Accredited SINTA 2 Ranking
Decree of the Director General of Higher Education, Research, and Technology, No. 158/E/KPT/2021
Validity period from Volume 5 Number 2 of 2021 to Volume 10 Number 1 of 2026

Published online at: **http://jurnal.iaii.or.id**

JURNAL RESTI
(Rekayasa Sistem dan Teknologi Informasi)
Vol. 9 No. 2 (2025) 314 - 326 e-ISSN: 2580-0760

Measuring Factors of Trust in the Use of E-Government: A Multi-Factor Analysis of the E-Government in Indonesia

Iqbal Caraka Altino[1], Reska Nugroho Sudarto[2*], Dana Indra Sensuse[3], Sofian Lusa[4], Prasetyo Adi Wibowo Putro[5], Sofiyanti Indriasari[6], Bramanti Brillianto[7]
[1,2,3,5,6] Faculty of Computer Science, University of Indonesia, Depok, Indonesia
[4]Master's Degree of Tourism Department, Institut Pariwisata Trisakti, Jakarta, Indonesia
[7]Faculty of Engineering and Information Technology, University of Melbourne, Melbourne, Australia
[1]iqbal.caraka@ui.ac.id, [2]reska.nugroho@ui.ac.id, [3]dana@cs.ui.ac.id,
[4]sofian.lusa@iptrisakti.ac.id, [5]prasetyo.adi01@ui.ac.id, [6]Sofiyanti.indriasari11@office.ui.ac.id
[7]bbrillianto@student.unimelb.edu.au

Abstract

Research related to trust has been widely conducted, but few studies have comprehensively explored the factors influencing trust, encompassing both technical and non-technical aspects, particularly in the context of the public sector. This gap serves as the important background for this study, which aims to comprehensively analyze the factors shaping trust in e-government adoption. The focus of this research is on the Integrated Dynamic Archival Information System (SRIKANDI) application at the National Civil Service Agency (BKN) in Indonesia, which faces the issue of low adoption rates despite being launched in 2020. This study examines the influence of technical factors, government agencies, public factors, risk factors, social influence, and facilitating conditions on the formation of trust in e-government, as well as explores the impact of trust on satisfaction, intention to use, and e-government adoption. The research method used is quantitative, with data analysis employing partial least squares structural equation modeling (PLS-SEM) through the SmartPLS version 4 application. The results show that technical factors (β=0.083, t=1.702), government agencies (β=0.249, t=3.337), citizen factors (β=0.114, t=2.054), risk factors (β=0.467, t=6.130), social influence (β=0.101, t=1.722), and facilitating conditions (β=0.140, t=2.025) significantly influence trust in e-government. This trust, in turn, positively impacts intention to use (β=0.564, t=8.576), satisfaction (β=0.372, t=4.358), and e-government adoption (β=0.458, t=3.337) & (β=0.503, t=1.702). These findings indicate that users with high trust in e-government systems are more likely to use and adopt the system, highlighting the critical role of trust in enhancing the utilization of e-government services.Keywords: technical factors; government agency factors; citizen factors; risk factors; social influence; facilitating condition; trust in e-government; satisfaction

How to Cite: I. C. Altino, "Measuring Factors of Trust in the Use of E-Government: A Multi-Factor Analysis of the E-Government in Indonesia", *J. RESTI (Rekayasa Sist. Teknol. Inf.)* , vol. 9, no. 2, pp. 314 - 326, Apr. 2025.
DOI: https://doi.org/10.29207/resti.v9i2.6016

1. Introduction

E-government is the use of technology for information and communication (ICT) to deliver government services to citizens, corporations, and other government agencies[1]. E-Government has become a major trend, with all countries adopting it [2]. The use of e-government has helped governments meet citizens' needs for efficient and effective services, as well as accurate and up-to-date information [3]. E-Government has been shown to reduce corruption, improve service quality and administrative efficiency, promote transparency, and be citizen-centric [4].

Not all e-government implementations meet grand expectations. While e-government has many benefits, it also has a high failure rate [5]. About 60%-80% of e-government projects are not successful [6]. Additionally, the level of e-government adoption by users is still low[7]. One of the key factors in user adoption is trust. Many nations continue to endure poor levels of trust among citizens, therefore negatively impacts the adoption of e-government services[1]. Trust itself can be defined as the willingness to rely on a trusted partner, and it is identified as a critical predictor of citizens' e-government participation[8].

Received: 28-08-2024 | Accepted: 06-04-2025 | Published Online: 10-04-2025

In a study by Alzahrani et al. [1], they stated that according to Colesca et al. [9] and Carter & Belanger [10], governments need to understand the factors that influence trust among citizens and other government departments to achieve success in adopting e-government services. Alzahrani et al. [1] stated that the trust model is influenced by 4 variables; technological factors, governmental agency factors, characteristics of individuals, and risk factors. Moreover, trust development needs to be seen from social influence & facilitating conditions. Based on Hooda et al. [5], social influence is used to shape users' intentions to use e-government systems by influencing their attitudes and decisions based on the opinions of important others such as family, friends, peers, and colleagues. Hooda et al. [5] and Venkatesh et al. [11] also, define facilitating conditions as an individual's perception of the availability and adequacy of organizational and technical infrastructures to support system use. All these factors play an important role in attitude formation and decision-making regarding the use of technology in the context of e-government.

Currently, in-depth research on trust in the adoption of e-government in Indonesia is still conducted in a fragmented manner. Some studies only explore factors influencing trust through technical aspects of the system or non-technical aspects. For example, research by Fadrial et al. [12] focuses solely on non-technical aspects that directly influence trust in e-government. Similarly, research by Nanang et al. [13] highlights risk factors as elements that impact trust. Hutahean et al. [8] in general, the discussion focuses on non-technical factors, such as social media and good governance, which can significantly influence trust. Meanwhile, studies by Assegaf et al. [14] and Pribadi et al. [15] only emphasize technical aspects in examining their influence on trust. Based on these findings, this study aims to identify both technical and non-technical factors that influence trust, which will ultimately impact e-government adoption. The factors examined in this study include technical factors, government agency factors, citizen factors, risk factors, social influence, and facilitating conditions.

To further understand the relationship between trust and e-government adoption, this study focuses on the SRIKANDI as the research object. Although SRIKANDI was launched in 2020, its adoption rate remains very low, particularly within the BKN. SRIKANDI is designed to manage archives in Indonesian government organizations. The low adoption rate is evident from the fact that some units within BKN have not yet implemented SRIKANDI.

Based on the research gaps mentioned earlier and the available case studies, this study aims to uncover the technical and non-technical factors that can influence user trust and their impact on the adoption of e-government in the Indonesian government. Considering these issues, the research question that can be derived is as follows: What factors influence trust and the adoption of e-government, particularly in the context of the SRIKANDI application?

2. Research Methods

This research method is conducted by integrating the DeLone & McLean Information System Success Model (ISSM), the Unified Theory of Acceptance and Use of Technology Model 2 (UTAUT2), and the Technology Acceptance Model (TAM). The integration of these models is based on previous studies [1], [5], [16], [17], [18], [19], [20], which have generated hypotheses regarding the variables influencing trust. Based on several previous studies, factors such as technical factors, government agency factors, public factors, risk factors, social influence, and facilitating conditions are considered relevant in building a more comprehensive understanding of trust formation in the context of e-government.

2.1 Technical Factor

Technical factors are one of the important parameters that can be used to measure the level of citizen trust [1]. This factor is also related to the citizens' belief that the use of technology for government services will provide effective services, accurate information, and ensure secure transactions [10]. Technical factors can also be interpreted as technological factors [1]. Based on the DeLone & McLean (D&M) model, technological factors consist of three dimensions: system quality, service quality, and information quality [21].

Information quality affects the information presented to users in a variety of ways [22]. Information quality is measured by the degree of accuracy, relevance, substance, and timeliness of the information presentation [23]. Information quality indicates that the information is well-organized, clearly written, up-to-date, and considered useful by users [24]. Information quality itself has a relationship with trust [25]. In line with this, information quality is a key factor that citizens will check when using e-government to build trust in the system [26].

Service quality was originally used to measure the quality of services provided by the IT department in an organization [27]. The services provided, of course, need to be evaluated for their quality [28]. By definition, service quality is the degree to which the services provided to users are the best possible services that meet the needs of customers [21]. Users who have the intention of using e-government always expect that the system to be used has good service quality [23]. Poor service quality will make citizens distrust the system [26]. Furthermore, if citizens are satisfied with the service quality, they will have the intention to engage in its use [23].

System quality is defined as the degree to which the functionality of a system can best meet the needs of customers, with ease of use and few possible problems [28]. System quality is measured in terms of ease of use,

functionality, reliability, flexibility, data quality, portability, integration, and its relevance [21]. System quality has a positive relationship with trust in e-government. Citizens who believe that e-government is reliable and has good system quality will be more likely to trust the system [26]. When citizens trust the system, they will be more likely to continue using the system [29]. Based on the explanation of the impact that exists in all domains of technical factors, the following first hypothesis can be made:

H1: Technical factors have a positive effect on trust in e-government

2.2 Governmental Agencies Factors

Governmental agencies factors are identified as factors to explore citizen trust and their willingness to expose vulnerabilities related to the government which depends on the level of citizen confidence and trust in the government's ability to provide effective services to its citizens [1]. According to Alzahrani et al. [1] there are many studies that suggest that governmental agencies factors refer to citizens' perceptions of the government's ability and integrity to provide effective services to its citizens, is an important dimension that leads to the successful adoption of e-government services. There are 2 dimensions in measuring governmental agency factors, namely: the reputation of the agency and past experience [1].

Individuals or organizations with a good reputation will quickly develop a sense of trust and reliability in people, even without direct knowledge of the individual or organization [30],[31]. Internet users will not hesitate to disclose their personal information to organizations that are known for their reputation that needs to be protected [32]. This is also explained by Alzahrani et al. [1] that a good government reputation will develop citizen trust to adopt e-government services.

According to Alzahrani et al. [1] citizens' past experiences and their satisfaction with online services provided by government agencies can influence trust in e-government. This emphasizes the importance of experience in the formation of trust towards others [31]. According to the analyst related to the reputation of the agency and experience, the second hypothesis is as follows:

H2: Governmental agency factors have a positive effect on trust in e-government

2.3 Citizen Factors

Citizen aspects are important factors that influence citizen trust. In this disposition to trust experiences are considered as citizen aspects that influence trust in e-government. Disposition to trust is how users show a greater tendency to trust anything and anyone and are more likely to trust online entities even with limited information about them, while others require more information about the trust target before deciding to trust [33]. A low level of disposition to trust can be assumed to lead to minimal trust decisions, while a high level can encourage an increase in trust decisions [31]. According to analysts related to disposition to trust, internet experience, education, and age, the third hypothesis is as follows:

H3: Citizen factors have a positive effect on trust in e-government

2.4 Risk Factors

Users have shown reluctance to complete simple online purchase transactions [34], especially due to concerns about risks [35], Therefore, perceived risk is positioned as a major barrier to the acceptance of electronic services by consumers. Consumer perceptions of the risks inherent in the adoption and use of products have been studied for years. According to Ejdys et al. [19], risk will always create a need for trust, and trust will determine the willingness to take risks. There are three aspects of risk factors, namely: performance risk, time risk, and security & privacy

Performance risk is the likelihood of a product being damaged and not functioning according to the offered design, thus failing to provide the expected benefits [36]. Performance risk is considered a critical type of risk that impacts trust in adopting electronic governance [1].

Time risk indicates that users face the potential of losing time when deciding to make a purchase, learning how to use the product, and having to replace it if it does not meet expectations [37]. There is a positive influence of time risk on overall risk [38].

Omari et al. [39] state that secure and private transaction guarantees will facilitate user trust in electronic governance. Additionally, the authors emphasize the importance of transparent legal guarantees, institutional devices, and policy procedures for users. In discussing trust, Najafi [40] state that the trust of information providers in information collectors will diminish concerns regarding information privacy states that trust in information providers about data collectors will reduce concerns about information privacy. According to analysts related to risk factors, the fourth hypothesis is as follows:

H4: Risk factors have a positive effect on trust in e-government.

2.5 Social Influence

Individuals tend to accept a recommendation, especially when someone they admire or respect has used and benefited from what they have used before by sending positive messages and signals, such influential individuals can influence potential users, ultimately playing a crucial role in shaping positive perceptions of the e-government system [41]. By definition, social influence is the extent to which an individual perceives that important people believe they should use the new system [42]. Individuals who receive positive messages

from their peer group or close others demonstrated a higher level of trust in e-government systems [5]. In research conducted by Alomari [43], it is proven that social influence can significantly affect trust. Based on the understanding and analysis above, the fifth hypothesis can be formulated as follows:

H5: Social influence has a positive effect on trust in e-government.

2.6 Facilitating Condition

Facilitating conditions provide assurance to users that the service provider has sufficient resources to operate effectively, including the ability to deliver reliable and responsive services [44], [45]. Facilitating conditions significantly contribute to building user trust in e-government by reducing uncertainty about the functionality of the technology. When users feel that there are resources to help them overcome problems and obstacles in using new systems/technology, their trust in e-government increases. [5]. Thus, facilitating conditions play a key role in fostering user trust by ensuring reliable and responsive e-government transactions [46]. Based on the above analysis, the sixth hypothesis can be formulated as follows:

H6: Facilitating conditions have a positive effect on trust in e-government.

2.7 Trust in E-Government

According to the definition, trust is an essential part of a relationship, as it indicates how people interact and build relationships positively[47]. Trust refers to the willingness to depend on unknown others where the trustor does not have "credible, meaningful, or affective bond information" [48].

There are two important aspects of trust in studying e-government adoption: trust in service providers and trust in the Internet. Trust components have been added in this study as additional variables [10], [37]. Trust in e-government has a positive impact on the adoption and intention to continue using e-government services [49]. Based on the above analysis, the seventh hypothesis can be formulated as follows:

H7: Trust in e-government has a positive effect on the intention to continue using e-government services.

2.8 Intention to Continue Using

According to the definition, Intention to Continue Using is the willingness of citizens to engage in government services through the respective online website [50]. Intention to Continue Using is influenced by citizens' trust in government services. In the study conducted by Alzahrani [1] The intention to Continue Using e-government services influences satisfaction and the adoption of e-government. Therefore, based on the analysis above, the hypotheses are as follows:

H8a: Intention to continue using has a positive effect on satisfaction.

H8b: Intention to continue using has a positive effect on the adoption of e-government.

2.9 Satisfaction and Adoption E-government

Satisfaction is influenced by their intention to use e-government. The D&M model (2003) shows that satisfaction affects the Intention to Continue Using, which in this framework is the Adoption of E-Government [1]. Adoption of E-Government is a crucial decision for most consumers as it has long-term implications. [51]. Adoption of E-Government is influenced by satisfaction and their intention to use e-government services [1]. Based on the analysis, the hypothesis is as follows:

H9: Satisfaction has a positive effect on the Adoption of E-Government.

Figure 1 presents the conceptual model used in this study.

2.10 Research Design

To assess the links in the conceptual model, a quantitative survey was developed and carried out following the creation of the conceptual model and the articulation of the main hypotheses regarding the elements influencing citizens' trust in e-government. A weighted point scale, ranging from 1 to 5, was used in this investigation. The study looked at the connections between factors that affect users' confidence in e-government. The study employed a partial least squares structural equation model (PLS-SEM) to identify the factors that determine user trust in e-government and to investigate the relationship between citizen trust and e-government adoption. The PLS-SEM was employed in this investigation using SmartPLS software. Given that the goal of this study is to forecast and develop theories based on an established conceptual model, PLS-SEM was used.

The greatest number of arrows pointing to a latent variable in this study was used to calculate the sample size of respondents. Based on the literature analysis and Alzahrani's study [1], the conceptual model generated indicated which latent variable was most commonly pointed to by arrows in this research study (Figure 1).

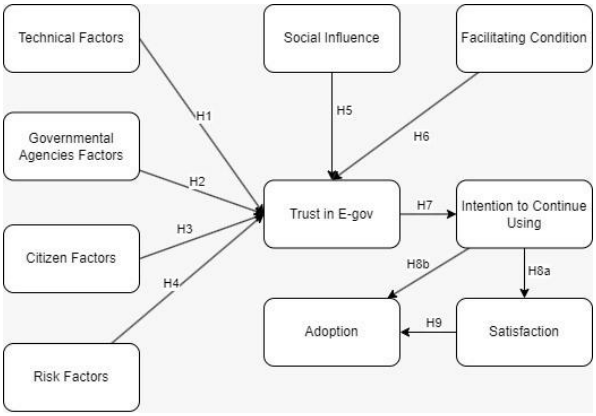

Figure 1. Conceptual Model Literature

An R-Square of 0.25 and a significance level of 5% were found in the investigation. Thus, 117 respondents constitute the minimum sample size. The sample determination based on Kock [52] is displayed in Table 1.

The sampling process employed in this study was based on the fundamental principles of random sampling within the population of SRIKANDI application users in BKN. The respondents were randomly selected from all active users of the application who had accessed at least five of the main features within the previous three months. This criterion was selected to ensure that respondents possess sufficient experience with the application and can provide pertinent feedback. The research population comprises BKN employees at the head and regional offices. Despite the utilization of a basic random sampling method, we acknowledge the potential for bias. To minimize such bias, we have taken measures to ensure that the distribution of respondents aligns with the characteristics of the general population.

Table 1. Table Sample Respondent Determination

Maximum Number of Arrows Pointing at a Construct	Minimum R^2 in the Model 0.10	0.25	0.50	0.75
2	110	52	33	26
3	124	59	38	30
4	137	65	42	33
5	147	70	45	36
6	157	75	48	39
7	166	80	51	41
8	174	84	54	44
9	181	88	57	46
10	189	91	59	48

The questionnaire had to be developed when the number of samples and respondent requirements were decided. Table 2 contains the questionnaire items.

Table 2. The Questionnaire Items

Constructs	Items	Sources
Technical Factors	TEC1: SRIKANDI provides accurate information that you need.	[6]
	TEC2: SRIKANDI provides up-to-date information.	
	TEC3: Content in the SRIKANDI application can be easily accessed through the existing website.	
	TEC4: I can successfully log in to the SRIKANDI application at any time.	
	TEC5: I can successfully visit the relevant links/menus provided on the SRIKANDI application page.	
	TEC6: The guidelines of the SRIKANDI application are easy to use, so I can clearly understand the responsibilities of each stakeholder.	
	TEC7: Staff responsible for the SRIKANDI application can act when I encounter problems in its usage.	
	TEC8: All functions and services in the SRIKANDI application can be operated normally.	
	TEC9: The SRIKANDI application is stable when used to process services.	
Government Agencies Factors	GVN1: The government organization managing the SRIKANDI application has a competent reputation for conducting online processes with users.	[31]
	GVN2: The government organization managing the SRIKANDI application has an honest reputation for conducting online processes with users.	
	GVN3: The government organization managing the SRIKANDI application has a reputation for considering the interests of users in conducting online processes.	
	GVN4: Online activities I have done with government organizations have always been good.	
	GVN5: I have not had a negative experience in conducting online activities with government organizations.	
Citizen Factors	CTZ1: In general, I trust people.	[9], [31]
	CTZ2: I tend to rely on others.	
	CTZ3: In general, I have confidence in human values.	
	CTZ4: I feel that people, in general, have good intentions.	
Risk Factors	RSK1: The SRIKANDI application may not perform well and create problems for my work.	[37], [38], [53]
	RSK2: The security system built into the SRIKANDI application is not strong enough to protect my account.	
	RSK3: There is a high possibility of issues with the performance of the SRIKANDI application, causing it not to function as expected.	
	RSK4: Servers in the SRIKANDI application may not work well and cannot process my work.	
	RSK5: Using the SRIKANDI application will cause discomfort because I must spend time fixing errors in the application.	
	RSK6: I would need a lot of time to learn how to use the services on the SRIKANDI application.	
	RSK7: I would need a lot of time to familiarize myself with the services on the SRIKANDI application.	
	RSK8: I know that the personal information I send to the SRIKANDI application is used securely.	
	RSK9: The SRIKANDI application has adequate security measures to protect my personal information from theft or leaks, and hackers will not be able to access that information.	
	RSK10: I trust the information I provide when accessing the SRIKANDI application.	
Social Influence	SCI1: People who influence my behavior think that I should use the SRIKANDI application.	[54]
	SCI2: People important to me think that I should use the SRIKANDI application.	
	SCI3: Senior-level management in the organization has helped use the SRIKANDI application.	
Facilitating Condition	FCC1: I have the resources needed to use the SRIKANDI application.	[54]
	FCC1: I have the knowledge needed to use the SRIKANDI application.	
Trust in E-Gov	TRS1: SRIKANDI managers have the skills and expertise to conduct online activities in the way I expect.	[55]
	TRS2: SRIKANDI managers can meet user needs related to electronic archiving services.	
	TRS3: The SRIKANDI application portal can be trusted to conduct online work activities.	
	TRS4: I trust that through the SRIKANDI application, the government will consider the best interests of me.	
	TRS5: I think I can trust the SRIKANDI application services.	

Constructs	Items	Sources
Intention to continue using	ITU1: I prefer using archiving services with the SRIKANDI application compared to other archiving services.	[56]
	ITU2: I think most employees in the government use the SRIKANDI application.	
	ITU3: I need training related to the SRIKANDI application to use it for archiving services.	
Satisfaction	SAT1: I am satisfied with the services available from the SRIKANDI application.	[53]
	SAT2: I am very satisfied with my experience using the SRIKANDI application.	
	SAT3: The SRIKANDI application provides services according to what I need for archive management.	
Adopting E-Gov	ADP1: I will continue to use the SRIKANDI application.	[3], [57]
	ADP2: I will encourage everyone in my workplace to use the SRIKANDI application.	
	ADP3: If the SRIKANDI application can be used to complete my tasks, I do not have to go to the office physically.	
	ADP4: I can use the SRIKANDI application.	

3. Results and Discussions

3.1 Results

This study follows a three-phase data analysis process: inner model analysis, outer model analysis, and demographic data analysis. The demographic data analysis method is employed to accurately determine the demographic profile of survey respondents. The results of the questionnaire weight computations are rigorously compared to the developed research constructs using both outer and inner model analyses.

A report of the respondents' demographics is summarized in Table 3. The results emphasized that the average participant's age ranged from 21 to 60 with most of the participants' age from 31 to 40. In addition, 64,10% of participants were male, and the rest were female (35,90%). The respondents were mostly government employees (78,63%), government honorary employees (15,38%), government experts (4,27%), and Private Sector Employees (1,71%). Most of the respondents had bachelor's degrees (73,50%). The respondents' duration of using the SRIKANDI application was mostly <1 Year (88,03%) and the second duration was between 1-3 Years (11,97%). Most of the respondents' experience using the Internet was between 16 - 20 Years (96%), more than 20 Years (3%), and the last experience using the Internet ranged from 10-15 years (0.85%).

Outer loading values (for reflected criteria) represent the amount of weight of every variable as a measure of the latent variable. The indicators with the largest outer loading values represent the variable's strongest (dominant) measures.

Convergent validity is examined using the outer loading values for each construct. The outer loading coefficients are analyzed using factor loading. High numbers imply a high or good level of validity, while low outer loading levels suggest low or poor validity. In the study conducted by Decman and Kozel [58], indicators with factor loading values greater than 0.6 are considered valid. The first measure of outer loading for each build yielded the results in Table 4.

During the outer loading measurements, 18 indicators were found to have values less than 0.6. Outer loading above 0.6 indicates that the construct explains more than 50 per cent of the indicator's variance, ensuring sufficient item reliability. Invalid indicators can lead to inaccurate reliability and validity measurements. Prior to removal, the Cronbach's alpha (CA) values for variables containing these invalid indicators were below 0.7, and the average variance extracted (AVE) values were below 0.5, indicating that these constructs did not meet the recommended reliability and validity criteria. After the removal of these indicators, the reliability and validity of the constructs were reassessed.

Table 3. Demographic Data Respondents

Age			
Code	Classification	Respondents	Percentage
1	21-30 Years	38	32,48%
2	31-40 Years	68	58,12%
3	41-50 Years	4	3,42%
4	51-60 Years	2	1,71%
Gender			
Code	Classification	Respondents	Percentage
1	Male	75	64,10%
2	Female	42	35,90%
Occupation			
Code	Classification	Respondents	Percentage
1	Civil Servant	92	78,63%
2	Government Honorary Employee	18	15,38%
3	Government Expert	5	4,27%
4	Private Sector Employee	2	1,71%
Education			
Code	Classification	Respondents	Percentage
1	Postgraduate	14	11,97%
2	Bachelor's	86	73,50%
3	Diploma	3	2,56%
4	High School	2	1,71%
Duration Of Using the SRIKANDI Application			
Code	Classification	Respondents	Percentage
1	<1 Year	103	88,03%
2	1-3 Years	14	11,97%
3	4-6 Years	0	0,00%
4	7-9 Years	0	0,00%
5	>9 Years	0	0,00%
Experience Using the Internet			
Code	Classification	Respondents	Percentage
1	10-15 Years	1	0,85%
2	16-20 Years	113	96,58%
3	20> Years	3	2,56%

The results showed that Cronbach's alpha (CA) and composite reliability (CR) values for all constructs exceeded the recommended threshold of 0.7 [59], indicating strong internal consistency. Additionally, the average variance extracted (AVE) values were above 0.5, confirming satisfactory convergent validity [59].

Table 4. Result of outer loading measurement

Construct	Indicator	Outer Loading	Status
Adoption in E-government	ADP1	0.899	Keep
	ADP2	0.804	Keep
	ADP3	0.799	Keep
	ADP4	0.598	Remove
Citizen Factors	CTZ1	0.756	Keep
	CTZ2	0.715	Keep
	CTZ3	0.895	Keep
	CTZ4	0.575	Remove
Facilitating Condition	FCC1	0.881	Keep
	FCC2	0.888	Keep
Government Agencies Factors	GVN1	0.719	Keep
	GVN2	0.502	Remove
	GVN3	0.818	Keep
	GVN4	0.657	Remove
	GVN5	0.474	Remove
Intention to Continue Using	ITU1	0.902	Keep
	ITU2	0.852	Keep
	ITU3	0.532	Remove
Risk Factors	RSK1	0.507	Remove
	RSK2	0.333	Remove
	RSK3	0.169	Remove
	RSK4	0.339	Remove
	RSK5	0.455	Remove
	RSK6	0.498	Remove
	RSK7	0.507	Remove
	RSK8	0.791	Keep
	RSK9	0.796	Keep
	RSK10	0.785	Keep
Satisfaction	SAT1	0.887	Keep
	SAT2	0.288	Keep
	SAT3	0.886	Keep
Social Influence	SCI1	0.887	Keep
	SCI2	0.288	Remove
	SCI3	0.886	Keep
Technical Factors	TEC1	0.690	Keep
	TEC2	0.551	Remove
	TEC3	0.573	Remove
	TEC4	0.456	Remove
	TEC5	0.894	Keep
	TEC6	0.892	Keep
	TEC7	0.850	Keep
	TEC8	0.889	Keep
	TEC9	0.529	Remove
Trust in E-gov	TRS1	0.788	Keep
	TRS2	0.764	Keep
	TRS3	0.817	Keep
	TRS4	0.703	Keep
	TRS5	0.767	Keep

Furthermore, the removal of these indicators positively impacted the structural model. The R^2 values, either remained improved in every dependent variables, indicating that the constructs retained their ability to explain the variance in the dependent variables. This confirms that the removal of invalid indicators not only enhanced reliability and validity but also maintained or strengthened the model's. Consequently, each of these indicators should be excluded from the relevant assessments. The results of the reliability assessments are presented in Table 5.

We conduct discriminant validity testing to ensure that each latent variable is distinct from the others. This involves using cross-loading values to test the distinctiveness of each aspect. If the correlation between indicator constructs is stronger than the correlation between that indicator and other constructs, then the construct demonstrates strong discriminant validity. The cross-loading calculations can be found in Table 6. We observe that the significance of each indicator is higher in its respective latent variable compared to other construct variables. This demonstrates a high level of discriminant validity in the data.

Table 5. Construct Reliability Measurement Results

Construct	CA	CR	AVE
Adoption in E-government	0.830	0.898	0.746
Citizen Factors	0.778	0.862	0.677
Satisfaction	0.858	0.914	0.780
Facilitating Condition	0.804	0.911	0.836
Government Agencies Factors	0.773	0.896	0.812
Intention to Continue Using	0.716	0.874	0.777
Risk Factors	0.711	0.838	0.634
Social Influence	0.868	0.918	0.789
Technical Factors	0.869	0.910	0.717
Trust in E-gov	0.864	0.902	0.650

The inner model is evaluated by assessing each latent construct's influence (association) with the other implicit components. as suggested by [60] in Zahid et al. [4], this strategy entails using the technique known as PLS-SEM and bootstrap the model's structure.

A path coefficient is considered authentic when the t-value is greater than 1.654 and the p-value is below 0.05[4]. Table 7 displays the outcomes of the path coefficient calculation.

The hypothesis testing results indicate that all hypotheses were accepted, meaning that both technical and non-technical factors significantly influence trust in e-government. This trust positively affects the intention to use, which in turn influences user satisfaction and ultimately drives e-government adoption. Practically, these findings suggest that governments should focus on improving both technical aspects (e.g., system risk and security, and infrastructure availability) and non-technical aspects (e.g., citizen factor, government agency reputation, and social influence) to enhance public trust. By doing so, they can increase the likelihood of e-government adoption, leading to long-term benefits such as more efficient public services, greater citizen participation, and reduced administrative costs.

R-squared is used to measure the extent to which independent data can explain dependent data. R-Square has a range of values from 0 to 1. The range of numbers indicates that the closer the R-Square value is to one, the better. The following are the R-Square values:

Based on the findings of Chin et al. [60] and Zahid et al. [[4], an R-Square value exceeding 0.75 is considered highly significant, 0.5 represents moderate significance, and 0.25 indicates weak significance. This study reveals that the variables Adoption of E-Government and Trust in E-Government are mildly influenced by other variables, while Satisfaction and Intention to Continue Using are only low influenced as shown in Table 8.

Table 6. Cross Loading Measurement

Variable	Indicator	Loading	><	Values of Loading on Other Constructs									
				ADP	CTZ	SAT	FCC	GVN	ITU	RSK	SCI	TEC	TRS
Adoption in E-government	ADP1	0.899	>		0.398	0.561	0.187	0.436	0.627	0.603	0.300	0.252	0.587
	ADP2	0.804	>		0.411	0.600	0.269	0.269	0.460	0.418	0.214	0.123	0.316
	ADP3	0.799	>		0.228	0.439	0.247	0.279	0.391	0.480	0.232	0.328	0.525
Citizen Factors	CTZ1	0.756	>	0.347		0.308	0.095	0.225	0.286	0.262	0.156	0.119	0.243
	CTZ2	0.715	>	0.259		0.320	0.007	0.256	0.303	0.265	0.177	0.119	0.223
	CTZ3	0.895	>	0.388		0.452	0.133	0.435	0.387	0.352	0.162	0.107	0.483
Facilitating Condition	FCC1	0.881	>	0.174	0.076	0.183		0.166	0.009	0.233	0.127	0.153	0.301
	FCC2	0.888	>	0.312	0.127	0.224		0.150	0.134	0.213	0.137	0.170	0.309
Government Agencies Factors	GVN1	0.835	>	0.308	0.247	0.333	0.162		0.224	0.315	0.218	0.150	0.412
	GVN3	0.920	>	0.387	0.453	0.336	0.155		0.460	0.489	0.141	0.167	0.579
Intention to Continue Using	ITU1	0.902	>	0.512	0.426	0.526	0.078	0.370		0.548	0.270	0.133	0.565
	ITU2	0.852	>	0.551	0.298	0.341	0.064	0.348		0.379	0.387	0.111	0.413
Risks	RSK8	0.785	>	0.431	0.362	0.381	0.118	0.361	0.479		0.163	0.113	0.554
	RSK9	0.791	>	0.520	0.312	0.380	0.267	0.341	0.436		0.195	0.131	0.563
	RSK10	0.796	>	0.478	0.220	0.285	0.211	0.416	0.354		0.081	0.192	0.535
Satisfaction	SAT1	0.916	>	0.568	0.452		0.169	0.296	0.440	0.311	0.250	0.270	0.413
	SAT2	0.799	>	0.519	0.336		0.095	0.420	0.354	0.415	0.235	0.244	0.447
	SAT3	0.891	>	0.594	0.430		0.314	0.289	0.507	0.431	0.171	0.177	0.578
Social Influence	SCI1	0.945	>	0.263	0.165	0.199	0.169	0.191	0.307	0.152		0.180	0.307
	SCI2	0.896	>	0.297	0.213	0.271	0.095	0.167	0.382	0.199		0.155	0.226
	SCI3	0.203	>	0.254	0.149	0.279	0.166	0.199	0.073	0.161		0.894	0.245
Technical Factors	TEC5	0.892	>	0.290	0.095	0.211	0.141	0.183	0.216	0.238	0.119		0.313
	TEC6	0.850	>	0.220	0.192	0.263	0.173	0.104	0.078	0.066	0.181		0.174
	TEC7	0.889	>	0.152	0.065	0.171	0.181	0.120	0.077	0.121	0.162		0.174
	TEC8	0.205	>	0.538	0.360	0.496	0.329	0.387	0.387	0.552	0.189		0.788
Trust in E-government	TRS1	0.764	>	0.351	0.307	0.300	0.212	0.512	0.366	0.484	0.270	0.343	
	TRS2	0.817	>	0.507	0.383	0.556	0.412	0.537	0.420	0.560	0.266	0.211	
	TRS3	0.703	>	0.415	0.294	0.306	0.156	0.413	0.451	0.597	0.108	0.215	
	TRS4	0.767	>	0.365	0.347	0.458	0.204	0.358	0.539	0.479	0.301	0.082	
	TRS5	0.587	>	0.899	0.398	0.561	0.187	0.436	0.627	0.603	0.300	0.252	

Table 7. Details of Path Coefficient Measurement

Variable	Original sample (O)	T statistics (|O/STDEV|)	P values	Description
Citizen Factors -> Trust in E-gov	0.114	2.054	0.020	Significantly positive
Satisfaction -> Adoption in E-government	0.458	5.586	0.000	Significantly positive
Facilitating Condition -> Trust in E-gov	0.140	2.025	0.021	Significantly positive
Government Agencies Factors -> Trust in E-gov	0.249	3.337	0.000	Significantly positive
Intention to Continue Using -> Adoption in E-government	0.372	4.358	0.000	Significantly positive
Intention to Continue Using -> Satisfaction	0.503	7.999	0.000	Significantly positive
Risk Factors -> Trust in E-gov	0.467	6.130	0.000	Significantly positive
Social Influence -> Trust in E-gov	0.101	1.722	0.043	Significantly positive
Technical Factors -> Trust in E-gov	0.083	1.702	0.044	Significantly positive
Trust in E-gov -> Intention to Continue Using	0.564	8.576	0.000	Significantly positive

Table 8. Table of R-Square Values

Dependent Variable	Independent Variable	R-Square
Adoption in E-Government	Intention to Continue Using & Satisfaction	0.520
Satisfaction	Intention to Continue Using	0.318
Intention to Continue Using	Trust in E-E-government	0.253
Trust in E-Government	Technical Factors, Government Agencies Factors, Citizen Factors, Risk Factors, Social Influence, and Facilitating Condition	0.620

3.2 Discussion

Based on the analysis results, this study finds that technical factors, risks, government agencies, public factors, social influences, and facilitating conditions significantly influence trust in e-government. This finding findings align with previous research by [1], [5], [6], [17]-[19], which identified similar determinants of trust in e-government. Notably, technical factors, risks, government agencies, citizens, social influences, and facilitating conditions all played a crucial role in shaping trust. For instance, Kanaan et al. [6], Xiong et al. [17], Kassim et al. [18], Nookhao et al. [20], and Ejdys et al. [19] emphasized the importance of system quality and risk factors as key technical factors, while Hooda et al. [5] and Alzahrani et al. [1] highlighted the role of non-technical factors like government agencies, citizen factors, facilitating conditions, and social influence in fostering trust. The analysis results indicate that all hypotheses are accepted, as shown in Table 9.

Collectively, these factors exert a moderate level of influence (R^2 = 62%) on overall trust. However, the moderate R^2 value suggests that there may be other unexplored variables or contextual factors influencing

trust, such as cultural norms, institutional policies, or socio-economic conditions. This highlights the potential for future research to further explore these unmeasured factors and their potential impact on trust dynamics. Additionally, the reliance on self-reported data may introduce bias, potentially affecting the generalizability of the results to other e-government systems or regions. These findings reinforce that trust in e-government is a multifaceted construct influenced by both technical and non-technical elements, underscoring the importance of a holistic approach in enhancing e-government adoption.

Table 9. Table of Accepted or Rejected Hypotheses

Hypothesis	Path Coefficient	t-values	p-values	Description
H1	0.083	1.702	0.044	Accepted
H2	0.249	3.337	0.000	Accepted
H3	0.114	2.054	0.020	Accepted
H4	0.467	6.130	0.000	Accepted
H5	0.101	1.722	0.043	Accepted
H6	0.140	2.025	0.021	Accepted
H7	0.564	8.576	0.000	Accepted
H8a	0.372	4.358	0.000	Accepted
H8b	0.503	1.702	0.044	Accepted
H9	0.458	3.337	0.000	Accepted

Moreover, our results suggest that trust in the government is a significant predictor of e-government utilization. This finding corroborates the work of [61] and [62], who demonstrated a strong relationship between trust in the government and users' willingness to engage with e-government services.

The SRIKANDI application is currently very easy to use. Although it consists of many menus, users find it easy to understand how the SRIKANDI application works. In addition, the SRIKANDI Administrator provides a manual that is accessible to all users. The SRIKANDI application also provides a help desk channel that can be accessed when users encounter problems. These findings support the notion that positive experiences with technical factors, particularly in terms of information quality, system quality, and service quality, can significantly influence trust in e-government. This aligns with the research of [3].

Furthermore, institutional trust was shown to positively influence e-government trust, reinforcing the findings of [63]. Trust in the managing institution is also the basis for how the application is used. The organization managing the application has a positive perception from other organizations, as evidenced by the user satisfaction scores issued. Additionally, the application is supported by other institutions, which can increase trust in its joint supervision and minimize development errors.

Risk factors, while having minimal influence due to the SRIKANDI app's robust security measures, were still found to be relevant in influencing trust. Our findings corroborate the assertion that e-government with strong security and privacy protections can foster trust [64]. However, high risks can still have a significant negative impact on trust, as demonstrated by [38]. Privacy and security breaches have a direct impact on customer trust. While privacy is critical for developing trust, customers frequently prefer security in their actual decision-making, revealing a "privacy paradox" in which intentions differ from actions [65], [66].

The issues of leadership direction and social influence were also observed to have a positive impact on trust in e-government, in line with previous research. Facilitating conditions, such as infrastructure and support services, were found to influence the formation and maintenance of trust, consistent with the findings of [5] and [43]. However, [3] identified certain facilitating conditions that can undermine trust in e-government.

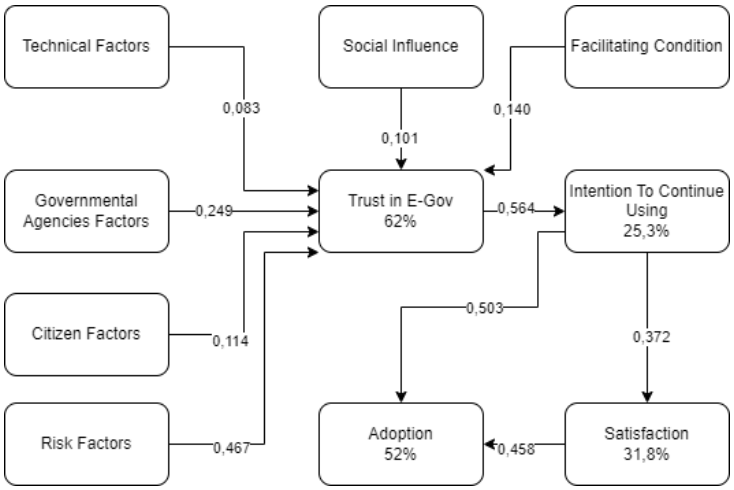

Figure 2. Result path coefficient and R-Square

Trust in e-government was found to have a significant influence on the intention to continue using e-government services, with a 25.3% effect size. This aligns with previous research by [4] and [67], which demonstrated the impact of trust on continued use. Our findings also highlight the importance of positive

perceptions of e-government services in influencing actual usage. As trust in e-government grows, users are more likely to engage with e-government platforms. Security, privacy, and reliability are essential factors in building and maintaining trust.

Finally, intention to continue using e-government is shown to significantly influence satisfaction, which in turn has a moderate impact on e-government adoption. This suggests that positive user experience and intention to continue using can significantly contribute to the successful adoption of e-government services. shown in Figure 2.

3.3 Implication of Study

This study comprehensively demonstrates that both technical and non-technical factors significantly influence the formation of trust in the public government sector, providing a robust empirical foundation for academic reference. The findings not only enrich the literature on e-government adoption but also offer a holistic framework for understanding how user trust can be built and enhanced.

From a practical perspective, government institutions need to pay attention to and optimize key aspects, such as technical factors, which include system reliability and security; government agency factors, encompassing transparency and accountability; public factors, such as user perceptions and needs; risk factors related to data privacy and security; social influence, involving support and recommendations from the surrounding environment; and facilitating conditions, such as the availability of infrastructure and user training.

3.4 Limitations and Future Research Suggestions

The weakness of this study is that the use of the SRIKANDI application is still limited in Indonesia. This results in respondents having a small number of respondents and a complex demographic aspect variation. Although in theory, the number of respondents has been sufficient, increasing the number and variation of respondents enhances the validity of the research results. This study is also limited to one government organization, which may not fully represent the conditions of all government organizations in Indonesia. Another constraint is the potential lack of technological infrastructure in certain regions of sample, which could affect the accessibility and usability of the SRIKANDI application, thereby influencing user trust and adoption.

A suggestion for future research is to conduct surveys across various types of government organizations, such as central and local governments. Expanding the sample in this manner is necessary to obtain a broader and more comprehensive understanding of user trust, which can significantly influence the adoption of e-government systems. This also would help identify potential disparities in e-government adoption due to differences in infrastructure, digital literacy, or cultural factors.

4. Conclusions

This study has identified several significant factors influencing trust in e-government, including technical aspects, government agencies, citizens, risks, social influences, and facilitating conditions. These factors collectively exert a moderate level of influence on overall trust. Our findings align with previous research and underscore the importance of addressing these factors to foster trust in e-government. Trust in the government plays a crucial role in driving the utilization of e-government, where positive user experiences with technical features can strengthen this trust. Additionally, factors such as citizen factors, risk levels, social influence, and facilitating conditions also contribute to shaping trust in e-government systems. This trust serves as a significant predictor influencing users' intention to continue utilizing e-government services. Furthermore, positive perceptions of e-government services and user satisfaction are also determining factors in increasing the adoption of such systems. For policymakers, these findings highlight the need to prioritize several key actions. First, enhancing technical infrastructure is essential to ensure e-government systems are reliable, user-friendly, and secure, as technical factors significantly influence trust. Second, ensuring transparency and accountability in government operations can build public confidence, particularly by clearly communicating how citizen data is managed and protected. Third, addressing citizen concerns through active engagement and incorporating public feedback into system design and implementation is crucial for fostering trust. Fourth, mitigating perceived risks by strengthening cybersecurity measures and providing clear information about data protection policies can further reduce user apprehensions. Fifth, leveraging social influence through awareness campaigns and partnerships with community leaders can promote the benefits of e-government adoption. Finally, providing facilitating conditions, such as user training programs and accessible support systems, ensures that all users, including those with limited digital literacy, can effectively utilize e-government services. By integrating these strategies, the government can not only enhance e-government adoption but also build a more inclusive and sustainable digital ecosystem. High trust in e-government systems will encourage active participation from various stakeholders, including civil servants, businesses, and the public. Ultimately, this can accelerate digital transformation in the public sector, improve service efficiency, and create governance that is more transparent and responsive to societal needs. In conclusion, this research highlights the multifaceted nature of trust in e-government, emphasizing the interplay between technical and non-technical factors. The findings offer valuable insights for policymakers and practitioners aiming to enhance trust and adoption of e-government systems. By addressing the identified factors through targeted policies and initiatives, governments can foster a digital environment that is not

only efficient and reliable but also inclusive and responsive to the needs of all stakeholders. This study contributes to the growing body of knowledge on e-government adoption and provides a foundation for future research in this critical area.

Acknowledgements

The Ministry of Communication and Information (KOMINFO) is acknowledged by the authors for its financial support of this study. ICA and RNS would also want to extend their sincere gratitude to KOMINFO for helping them with their University of Indonesia studies.

References

[1] L. Alzahrani, W. Al-Karaghouli, and V. Weerakkody, "Analysing the critical factors influencing trust in e-government adoption from citizens' perspective: A systematic review and a conceptual framework," *Int. Bus. Rev.*, vol. 26, no. 1, pp. 164–175, 2017, doi: 10.1016/j.ibusrev.2016.06.004.

[2] H. Zhang, X. Xu, and J. Xiao, "Diffusion of e-government: A literature review and directions for future directions," *Government Information Quarterly*, vol. 31, no. 4. Elsevier Ltd, pp. 631–636, 2014. doi: 10.1016/j.giq.2013.10.013.

[3] F. T. Hartanti, J. H. Abawajy, M. Chowdhury, W. Shalannanda, and F. T. Hartanti, "Citizens' Trust Measurement in Smart Government Services," *IEEE Access*, vol. 9, pp. 150663–150676, 2021, doi: 10.1109/ACCESS.2021.3124206.

[4] H. Zahid, S. Ali, E. Abu-shanab, H. Muhammad, and U. Javed, "Telematics and Informatics Determinants of intention to use e-government services : An integrated marketing relation view," *Telemat. Informatics*, vol. 68, no. October 2021, p. 101778, 2022, doi: 10.1016/j.tele.2022.101778.

[5] A. Hooda, P. Gupta, A. Jeyaraj, M. Giannakis, and Y. K. Dwivedi, "The effects of trust on behavioral intention and use behavior within e-government contexts," *Int. J. Inf. Manage.*, vol. 67, no. July, 2022, doi: 10.1016/j.ijinfomgt.2022.102553.

[6] A. Kanaan, A. Al-Hawamleh, A. Abulfaraj, H. M. Al-Kaseasbeh, and A. H. Alorfi, "The effect of quality, security and privacy factors on trust and intention to use e-government services," *Int. J. Data Netw. Sci.*, vol. 7, no. 1, pp. 185–198, 2023, doi: 10.5267/j.ijdns.2022.11.004.

[7] S. Y. Hung, C. M. Chang, and T. J. Yu, "Determinants of user acceptance of the e-Government services: The case of online tax filing and payment system," *Gov. Inf. Q.*, vol. 23, no. 1, pp. 97–122, 2006, doi: 10.1016/j.giq.2005.11.005.

[8] M. Hutahaean, I. J. Eunike, and A. D. K. Silalahi, "Do Social Media, Good Governance, and Public Trust Increase Citizens' e-Government Participation? Dual Approach of PLS-SEM and fsQCA," *Hum. Behav. Emerg. Technol.*, vol. 2023, 2023, doi: 10.1155/2023/9988602.

[9] S. Colesca, "INCREASING E-TRUST : A SOLUTION TO MINIMIZE RISK IN E-GOVERNMENT ADOPTION Quantitative Methods in Enterprises Behavior Analysis under Risk an Uncertainty," *J. Appl. Quant. Tech.*, vol. 4, no. 1, pp. 31–44, 2009.

[10] L. Carter and F. Bélanger, "The utilization of e-government services: Citizen trust, innovation and acceptance factors," *Inf. Syst. J.*, vol. 15, no. 1, pp. 5–25, 2005, doi: 10.1111/j.1365-2575.2005.00183.x.

[11] V. Venkatesh, M. G. Morris, G. B. Davis, and F. D. Davis, "USER ACCEPTANCE OF INFORMATION TECHNOLOGY: TOWARD A UNIFIED VIEW," vol. 27, no. 3, pp. 425–478, 2003.

[12] R. Fadrial, H. T. R. F. Simanjuntak, W. Wirman, and W. S. Wibowo, "Fostering Trust Through Bytes : Unravelling The Impact of E-Government on Public Trust in Indonesian Local Government," *Interdiscip. J. Information, Knowledge, Manag.*, vol. 19, no. 15, 2024.

[13] H. Nanang, Y. Durachman, I. Subchi, A. F. Misman, and Z. Zulkifli, "Factors that Affect the E-Government Procurement Trust in Indonesia," *2018 6th Int. Conf. Cyber IT Serv. Manag. CITSM 2018*, no. Citsm, pp. 1–5, 2019, doi: 10.1109/CITSM.2018.8674299.

[14] S. Assegaff, A. Andrianti, and L. Y. Astri, "Evaluation of the Factors Influencing the Trust of Millennial Citizens in E-Government," *J. Phys. Conf. Ser.*, vol. 1898, no. 1, 2021, doi: 10.1088/1742-6596/1898/1/012009.

[15] U. Pribadi, M. Iqbal, and F. Restiane, "Factors Affecting Trust in E-Government," *J. Gov. Civ. Soc.*, vol. Vol.5, No., pp. 263–276, 2021.

[16] A. Kanaan, A. AL-Hawamleh, A. Abulfaraj, H. M. Al-Kaseasbeh, and A. Alorfi, "The effect of quality, security and privacy factors on trust and intention to use e-government services," *Int. J. Data Netw. Sci.*, vol. 7, pp. 185–198, 2023, doi: 10.5267/j.ijdns.2022.11.004.

[17] L. Xiong, H. Wang, and C. Wang, "Predicting mobile government service continuance: A two-stage structural equation modeling-artificial neural network approach," *Gov. Inf. Q.*, vol. 39, no. 1, 2022, doi: 10.1016/j.giq.2021.101654.

[18] E. S. Kassim, M. S. Shazwan Bin Abdul Halim, S. Kamal, and M. K. Hayat Mohd Banuri, "Data Protection: Trust to Government and Willingness to Provide Information," *Proc. - 2022 Int. Conf. Comput. Drone Appl. IConDA 2022*, pp. 148–152, 2022, doi: 10.1109/ICONDA56696.2022.10000336.

[19] J. Ejdys, R. Ginevicius, Z. Rozsa, and K. Janoskova, "The role of perceived risk and security level in building trust in e-government solutions," *E a M Ekon. a Manag.*, vol. 22, no. 3, pp. 220–236, 2019, doi: 10.15240/tul/001/2019-3-014.

[20] S. Nookhao and S. Kiattisin, "Achieving a successful e-government : Determinants of behavioral intention from Thai citizens ' perspective," *Heliyon*, vol. 9, no. 8, p. e18944, 2023, doi: 10.1016/j.heliyon.2023.e18944.

[21] W. H. DeLone and E. R. McLean, "The DeLone and McLean Model of A Ten - Year Update," pp. 8–30, 2003.

[22] A. Kanaan, A. Al-hawamleh, A. Abulfaraj, and H. M. Al-kaseasbeh, "The effect of quality , security and privacy factors on trust and intention to use e-government services," *Int. J. Data Netw. Sci.*, vol. 7, pp. 185–198, 2023, doi: 10.5267/j.ijdns.2022.11.004.

[23] S. Chatterjee, A. K. Kar, and M. P. Gupta, "Success of IoT in Smart Cities of India: An empirical analysis," *Gov. Inf. Q.*, vol. 35, no. 3, pp. 349–361, 2018, doi: 10.1016/j.giq.2018.05.002.

[24] R. Halonen, H. Thomander, and E. Laukkanen, "DeLone & McLean IS Success Model in Evaluating Knowledge Transfer in a Virtual Learning Environment," *Int. J. Inf. Syst. Soc. Chang.*, vol. 1, no. 2, pp. 36–48, 2010, doi: 10.4018/jissc.2010040103.

[25] Y. Salaün and K. Flores, "Information quality: Meeting the needs of the consumer," *Int. J. Inf. Manage.*, vol. 21, no. 1, pp. 21–37, 2001, doi: 10.1016/S0268-4012(00)00048-7.

[26] R. Nulhusna, P. I. Sandhyaduhita, A. N. Hidayanto, and K. Phusavat, "The relation of e-government quality on public trust and its impact on public participation," *Transform. Gov. People, Process Policy*, vol. 11, no. 3, pp. 393–418, 2017, doi: 10.1108/TG-01-2017-0004.

[27] I. C. Chang, Y. C. Li, W. F. Hung, and H. G. Hwang, "An empirical study on the impact of quality antecedents on tax payers' acceptance of Internet tax-filing systems," *Gov. Inf. Q.*, vol. 22, no. 3, pp. 389–410, 2005, doi: 10.1016/j.giq.2005.05.002.

[28] J. V. Chen, R. J. M. Jubilado, E. P. S. Capistrano, and D. C. Yen, "Factors affecting online tax filing - An application of the IS Success Model and trust theory," *Comput. Human Behav.*, vol. 43, pp. 251–262, 2015, doi: 10.1016/j.chb.2014.11.017.

[29] A. A. Alalwan, A. M. Baabdullah, N. P. Rana, K. Tamilmani, and Y. K. Dwivedi, "Examining adoption of

mobile internet in Saudi Arabia: Extending TAM with perceived enjoyment, innovativeness and trust," *Technol. Soc.*, vol. 55, no. March, pp. 100–110, 2018, doi: 10.1016/j.techsoc.2018.06.007.

[30] D. H. McKnight, L. L. Cummings, and N. L. Chervany, "Initial Trust Formation in New Organizational Relationships," *Acad. Manag. Rev.*, vol. 23, no. 3, p. 473, 1998, doi: 10.2307/259290.

[31] A. Beldad, T. van der Geest, M. De Jong, and M. Steehouder, "A cue or two and I'll trust you: Determinants of trust in government organizations in terms of their processing and usage of citizens' personal information disclosed online," *Gov. Inf. Q.*, vol. 29, no. 1, pp. 41–49, 2012, doi: 10.1016/j.giq.2011.05.003.

[32] N. Olivero and P. Lunt, "Privacy versus willingness to disclose in e-commerce exchanges: The effect of risk awareness on the relative role of trust and control," *J. Econ. Psychol.*, vol. 25, no. 2, pp. 243–262, 2004, doi: 10.1016/S0167-4870(02)00172-1.

[33] A. F. Salam, L. Lyer, P. Palvia, and R. Singh, "Trust in e-commerce," *Commun. ACM*, vol. 48, no. 2, pp. 72–77, 2005, doi: 10.1145/1042091.1042093.

[34] D. L. Hoffman, T. P. Novak, and M. Peralta, "Building Consumer Trust Online," *Commun. ACM*, vol. 42, no. 4, pp. 80–85, 1999, doi: 10.1145/299157.299175.

[35] S. L. Jarvenpaa, N. Tractinsky, L. Saarinen, and M. Vitale, "Consumer trust in an internet store: A cross-cultural validation," *J. Comput. Commun.*, vol. 5, no. 2, 1999, doi: 10.1111/j.1083-6101.1999.tb00337.x.

[36] D. Grewal, J. Gotlieb, and H. Marmorstein, "The Moderating Effects of Message Framing and Source Credibility on the Price-Perceived Risk Relationship," *J. Consum. Res.*, vol. 21, no. 1, p. 145, 1994, doi: 10.1086/209388.

[37] M. S. Featherman and P. A. Pavlou, "Predicting e-services adoption : a perceived risk facets perspective," vol. 59, pp. 451–474, 2003, doi: 10.1016/S1071-5819(03)00111-3.

[38] K. Rouibah, "Impact of Risk Perceptions and User Trust on Intention to Re-Use E-Government : A Mixed Method Research," *J. Glob. Inf. Manag.*, vol. 30, no. 1, pp. 1–29, 2022, doi: 10.4018/JGIM.307117.

[39] H. A.- Omari and A. A.- Omari, "Building an e-Government e-Trust Infrastructure," *Am. J. Appl. Sci.*, vol. 3, no. 11, pp. 2122–2130, 2006, doi: 10.3844/ajassp.2006.2122.2130.

[40] I. Najafi, "Identify Effective Factors for Improving E-Trust of E-Transactions in the Context of E-Commerce and E-Government," *Int. J. Comput. Trends Technol.*, vol. 17, no. 6, pp. 281–299, 2014, doi: 10.14445/22312803/ijctt-v17p152.

[41] L. Carter, L. C. Shaupp, W. Virginia, N. Carolina, and R. Campbell, "The role of security and trust in the adoption of online tax filing," vol. 5, no. 4, pp. 303–318, 2011, doi: 10.1108/17506161111173568.

[42] V. Venkatesh, M. G. Morris, G. B. Davis, and F. D. Davis, "User Acceptance Of Information Technology: Toward A Unified View," vol. 27, no. 3, pp. 425–478, 2003.

[43] M. K. Alomari, "M-government trust framework: deployment of an empirical study amongst Jordanian youth," *Transform. Gov. People, Process Policy*, vol. 16, no. 1, pp. 32–50, 2022, doi: 10.1108/TG-04-2020-0062.

[44] P. Ratnasingam, "The role of facilitating conditions in developing trust for successful electronic marketplace participation," *J. Internet Commer.*, vol. 3, no. 3, pp. 95–110, 2004, doi: 10.1300/J179v03n03_06.

[45] Y. Y. Yuen, P. H. P. Yeow, and N. Lim, "Internet banking acceptance in the united states and Malaysia: A cross-cultural examination," *Mark. Intell. Plan.*, vol. 33, no. 3, pp. 292–308, 2015, doi: 10.1108/MIP-08-2013-0126.

[46] P. Ratnasingam, "The Role of Facilitating Conditions in Developing Trust for Successful Electronic Marketplace Participation The Role of Facilitating Conditions in Developing Trust for Successful Electronic Marketplace Participation," vol. 2861, 2008, doi: 10.1300/J179v03n03.

[47] R. J. Lewicki and C. Wiethoff, "Trust, trust development, and trust repair.," *Handb. Confl. Resolut. Theory Pract. (2nd Ed).*, no. January 2000, pp. 92–119, 2000.

[48] D. H. McKnight, V. Choudhury, and C. Kacmar, "The Impact of Initial Consumer Trust on Intentions to Transact with a Web Site: A Trust Building Model." 2002.

[49] V. Weerakkody, R. El-Haddadeh, F. Al-Sobhi, M. A. Shareef, and Y. K. Dwivedi, "Examining the influence of intermediaries in facilitating e-government adoption: An empirical investigation," *Int. J. Inf. Manage.*, vol. 33, no. 5, pp. 716–725, 2013, doi: 10.1016/j.ijinfomgt.2013.05.001.

[50] L. Alzahrani, W. Al-Karaghouli, and V. Weerakkody, "Investigating the impact of citizens' trust toward the successful adoption of e-government: A multigroup analysis of gender, age, and internet experience," *Inf. Syst. Manag.*, vol. 35, no. 2, pp. 124–146, 2018, doi: 10.1080/10580530.2018.1440730.

[51] P. Pavlou, "Association for Information Systems AIS Electronic Library (AISeL) Integrating Trust in Electronic Commerce with the Technology Acceptance Model: Model Development and Validation Recommended Citation Pavlou, Paul, "Integrating Trust in Electronic Commerce," pp. 12–31, 2001.

[52] N. Kock, "Minimum Sample Size Estimation in PLS-SEM : An Application in Tourism and Hospitality Research," pp. 1–16, 2019, doi: 10.1108/978-1-78756-699-620181001.

[53] L. Wenjuan and L. Xue, "Analyzing the Critical Factors Influencing Post-Use Trust and Its Impact on sustainability Analyzing the Critical Factors Influencing Post-Use Trust and Its Impact on Citizens ' Continuous-Use Intention of E-Government : Evidence from Chinese Municipaliti," no. July, 2021, doi: 10.3390/su13147698.

[54] M. Kurfal, A. Arifo, G. Tokdemir, and Y. Paçin, "Computers in Human Behavior Adoption of e-government services in Turkey," vol. 66, pp. 168–178, 2017.

[55] K. A. Al Mansoori, J. Sarabdeen, and A. L. Tchantchane, "Investigating Emirati citizens ' adoption of e-government services in Abu Dhabi using modified UTAUT model," vol. 31, no. 2, pp. 455–481, 2021, doi: 10.1108/ITP-12-2016-0290.

[56] P. Mikalef, K. Sharma, S. Chatterjee, R. Chaudhuri, V. Parida, and S. Gupta, "All eyes on me: Predicting consumer intentions on social commerce platforms using eye-tracking data and ensemble learning," *Decis. Support Syst.*, vol. 175, p. 114039, 2023, doi: https://doi.org/10.1016/j.dss.2023.114039.

[57] M. A. Shareef *et al.*, "Citizens ' Adoption Behavior of Mobile Government (mGov): A Cross-Cultural Study Citizens ' Adoption Behavior of Mobile Government (mGov): A Cross-Cultural," *Inf. Syst. Manag.*, vol. 33, no. 3, pp. 268–283, 2016, doi: 10.1080/10580530.2016.1188573.

[58] M. Decman and E. Kozel, "Examining the Impacts of Technology and Trust on I-Voting Acceptance in the COVID-19 Aftermath," *Int. J. Electron. Gov. Res.*, vol. 19, no. 1, pp. 1–23, 2023, doi: 10.4018/IJEGR.327454.

[59] S. Yamin and H. Kurniawan, "Generasi baru mengolah data penelitian dengan partial least square path modeling," *Jakarta: Salemba Infotek*, 2011.

[60] W. W. Chin, "How to write up and report PLS analyses," in *Handbook of partial least squares: Concepts, methods and applications*, Springer, 2009, pp. 655–690.

[61] R. A. Dwianto, A. B. Darmawan, J. Santoso, and U. Pribadi, "Factors Influencing Intention To Use E-Government Services Among Students in Universitas Sebelas Maret, Indonesia," *Dialogue J. Ilmu Adm. Publik*, vol. 5, no. 1, pp. 415–436, 2023, doi: 10.14710/dialogue.v5i1.17339.

[62] A. Wahyudi, M. T. Putra, D. Indra Sensuse, S. Lusa, A. Prasetyo, and Assaf Arief, "Measuring the effect of Users' Privacy Concerns on the Use of Jakarta Smart City Mobile Application (JAKI)," *J. RESTI (Rekayasa Sist. dan Teknol. Informasi)*, vol. 6, no. 6, pp. 1014–1020, 2022, doi: 10.29207/resti.v6i6.4544.

[63] W. Li, "Analyzing the Critical Factors Influencing Post-Use Trust and Its Impact on Citizens ' Continuous-Use Intention of E-Government : Evidence from Chinese

Municipalities," 2021.

[64] A. Habib, D. Alsmadi, and V. R. Prybutok, "Factors that determine residents' acceptance of smart city technologies," *Behav. Inf. Technol.*, vol. 39, no. 6, pp. 610–623, 2020, doi: 10.1080/0144929X.2019.1693629.

[65] M. Nofer, O. Hinz, J. Muntermann, and H. Roßnagel, "The economic impact of privacy violations and security breaches: A laboratory experiment," *Bus. Inf. Syst. Eng.*, vol. 6, no. 6, pp. 339–348, 2014, doi: 10.1007/s12599-014-0351-3.

[66] G. Bansal and F. M. ZAHEDI, "TRUST-DISCOUNT TRADEOFF IN THREE CONTEXTS: FRUGALITY MODERATING PRIVACY AND SECURITY CONCERNS," *J. Allergy Clin. Immunol.*, vol. 130, no. 2, p. 556, 2010.

[67] M. M. Ayyash, K. Ahmad, and D. Singh, "Investigating the Effect of Information Systems Factors on Trust in E-Government Initiative Adoption in Palestinian Public Sector," vol. 5, no. 15, pp. 3865–3875, 2013, doi: 10.19026/rjaset.5.4447.

