get a response, the higher their tendency to adopt certain innovations that enable them to meet their needs.

1.6. Personalization

Personalization on display, product functions and services, and content provided in a technology can make consumers feel more personal, special, and special because the service is only realized for them. Personalized services will create a feeling of being close to consumers. Reference [14] argued that personalization

is the possibility or opportunity that is owned by consumers to receive products or services that are tailored to the conditions of the needs or desires of customers so as to provide positive experiences.

1.7. Hypothesis Development

Performance expectancy describes the extent to which someone believes that the performance of each activity carried out will be facilitated if done by utilizing certain technologies [4]. In this case, the consumer recognizes the use of mobile application can improve productivity and is considered beneficial because it can help customers to complete a variety of jobs. Based on these explanations, thus:

H1: Performance expectancy positively influences the intention to use on-demand services applications.

Effort expectancy is the level of convenience associated with using a system or technology by a consumer in the consumption process [4]. Effort expectancy shows the level of convenience for users to become proficient in interactions with mobile applications that have been designed in such a way as to be easy to use. Furthermore, consumers are now familiar with the use of smartphones, thus:

H2: Effort expectancy positively affects the intention to use on-demand services applications.

Social influence refers to the level at which a consumer views whether people are important to him such as family members, relatives, peers, and friends who believe they must adopt new technology [4]. With the increasing use of social media as an information sharing media, which is assumed influencing individual behavior to use technology-based services, thus:

H3: Social influence positively influences the intention to use on-demand services applications.

Facilitating condition describes consumers' perceptions of the resources and support they have to carry out an action, in this case using a technology [4]. Assuming that every consumer who has known the on-demand services application has facilities to enjoy services through the on-demand services application, thus:

H4: Facilitating conditions positively affect the intention to use on-demand services applications.

In the viewpoint of consumers, hedonic motivation is thought to be an important predictor of technology acceptance and use for fulfilling their wants and needs. Reference [4] defines hedonic motivation as the pleasure that consumers get when using technology. Thus:

H5: Hedonic motivation positively affects the intention to use on-demand services applications.

The cost and price structure offered by producers for a service has a significant impact on the use of technology by consumers. Reference [4] defines price value as a consumer trade-off with the perceived benefits of using a technology, in this case an application that is a tool to fulfill the needs and desires of consumers. Thus, the hypothesis is:

H6: Price value positively affects the intention to use on-demand services applications.

Habit is measured by the extent to which someone believes that the behavior is done automatically because it has been done repeatedly. Reference [15] found that experience in previous use was a strong predictor to indicate the use of technology in the future. Thus:

H7: Habit positively affects the intention to use On-Demand Services applications.

In the digital age, consumers are beginning to realize that there is a privacy risk associated with their personal data when conducting activities or transactions digitally. Perceived privacy describes the level of ability or willingness of an individual to control how their personal information is collected and used in transactions, especially in the current digital era [16]. Nonetheless, the various offers and compensation offered by service providers through the on-demand services application are now attractive for consumers. Thus:

H8A: Perceived privacy positively moderates the relationship between performance expectancy and the intention to use on-demand services applications.

H8B: Perceived privacy positively moderates effort expectancy's relationship to the intention to use on-demand services applications.

H8C: Perceived privacy positively moderates the relationship between social influence and the intention to use on-demand services applications.

H8D: Perceived privacy positively moderates facilitating's relationship to the intention to use on-demand services applications.

H8E: Perceived privacy positively moderates hedonic motivation relationships towards the intention to use on-demand services applications.

H8F: Perceived privacy positively moderates the price value relationship with the intention to use on-demand services applications.

H8G: perceived privacy positively moderates habit's relationship to the intention to use on-demand services applications.

Reference [13] defined immediacy as the ability or possibility of consumers to enjoy the services they want or need with the fastest time possible, now without delay. The behavior of modern consumers who do not want to

wait is as an important reason in the use of the on-demand services application as a medium to fulfill the needs and desires of consumers. Thus:

H9: Immediacy positively affects the intention to use on-demand services applications

Personalization is the adjustment of services, products, or even content that suits the preferences and interests of users [17]. Personalization as an innovation in the use of technology motivates service providers to increase the role of consumers in the value creation and this requires more intense interaction. Assuming personalization can increase customer satisfaction and willingness of consumers to use the on-demand services application. The hypothesis is:

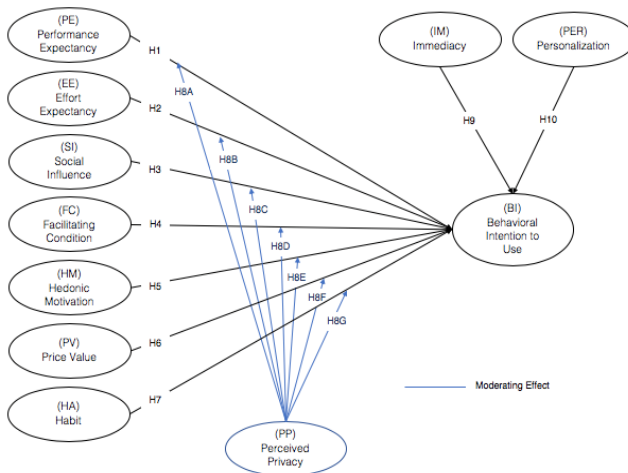H10. Personalization positively influences the intention to use on-demand services applications

Figure 1 Research model utaut2 moderate with perceived privacy, immediacy, and personalization

2. METHODS

The method used to test the hypothesis of this study was the Structural Equation Model (SEM) technique. SEM is designed to process multiple equations that are interrelated simultaneously and produce a linear model framework. Reference [18] stated that SEM can be used to analyze the relationship between independent variables and dependent variables through Confirmatory Factor Analysis (CFA) and see the relationship between factors both directly and indirectly.

2.1. Sample and Measurement

This study involved a population of men or women aged 18-35 years in Indonesia who were considered fluent in using a mobile application. While the sample in this study were men or women who had knowledge about the on-demand services application. The measurement scale used in this study was a Likert scale [19] with a range of

very disagree to strongly agree. Likert scale used is a 6-point scale ranging from 1=definitely disagree to 6=definitely agree.

2.2. Validity and Reliability Test

Validity test was done to see whether the measuring instrument used actually measures what will be measured [19]. Variables are declared valid if KMO, MSA, and CM have values greater than 0.5. For the value of the Barlett Test of Spehricity, it is stated that it meets the requirements if the significance value is smaller than 0.05 (5%). All variables in this study have met the minimum requirement as mentioned.

2.3. Structural Equation Model (SEM)

The SEM approach with Partially Least Square (PLS-SEM) and was processed with SmartPLS version 3.2.8. Reference [18] stated that there are three things that must be considered in analyzing the results of the inner model test, namely T-Statistics, P-Value, and R^2. The relationship between latent variables in this study can be analyzed based on the value of T-Statistics and P-Value. According to [19] the minimum limit of the value of T-Statistics is 1.645 for one-tailed test. Figure 2 shows the PLS-SEM model.
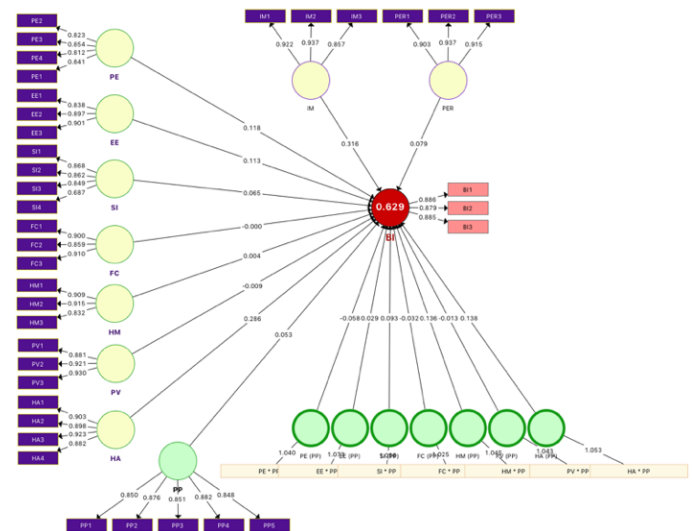

Figure 2 PLS-SEM Model

2.4. Moderating Effect

The moderation test is adjusted to the conditions and design of the predetermined hypothesis. In this study, one variable was determined, which gave a moderating effect and was specifically tested. The moderating variable in this study was perceived privacy which was hypothesized against each element of the UTAUT2 variable.

3. RESULTS AND DISCUSSION

The total respondents in this study were 296 respondents. Respondents were dominated by women, namely 206 people who were equal to 70% of the total respondents. In accordance with the target market of the on-demand services application, respondents in this study were dominated by ages 26-30 years as many as 116 people (39%), followed by respondents aged 21-25 years as many as 91 people (31%). Table 1 shows the PLS-SEM Results.

Table 1. PLS-SEM Result

	Hypothesis	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
1	PE -> BI	0,118	0,120	0,058	2,031	0,021
2	EE -> BI	0,113	0,112	0,053	2,124	0,017
3	SI -> BI	0,065	0,067	0,055	1,195	0,116
4	FC -> BI	0,000	0,009	0,052	0,008	0,497
5	HM -> BI	0,004	0,014	0,065	0,055	0,478
6	PV -> BI	-0,009	-0,009	0,058	0,151	0,440
7	HA -> BI	0,286	0,286	0,054	5,310	0,000
8A	PE (PP) -> BI	-0,058	-0,052	0,057	1,012	0,156
8B	EE (PP) -> BI	0,029	0,026	0,060	0,480	0,316
8C	SI (PP) -> BI	0,093	0,097	0,063	1,483	0,069
8D	FC (PP) -> BI	-0,032	-0,037	0,058	0,544	0,293
8E	HM (PP) -> BI	0,136	0,121	0,071	1,915	0,028
8F	PV (PP) -> BI	-0,013	-0,017	0,060	0,219	0,413
8G	HA (PP) -> BI	-0,138	-0,132	0,067	2,057	0,020
9	IM -> BI	0,316	0,308	0,065	4,838	0,000
10	PER -> BI	0,079	0,074	0,057	1,383	0,084

Performance Expectancy has a positive effect on behavioral intention to use on-demand services applications. The on-demand services application is fundamentally designed to help meet the needs and desires of today's modern consumers. The use of the on-demand services application is no longer limited to the transportation category. Effort expectancy has a positive effect on behavioral intention to use the On-Demand Services application. The service providers through the application will design the application to be easy to use, so that consumers feel the learning process is not difficult. Habit has a positive effect on behavioral intention to use the on-demand services application. Perceived privacy moderates habit relationship to behavioral intention to use the on-demand services application negatively. Consumers have high perceived privacy, which can be concluded that the individual has a high awareness of privacy issues and wants to be more careful in conducting transactions or sharing information digitally.

Immediacy has a positive effect on behavioral intention to use the on-demand services application. The behavior of modern consumers who do not want to wait is perceived as an important reason in the use of the on-demand services application as a medium to fulfill the needs and desires of consumers.

4. CONCLUSIONS

Based on analysis of hypotheses that have been described, it can be concluded that performance expectancy, effort expectancy, habit, and immediacy positively influenced the intention to use on-demand services applications. Moderating effects only analyzed to these variables. It was also found that habit negatively moderated intention to use on-demand services applications.

Further research will be more comprehensive in examining the use of on-demand services applications in the category of housing, cleaning, repair services, health, and beauty in Indonesia, if the model involves more personal aspects that refer to consumers rather than external aspects. It is expected that further research can consider external aspects, so that a more comprehensive analysis can be obtained.

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