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Factors Influencing The Adoption of E-Government in Riau Province

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Abstract: The goal of this research is to identify the elements that affect the implementation of e-government in Riau Island. Employees of the Riau Islands Provincial Government comprise the study population, and the research sample consists of those employees who meet the requirements of being able to use digital public service applications in the course of their work. An online survey with measurement questions was sent to respondents in existing regional apparatus organizations and complete answers were received by 417 respondents consisting of permanent and non-permanent employees with variations in education and age, were considered usable for analysis. Trust, security concern, perceived usefulness, information communication and technology, perception of e-government as a mediating variable and adoption of e-government as a dependent variable are the variables in this study, which employs a quantitative research methodology with data processing using Smart PLS. Results indicate that trust, security concern, perceived usefulness, information communication and technology have an effect on user decisions in adopting the e-government system. The findings of this study can be considered by the government when formulating policies that can promote and enhance system quality and establish a thorough and high-quality e-government system implementation while simultaneously enhancing data security and the accessibility of sufficient technology infrastructure in the provincial government of Riau Island's workplace.

Keyword: E-Government, Trust, Security Concern, Perceived Of Usefulness, Information Communication And Technology.

INTRODUCTION

Current government operational changes from the traditional way to the e-government platform have delivered a new paradigm of public administration (Aleisa, 2024). E-government Implementation is a response to ICT growth. It is anticipated that the government's adoption of digital transformation will increase operational efficiency and address public issues during a time of growing instability (Yuan et al., 2023). In today's daily life, it is essential to employ information and communication technology (ICT). In Indonesia, the adaptation of e-government seeks to increase public access and streamline the administrative process.

Nevertheless, despite the vast possibilities for e-government, there remain several hurdles that hinder its best use in Indonesia. While there are still several issues that need to be resolved, e-government in Indonesia holds significant promise for enhancing the efficiency of public services. Limitations of infrastructure, security issues, low digital literacy, and negative perceptions of the use of technology are still an obstacle that must be resolved. However, with the application of appropriate innovations, such as increasing data security, introducing more effective digital literacy programs, and creating more easily accessible systems, e-government adoption in Indonesia can be accelerated. The innovation will bring significant changes in public services and positively impact the wider community.

Trust, security concerns, perceived usefulness, and information and communication technologies (ICT) are some of the key factors that usually influence the use of e-government services (Alajmi et al., 2023; Nguyen et al., 2024). Effective governance greatly transformed public administration, enhancing the delivery of public services and addressing a range of more intricate development requirements. Good governance can contribute to the achievement of Sustainable Development Objectives (SDGs) 2030 established by the United Nations (*Member States Questionnaire (MSQ) for the United Nations E-Government Survey 2022*, n.d.). A portion of the studies conducted on e-government has been carried out by (Alajmi et al., 2023; Nookhao and Kiattisin, 2023) (Nguyen et al., 2024). Obtained the results that many factors influence adopting the e-government system both internal and external factors. Existing research is generally conducted on a large scale with respondents varies and is generally carried out in developing countries. In research (Yuan et al., 2023) states that in general the community believes in e-government while in research (Iong and Phillips, 2023) asserts that there is no connection between e-government use and confidence, for this reason the writer seeks to understand the factors that shape individuals' views on the use of e-government services.

METHOD

This research uses a quantitative approach to look at the factors that affect how the province of the Riau Islands perceives the use of e-government systems, including trust, security concerns, perceived usefulness, information communication, and technology. The subject of this study includes individuals employed by the Provincial Government of the Riau Islands, along with the chosen participants who are staff members of the Provincial Government of the Riau Islands that meet the requirements to utilize digital public service tools while performing their roles and responsibilities. This research assesses how the Riau Islands Provincial Government Employees, in adopting the e-government system, government employees are chosen because they are the parties that carry out digital -based government management, data collected collectively. Data collection is carried out is a non-probability method approach with judgmental sampling techniques where the selection of samples is not carried out randomly, on the contrary, samples are chosen based on certain criteria (having access to the system), experience, or practical considerations. The sample method uses purposive sample. Number of samples 417.

RESULTS AND DISCUSSION

This research assesses how the Riau Provincial Government employees both ASN and Non ASN in viewing the application of the E-government system, respondent in this study is voluntary, and is sent anonymously. Sampled for this study was 422 people, with a percentage of men as many as 50.5%, women 49.5%, the age group that most answered was a group of 40-50 years with a percentage of 47.9%, the biggest educational qualifications were S1/DIV as much as 60.4%, staffing status as ASN as many as 62.6% of the most answered.

Table 1. Respondent Demographics

Spesification		Frequency	Percentage (%)
Gender	Male	210	50,4%
	Female	207	49,6%
Age	20-30	47	11,3%
	30-40	138	33,1%
	40-50	197	47,2%
	50-60	35	8,4%
Education	SMA	78	18,7%
	DIII	41	9,8%
	S1/DIV	251	60,2%
	S2	45	10,8%
	S3	2	0,5%
Employment Status	ASN	260	62,4%
	NON ASN	157	37,6%

Source: Data Processed (2024)

DATA ANALYSIS

Table 2 shows that all variable items are valid. Ave exceeds 0.5, and the loading factor measurement is more than 0.7.

Table 2. Validity Test

Variable	Indicator	Loading Factor	AVE
<i>Trust</i>	T1	0,864	
	T2	0,850	
	T3	0,876	0,725
	T4	0,841	
	T5	0,826	
<i>Security Concern</i>	SC1	0,788	
	SC2	0,904	
	SC3	0,885	0,766
	SC4	0,906	
	SC5	0,888	
<i>Perceived of Usefulness</i>	PU1	0,849	
	PU2	0,897	0,758
	PU3	0,848	
	PU4	0,887	
<i>Information and Communication Technology</i>	ICT1	0,857	
	ICT1	0,872	
	ICT1	0,876	0,733
	ICT1	0,836	
	ICT1	0,836	
<i>Perception of e-government</i>	PEG1	0,900	
	PEG2	0,905	0,803
	PEG3	0,882	
<i>Adaption of e-government</i>	AEG1	0,832	0,720
	AEG2	0,853	
	AEG3	0,859	

Source: Data Processed (2024)

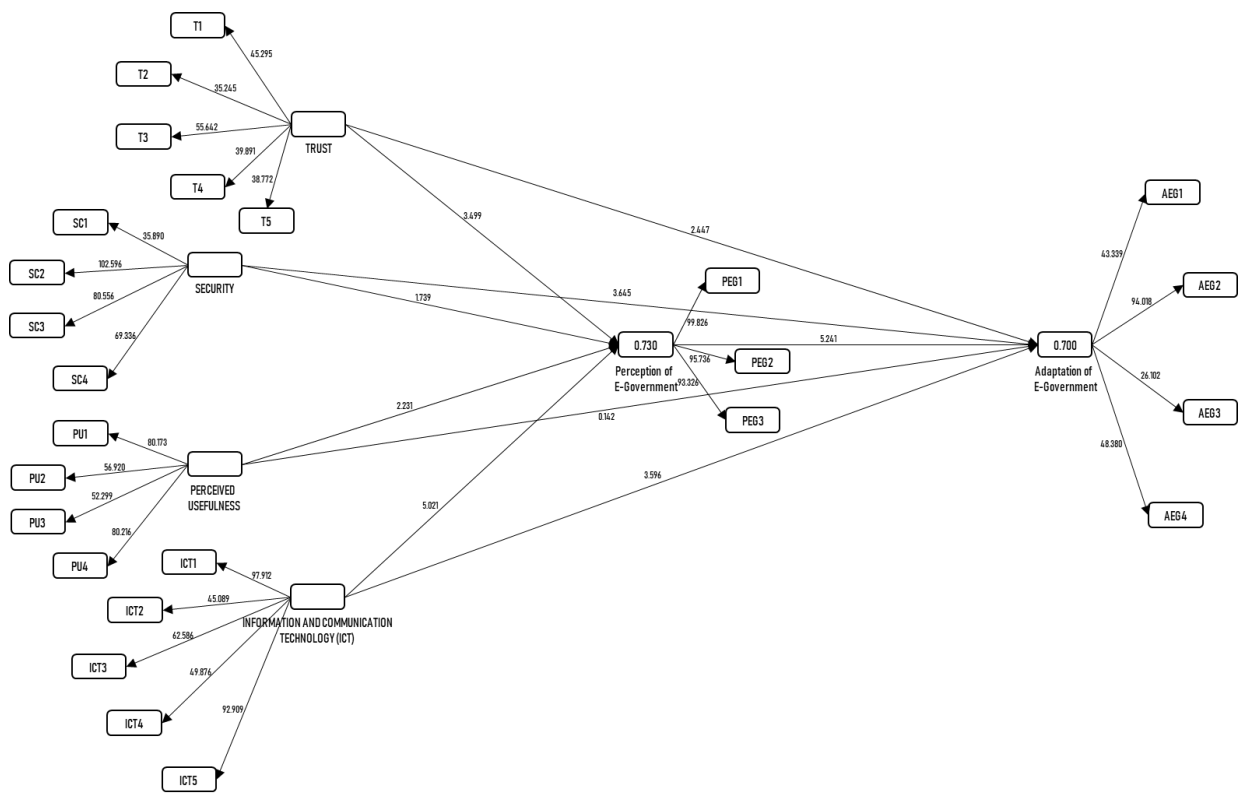


Figure 1. Conceptual Framework

Table 3. Reability Test

Variabel	Cronbach's Alpha	Composite Reliability
Trust	0,905	0,929
Security Concern	0,923	0,942
Perceived of Usefulness	0,893	0,926
Information and Communication Technology	0,909	0,932
Perception of e-government	0,877	0,924
Adaption of e-government	0,806	0,885

Source: Data Processed (2024)

Table 3 displays the results of the reliability test, demonstrating the dependability of every variable. Cronbach's alpha and the scores for composite reliability that exceed 0.7 indicate this. Having tested and validated the following, the hypotheses were tested by means of path analysis, whose outcomes are displayed in Table 3.

Table 4. Structural Model Test Results

	Sample Mean	T-Statistics	P-Values	Hypotesis
H1: Trust -> Perception of e-government	0,169	2,683	0,007	Accepted
H2: Security -> Perception of e-government	0,181	3,070	0,002	Accepted
H3: Perceived Usefulness -> Perception of e-government	0,332	4,122	0,000	Accepted
H4: Information and Communication Technology (ICT) -> Perception of e-government	0,254	2,949	0,003	Accepted
H5: Perception of E-government -> Adaption of e-government	0,197	2,899	0,004	Accepted
H6: Trust -> Adaption of e-government	0,910	2,795	0,005	Accepted
H7: Security -> Adaption of e-government	0,212	3,578	0,000	Accepted
H8: Perceived Usefulness -> Adaption of e-government	-0,056	0,781	0,435	Rejected
H9: Information and Communication Technology (ICT) -> Adaption of e-government	0,288	3,840	0,000	Accepted

Source: Data Processed (2024)

As shown in table 4, there are eight accepted research hypotheses and one rejected hypothesis. H1, namely Trust has impact on how e-government is seen, is accepted because the t-statistic value is 2.683. H2, which states Security has an influence on Adaption of e-government, can be accepted with a t-statistic value of 3.070. H3 regarding with a t-statistic value of 4.122, the relationship between perceived utility and perceived e-government is significant. H4, which states that Information and Communication Technology (ICT) has effect on Adaption of e-government, can be accepted because the t-statistic value is 2.949. H5, have a big impact on how e-government is seen and how it is adapted, as evidenced by the t-statistic value of 2.899. H6, Trust affects the Adaption of e-government, is also valid, with a t-statistic of 2.795. H7, Security affects the Adaption of e-government, can be accepted because the t-statistic value is 3.578. H8, which states that perceived usefulness will influence eGovernment adoption, cannot be accepted because the t-statistic value is 0.781. H9, which states that Information and Communication Technology (ICT) has an effect on Adaption of e-government, can be accepted because the t-statistic value is 3.840.

Table 5. Results with Mediating Variable

	Original Sample	Sample Mean	Standart Deviation	T-Statistics	P-Values
Trust -> Perception Of E-government-> Adaption Of E-Government	0,034	0,033	0,016	2,085	0,037

<i>Security -> Perception Of E-government -> Adaption Of E-Government</i>	0,037	0,036	0,017	2,109	0,035
<i>Perceived Usefulness -> Perception Of E-government-> Adaption Of E-Government</i>	0,067	0,067	0,031	2,173	0,030
<i>Information and Communication Technology (ICT) -> Perception of E-Government-> Adaption Of E-Government</i>	0,049	0,050	0,024	2,002	0,045

According to Table 5, Trust, security, perceived usefulness, and information and communication technology (ICT) are all shown to be mediated by perceptions of e-government. As a mediating variable, trust influences e-government adoption and perception, as shown by the t-statistic of 2.085 and p-value of 0.037. It is evident that security plays a crucial role in how e-government is embraced and viewed; the t-statistic is 2.109, and the p-values stand at 0.035. The recognized utility influences the adjustment to e-government, and the interpretation of e-government serves as a mediating factor. This is clear, as indicated by a t-statistic value of 2.173 and a p-value of 0.030. Information and Communication Technology (ICT) has effect on Adaptation of e-government and Perception of e-government. This is clearly a mediating variable, as evidenced by the t-statistic value of 2.002 and the p-value of 0.045. This section must answer the problems or research hypotheses that have been formulated previously.

There is evidence that trust affects how e-government is perceived based on the hypothesis testing outcomes, which shows that respondents believe in using and making transactions through the e-government system because they believe in its benefits, which are not harmful and reliable. The study's findings corroborate several of earlier investigations that found trust influences how people view e-government (Alomari, t.t.; Nookhao and Kiattisin, 2023b; Tiika et al., 2024; Zou et al., 2023). Perceived usefulness influences the perception of e-government, as evidenced by the results of the next hypothesis test. Respondents believe that working with an e-government system will produce better quality than manually, will increase efficiency in interacting with the-government and can improve services. Research findings (Almaiah et al., 2023; Cai et al., 2023; Chen and Aklikokou, 2020; Maqableh et al., 2021; Pratama and Imawan, 2019) are in line with this outcome.

Perceptions of eGovernment are influenced by information and communication technology (ICT). Respondents are of the opinion that information and communication technology is very supportive for the use of the e-government system., each organisational unit where they work already has a clear vision, strategy and legal reasons for implementing e-government. These results support various previous studies conducted by (Adam, 2020; Ali et al., 2024; Bondes et al., 2024; Chandra et al., 2020; Claudio Diogo Reis et al., 2021; Kim and Yoo, 2024; Pontones-Rosa et al., 2021).

The subsequent findings regarding trust influence the embrace of e-government. This outcome indicates that participants feel that the advantages of utilizing a dependable and safe e-government framework affect the acceptance of these offerings. Furthermore, security concern affects e-government adoption, respondents adopt e-government services because this service system is very concerned about privacy by using reliable password security, safe to carry out work-related transactions.

The following assumption is that the perceived utility does not influence the acceptance of e-government. This suggests that although e-government systems are designed to provide

clear benefits and better quality, other factors such as trust, security concerns, the decision to accept or not adopt the system may be more heavily influenced by information and communication technology (ICT), users have different perceptions of how useful e-government is to them, even though e-government technology is designed to facilitate public services, some individuals or groups may not see significant immediate benefits, especially if they are not familiar or comfortable with the technology. For some users, even if e-government is perceived as useful, social and economic factors, such as low levels of access to technological devices or the Internet, or digital literacy issues, may hinder use and adaptation. This means that perceived usefulness may not be enough to motivate behaviour change, and the interaction between these quality factors and their relationship with perceived usability is important. Interestingly, although service and information quality were paramount, Perceived usefulness is not significantly impacted by system quality (Aleisa, 2024).

Other findings Information and communication technology (ICT) affecting e-government adoption. Information and communication technology accessibility is crucial for facilitating users' successful interaction with e-government. The acceptance of e-government is significantly impacted by making sure that the implementation is legal as well as having a clear plan and vision.

Perception of e-government accurately mediates trust, security, perceived utility, and information and communication technology (ICT) on e-government adoption, according to the mediation test results. This demonstrates that if people do not see e-government, then trust, security, perceived utility, and information and communication technology (ICT) will not affect e-government adoption.

CONCLUSION

Drawing conclusions from the findings of the hypothesis tests, it can be stated that trust, security, and information and communication technology (ICT) impact the uptake of e-government. However, the findings concerning perceived usefulness are not significant for the adoption of e-government. This means that trust, security and information and communication technology (ICT) on e-government perceptions have an impact on e-government adoption. Furthermore, User perceptions of eGovernment influence e-government adoption, which means that user perceptions of eGovernment influence e-government adoption.

Outcomes of the mediation analysis show that the way people view e-government acts as a mediator for trust, security, perceived usefulness, and information and communication technology (ICT) regarding the acceptance of e-government. In other words that these four variables cannot influence users without going through perception of e-government.

The results showed that trust plays a crucial role in how e-government is viewed, so it is important for governments implementing e-government to continue to maintain user trust. One of the things that really needs to be considered is to make users feel comfortable with the operation and implementation of e-government systems. Ensuring that security affects perceptions of e-government is the next test result. As the e-government system contains personal data of users, the government must always ensure the security of its use. Furthermore, it is anticipated that the government would enhance the e-government system's usability because the results of the study show that people's perceptions of its utility significantly influence how they see their e-government experience. The findings also demonstrate that information and communication technology (ICT) has a major impact on how people view e-government, and that having sufficient technology facilities and services is crucial for e-government system deployment. According to the study's findings, users' perceptions of e-government have an impact on the adoption of e-government; consequently, users' perceptions of e-government have a major impact on their power to influence e-government adoption. It is expected that the results of the research will provide recommendations for government strategies aimed at improving the technological infrastructure. This is essential for the

successful implementation of the electronic government system (SPBE), ensuring that adaptability to advances in information and communication technology remains a crucial aspect to be maintained.

This study focuses solely on the factors of trust, security, the perceived benefits, information and communication technology, and views on e-government. There are other variables that are not studied, such as managerial support and culture (Alajmi et al., 2023, 2020) (Thi Uyen Nguyen et al., 2024a). Comprehending the adoption of e-government requires a thorough investigation into the interactions among citizen connections (financial, social, and structural), the quality of relationships, and the levels of citizen participation (both situational and ongoing). Although citizen connections play a vital role in promoting engagement with e-government systems, their impact differs across various cultural and social settings (Uyen Nguyen et al., 2024).

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