

## Technological Adoption For The Online System of Public Aspirations and Complaints Service (Lapor) in Bandung City

Helga Meizhura<sup>1\*</sup>, Dini Turipanam Alamanda<sup>2</sup>, and Fajar Sidiq Adi Prabowo<sup>3</sup>

<sup>1,2,3</sup> Telkom University, Bandung, Indonesia

### *Abstract*

*The city government of Bandung has made serious efforts in solving the urban problems creatively through the utilization of ICT, known as Smart City. One of the smart government programs being implemented is the online public aspirations and complaints service through an application system called LAPOR. So far, the application is considered effective enough to engage public participation, even though there are also many contradictory and negative comments shared by the users. Therefore, it is important to find out the actual description of public acceptances for the LAPOR system.*

*The affecting factors of interest and behavior in using the system were identified by the model of UTAUT 2 developed by Venkatesh et al. in 2012. The data in this study was collected using questionnaires distributed to 405 respondents of those who live in Bandung city, either the users of LAPOR application or those who have not used it yet. The results showed that the most influential factor of interest in using the LAPOR system is Price Value. This indicates that public wants the proportional benefits of the costs incurred for using the system. Other influential factors are Hedonic Motivation, Social Influence, Habit, and Facilitating Condition. Hence, these findings will enable practitioners to gain information in improving the successful implementation of technology-based governance programs.*

**Keywords:** *Smart City, Smart Government, UTAUT 2*

### 1. INTRODUCTION

The development of ICT (*Information and Communication Technology*) has brought significant impacts in human life, one of them is the internet. It is not only limited to *Personal Computers* (PC) and *smartphone devices*, but ICT has also entered various sectors, included the government. The development of technology and information in the government has become a new innovation in urban areas to provide better services to the public, it is known as *smart city*. Among several smart cities in Indonesia, Bandung is the one which has made serious efforts in becoming a *Smart City* through the utilization of ICT to serve the community. In August 2016, Bandung was named the only city whose government has been using smart city contents wholly connected until the level of *kelurahan* (urban village). It is known as the *smart government* (Pikiran Rakyat, 2016).

*Smart government* is defined as the transformation of local government to be more transparent, efficient and open to their citizens through the use of ICT and

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\* Corresponding author. *Email address:* [helgameizhura95@gmail.com](mailto:helgameizhura95@gmail.com)

the formulation of the *smart city* policies (Anthopoulos and Reddick, 2016). Bandung City Government has been very serious in making efforts to solve the urban problems creatively through the utilization of ICT. One of the programs carried out is the system of *Online Public Aspirations and Complaints Service* (LAPOR). The system is a means of receiving aspirations and complaints from the citizens which are then managed and disposed to various related institutions to be responded directly. Though the application is considered to be quite effective in engaging public participation, this is in fact contrary to the user feedbacks on Google Play in which there are more negative comments than the positive ones concerning the LAPOR system.

To find out the actual description of public acceptance for the LAPOR system aiming to realize the efficiency, effectiveness, transparency, and accountability of governance, this research has adopted the modified UTAUT 2 thinking framework by Marhaeni and Indrawati which consists of seven indicators taken from the previous model of UTAUT: *Performance Expectancy*, *Effort Expectancy*, *Social Influence*, and *Facilitating Condition*, and three additional constructs: *Hedonic Motivation*, *Price Value*, and *Habit* (Venkatesh *et al.*, 2012). By using this model, the factors of user considerations and behavioral tendencies in the utilization of the LAPOR system could be identified.

## **2. LITERATURE STUDY AND HYPOTHESES DEVELOPMENT**

### **2.1 Literature Study**

#### **2.1.1 Smart City**

The concept of *smart city* is defined as the icon of a habitable city with sustainable developments (Chourabi *et al.*, 2012). While other notions say that *smart city* is a city which encourages sustainable economic growth by utilizing information to make better decisions, anticipate problems proactively, and coordinate resources to effectively operate (IBM, 2011). *Smart city* is categorized into six smart characteristics: *Smart Economy*, *Smart People*, *Smart Government*, *Smart Mobility*, *Smart Environment*, and *Smart Living* (Giffinger and Gudrun, 2010).

#### **2.1.2 Smart Government**

Many countries in the world have now also benefited from the emergence of ICTs which improve their urban governances. An ICT-based government is known as *smart government* which is broadly interpreted as the integration of technology, society, policies, practices, resources, social norms and information interacting to support the activities of the city government (Chourabi *et al.*, 2012). Today, the concept of *e-government* has led to a higher level called *smart government* which leverages the power of "data" in the efforts to improve public services; To carry out integrated services; To engage with citizens; To work together in developing policies; And to implement solutions for the welfare of society (Harsh and Ichalkaranje, 2015).

### 2.1.3 Government 3.0

Government 3.0 is known as a new paradigm in government activities to provide more customized public services and generate new jobs creatively. This is done by opening and sharing government data to public in order to encourage communications and collaborations between government departments and the society. Based on the *Executive Summary* of South Korea conducted by *Open Government Partnership*, government 3.0 aims to make government more service-oriented, competent, and more transparent in order to achieve the happiness of every citizen (Cain, 2015).

### 2.1.4 Open Government

An *open government* generally means a *broad-based* and global movement to expand citizen access to the government works involving three core principles: *Transparency: Civic Access, Participation: Civic Engagement, and Collaboration: Civic Involvement* (Rogers and Lindsey, 2012). In practice, the term "*open government*" is often used to describe the initiative of placing government documents and information in cyberspace (the internet). Technological developments encourage open governance which facilitates people's access to information. *Website development* is considered to be important in the *open government* practices. It is not only limited in providing information but also enabling interactions between government and the citizens (Meijer *et al.*, 2012).

### 2.1.5 Unified Theory of Acceptance and Use of Technology (UTAUT) 2

UTAUT 2 is the development of the previous UTAUT model formulated by Venkatesh *et al.* In 2003. UTAUT 2 is one of the best models to predict the acceptance of technology and explain the user's behavior in using the technology (Kumar, 2013). A research conducted by Venkatesh *et al.* In 2012 presented UTAUT 2 by adding extra key constructs and their relations to each other into the previous UTAUT model to be tailored to the context of the consumer use. The three other new constructs added are *Hedonic Motivation, Price Value, and Habit*, and the moderating variables used are *Age, Gender, and Experience*.

#### a) *Performance Expectancy* → *Behavioral Intention*

The definition of *Performance Expectancy* (PE) according to Venkatesh *et al.* (2003) is the extent to which individuals believe that the use of a system will help them to achieve the maximum performance in their works. Furthermore, it is explained that PE is the strongest predictor of *Behavioral Intention* (BI). While, according to Marhaeni and Indrawati (2015) BI is defined as the extent to which a person will use a particular technology in the future.

A research by Alkhunaizan and Love (2012) concerning the use of *mobile commerce (m-commerce)* in Saudi Arabia discovered that PE provides the strongest influence on BI. It is in line with Oye *et al.*'s research (2011) regarding the acceptance and use of ICT by the academic staff at LASU University, Nigeria in which PE was found to be the most influencing factor of interest for technology use at the university. In addition, in terms of their relations

moderated by *Age* and *Gender*, a research by Al-Gahtani et al. (2007) figured out that there are no significant interactions of *Age* and *Gender* on the influence of PE against BI.

b) *Effort Expectancy* → *Behavioral Intention*

According to Venkatesh et al. (2003), *Effort Expectancy* (EE) is the level of convenience perceived by the users in using a system. Based on a study by Oye et al. (2011), EE was found to be the most influential factor toward BI in the use of ICT by the academic staff at LASU University, Nigeria. Then, the same thing was also expressed by Pahnla et al. (2011) that EE was an important factor in the acceptance of Tao Bao, the Chinese eBay. Furthermore, the EE's influence on BI moderated by *Gender* and *Age* was more significant in older female employees (Venkatesh et al., 2003). However, a research by Yu (2012) found that none of the *Age* and *Gender* affect the influence of EE on BI.

c) *Social Influence* → *Behavioral Intention*

*Social Influence* (SI) is defined by Venkatesh et al. (2003) as the extent to which a person perceives the people in his or her social environment, friends and family, can influence his behavior to use a system. Furthermore, it was also explained that SI is the factor determining BI directly, the most significant influence takes place in older female employees. Another study by Lewis et al. (2013) also showed that SI has an influence on BI and its effect becomes more complex when the moderating variable of *Gender* is involved.

d) *Facilitating Conditions* → *Behavioral Intention*

The definition of *Facilitating Conditions* (FCs) is how much someone believes in factors such as the presence of devices, knowledge, guidance, and other people in the social group can support the use of a system (Venkatesh et al., 2003). Based on the results of research by Venkatesh et al. (2012) regarding the UTAUT 2 model, FCs were also found to have an influence on BI moderated by *Gender* and *Age*.

e) *Hedonic Motivation* → *Behavioral Intention*

*Hedonic Motivation* (HM) is defined by Venkatesh et al. (2012) as the sense of pleasure and comfort felt from the use of a technology, which plays an important role in determining the acceptance and use of technology. Further research by Venkatesh et al. (2012) then found that HM influenced BI and the influence was stronger in younger men who had little experience in using the technology. Another study conducted by Kumar (2013) mentioned the term "*Perceived Enjoyment*" which focuses on whether consumers use the service or technology for convenience or not. These studies revealed that *Perceived Enjoyment* had a positive influence on BI. While, Xu (2014) who conducted a research in the context of *Social Network Games* also found that the *Perceived Enjoyment* had a significant influence on BI.

f) *Price Value* → *Behavioral Intention*

Venkatesh *et al.* (2012) defined *Price Value* (PV) as the benefit perceived by users over the costs incurred for using a technology / system. A research conducted by Kumar (2013) used the term “*Price Level*”, meaning the consumer attitudes toward a technology at a certain price level (will accept or reject), including whether the consumer is satisfied with the service of the certain price level and how much money the consumer expect to spend for the service. The result of Kumar’s study (2013) found that *Price Level* had a negative influence on BI. Yet, another study by Alkhunaizan and Love (2012), using the term “*Cost*” to describe PV, stated that *Cost* was significantly able to predict *usage intention* in the context of *mobile commerce* customers in Saudi Arabia.

g) *Habit* → *Behavioral Intention*

*Habit* is the extent to which someone automatically tends to use an information system which he or she has learned (Venkatesh *et al.*, 2012). Based on the research, the additional variables of *Facilitating Conditions*, *Hedonic Motivation*, *Price Value*, and *Habit* as the predictors of BI could increase the value of BI’s  $R^2$  which was originally only 70% becoming 74%. Lewis *et al.*, (2013) also suggested that *Habit* has a significant influence on BI.

h) *Behavioral Intention* → *Use Behavior*

*Use Behavior* (UB) is mentioned as a measure of the actual use frequency of a technology by the users (Wu *et al.*, 2012). In the UTAUT 2 model, the effect on UB is also determined by the *Habit* factor, in which Venkatesh *et al.* (2012) found that older men with more experienced use of technology tended to be more accustomed to using technology. Furthermore, the research conducted by Wu *et al.*(2012) also revealed that BI has a positive influence on UB.

i) *Facilitating Conditions* → *Use Behavior*

Venkatesh *et al.* (2003) explained that the effect of FCs on the use of technology is stronger in older employees and it will be stronger and stronger as the experience increases. Another study conducted by Fillion *et al.* (2012) found that FC had a positive influence on the use of technology, but that effect was not moderated by *Age*, *Gender*, and *Experience*.

j) *Habit* → *Use Behavior*

Based on the research conducted by Venkatesh *et al.* (2012),the influence of *Habit* on UB is stronger in older men who have more experience. In addition, Pahnla *et al.* (2011) who conducted research on the use of Chinese eBay used another term “*Actual Use*” for UB and found that *Habit* has a significant influence on the *Actual Use*.

## **2.2 Hypotheses Development**

In this study, the compilation of the framework refers to the modified model of UTAUT 2 developed by Marhaeni and Indrawati as in Figure 2.1, with the explanation of the variables as follows:

- a) Independent variables (exogen): *Performance Expectancy (PE)*, *Effort Expectancy (EE)*, *Social Influence (SI)*, *Facilitating Conditions (FC)*, *Hedonic Motivation (HM)*, *Price Value (PV)*, and *Habit (H)*.
- b) Dependent variable (endogen): *Use Behavior (UB)*.
- c) Intervening variable (second endogen): *Behavioral Intention (BI)*.
- d) Moderating variables: *Age* and *Gender*.

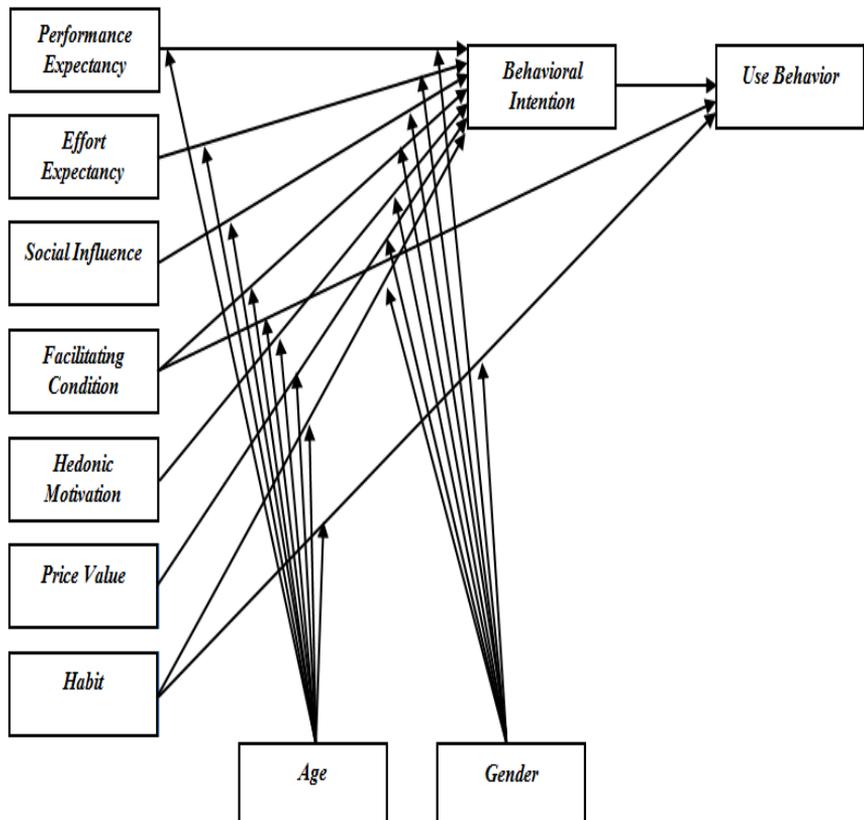


Figure 1 The Modified Thinking Framework of UTAUT 2

This study only uses *Age* and *Gender* as the moderating variables, it was explained that the two moderating variables could increase the  $R^2$  value of *Behavioral Intention* and *Use Behavior* (Marhaeni and Indrawati, 2015). The study modified the previous UTAUT 2 model by Venkatesh, *et al.* By adding *Age* which moderated the relationship between *Facilitating Conditions* and *Use Behavior*. This is supported by the hypothesis test results from Marhaeni and Indrawati's research which found that *Facilitating Conditions* had a positive and significant impact on *Use Behavior* moderated by *Age*.

Furthermore, this study also eliminated the moderator variable of *Experience* since the data was only retrieved at a particular time. This opinion is supported by Venkatesh *et al.* who operated the variable of *Experience* into three levels of time: the post-training period, a length of time a system takes

after it starts to be in use, ie one month; And three months. It means the variable of *Experience* requires a period of post-training for retrieving data. Hence, this study also eliminated the moderating variable of *Experience* from the UTAUT 2 model.

From the results of theoretical searches and previous studies, the hypotheses used in this research are as follows:

Table 1 Research Hypotheses

<b>H1</b>	<i>Performance Expectancy</i> has a positive and significant effect on <i>Behavioral Intention</i> .
<b>H1a</b>	The effect of <i>Performance Expectancy</i> on <i>Behavioral Intention</i> is moderated by <i>Age</i> .
<b>H1b</b>	The effect of <i>Performance Expectancy</i> on <i>Behavioral Intention</i> is moderated by <i>Gender</i> .
<b>H2</b>	<i>Effort Expectancy</i> has a positive and significant effect on <i>Behavioral Intention</i> .
<b>H2a</b>	The effect of <i>Effort Expectancy</i> on <i>Behavioral Intention</i> is moderated by <i>Age</i> .
<b>H2b</b>	The effect of <i>Effort Expectancy</i> on <i>Behavioral Intention</i> is moderated by <i>Gender</i> .
<b>H3</b>	<i>Social Influence</i> has a positive and significant effect on <i>Behavioral Intention</i>
<b>H3a</b>	The effect of <i>Social Influence</i> on <i>Behavioral Intention</i> is moderated by <i>Age</i> .
<b>H3b</b>	The effect of <i>Social Influence</i> on <i>Behavioral Intention</i> is moderated by <i>Gender</i> .
<b>H4</b>	<i>Facilitating Conditions</i> has a positive and significant effect on <i>Behavioral Intention</i> .
<b>H4a</b>	The effect of <i>Facilitating Conditions</i> on <i>Behavioral Intention</i> is moderated by <i>Age</i> .
<b>H4b</b>	The effect of <i>Facilitating Conditions</i> on <i>Behavioral Intention</i> is moderated by <i>Gender</i> .
<b>H5</b>	<i>Hedonic Motivation</i> has a positive and significant effect on <i>Behavioral Intention</i> .
<b>H5a</b>	The effect of <i>Hedonic Motivation</i> on <i>Behavioral Intention</i> is moderated by <i>Age</i> .
<b>H5b</b>	The effect of <i>Hedonic Motivation</i> on <i>Behavioral Intention</i> is moderated by <i>Gender</i> .
<b>H6</b>	<i>Price Value</i> has a positive and significant effect on <i>Behavioral Intention</i> .
<b>H6a</b>	The effect of <i>Price Value</i> on <i>Behavioral Intention</i> is moderated by <i>Age</i> .
<b>H6b</b>	The effect of <i>Price Value</i> on <i>Behavioral Intention</i> is moderated by <i>Gender</i> .
<b>H7</b>	<i>Habit</i> has a positive and significant effect on <i>Behavioral Intention</i> .
<b>H7a</b>	The effect of <i>Habit</i> on <i>Behavioral Intention</i> is moderated by <i>Age</i> .
<b>H7b</b>	The effect of <i>Habit</i> on <i>Behavioral Intention</i> is moderated by <i>Gender</i> .
<b>H8</b>	<i>Facilitating Conditions</i> has a positive and significant effect on <i>Use Behavior</i> .
<b>H8a</b>	The effect of <i>Facilitating Conditions</i> on <i>Use Behavior</i> is moderated by <i>Age</i> .
<b>H9</b>	<i>Habit</i> has a positive and significant effect on <i>Use Behavior</i> .
<b>H9a</b>	The effect of <i>Habit</i> on <i>Use Behavior</i> is moderated by <i>Age</i> .
<b>H9b</b>	The effect of <i>Habit</i> on <i>Use Behavior</i> is moderated by <i>Gender</i> .
<b>H10</b>	<i>Behavioral Intention</i> has a positive and significant effect on <i>Use Behavior</i> .

### **3. RESEARCH METHODOLOGY**

#### **3.1 Research Characteristics**

This research uses quantitative approach method, in which according to Sugiyono (2016: 7) that quantitative method is a scientific method because it has fulfilled the scientific norms which are concrete / empirical, objective, measurable, rational, and systematic. Based on its purpose, this research is classified into a descriptive research in which the reasearch is usually done

when the researchers have already known the factors or variables to measure an object or field but not the relationship among the factors or variables.

Based on the type of investigation, this research belongs to causal research aiming to understand the variables of cause and effect. The characteristics of this study when viewed from the time of execution is a cross-sectional research type, as described by Sekaran (2006: 177) that a *cross-sectional* study is done using a one-timed data collection only, for example during the period of a day, a week, or a month to answer the research questions.

### 3.2 Sampling Technique

This research used *non-probability sampling* technique since the exact number of population related to the amount of LAPOR application usage was not known. In detail, this research used *non-probability sampling* technique with the *purposive sampling* type. According to Zikmund *et al.* (2010: 396), the *purposive sampling* is a *non-probability sampling* technique in which certain individuals are selected to be sampled based on the conformity of required characteristics. The characteristics set by the researchers for the samples were:

- 1) People who live in the city of Bandung.
- 2) The moderating variable of age was used and divided into two categories, namely young age and old age. According to the United Nations (UN), the category of young is represented by the ages of 15-24 years, while the ages above 24 years are categorized old. Therefore, this study uses the ages of 15-24 for the young age category, while the ages above 24 years are categorized as old.

Since the population number in this study was unknown, then the determination of the sample number used the Bernoulli formula. In accordance with the sample size calculation using the formula, the minimum sample size used in this study was 385 respondents and the numbers were rounded from 384.16. This study used SEM analysis technique, in which according to Kline, the appropriate number of samples for the SEM calculations is more than 200 for more complex models (Latan, 2012: 45). Eventually, the researchers set the total samples to be used were 400 respondents of the people who lived in the city of Bandung, both the users of the LAPOR system and those who have not used it yet.

## 4. RESULTS

This research used two main characteristics as the moderating variables, they were *Age* and *Gender*. Based on age, 67% of the respondents were dominated by people aged 15-24 years and 33% of the ages over 24 years old. Based on gender, women were dominated by 57%, and men as much as 43%. While, for the test model, in the SEM-PLS method, it was divided into two stages namely *Outer Model* and *Inner Model*.

### 4.1 Outer Model

For the *Outer Model*, the validity and reliability tests were carried out against the indicators used in the study. The first stage done was the *Indicator Reliability* test in which the *loading factor* must be  $> 0.70$  to be considered valid. Based on

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the test results, all indicators of the questionnaire in this study were thereby stated valid. This could happen due to the overall *loading factor* of the indicators which was bigger than 0.7 and these results were referred to the *rule of thumb* (Garson, 2016), as can be seen in Table 2.

Table 2 Results of *Indicator Loading* values

<b>Construct</b>	<b>Item</b>	<b>Indicator Loading</b>	<b>Rule of Thumb</b>	<b>Conclusion</b>
<i>Performance Expectancy</i>	PE1	0.875	0.7	Valid
	PE2	0.906	0.7	Valid
	PE3	0.879	0.7	Valid
<i>Effort Expectancy</i>	EE1	0.894	0.7	Valid
	EE2	0.900	0.7	Valid
	EE3	0.877	0.7	Valid
<i>Social Influence</i>	SI1	0.885	0.7	Valid
	SI2	0.884	0.7	Valid
	SI3	0.837	0.7	Valid
<i>Facilitating Conditions</i>	FC1	0.901	0.7	Valid
	FC2	0.898	0.7	Valid
	FC3	0.870	0.7	Valid
<i>Hedonic Motivation</i>	HM1	0.872	0.7	Valid
	HM2	0.870	0.7	Valid
	HM3	0.806	0.7	Valid

The next stage conducted was the *Internal Consistency Reliability* test, it is usually used as the reference to measure the overall reliability of the constructs. The criterion is that the value of the *composite reliability* must be  $> 0.70$  for a construct to be considered reliable (Hair *et al.*, 2014). Since all variables in this research have the value of *composite reliability* bigger than 0.7. Thus, the nine constructs / research variables can be said to be reliable. This can be seen in Table 3 below.

Table 3 Results of *Composite Reliability* values

<b>Construct</b>	<b>Composite Reliability</b>	<b>Rule of Thumb</b>	<b>Conclusion</b>
<i>Performance Expectancy</i>	0.917	0.7	Reliable
<i>Effort Expectancy</i>	0.920	0.7	Reliable
<i>Social Influence</i>	0.903	0.7	Reliable
<i>Facilitating Conditions</i>	0.919	0.7	Reliable
<i>Hedonic Motivation</i>	0.887	0.7	Reliable
<i>Price Value</i>	0.918	0.7	Reliable
<i>Habit</i>	0.874	0.7	Reliable
<i>Behavioral Intention</i>	0.935	0.7	Reliable
<i>Use Behavior</i>	0.965	0.7	Reliable

After measuring the reliability of the constructs and indicators performed, the next step taken was measuring the validity of the research model. So, then the test of *Convergent Validity* was done. This test requires that the AVE (*Average Variance Extracted*) value must be 0.5 or bigger, which means that a construct has

a good ability explain the indicator. (Hair *et al.*, 2014). According to the test results, the nine constructs in this study had the AVE value above 0.5 which means that the constructs have good abilities to explain the indicators. The results are shown in Table 4 below.

Table 4 Results of AVE value

<b>Construct</b>	<b>AVE</b>	<b>Rule of Thumb</b>	<b>Conclusion</b>
<i>Performance Expectancy</i>	0.787	0.5	Good
<i>Effort Expectancy</i>	0.793	0.5	Good
<i>Social Influence</i>	0.756	0.5	Good
<i>Facilitating Conditions</i>	0.792	0.5	Good
<i>Hedonic Motivation</i>	0.723	0.5	Good
<i>Price Value</i>	0.789	0.5	Good
<i>Habit</i>	0.777	0.5	Good
<i>Behavioral Intention</i>	0.827	0.5	Good
<i>Use Behavior</i>	0.932	0.5	Good

The last stage done in testing the *Outer Model* was the *Discriminant Validity* test. Hair *et al.* (2014) explained that this step requires the AVE square root value of each construct must be bigger than the AVE value of the construct to be declared valid. Based on the test results as in Table 5, it was found that all the constructs in this study are valid because each of the  $\sqrt{\text{AVE}}$  value is bigger than the AVE values.

Table 5 Comparison Results of AVE and  $\sqrt{\text{AVE}}$  values

<b>Construct</b>	<b>AVE</b>	<b><math>\sqrt{\text{AVE}}</math></b>	<b>Conclusion</b>
<i>Performance Expectancy</i>	0.787	0.887	Valid
<i>Effort Expectancy</i>	0.793	0.890	Valid
<i>Social Influence</i>	0.756	0,869	Valid
<i>Facilitating Conditions</i>	0,792	0.890	Valid
<i>Hedonic Motivation</i>	0.723	0.850	Valid
<i>Price Value</i>	0.789	0.888	Valid
<i>Habit</i>	0.777	0.881	Valid
<i>Behavioral Intention</i>	0.827	0.910	Valid
<i>Use Behavior</i>	0.932	0.965	Valid

The *indicator loading* value of each variable can also be seen in the model of calculation results with SmartPLS 3.0 as in Figure 2 which shows valid numbers for 25 indicators in this study.

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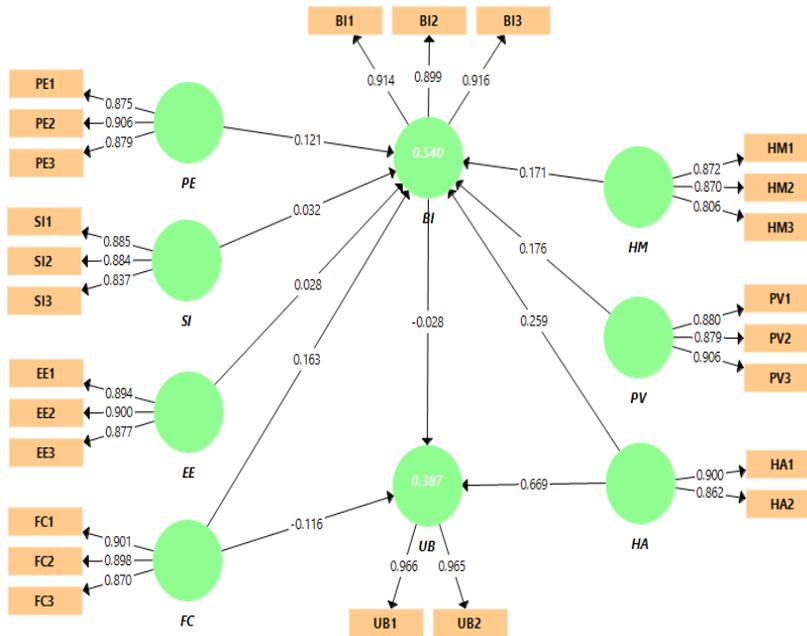


Figure 2 Output of the Outer Model using Smart PLS 3.0

**4.2 Inner Model**

In the inner model test of PLS, the criterion of *adjusted R<sup>2</sup>* (*R<sup>2</sup>adj*) was used. Hair *et al.* (2014) recommended the use of the *R<sup>2</sup>adj* to avoid any bias. The following Table 6 describes the value of *R<sup>2</sup>* and *R<sup>2</sup>adj* of the endogenous latent constructs.

Table 6 The *R<sup>2</sup>* and *R<sup>2</sup>adj* values of endogenous Latent Constructs

Construct	Value of <i>R<sup>2</sup></i>	Value of <i>R<sup>2</sup>adj</i>
<i>Behavioral Intention</i>	0.540	0.532
<i>Use Behavior</i>	0.387	0.383

The value of *R<sup>2</sup>adj* in the *Behavioral Intention* construct is 0.532, which means the *Behavioral Intention* is influenced by *Performance Expectancy*, *Effort Expectancy*, *Social Influence*, *Facilitating Condition*, *Hedonic Motivation*, *Price Value*, and *Habit* amounted to 53.2% while the rest 46.8% is influenced by other constructs Beyond this study. Furthermore, the *Use Behavior* construct is influenced by *Behavioral Intention*, *Facilitating Condition*, and *Habit* at 38.3% while 61.7% are influenced by other constructs outside of this study. Then the value of *R<sup>2</sup>* in Table 6 will be calculated by the *Q<sup>2</sup>* formula as follows:

$$\begin{aligned}
 Q^2 &= 1 - (1 - R_{12}) (1 - R_{22}) \\
 &= 1 - (1 - 0.540) (1 - 0.387) \\
 &= 1 - (0.46) (0.613)
 \end{aligned}$$

$$= 1 - (0.28198)$$

$$= 0.71802 \approx 0.718 \text{ or } 71.8\%$$

In this study, the  $Q^2$  or *predictive relevance* score is 0.718 or 71.8%. So, it can be concluded that the model can explain the data through *Behavioral Intention* and *Use Behavior* constructs influenced by other constructs at 71.8%.

The next step was the hypotheses test with the criteria taken from the *t-statistics* or *t-value* of the research. In addition, the *original sample* number in the *path coefficient* is used to determine the positive or negative effects of latent constructs on the indicators and other constructs. These criteria are described as follows:

- 1) If the value of *Path Coefficient* is positive, then there is a positive influence between one construct and the others.
- 2) If the value of *Path Coefficient* is negative, then the influence direction of the constructs in this study is negative
- 3) If  $t \text{ count} > 1.65$  (*one-tailed*), then  $H_0$  is rejected
- 4) If  $t \text{ count} \leq 1.65$  (*one-tailed*), then  $H_0$  is accepted

Table 7 Hypothesis Test Results

Hypothesis	Relationship	<i>Path Coefficient</i>	t count	t table	Conclusion
H1	PE -> BI	-0.028	0.468	1.650	$H_0$ accepted
H2	EE -> BI	-0.028	0.496	1.650	$H_0$ accepted
H3	SI -> BI	0.163	3.012	1.650	$H_0$ rejected
H4	FC -> BI	0.116	2.363	1.650	$H_0$ rejected
H5	HM -> BI	0.259	4.814	1.650	$H_0$ rejected
H6	PV -> BI	0.669	14.442	1.650	$H_0$ rejected
H7	HA -> BI	0.171	2.694	1.650	$H_0$ rejected
H8	FC -> UB	0.121	2.191	1.650	$H_0$ rejected
H9	HA -> UB	0.176	2.955	1.650	$H_0$ rejected
H10	BI -> UB	-0.032	0.612	1.650	$H_0$ accepted

Based on Table 7, the results of t count on the hypotheses of H1, H2, and H10 show that  $H_0$  is accepted which means there is no significant influence of *Performance Expectancy* and *Effort Expectancy* variables on *Behavioral Intention*, and *Behavioral Intention* variable on *Use Behavior*. While the other hypotheses of H3, H4, H5, H6, H7, H8, and H9 show that  $H_0$  is rejected or  $H_1$  is accepted which means there are significant influences from the variables of *Social Influence*, *Facilitating Condition*, *Hedonic Motivation*, *Price Value*, and *Habit* on *Behavioral Intention*, As well as the variables of *Facilitating Condition* and *Habit* on *Use Behavior*.

This study uses two moderating variables namely *Age* and *Gender*. Both moderators were tested for their influences using multigroup analysis toward the relationship between the exogenous latent constructs and endogenous latent constructs by *bootstrapping* method. The test results can be seen in Table 8. related to *Age* moderator.

Table 8 Results of *Bootstrapping t value* into the Moderating Variable of *Age*

Hypothesis	Relation	t count	t table	Conclusion
H3a	SI -> BI	0.149	1.650	H <sub>0</sub> accepted
H4a	FC -> BI	1.348	1.650	H <sub>0</sub> accepted
H5a	HM -> BI	0.467	1.650	H <sub>0</sub> accepted
H6a	PV -> BI	1.168	1.650	H <sub>0</sub> accepted
H7a	HA -> BI	0.259	1.650	H <sub>0</sub> accepted
H8a	FC -> UB	1.451	1.650	H <sub>0</sub> accepted
H9a	HA -> UB	0.179	1.650	H <sub>0</sub> accepted

In Table 9, the results of comparing t count and t table show the numbers of t count are smaller than 1.65. Thus, all hypotheses tested; H1a, H3a, H4a, H5a, H6a, H7a, H8a, and H9a did not show any relationship of the variables moderated by *Age*.

Table 9 Results of *Bootstrapping t value* on the Moderating Variable of

Hypothesis	Relation	t count	t table	Conclusion
H3b	SI -> BI	0.089	1.650	H <sub>0</sub> accepted
H4b	FC -> BI	1.386	1.650	H <sub>0</sub> accepted
H5b	HM -> BI	1.841	1.650	H <sub>0</sub> rejected
H6b	PV -> BI	0.678	1.650	H <sub>0</sub> accepted
H7b	HA -> BI	0.066	1.650	H <sub>0</sub> accepted
H9b	HA -> UB	0.260	1.650	H <sub>0</sub> accepted

*Gender*

Table 9 describes the results of bootstrapping t count into the moderating variable of *Gender*. In hypothesis H5b, it can be seen that the value of t count is 1.841 in which the number is bigger than t table. So, it can be concluded that the influence between *Hedonic Motivation* toward *Behavioral Intention* is moderated by *Gender*. Meanwhile, the hypotheses of H3b, H4b, H6b, H7b, and H9b show that the values of t count are smaller than t table, this means the variable relationships in the hypotheses are not moderated by *Gender*.

## 5. DISCUSSION

This study examined nine variables consisting of *Performance Expectancy (PE)*, *Effort Expectancy (EE)*, *Social Influence (SI)*, *Facilitating Conditions (FCs)*, *Hedonic Motivation (HM)*, *Price Value (PV)*, *Habit (H)*, *Behavioral Intention (BI)*, and *Use Behavior (UB)*. The variables were tested using 25 items of questionnaire questions. The tests of the variables refer to *t statistics* or t count and *path coefficient* of the relations among the variables to see the level of significance, and the positive and negative influences.

The result of the research on H1 shows the *path coefficient* value of -0.028 and the value of t count is not significant at 0.468. This explains that H<sub>0</sub> is accepted, which means *Performance Expectancy* has no positive and significant effect on *Behavioral Intention* in the use of LAPOR system in Bandung City. It can be interpreted that the extent to which a person believes that the use of the LAPOR

system can assist him or her in delivering complaints and aspirations has not affected their intentions and motivations in using the system. This result is not in line with the previous research by Marhaeni and Indrawati (2015) stating that there is a significant influence between the two variables.

In H2, the relationship between *Effort Expectancy* and *Behavioral Intention* is also not positive and significant since the *path coefficient* value is -0.028 and the t count value is not significant at 0.496. This means that the level of convenience expected by the respondents has not been able to influence their interest or motivation in using the LAPOR system. This result is in accordance with the research by Taiwo and Downe (2013), stated that the users of information systems are concerned about the ease of information system utilization. The complex system of apps / webs which are difficult to navigate can make a person less interested in adopting the app system or *website*.

H3 describes the positive and significant influential relationship between *Social Influence* and *Behavioral Intention*. It is supported by the positive *path coefficient* value of 0.163 and t count value at 3.012. This can be interpreted that the people in the social environments of the respondents influence to their intentions to use the LAPOR system. Besides, This result is also supported by the research conducted by Marhaeni and Indrawati (2015), which explained that the people around the users of a system not only determine their interest to using it at that moment, but will also influence their interest in continuing to use it in the future.

The calculation result for H4 shows the positive *path coefficient* value at 0.116 and significant t count value at 2.363. The figures state that *Facilitating Conditions* have a positive and significant effect on *Behavioral Intention*. This can be interpreted as the availability of tools, knowledge, guidance, and other people around to support the use of the LAPOR system affects someone's intention to use the system. This statement goes along with the research conducted by Marhaeni and Indrawati (2015) on instant messaging applications, in which it was explained that the better the conditions that facilitate the use of a system, the higher the interest of a person to use the system / application.

It was explained in H5 that there is a positive and significant relationship between *Hedonic Motivation* and *Behavioral Intention*. It is indicated by the positive value of the *path coefficient* at 0.259 and the significant t count value at 4.814. This means that the enjoyment and convenience perceived in using the LAPOR system may affect a person's interest and motivation in adopting the system. This is supported by the research conducted by Putra and Ariyanti (2013) stating that *Hedonic Motivation* shows the highest influence over other variables. Another study conducted by Marhaeni and Indrawati (2015) also explained that the higher the comfort obtained from the use of a system, the higher the interest of someone to use it.

H6 in this study states the relationship between *Price Value* and *Behavioral Intention*, in which the value of the *path coefficient* is positive at 0.669 and the t count value is significant at 14.442. The values show a positive and significant relationship between both variables. It can be interpreted that people's perceptions of the benefit over the financial costs incurred to use the LAPOR system may influence their intentions to use the system. The above statement is supported by the previous research conducted by Marhaeni and Indrawati (2015), stated that the greater the benefits derived from the use of a system, the greater the interest of a

person to use the system. Further research by Putra and Ariyanti (2013) also explained that *Price Value* is one of the normal assessment of each individual against various types of decisions.

The calculation result of H7 shows significant t count value at 2,694 and positive *path coefficient* value at 0,171. This means that *Habit* positively and significantly influences *Behavioral Intention* in the use of LAPOR system in Bandung. The statement can be interpreted that the degree to which a person tends to use the system is automatically based on learning so that it affects his or her interest in using a technology. The result of the previous research by Marhaeni and Indrawati (2015) explained that the more someone uses a technology, the stronger the *Habit* will become. The growing *Habit* will also strengthen the interest of someone to use the system.

H8 in this study stated that *Facilitating Conditions* have a positive and significant impact on *Use Behavior*. It is proven by the significant t count value of 2,191 and the positive *path coefficient* value of 0,121. This means that the presence of tools, knowledge, guidance, and other people of the social groups to support the use of the LAPOR system not only affects a person's interest, but also influences his or her usage behavior. This result is supported by the research conducted by Marhaeni and Indrawati (2015) regarding the use of instant messaging applications which explain that the compatibility of a system with its devices determines whether the user will be willing to use or just reject it.

H9 test shows significant t value at 2,955 and positive *path coefficient* value at 0,176. These values indicate that *Habit* has a positive and significant effect on *Use Behavior*. It means, the habit factor is not only able to influence the interest in using LAPOR system, but may also influence the behavior in using the system. This is in line with the research by Marhaeni and Indrawati (2015) stating that the use of multiple technologies at once in a person's daily life can improve his or her habit in using the technology. Venkatesh *et al.* (2012) also explained that in the case of a multifunctional system, the users can select several different applications and use them in different ways so that they will tend to have a higher *Habit*.

H10 describes the relationship between *Behavioral Intention* and *Use Behavior* on the LAPOR system. The test shows the value of *path coefficient* is -0.032 and the t count value is not significant at 0.612. These results can be interpreted that the relationship of both does not have any positive and significant effect. It means that the intention of a person in using a system has not been able to influence his or her habit to continue using the system. This also goes along with the research conducted by Taiwo and Downe (2013), in which they also found that the influence between *Behavioral Intention* on *Use Behavior* was not significant.

In the moderating variable test of *Age* category, there is no correlation between the variables moderated by that category. While for the moderator of *Gender*, it appears that the moderator influences the relationship between *Hedonic Motivation* towards *Behavioral Intention*. This is in line with the research conducted by Marhaeni and Indrawati (2015) also the study by Putra and Ariyanti (2013). Based on the results of Marhaeni and Indrawati's research (2015), men tend to have higher attention to the factors of pleasure and comfort in using technology.

## 6. CONCLUSION AND RECOMMENDATION

### 6.1 Conclusion

Based on the results of the research, it can be concluded that *Price Value*, *Hedonic Motivation*, *Social Influence*, *Habit*, and *Facilitating Conditions* have positive and significant impact on *Behavioral Intention*. The moderator of *Gender* moderates the relationship between *Hedonic Motivation* and *Behavioral Intention* positively and significantly, whereas *Age* is not found to moderate the relationships among other variables. Furthermore, the variables affecting *Use Behavior* positively and significantly are *Habit* and *Facilitating Conditions*, but there is no influence found among the variables moderated by *Age* or *Gender*.

### 6.2 Recommendation

In accordance with the conclusion, there are some suggestions to be given; firstly, the city government of Bandung should optimize the factors which influence the utilization of the existing resources and opportunities, so that the government can improve the implementation of the LAPOR program to be better. Secondly, for further research, the composition of respondents in each category is suggested to be more proportional so that the results will be more representative and describe the real situation. In addition, the future research may also include the moderating variable of *Experience* which is not examined in predicting the adoption and use of the LAPOR system on this study. In order to know the impact of the *Experience* moderator, a periodical data collection in a certain length of time can be done for more complex analysis and better result.

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