"Personal and reliability factors affecting adoption and utilization of e-government: An effect of intention to use"

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BUSINESS PERSPECTIVES

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PERSONAL AND RELIABILITY FACTORS AFFECTING ADOPTION AND UTILIZATION OF E-GOVERNMENT: AN EFFECT OF INTENTION TO USE

Abstract

This study aims to examine and prove the effect of personal and reliability factors on both the adoption as well as the utilization of e-government indirectly through the intention to use. The proposed model uses various theories, such as technology acceptance, diffusion of innovation, and unified theory of acceptance and use of technologies. It incorporates contracts from the e-government adoption and usage model to explore and understand the factors that drive different types of e-technology adoption and use. Employing purposive sample, the paper collected around 158 respondents that were used to support this study. According to the findings, there are 103 government employees in the sample, 36 general public, and 19 businessmen in the Provincial Government of DKI Jakarta (Indonesia). After the questionnaire's reliability and validity were rigorously evaluated, the data were analyzed using the Structural Equation Modeling (SEM) technique. The results indicate that personal factors and perceived trust significantly affect the adoption and the utilization of e-government. In addition, reliability variables highly influence intention to use. Moreover, intention to use does not mediate the effect of personal factors, reliability factors, and e-government adoption use. This study is expected to be material for consideration and evaluation of the quality of ICTs-based public information for government officials and staff.

INTRODUCTION

The development of regional autonomy in the reform era was considered a consequence and interaction of the organizational structure of the regional government in promoting political stability and effectiveness of public services. Based on Law no. 32 of 2004 concerning Regional Government, the decentralization system is a strategy for managing regions through authority based on the principle of regional autonomy. However, the implementation of a decentralized system tends to form such opportunistic behavior for regional officials in presenting financial and non-financial information to the public (Harun et al., 2019).

Since 2014, using technology and teamwork, Jakarta Smart City has become a milestone for the DKI Jakarta Provincial Government in developing a smart governance support system. According to the United Nations e-government survey conducted in 2020, the Indonesian government's transparency in digital transformation is ranked 88th out of 100 countries (Kominfo, 2020). Furthermore, based on the 2020 Role of Law Index report presented by the World Justice Project, Indonesia

ranks 92 out of 128 countries regarding indicators of the absence of corruption cases (Indonesia Corruption Watch, 2021).

The introduction of e-government is thought to improve information quality, the quality of work of public authorities, and the efficiency of state governance (Mensah et al., 2017). However, this electronic adoption needs to be studied through control factors, so that it can reflect the user's intentions toward the benefits felt by the community.

1. LITERATURE REVIEW

Technology acceptance model (TAM), diffusion of innovation (DOI), and the unified theory of technology adoption and implementation (UTAUTI) are all included in the proposed model in this study. In addition, e-government adoption and usage model (EGAUM) is used to investigate and appreciate the factors that affect the adoption and use by different types of users. Theories are frequently employed to influence the AUE technologies from a variety of perspectives. As a result, more excellent knowledge of various factors contributes to a high level of behavioral intention success in such systems. According to Madytinos and Sidiropoulou (2020), this theory considers technology adoption decisions to gather information and involves individual decisions in assessing the usefulness of technology. Innovation is considered a new object for individuals, while diffusion is a communication process for innovation through social aspects (Sang & Lee, 2009).

Belanche et al. (2012) assume that the acceptance of information technology is built with four main dimensions: attitude, perceived usefulness, perceived ease of use, and intention to use. The determinants of technology acceptance are also based on external factors. The attitude dimension is not fully the main characteristic that drives perceived ease of use and perceived usefulness (Sang & Lee, 2009; Alghamdi, 2016).

E-government is the consequence of a reorganization of government services, which is thought to effectively and efficiently increase the quality of public services by designing an information technology-based management system (Elysia et al., 2017). The use of ICTs in the good governance paradigm forms a pattern of communication between the government and the community, thus resulting in a classification of interactions within it such as Government to Citizens (G2C), Government to Government (G2G), Government to Business (G2B), and Government to Employees (G2E) (Al-Haderi, 2014; Alghamdi, 2016).

Depending on how e-government services are used, the system development process can be identified in four stages, namely:

1) the presence stage, which uses website facilities in public information services;

2) the interaction stage, which is a functional interaction involving four interaction classifications in it;

3) the transaction stage, which provides online transaction features to the public for government transactions;

4) the transformation stage, which offers a long-term reciprocal relationship.

Meanwhile, some experts from Indonesia have simplified the stages of e-government development into three main stages, namely the informative stage, the interactive stage, and the transactive stage (Djunaedi, 2002). The simplification of this stage is adjusted to the conditions and organizational culture in Indonesia.

The success of the e-government system implementation is difficult to assess objectively, so a control factor is needed in testing the influence of ICT literacy on the moderation of public service arrangements. Madytinos and Sidiropoulou (2020) consider the influence of the environment, organization, and socioeconomic conditions in evaluating the e-government system's utility. Huda and Yunas (2016) involve the quality of human resources, community availability, and a kind of consideration for the successful implementation of the e-government system, funding patterns should be analyzed.

According to the moderator of the unified theory of technology acceptance and use (UTAUT), personal factors (PF) are the most important indicator of the acceptance and use of e-government through the user's perspective on the system. There are differences in age, gender, education level, place of residence, and income level of users that affect government employees' performance, which will also affect the level of understanding of the community and business units in using technology-based public services. This will also encourage users' intentions and behavior in using e-government so that the impact and benefits are going to be felt as a whole (Isaac et al., 2017; Al-Haderi, 2013; Alghamdi, 2016; Mensah et al., 2017; Hariguna, 2017; Madytinos & Sidiropoulou, 2020).

When examining the United Arab Emirates, personal characteristics such as age, education, gender, geography, and income are portrayed as effective forms of analyzing those users. The UTAUT is considered to describe an individual acceptance of information systems by proposing the moderator factors. According to Alghamdi (2016), the user's age is one of the important factors increasing the acceptance and use of e-government. Another essential issue to consider while evaluating the deployment of e-government technology is education and the gender. Moreover, users' location is essential in determining their eligibility to utilize e-government services. Their income is another personal issue that determines their desire to use e-government systems.

Another critical factor determining the AUE technology is reliability factors (RF). RF are fundamental constructs related to reliability in implementing interactive e-government systems (Alghamdi, 2016). In this study, reliability factors are based on perceived trust and regulations and policies, which represent institution-based trusts (Barua, 2012; Papadopoulou et al., 2010). Belanche et al. (2012) see trust as a partial mediator in the relationship between perceived ease of use (PEOU) and perceived usefulness (PU), which has a direct link to behavior and intentions to utilize ICT-based services. Perceived trust, regulations, and policies are independent entities in influencing user behavior and intentions. The technology acceptance model (TAM) idea of perceived trust and the diffusion of innovation (DOI) theory as the basis for regulations and policies are used to shape user behavior and intents.

When using e-government services, consumers' willingness to give personal information and conduct online transactions is influenced by their perception of trust (Alghamdi, 2016). E-government systems become the public's expectation of trust issue. Therefore, the government has an obligation to formulate e-government policies and regulations to build the trust of the public (Sang & Lee, 2009). It is worth examining the effect of perceived trust on the AUE as well. There is a particular action to defined behavior and intentions to use information systems (Belanche et al., 2012).

According to Anggraini and Iqbal (2020), regulation and policies are procedural guidelines that all stakeholders must understand to be able to integrate public services. The integration of TAM and DOI theoretical models in evaluating the use of ICT for government organizational structures can analyze the issue of public trust through various supporting factors. These factors include quality of human resources, applicable regulations and policies, infrastructure development, organizational structure, and government commitment to increase user intentions (Sari & Winarno, 2012; Hardjaloka, 2014; Yunas, 2020).

The e-government adoption and usage model (EGAUM) has a relationship with intention to use (IU), which leads to actual e-government adoption. In addition to intention, perceived behavioral control has become a crucial direct determinant of technology-based implementation systems (Venkatesh et al., 2003). The guidelines for a successful e-government adoption are based on user perceptions. Therefore, one of the most crucial aspects of their development is the goal of AUE, namely the acceptance and usage of systems by users, who are the primary objective. As a result, the features greatly influence how e-government is perceived, implemented, and used.

2. AIMS AND HYPOTHESES

This study aims to verify the determining factors in the utilization of e-government adoption and the role of intention to use. There has been no systematic effort to understand this aspect, especially in the context of the Indonesian government. Based on the literature review, the hypotheses can be formulated as follows:

H_1:   Personal factors significantly affect the adoption and utilization of e-government.

H_2:   Perceived trust significantly affects the adoption and utilization of e-government.

H_3:   Regulation and policies significantly affect the adoption and utilization of e-government.

H_4:   Personal factors significantly affect the intention to use e-government.

H_5:   Reliability factors significantly affect the intention to use e-government.

H_6:   Intention to use significantly affects the adoption and utilization of e-government.

H_7:   Intention to use affects the relationship between personal factors and adoption and utilization of e-government.

H_8:   Intention to use affects the relationship between reliability factors and adoption and utilization of e-government.

This study created the model based on past studies to make it easier to assess the correlations between the research variables (Figure 1).

3. METHODS

The primary influencing elements of e-government uptake and use were determined indirectly through the intention to use using a causal research method. The indicator and measurement of variables were adopted from previous studies that have been adapted to conditions in the Provincial Government of DKI Jakarta as a sample of the study. The measurement of variables used a Likert scale and nominal scale. The Likert scale is a five-point scale that ranges from 1 (strongly disagree) to 5 (strongly agree). A nominal scale is a measurement scale for classifying answers whose numbers do not represent value. The measurement of each variable is shown in Table 1.

Data were gathered from 158 respondents in the DKI Jakarta Provincial Government. There are 103 government employees, 36 citizens, and 19 participants from the business sector. Purposive sampling was employed to choose the sample, which involved adding the following criteria: respondents who used e-government systems for all respondents and have two years' work experience for government and business sectors. Respondent classification is a representation of categorized e-government that allows government employees to engage digitally with third parties such as citizens and the business sector.

The results of filling out the questionnaire were utilized to generate primary data for this study. The questionnaires were distributed by direct and indirect methods. Direct method is carried out by visiting the Mayor's Office of Administration in the Provincial Government of DKI Jakarta. Then, the indirect method used the Google Form link to be shared with the Directorate General of Taxation and other parties, such as citizens and business sector. The total number of targeted questions filled out by respondents in this study was 130 surveys for all sample categories.
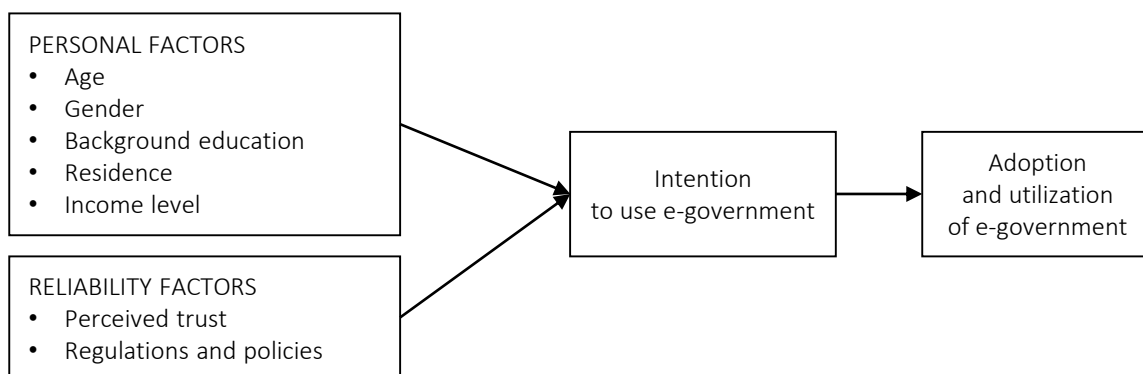

Figure 1. Research model

Table 1. Variable measurement

Variable	Indicator	Scale	Number of statements
Adoption and utilization of e-government	Personal information	Nominal	5
	Information about internet and e-government usage	Nominal	2
	Preferences for accessing government services	Nominal	3
	The effects of several factors on e-government usage	Nominal	2
Personal factors	Personal information	Nominal	5
Perceived trust	Internet security in e-government systems	Likert	1
	Safe environment to perform government transaction	Likert	1
	Financial information security in e-government systems (e.g., bank account information)	Likert	1
	Personal information security in e-government systems (e.g., address and income)	Likert	1
	Data security in e-government systems	Likert	1
	Data storage quality in e-government systems	Likert	1
	E-government systems increase public trust in government services	Likert	1
Regulations and policies	Information security policies	Likert	1
	Privacy policies for personal data	Likert	1
	Regulations and laws governing the rights of reserve users and agencies	Likert	1
Intention to use	All of my governmental transactions must be completed using electronic government services	Likert	1
	I am not opposed to learning how to use e-government to receive e-services and conduct government business	Likert	1

4. RESULTS

The sample of this study is government employees, participants of business sectors, and the public in the Provincial Government of DKI Jakarta. For the employee's government are all staff of department which consisted of economy, tax, law, organization and procedure, governance, urban planning and environment, and people's welfare. The research period lasted 45 days. A response rate is 99.5%: 159 questionnaires were returned, and 158 were used for data analysis.

Table 2. Descriptive statistics

Source: Own calculations.

Variable	Mean	Std. deviation
Personal Factors (PF)	58.02	18.91
Perceived Trust (PT)	48.25	6.53
Regulation and Policies (RP)	59.58	0.50
Reliability Factors (RF)	37.87	17.18
Adoption and Utilization of E-Government (AUE)	62.90	21.17
Intention to Use (ITU)	41.67	2.07

Table 2 shows that the mean score reached by personal factors is 58.02, with a standard deviation of 18.91. With a standard deviation of 6.53, the average perceived trust score is 48.25. The average score for regulations and policies is 59.58, with a standard deviation of 0.50. The mean score for the reliability factors is 37.83, with a standard deviation of 17.18. With a standard deviation of 21.17, the average e-government uptake and use score is 62.90. Finally, for intention to use, the mean is 41.67, with a standard deviation of 2.07.

Standard deviation, according to Sekaran and Bougie (2016), is a measurement of the variation in respondents' responses when compared to the mean. According to descriptive statistics, for each variable, the standard deviation scores are lower than the mean values, indicating that the research data has a low level of variation.

Based on Table 3, Average Variance Extracted (AVE) is a convergent validity to measure the extent to which the indicator variable is positively correlated with alternative measures of the same latent variable (Hair et al., 2014). According to Garson (2016), the AVE score must be larger than

0.50 and equal to the cross-loadings. For all variables in this study, the AVE score is more than 0.50, indicating that the variable is valid.

Table 3. Result of validity and reliability

Source: Own calculations.

Variable	AVE	Composite reliability	Cronbach's alpha
PF	1.000	1.000	1.000
PT	0.546	0.824	0.817
RP	0.880	0.936	0.863
RF	0.531	0.868	0.820
AUE	1.000	1.000	1.000
ITU	0.792	0.884	0.737

Table 5. Bootstrapping and the PLS path algorithm

Source: Own calculations.

Relation	Path coefficient	T value	P value
PF → AUE	0.259	3.253	0.001
PT → AUE	−0.342	3.475	0.001
RP → AUE	−0.265	1.275	0.203
PF → ITU	0.043	0.721	0.471
RF → ITU	0.662	16.22	0.000
ITU → AUE	0.007	0.964	0.525
RF → AUE	0.289	1.519	0.129

Furthermore, construct reliability has two test criteria that is composite reliability and Cronbach's alpha. All constructs have good reliability when the composite reliability score is greater than 0.70 and Cronbach's alpha score is more than 0.60 (Hair et al., 2014). Based on the result, scores of composite reliability and Cronbach's alpha have met the criteria. As a result, each construct's variables have a high level of reliability.

According to Hair et al. (2014), the Fornell-Larcker Criterion was used to assess discriminant validity, determining whether the constructs are distinct from other latent variables. Each variable must have scores of more than 0.60 to meet the criteria. Based on results in Table 4, personal factors (PF) has a score of 1.000, perceived trust (PT) has a score of 0.739, regulations and policies (RP) has a score of 0.938, reliability factors (RF) has a score of 0.729, adoption and utilization of e-government (AUE) has a score of 1.000. Intention to use (ITU) has a score of 0.890. As can be observed, the construct score for this study's variables is greater than 0.60. As a result, all the structures for each variable can be inferred to be valid.

The Structural Equation Modeling (SEM) technique has been used to analyze the data. In Smart PLS version 3.0, the hypothesis testing results in summary based on PLS path algorithm and bootstrapping. Hypotheses were accepted when P values must be smaller than 0.05, and β score is more than 1.976. The results show that personal factors (PF; $\beta = 3.253$ and P = 0.001) and perceived trust (PT; $\beta = 3.475$ and P = 0.001) influence adoption and utilization of e-government (AUE), meaning H_1 and H_2 are accepted.

Furthermore, regulations and policies (RP; $\beta = 1.275$ and P = 0.203) has no significant relationship with AUE, which indicates that H_3 is rejected. However, there is no significant link between personal characteristics (PF; $\beta = 0.721$ and P = 0.471) and intention to use (ITU), which indicates that H_4 is rejected. While reliability factors (RF; $\beta = 16.221$ and P = 0.000) influences intention to use (ITU), which mean that H_5 are accepted. Furthermore, there is no significant association between intention to use (ITU; $\beta = 0.636$ and P = 0.525) and AUE, indicating that H_6 is rejected.

Table 4. Fornell-Larcker criterion of discriminant validity

Source: Own calculations.

Variable	Adoption & Utilization of E-Government (AUE)	Intention to Use (ITU)	Personal Factors (PF)	Perceived Trust (PT)	Reliability Factors (RF)	Regulations and Policies (RP)
AUE	1.000	–	–	–	–	–
ITU	0.042	0.890	–	–	–	–
PF	0.335	0.120	1.000	–	–	–
PT	−0.309	0.277	−0.239	0.739	–	–
RP	−0.008	0.667	0.117	0.414	0.729	–
RF	0.028	0.620	0.182	0.175	0.895	0.938

Table 6. Indirect effect

Relation	Path coefficient	T value	P value
ITU → AUE	–	–	–
PF → AUE	0.003	0.303	0.762
PF → ITU	–	–	–
PT → AUE	–	–	–
RF → AUE	0.051	0.622	0.534
RF → ITU	–	–	–
RP → AUE	–	–	–

Table 6 shows the effect of intention to use as a mediation variable. In this study, the link between personal variables and adoption and use of e-government is not mediated by intention to use (PF → AUE = 0.303 and P = 0.762), indicating that H_7 is rejected. Besides, H_8 is rejected because there is no mediation link between reliability factors and e-government adoption and use (RF → AUE = 0.622 and P = 0.534).

5. DISCUSSION

According to the findings, personal factors have a considerable impact on AUE. This is caused by the respondents that were dominated by productive age, bachelor's degree, and bigger salary than the provincial minimum wage in DKI Jakarta. Thus, the level of individual understanding affects the e-government systems in accepting the information technology in the Provincial Government of DKI Jakarta. These results support the unified theory of acceptance use of technology proposed by Davis (1986). Basically, the theory emphasizes that individual behavioral tendencies will affect intention to use and acceptance of information technology. Therefore, the ICT application in the public sector describes an individual's acceptance of information systems based on perceived usefulness and ease of use (Isaac et al., 2017). It is also consistent with Al-Haderi (2013), Alghamdi (2016), Hariguna (2017), and Madytinos and Sidiropoulou (2020), who proved that AUE is significantly influenced by personal factors.

Perceived trust significantly affects AUE. This is due to the usefulness felt by the public, so that increasing users' intention to use e-government systems in every government transaction. These results support the technology acceptance model regarding the effect of integrated trust and personal values on pub-lic services. Perceived trust is a mediator in the link between PEOU and PU, which provides a direct correlation with behavior and intentions to use information systems. It is also consistent with Sang and Lee (2009), Belanche et al. (2012), Alghamdi (2016), and Mensah et al. (2017), who found that perceived trust has a positive and significant impact on AUE.

The difference in infrastructure, resources, and culture trigger the digital divide phenomenon. It affects users' perceptions of e-government systems. As a result, there is a reluctance to adapt to e-government regulations and policies. Findings show that regulations and policies do not significantly affect AUE. Regulations and policies represent diffusion of innovation theory as a benchmark to identify the characteristics that impact e-government systems. Thus, regulations and policies are a platform of public information to integrate trust and personal values. This result is contrary to Sang and Lee (2009), Barua (2012), Papadopoulou et al. (2010), Sari and Winarno (2012), and Alghamdi (2016), who proved that regulations and policies significantly affect AUE. In this case, it becomes empirical evidence that perceived trust and regulation and policies are an integral part of institution based-trust. As a result, the government must assess the quality of e-government legislation and policies.

Meanwhile, personal factors do not significantly affect AUE. This could be because the study's sample consisted primarily of 103 government employees (65%) who are compelled to maintain their independence due to institutional intervention. The study can conclude that personal factors cannot represent ITU e-government systems. These findings contradict the unified technology acceptance theory, which looks at users' intentions to use technology. Five sub-variables of personal factors are a moderator of the UTAUT theory that can strengthen or weaken a direct relationship between e-government systems. The result is contrary to Sang and Lee (2009), Al-Haderi (2013), Sari and Winarno (2012), Hardjaloka (2014), Alghamdi (2016), and Huda and Yunas (2016), who demonstrated that personal factors have a substantial impact on ITU.

The integration of TAM and DOI theoretical models in evaluating the use of ICTs in the government sector is considered capable of analyzing the issue of public trust through the quality of human resourc-

es, regulations and laws, infrastructure development, organizational structure, and the commitment of the government as an institution to AUE. This is empirical evidence that reliability factors have a significant effect on AUE. This indicates that if regulations and laws regarding e-government in Indonesia represent aspects of information security, and information privacy, and explain the rights of users and institutions, it will increase public trust. Thus, it will encourage the intention to use e-government systems and services. These results are also consistent with Sang and Lee (2009), Papadopoulou et al. (2010), Barua (2012), Belanche et al. (2012), Sari and Winarno (2012), Alghamdi (2016), Isaac et al. (2017), and Mensah et al. (2017). They proved that reliability factors have a significant effect on AUE.

Intention to use does not have a relationship with AUE. This finding is due to the study respondents being dominated by government employees. Professional work demands for employees as part of government agencies do not represent the influence of users' intentions to use e-government systems and services. The results of this study do not support the TAM theory, which provides an overview of the formation of user intentions and behavior in AUE. This study contradicts several previous studies, which prove that intention to use has a significant effect on the utilization of e-government adoption, such as Sang and Lee (2009), Al-Haderi (2013),

Sari and Winarno (2012), Hardjaloka (2014), Alghamdi (2016), and Mensah et al. (2017).

The influence of intention to use on the mediation effect does not allow personal factors to influence AUE. The findings of this study contradict TAM and UTAUT's theories, which provide an overview of how user intentions and behavior are formed in AUE. This study contradicts Sang and Lee (2009), Al-Haderi (2013), Sari and Winarno (2012), Hardjaloka (2014), Alghamdi (2016), Huda and Yunas (2016), and Mensah et al. (2017), who proved that intention to use correlates the relationship between personal factors and AUE.

In addition, ITU does not provide a mediating effect on the relationship between reliability factors on AUE. Therefore, the results of this study do not support the theory built on the EGAUM model, which identifies, investigates, and analyzes the effect of reliability factors on AUE. The results contradict Sang and Lee (2009), Papadopoulou et al. (2010), Al-Haderi (2013), Barua (2012), Belanche et al. (2012), Sari and Winarno (2012), Alghamdi (2016), Isaac et al. (2017), and Mensah et al. (2017), who proved that ITU correlates the relationship between reliability factors and AUE. The possible reason is that e-government policies and laws in the DKI Jakarta provincial government must be widely publicized, affecting public trust in government transactions using e-government platforms and services.

CONCLUSION

This study aims to examine personal factors, perceived trust, regulation and policies, intention to use, and adoption of e-government in the context of the Indonesian government. The study's findings show that PF had a significant influence on AUE. This is because the respondents in the study were dominated by productive age, bachelor's degree (S1) graduates, and had income levels above the regional minimum wage in the Jakarta provincial government. Thus, the public can feel the level of individual understanding of the use of ICTs in e-government systems and services. PT has a significant influence on AUE. This is due to the usefulness felt by the public, thereby increasing user availability of information on the use of government transactions through e-government systems and services. RP does not have a significant effect on AUE. This is due to differences in infrastructure, resources, and culture that triggers the digital divide phenomenon. These three aspects affect the user's perspective on excessive concern for the e-government system. Thus, there are barriers to attitudes and thinking patterns between government officials and the community to adapt to regulations and laws on the use of e-government systems and services.

PF has no significant effect on ITU. This is based on the demographics of the respondents, which are dominated by 103 government employees out of a total of 158 respondents. Thus, individual factors do

not represent the intention to use e-government services, given that there are demands for professional work for employees as part of government institutions. On the other hand, RF has a significant relationship with ITU. The regulations and laws regarding e-government in Indonesia represent aspects of information security and information privacy, and explain the rights of users and institutions that will increase public trust. Thus, it will encourage the ITU e-government systems and services.

ITU does not have a significant effect on AUE. This is because the research respondents are dominated by government employees. Professional work demands for employees as part of government agencies do not represent the influence of users' ITU e-government systems and services. ITU did not mediate the relationship between PF and AUE. This is because the respondents in the study were dominated by government employees. Thus, individual factors do not represent the ITU e-government services. Furthermore, ITU did not mediate the relationship between RF and AUE. This shows that regulations and laws related to e-government services need to be disseminated thoroughly, thereby influencing the level of public trust in using e-government systems and services in government transactions.

The findings have several important implications for DKI Jakarta Provincial Government as a subject of consideration and evaluation based on perceived usefulness, a reconstruction of regulations and policies, and a factor for the government in developing e-government systems based on marketing strategies. Other characteristics that potentially influence e-government acceptance and use are likely to be explored in future studies, such as motivational and technical factors. Future studies may consider using control variables as a form of legislature representation in supervising public activities. Then, further research needs to broaden the scope of study and involve many government agencies to obtain different perspectives, which will lead to a better understanding of various variables, resulting in high levels of success in terms of behavioral intention for such systems.

AUTHOR CONTRIBUTIONS

Conceptualization: Rachmawati, Khoirul Aswar.
Data curation: Rachmawati, Khoirul Aswar, Mahendro Sumardjo.
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Validation: Khoirul Aswar, Meilda Wiguna, Eka Hariyani.
Writing – original draft: Rachmawati.
Writing – review & editing: Khoirul Aswar.

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