http://dx.doi.org/10.18623/rvd.v23.6157

EXPLORING THE MOBILE JKN DIGITAL HEALTH SERVICES PUBLIC VALUE BASED ON INFORMATION SYSTEM QUALITY, TRUST IN E-GOVERNMENT, AND CITIZEN SATISFACTION IN JAVA ISLAND

ANÁLISE DO VALOR PÚBLICO DOS SERVIÇOS DIGITAIS DE SAÚDE DO JKN PARA DISPOSITIVOS MÓVEIS COM BASE NA QUALIDADE DO SISTEMA DE INFORMAÇÃO, NA CONFIANÇA NO GOVERNO ELETRÔNICO E NA SATISFAÇÃO DOS CIDADÃOS NA ILHA DE JAVA

Article received on: 1/7/2026
Article accepted on: 4/8/2026

Bambang Santoso Haryono*
***Universitas Brawijaya (UB), Malang, Indonesia
Orcid: https://orcid.org/0000-0002-2319-3349
bambangsfia@ub.ac.id

Abd. Qadir Muslim*
***Universitas Brawijaya (UB), Malang, Indonesia
Orcid: https://orcid.org/0000-0002-2665-7452
qadirmuslim@ub.ac.id

Sumartono*
***Universitas Brawijaya (UB), Malang, Indonesia
sumartono_fia@ub.ac.id

Suryadi*
***Universitas Brawijaya (UB), Malang, Indonesia
suryadi_fia@ub.ac.id

Andrean Nathaniel*
***Universitas Brawijaya (UB), Malang, Indonesia
Orcid: https://orcid.org/0009-0005-8859-7212
andreannathaniel02@gmail.com

Ahmad Fuad Hasan*
***Universitas Brawijaya (UB), Malang, Indonesia
Orcid: https://orcid.org/0009-0009-3258-4542
ahmadfuadhasan72@gmail.com

The authors declare that there is no conflict of interest

Abstract
This research aims to confirm the integration of DeLone McLean IS Success Model and Public Value Theory on Mobile JKN digital health services. Since its 2018 launch, Mobile JKN has experienced several information system issues. This impact in low usage of Mobile JKN due to public distrust and dissatisfaction, meaning citizens have not yet fully realised the public value of the services provided. Partial Least Squares-Structural Equation Modelling (PLS-SEM) with SmartPLS 3.0 to analyze 361 respondents across Mobile JKN users in Java Island. Service quality and system quality have a significant relationship with e-government

Resumo
Esta pesquisa tem como objetivo confirmar a integração do Modelo de Sucesso de Sistemas de Informação de DeLone-McLean com a Teoria do Valor Público nos serviços de saúde digitais do Mobile JKN. Desde o seu lançamento em 2018, o Mobile JKN enfrentou diversos problemas relacionados ao sistema de informação. Isso resultou em uma baixa adesão ao Mobile JKN devido à desconfiança e insatisfação do público, o que significa que os cidadãos ainda não perceberam plenamente o valor público dos serviços prestados. Utilizou-se o método de Mínimos Quadrados Parciais-Modelagem de Equações Estruturais (PLS-

public value, but not with information quality. All information system quality variables have a significant relationship with trust in e-government and citizen satisfaction. Trust in e-government and citizen satisfaction also have a significant relationship with e-government public value. The indirect effect relationship shows that trust in e-government and citizen satisfaction can mediate a significant relationship between all information system quality variables and e-government public value. This study was unable to fully confirm the integration of the ISSM and Public Value constructs. However, these results underscore the importance of information systems quality in digital health services for shaping trust and satisfaction and delivering public value to citizens.

Keywords: Public Value. Information System Quality. Trust in E-Government. Citizen Satisfaction. Mobile JKN.

SEM) com o SmartPLS 3.0 para analisar 361 respondentes entre os usuários do Mobile JKN na Ilha de Java. A qualidade do serviço e a qualidade do sistema apresentam uma relação significativa com o valor público do governo eletrônico, mas não com a qualidade da informação. Todas as variáveis de qualidade do sistema de informação apresentam uma relação significativa com a confiança no governo eletrônico e a satisfação dos cidadãos. A confiança no governo eletrônico e a satisfação dos cidadãos também apresentam uma relação significativa com o valor público do governo eletrônico. A relação de efeito indireto mostra que a confiança no governo eletrônico e a satisfação dos cidadãos podem mediar uma relação significativa entre todas as variáveis de qualidade do sistema de informação e o valor público do governo eletrônico. Este estudo não conseguiu confirmar totalmente a integração dos conceitos de ISSM e valor público. No entanto, esses resultados ressaltam a importância da qualidade dos sistemas de informação nos serviços de saúde digitais para moldar a confiança e a satisfação e proporcionar valor público aos cidadãos.

Palavras-chave: *Valor Público. Qualidade do Sistema de Informação. Confiança no Governo Eletrônico. Satisfação dos Cidadãos. Mobile JKN.*

1 INTRODUCTION

Indonesia is one of the countries with a high number of health services, where in 2023 Indonesia has a total of 27.659 national health insurance facilities. However, 80% of the total 27.659 health facilities in Indonesia haven't been touched by digital technology. In fact, the digitization of health services is very necessary to improve the effectiveness and efficiency of meeting citizens' health needs (Kementerian Kesehatan Republik Indonesia, 2021). Since 2018, the Indonesian Ministry of Health has launched an integrated platform called Mobile JKN. The existence of Mobile JKN certainly aims to optimize the digital transformation of health services, which previously operated conventionally in each health facility into mobile application-based services (BPJS Kesehatan, 2018).

During its seven years of operation, Mobile JKN has experienced several issues with the quality of its information systems. In information quality, there are incomplete and inconsistent data recording, as well as low accuracy. In the quality of service, the lack of user-based testing of Mobile JKN often leads to ineffectiveness. Testing of Mobile JKN tends to focus only on Health Ministry employees, even though the users' target is citizens who participate in the National Health Insurance (International Relations Bina Nusantara University, 2025). Quality of system performance also frequently occurs, such as non-user-friendly systems, tend to be slow, dan cases of data leaks and breaches by hackers (Kurniawan, 2024; Sari, 2021). These issues undoubtedly have a significant impact on low usage of Mobile JKN due to public distrust and dissatisfaction, meaning citizens have not yet fully realised the public value of the services provided.

Through these issues, this study uses the DeLone McLean Information System Success Model (ISSM) as a theoretical framework for measuring the quality of the Mobile JKN information system, namely information quality, service quality, and system quality (DeLone and McLean, 2003). In addition, the use of ISSM as a theoretical framework aims to fill the gap related to the lack of studies on e-government that explain the success of information systems in developing countries. Because ISSM was primarily developed for information systems in the private sector, it often yields inconsistent research results when applied to public services. (Abdulkareem and Mohd Ramli, 2022). Based on these theoretical issues, this study integrates ISSM with Public Value Theory and adds the constructs of trust in e-government and citizen satisfaction as mediating variables.

Public Value is defined as the value that the community can consume for the provision of goods and services by the government (Moore, 2013). Meanwhile, in the context of e-government, public value is meaningful in building positive interactions between citizens and government through information technology-based governance (Weigl *et al*., 2024). In this study, public value will be focused on as an e-government public value variable adopted from the net benefits construct in DeLone McLean's ISSM framework as the impact or public benefits felt by citizens from Mobile JKN (DeLone and McLean, 2003).

Table 1

The Potential of Digital Health Services Implementation in Java Island

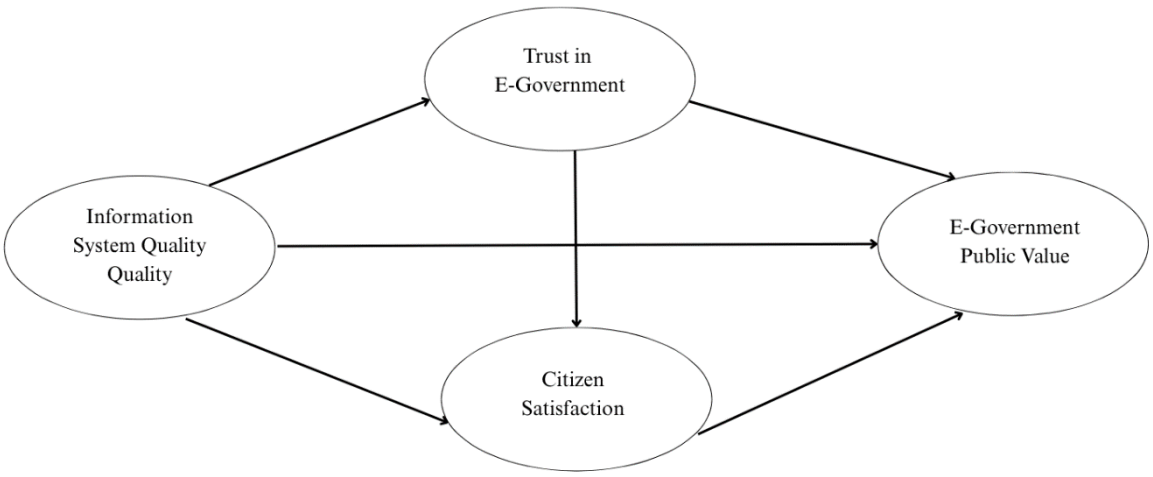
No	Province	Population	Healthcare Needs	Internet Users	E-Government Index	Public Services Satisfaction Index
1	Banten	12.431.400	4,12%	91,11%	3,47	3,73
2	DKI Jakarta	10.684.900	3,06%	95,39%	4,46	4,53
3	West Java	50.345.200	5,74%	87,57%	4,73	4,76
4	Central Java	37.892.300	5,70%	88,24%	4,42	4,53
5	DI Yogyakarta	3.759.500	4,32%	89,03%	4,53	4,62
6	East Java	41.814.500	5,05%	85,11%	4,43	4,63

This research will be conducted on the island of Java, given its high population density, high demand for health services, and large number of internet users. In addition, the high SPBE index and public service satisfaction index further support the urgency of this research to prove whether the Mobile JKN application, as a digital public service in the health sector, has been well received by the community on the island of Java (Annur, 2024; Badan Pusat Statistik, 2024a, 2024b; Kementerian Pendayagunaan Aparatur Negara dan Reformasi Birokrasi Republik Indonesia, 2024).

2 THEORETICAL FRAMEWORK

Figure 1

Conceptual Framework



2.1 Information system quality

DeLone and McLean, in the Information System Success Model (ISSM) define the constructs of information system quality into three parts, namely information quality, service quality, and system quality (DeLone and McLean, 2003). Information is considered to be of high quality if it is timely, easy to understand, accurate, complete, and relevant (Bahadur *et al*., 2024). The existence of quality information can play a role in educating citizens, so they are convinced that information systems are a reliable source (Khan *et al*., 2021). Quality information can also provide satisfaction for users (Al-Okaily, 2024). The existence of quality information can assist the decision-making process for users, so they can obtain net benefits in the form of quality performance from the information system (Abdullah *et al*., 2025).

Service quality relates to the quality of support provided by vendors and IT personnel (DeLone and McLean, 2003). Quality of service can fulfil the aspects of responsiveness, assurance, empathy, and technical assistance (Whitten, 2004). The quality of service can build user trust if it can meet needs effectively and efficiently (Abdulkareem and Mohd Ramli, 2022). When an information system can provide effective and efficient services and work responsively, it will provide a satisfying experience for citizens (Alsarraf *et al*., 2023). It should be noted that service responsiveness indicates the quality of service providers who can provide value or net benefits to citizens (Al-Hattami and Almaqtari, 2023).

System quality measures the system functions that can easily and effectively meet user needs (DeLone and McLean, 2003). A system is considered to be of high quality if it fulfils several aspects such as ease of use, reliability, flexibility, and timeliness (Nelson *et al*., 2005). System quality is an important predictor in building user trust in e-government services by meeting user expectations when using these services (Kanaan *et al*., 2023). Meanwhile, system quality through reliable performance and technical functions can meet user needs, which ultimately leads to user satisfaction (Lutfi, 2023). Reliable system quality that supports user tasks will build user trust and engagement more effectively. Conversely, systems with technical failures or inadequate support can hinder the benefits experienced by users (Abdullah *et al*., 2025).

2.2 Trust in e-government

Trust in E-Government is the public's confidence in the technological and managerial capabilities of government agencies to provide an adequate information system (Abdulkareem and Mohd Ramli, 2022). Furthermore, trust in e-government is formed through three factors such as interactional factors (citizens interaction with e-government), government factors (overall services), and environmental factors (technology) (Li and Xue, 2021). Trust in e-government is also a reflection of public trust, which is determined by the government's ability to manage all state affairs that can create citizen satisfaction (Abdul Rahim *et al*., 2023; Alzahrani *et al*., 2024).

2.3 Citizen satisfaction

Satisfaction is the level that a user feels satisfied with their experience when using an information system in terms of information quality, service quality, and system quality (DeLone and McLean, 2003). Satisfaction with an information system can also be measured based on effectiveness, efficiency, and overall satisfaction (Song and Meier, 2018). Public satisfaction can be an important predictor of the net benefits or public value of e-government services. Increased satisfaction can shape citizens' perceptions that e-government services are efficient, reliable, and easy to use. This ultimately leads to an increase in the net benefits or public value of e-government services (Abdulkareem and Mohd Ramli, 2022; Bahadur *et al*., 2024).

2.4 E-government public value (net benefits)

Public value within the scope of information systems can also be interpreted as net benefit. E-Government public value is the overall impact or success of information systems on individuals, organizations, and society (DeLone and McLean, 2003). The success of e-government gives the public value to citizens if they can feel the value of economic or productivity (increase the benefits of e-government users in terms of time, cost, communication, avoidance of personal interaction, and convenience. Secondly, the

value of social or reflexivity (which are more responsive to public needs in terms of system control and personalisation). Thirdly, the value of politics or democracy (in the form of implementing democratic aspects in e-government services in terms of knowledge and participation in decision-making) (Agbabiaka, 2018; Scott *et al*., 2016).

3 METHOD

3.1 Location, population, and sample

This research uses a quantitative approach to confirm the Information System Success Model (ISSM) with Public Value Theory through the existence of variables such as information quality, service quality, system quality, trust in e-government, citizen satisfaction, and e-government public value (net benefits). The location of this research will focus on Java Island based on the high population on Java Island, high demand for health services, high number of internet users, and high SPBE index and public satisfaction index for public services (Sekaran & Bougie, 2019).

The population of this study is Java Island citizens who actively registered for National Health Insurance and use Mobile JKN. Specifically, the population size in this study is unknown, so it is classified as non-probability sampling. This study used purposive sampling to ensure that respondents met the criteria for inclusion in the study, namely residing on the island of Java, being active as National Health Insurance participants, and using the Mobile JKN application. The formula of the minimum sample size is based on Hair *et al*. rules (Hair *et al*., 2021) with 5% significance level as follows:

$$n \text{ minimum} > \left(\frac{2{,}496}{[p\ min]}\right)^2 \qquad (1)$$

$$n \text{ minimum} > \left(\frac{2{,}496}{[0{,}2]}\right)^2 \qquad (2)$$

$$n \text{ minimum} = 154{,}505 = 155 \qquad (3)$$

3.2 Instrument and data collection procedures

The data collection technique used in this study was a survey involving the distribution of questionnaires to the target research sample. The questionnaire for this study was designed as a closed-ended questionnaire using Google Forms. The questionnaire was distributed over a period of three weeks via social media. The questionnaire in this study consisted of eight sections, namely prerequisite statements, respondent profiles, perceptions related to information quality (6 items), perceptions related to service quality (4 items), perceptions related to system quality (4 items), perceptions of trust (4 items), perceptions of satisfaction (6 items), and perceptions of public value (9 items). Each statement in the variable measurement was conducted using a five-point Likert scale (strongly disagree to strongly agree). The data collection process in this study obtained 410 respondents, with a total of 361 respondents eligible as research samples. This shows that the sample obtained in this study has met the minimum sample requirement of 155 samples as stipulated by Hair *et al*.

3.3 Data analysis procedure

Partial Least Squares-Structural Equation Modelling (PLS-SEM) was used in this study as a data analysis technique with SmartPLS 3.3.2. PLS-SEM aims to measure he validity and reliability of indicators through outer model evaluation with four stages, namely indicator reliability, indicator consistency, convergent validity, and discriminant validity. The second evaluation is an inner model to test the influence between variables by looking at the coefficient of determination, path coefficients, goodness of fit, and predictive power.

4 RESULT AND DISCUSSION

4.1 Demographic profile

The analysis of the respondent profile is divided into three types. The gender distribution was 256 males (70.9%) and 105 females (29.1%). According to age, 249

respondents (69%) were 18-25 years old, 46 (12.7%) were 26-35 years old, 20 (5.5%) were 36-45 years old, 17 (4.7%) were 46-55 years old, and 29 (8%) were 55 years or more. Based on the respondents' domicile, the majority are from West Java (23.8%) and East Java (48.8%) as listed in Table 2.

Table 2

Demographic Profile of Respondents

Demographic Variables		**Frequency**	**Percentage**
Gender	Male	256	70.9%
	Female	105	29.1%
Age	17-25	249	69%
	26-35	46	12.7%
	36-45	20	5.5%
	46-55	17	4.7%
	>55	29	8%
Domicile	Banten	18	5.5%
	DKI Jakarta	35	9.7%
	West Java	86	23.8%
	Central Java	26	7.2%
	Yogyakarta	20	5.5%
	East Java	176	48.8%

4.2 Evaluating reflective measurement models (outer model)

Data in Table 3 shows the mean value, construct reliability, and construct validity value. The mean value refers to the respondents' perceptions, where the closer the mean value is to five points, the more respondents' perceptions are towards the indicator of variables. All outer loading values are above 0.7, confirming that all items have a strong correlation. Composite reliability values in these results are also above 0.7, confirming that all indicators have an internal consistency in each variable. These constructs have AVE values above 0.5, demonstrating that the items effectively converge to represent their constructs. Table 4 evaluates the discriminant validity from Heterotrait-Monotrait Ratio (HTMT) values. The HTMT values should be less than 0.9, which determines whether the constructs are distinct from one another and supports the convergent validity of the measurement model.

Table 3

Mean, Construct Reliability, and Construct Validity

Variable	Item	Item Measure	Mean	Outer Loading	Composite Reliability	AVE
Information Quality	IQ1	Mobile JKN provides accurate information	4.135	0.837		
	IQ2	Mobile JKN provides easy-to-understand information	4.160	0.861		
	IQ3	Mobile JKN provides relevant information	4.133	0.827		
	IQ4	Mobile JKN provides comprehensive information	4.047	0.823	0.926	0.676
	IQ5	Mobile JKN provides timely information	3.914	0.825		
	IQ6	Information on the Mobile JKN is easily accessible to users	4.180	0.757		
Service Quality	SerQ1	Mobile JKN is responsive in responding user needs	3.773	0.830		
	SerQ2	Mobile JKN helps users solve problems	3.818	0.862	0.914	0.728
	SerQ3	Mobile JKN is there when users need it	4.014	0.845		
	SerQ4	Mobile JKN understands user needs	3.948	0.871		
System Quality	SysQ1	Mobile JKN is easy to use	4.133	0.827		
	SysQ2	Mobile JKN is reliable	3.906	0.860	0.919	0.740
	SysQ3	Mobile JKN is flexible to use	4.102	0.869		
	SysQ4	Mobile JKN has acceptable responsiveness	3.956	0.884		
Trust in E-Government	TiEG1	Mobile JKN is a reliable service	4.047	0.788		
	TiEG2	Mobile JKN assures users that the legal and technological standards applied are adequate for registration purposes	3.923	0.865	0.901	0.696
	TiEG3	Mobile JKN provides security for its users' personal data	3.876	0.841		
	TiEG4	Mobile JKN can handle citizens' requests on a priority basis	3.785	0.839		
Citizen Satisfaction	CS1	I am satisfied with the Mobile JKN information quality	3.964	0.869		
	CS2	I am satisfied with the Mobile JKN service quality	3.914	0.863		
	CS3	Mobile JKN system quality has met user expectations	3.815	0.869	0.948	0.754
	CS4		4.003	0.858		
	CS5		3.994	0.862		

	CS6	Mobile JKN satisfies me in terms of efficiency	3.928	0.894		
		Mobile JKN satisfies me in terms of effectiveness				
		Overall, users are satisfied with the Mobile JKN application				
E-Government Public Value (Net Benefits)	EGPV1	Using Mobile JKN can save my time	4.207	0.804	0.934	0.612
	EGPV2	Using Mobile JKN can save my money	4.130	0.748		
	EGPV3	Using Mobile JKN is an efficient way to communicate with the government	3.809	0.808		
	EGPV4	Mobile JKN allows for less physical interaction with government agencies	4.083	0.7282		
	EGPV5		4.213	0.744		
	EGPV6	Mobile JKN is very easy to access anytime and everywhere	4.091	0.801		
	EGPV7	Mobile JKN provides the ability to monitor the status of requests or services offered	3.862	0.819		
	EGPV8	Mobile JKN provides information about upcoming policies	3.862	0.807		
	EGPV9	Mobile JKN helps me improve my understanding of health issues	3.699	0.778		
		Mobile JKN provides opportunities to participate in public discussions.				

Table 4

Heterotrait-Monotrait Ratio (HTMT)

	TiEG	CS	EGPV	IQ	SerQ	SysQ
TiEG						
CS	0.870					
EGPV	0.894	0.884				
IQ	0.863	0.820	0.813			
SerQ	0.899	0.872	0.850	0.867		
SysQ	0.883	0.876	0.856	0.870	0.891	

4.3 Evaluation of the structural models (inner model)

Table 5 shows the coefficient of determination (R^2), which trust in e-government and citizen satisfaction have been influenced 69.9% and 73.6% (moderate) by information quality, service quality, and system quality. E-Government public value has been influenced 75.5% (strong) by information quality, service quality, system quality, trust in e-government, and citizen satisfaction. Table 6 presents the PLS-predict analysis that showed this research model has a moderate predictive power by evaluating the 18 of 19 PLS-SEM RMSE and MAE values that are less than Linear Model of RMSE and MAE values. Also, the 18 of 19 PLS-SEM Q^2 value is bigger than the Q^2 value of the Linear Model.

Table 5

Coefficient of Determination

	R-Square	R-Square Adjusted
Trust in E-Government	0.699	0.697
Citizen Satisfaction	0.736	0.734
E-Government Public Value	0.755	0.751

Table 6

PLS-Predict

	PLS-SEM			Linear Model		
	RMSE	MAE	Q^2_predict	RMSE	MAE	Q^2_predict
TiEG3	0.671043	0.523109	0.398368	0.686070	0.537349	0.371122
TiEG4	0.591290	0.464144	0.555769	0.610055	0.470600	0.527125
TiEG2	0.553364	0.423897	0.507945	0.571203	0.438379	0.475709
TiEG1	0.544871	0.393608	0.444155	0.551808	0.399928	0.429912
CS2	0.557595	0.408210	0.509591	0.571170	0.419833	0.485422
CS4	0.564331	0.406147	0.550180	0.585854	0.413161	0.515214
CS5	0.596637	0.426157	0.469804	0.620726	0.449640	0.426127
CS6	0.545478	0.389015	0.549828	0.561280	0.397013	0.523368
CS1	0.518627	0.376897	0.572297	0.515386	0.365393	0.577626
CS3	0.589755	0.441707	0.553806	0.612977	0.458625	0.517976
EGPV9	0.794271	0.613554	0.365382	0.826167	0.642436	0.313390
EGPV5	0.584534	0.433008	0.452085	0.588038	0.410087	0.445497
EGPV4	0.657218	0.478496	0.338939	0.677403	0.492318	0.297711
EGPV8	0.724977	0.536888	0.375104	0.741942	0.542126	0.345517
EGPV3	0.698516	0.528392	0.440212	0.716615	0.533419	0.410828
EGPV2	0.685758	0.509918	0.324935	0.719954	0.532380	0.255931
EGPV7	0.668670	0.503190	0.414491	0.690016	0.514680	0.376512
EGPV1	0.576521	0.436003	0.478508	0.596390	0.449975	0.441943
EGPV6	0.544825	0.402030	0.481208	0.566650	0.416833	0.438810

4.4 Direct effect relationship

Table 8 present the hypothesis testing of the direct relationship of information quality, service quality, system quality, trust in e-government, citizen satisfaction, and e-government public value (net benefits). 11 of the 12 direct effect relationships have been accepted with t-value above 1.65 and p-value less than 0.05. Only the relationship of information quality to e-government public value (net benefits) has been rejected (t-value 1.345 and p-value 0.088)

Table 7

Hypothesis Testing of Direct Effect Relationship

		T Statistics	P Values
H1	Information Quality -> E-Government Public Value	**1.345**	**0.088**
H2	Information Quality -> Trust in E-Government	**4.969**	**0.000**
H3	Information Quality -> Citizen Satisfaction	**2.123**	**0.017**
H4	Service Quality -> E-Government Public Value	**1.688**	**0.045**
H5	Service Quality -> Trust in E-Government	**5.781**	**0.000**
H6	Service Quality -> Citizen Satisfaction	**3.933**	**0.000**
H7	System Quality -> E-Government Public	**2.071**	**0.019**
H8	System Quality -> Trust in E-Government	**5.144**	**0.000**
H9	System Quality -> Citizen Satisfaction	**4.488**	**0.000**
H10	Trust in E-Government -> Citizen Satisfaction	**3.737**	**0.000**
H11	Trust in E-Government -> E-Government Public Value	**4.206**	**0.000**
H12	Citizen Satisfaction -> E-Government Public Value	**5.225**	**0.000**

4.5 Indirect effect relationship

Table 9 analyze the indirect effect (mediation analysis) of trust in e-government and citizen satisfaction. Both of them can mediate the influence of information quality, service quality, and system quality on e-government public value (net benefits).

Table 8

Hypothesis Testing of Indirect Effect Relationship

		T Statistics	P Values
H13	Information Quality -> Trust in E-Government -> E-Government Public Value	**3.225**	**0.000**

H14	Service Quality -> Trust in E-Government -> E-Government Public Value	**3.579**	**0.000**
H15	System Quality -> Trust in E-Government -> E-Government Public Value	**2.998**	**0.000**
H16	Information Quality -> Citizen Satisfaction -> E-Government Public Value	**2.149**	**0.016**
H17	Service Quality -> Citizen Satisfaction -> E-Government Public Value	**2.852**	**0.002**
H18	System Quality -> Citizen Satisfaction -> E-Government Public Value	**3.501**	**0.000**

5 DISCUSSION

The findings of this research evaluate the direct and indirect effect relationship between information quality, service quality, system quality, trust in e-government, citizen satisfaction, and e-government public value (net benefits). Information quality does not have a significant relationship with e-government public value (net benefits). Empirical evidence also shows that in the public context, net benefits are social or legitimate in nature, so they are not related to technical functions such as information quality (Abdulkareem and Mohd Ramli, 2022). In this research, Mobile JKN is a part of the public health electronic services (Agbabiaka, 2018). It means practitioners should focus on educating the legitimacy of Mobile JKN users with the upgrade of timeliness and complete information quality, so they can feel the benefits of the provided information.

In another analysis, information quality has a significant relationship with trust in e-government and citizen satisfaction. The higher the quality of information from a digital public service, the greater the public's trust in that service. Because the public's trust is shaped by the educational impact of information that is actively shared about regulations, organizational profiles, and organizational functions (Kanaan *et al*., 2023; Pribadi *et al*., 2021). In addition, user satisfaction with information system is formed through accurate, easy-to-understand, up-to-date, and reliable information. The quality of information can influence citizen satisfaction through an increase in public confidence as a result of fulfilling information needs when completing work using an information system (Al-Okaily, 2024; Bahadur *et al*., 2024).

Service quality has a significant relationship with trust in e-government, citizen satisfaction, and e-government public value (net benefits). The responsiveness of the

service provider is a crucial factor, because it can give perceived value to users as the net benefits that they can consume (Al-Hattami and Almaqtari, 2023). A high quality of information system services can also increase users' motivation so they can believe that the service providers can meet citizens' needs when interacting with systems (Abdulkareem and Mohd Ramli, 2022). Meanwhile, as a practitioner, one should facilitate the information system service based on professional assistance so that it can give a positive experience to users, and they are satisfied with the service quality (Al-Okaily *et al*., 2023; Bahadur *et al*., 2024).

The relationship between system quality and e-government public value (net benefits) is significant. It means a high-quality system improves decision-making accuracy, productivity, and user understanding, so users ultimately obtain net benefits in the form of more optimal performance in various interests (Abdullah *et al*., 2025; Al-Hattami and Almaqtari, 2023). System quality is also related to trust in e-government through consistent innovation, which can attract users (Kanaan *et al*., 2023). Research from Obaid & Ahmadb (Obaid and Ahmadb, 2022) shows that the consistency of feature improvement shapes the significant relationship between system quality and trust in e-government. Another result also shows system quality has a significant relationship with citizen satisfaction. As a practical implication, that are important to upgrade the perceived usefulness of system quality, because it can be a user engagement to make them satisfied and confident based on their experience (Al-Okaily *et al*., 2023; Lutfi, 2023).

In the context of digital public services, trust in e-government is the reflection of public trust. Trust in e-government has a significant relationship with citizen satisfaction in this study. So it is determined by the government's ability to manage all state affairs in a way that public trust can create citizen satisfaction (Abdul Rahim *et al*., 2023). Another result, trust in e-government has a significant relationship with e-government public value (net benefits). The security level becomes a crucial factor, because it is very important for citizens' privacy when interacting online with the government (Abdulkareem and Mohd Ramli, 2022; Agbabiaka, 2018). Beside trust in e-government, citizen satisfaction also become an important predictor that has a significant influence the e-government public value (net benefits). It aligns with research from Bahadur (Bahadur *et al*., 2024) and (Rehman *et al*., 2023) that satisfaction of users can create the value of interaction when using digital public services. Net benefits are also shaped based on satisfaction as a

positive experience, such as efficient services, reliable system, and ease of use system quality (Abdulkareem and Mohd Ramli, 2022).

The results of the indirect effect analysis show that trust in e-government and citizen satisfaction fully mediate overall constructs of information system quality to e-government public value (net benefits). This indicates that the existence of trust in e-government and citizen satisfaction can be relevant variables to digital public health services as the object of this study. Basically, the DeLone McLean information system success model tends to be predominantly used in research of information systems private sector. So, it can fill the gap in research related to the lack of studies on the success of information systems in the field of e-government (Abdulkareem and Mohd Ramli, 2022; Agbabiaka, 2018).

6 CONCLUSION

As the conclusion, this research almost able to confirm the integration between DeLone McLean Information System Success Model and Public Value Theory. Only information quality that can't have a significant relationship with the e-government public value (net benefits). It can be a practical implication for the Indonesian National Health Ministry to develop educational aspects from the Mobile JKN information content, so it can better provide the benefits or value creation to citizens. Also important to providers for maintaining and further developing the quality of service and system of Mobile JKN as capable predictors to shape the experience and legitimacy of users in perceiving public value. As a theoretical implication, this research contributes to how information systems quality influences e-government public value (net benefits) through trust in e-government and citizen satisfaction. Theoretical recommendations are also presented for further research to combine various theories and variables related to technology or information systems in the field of e-government. Considering that the results of this research hypothesis were almost entirely accepted, thus requiring theoretical diversity in further research with more diverse predictors.

ACKNOWLEDGMENT

The researchers would like to thank the Directorate of Research and Community Service (DRPM) at Universitas Brawijaya for funding this entire research through the Faculty of Administrative Sciences Professor Research Grant Scheme.

REFERENCES

Abdul Rahim, N.F., Abbasi, G.A., Iranmanesh, M., Christopher, N., Amran, A., 2023. Determinants of continuous intention to use e-government services: an extension of technology continuance theory. JSIT 25, 245–267. https://doi.org/10.1108/JSIT-09-2020-0166

Abdulkareem, A.K., Mohd Ramli, R., 2022. Does trust in e-government influence the performance of e-government? An integration of information system success model and public value theory. TG 16, 1–17. https://doi.org/10.1108/TG-01-2021-0001

Abdullah, M.S.A.M., Aizuddin, A.N., Abdul Manaf, M.R., 2025. The Impact of Provider's Quality of Information System on User Satisfaction and Perceived Net Benefits in Malaysian Public Hospitals. Malays J Med Sci 32, 108–121. https://doi.org/10.21315/mjms-12-2024-952

Agbabiaka, O., 2018. The Public Value Creation of eGovernment: An Empirical Study from Citizen Perspective, in: Proceedings of the 11th International Conference on Theory and Practice of Electronic Governance. Presented at the ICEGOV '18: 11th International Conference on Theory and Practice of Electronic Governance, ACM, Galway Ireland, pp. 143–153. https://doi.org/10.1145/3209415.3209416

Al-Hattami, H.M., Almaqtari, F.A., 2023. What determines digital accounting systems' continuance intention? An empirical investigation in SMEs. Humanit Soc Sci Commun 10, 814. https://doi.org/10.1057/s41599-023-02332-3

Al-Okaily, M., 2024. Implications of the COVID-19 pandemic on continuance usage of electronic tax declaration platforms: extending classical UTAUT model. DPRG. https://doi.org/10.1108/DPRG-08-2023-0116

Al-Okaily, M., Al-Kofahi, M., Shiyyab, F.S., Al-Okaily, A., 2023. Determinants of user satisfaction with financial information systems in the digital transformation era: insights from emerging markets. GKMC. https://doi.org/10.1108/GKMC-12-2022-0285

Alsarraf, H.A., Aljazzaf, S., Ashkanani, A.M., 2023. Do you see my effort? An investigation of the relationship between e-government service quality and trust in government. TG 17, 116–133. https://doi.org/10.1108/TG-05-2022-0066

Alzahrani, L., Al-Karaghouli, W., Weerakkody, V., 2024. Investigating the impact of citizens' trust toward the successful adoption of e-government: A multig.

Annur, C.M., 2024. Penetrasi Internet DI Yogyakarta Tertinggi di Pulau Jawa pada 2024 | Databoks [WWW Document]. URL https://databoks.katadata.co.id/datapublish/2024/02/05/penetrasi-internet-di-yogyakarta-tertinggi-di-pulau-jawa-pada-2024 (accessed 9.9.24).

Badan Pusat Statistik, 2024a. Persentase Unmet Need Pelayanan Kesehatan Menurut Provinsi - Tabel Statistik [WWW Document]. URL https://www.bps.go.id/id/statistics-table/2/MTQwMiMy/unmet-need-pelayanan-kesehatan-menurut-provinsi.html (accessed 3.10.25).

Badan Pusat Statistik, 2024b. Jumlah Penduduk Menurut Provinsi di Indonesia [WWW Document]. URL https://sulut.bps.go.id/id/statistics-table/2/OTU4IzI=/jumlah-penduduk-menurut-provinsi-di-indonesia.html. (accessed 9.9.24).

Bahadur, S., Gurung, S.K., Jung Bahadur Rana, S.B., Dhungana, B.R., 2024. e-Governance, citizen satisfaction and net benefits: the moderating effect of digital divide. Cogent Business & Management 11, 2402512. https://doi.org/10.1080/23311975.2024.2402512

BPJS Kesehatan, 2018. JKN Mobile - Aplikasi BPJS Kesehatan. URL https://jknmobile.com/ (accessed 3.9.25).

DeLone, W.H., McLean, E.R., 2003. The DeLone and McLean Model of Information Systems Success: A Ten-Year Update. Journal of Management Information Systems 19, 9–30. https://doi.org/10.1080/07421222.2003.11045748

Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M., Danks, N.P., Ray, S., 2021. Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R: A Workbook, Classroom Companion: Business. Springer International Publishing, Cham. https://doi.org/10.1007/978-3-030-80519-7

International Relations Bina Nusantara University, 2025. Mobile JKN : Solusi atau Tantangan dalam Pembiayaan Kesehatan Nasional? [WWW Document]. International Relations BINUS University. URL https://ir.binus.ac.id/2025/03/03/mobile-jkn-solusi-atau-tantangan-dalam-pembiayaan-kesehatan-nasional/ (accessed 8.18.25).

Kanaan, A., AL-Hawamleh, A., Abulfaraj, A., Al-Kaseasbeh, H.M., Alorfi, A., 2023. The effect of quality, security and privacy factors on trust and intention to use e-government services. 10.5267/j.ijdns 7, 185–198. https://doi.org/10.5267/j.ijdns.2022.11.004

Kementerian Kesehatan Republik Indonesia, 2021. Cetak Biru Strategi Tansformasi Digital Kesehatan 2024.

Kementerian Pendayagunaan Aparatur Negara dan Reformasi Birokrasi Republik Indonesia, 2024. Satu Data [WWW Document]. URL https://1data.menpan.go.id/index.php (accessed 8.15.25).

Khan, S., Umer, R., Umer, S., Naqvi, S., 2021. Antecedents of trust in using social media for E-government services: An empirical study in Pakistan. Technology in Society 64, 101400. https://doi.org/10.1016/j.techsoc.2020.101400

Kurniawan, A., 2024. Heboh Data Bocor Dibobol Hacker, BPJS Ketenagakerjaan: Aman dan Terkelola Baik [WWW Document]. URL https://www.bpjsketenagakerjaan.go.id/berita/28893/Heboh-Data-Bocor-Dibobol-Hacker,-BPJS-Ketenagakerjaan:-Aman-dan-Terkelola-Baik- (accessed 8.18.25).

Li, W., Xue, L., 2021. Analyzing the Critical Factors Influencing Post-Use Trust and Its Impact on Citizens' Continuous-Use Intention of E-Government: Evidence from Chinese Municipalities. Sustainability 13, 7698. https://doi.org/10.3390/su13147698

Lutfi, A., 2023. Factors affecting the success of accounting information system from the lens of DeLone and McLean IS model. International Journal of Information Management Data Insights 3, 100202. https://doi.org/10.1016/j.jjimei.2023.100202

Moore, M.H., 2013. Recognizing Public Value. President and Fellows of Harvard College, United States of America.

Nelson, R.R., Todd, P.A., Wixom, B.H., 2005. Antecedents of Information and System Quality: An Empirical Examination Within the Context of Data Warehousing. Journal of Management Information Systems 21, 199–235. https://doi.org/10.1080/07421222.2005.11045823

Obaid, Q.M.S., Ahmadb, M.F., 2022. The impact of service quality, system quality on citizen's satisfaction with mediating role of trust in E-Government. Central European Management Journal 30, 223–233. https://doi.org/10.57030/23364890.cemj.30.3.19

Pribadi, U., Iqbal, M., Restiane, F., 2021. Factors Affecting Trust in E-Government. JGCS 5, 263. https://doi.org/10.31000/jgcs.v5i2.4848

Rehman, I.H.U., Ali Turi, J., Rosak-Szyrocka, J., Alam, M.N., Pilař, L., 2023. The role of awareness in appraising the success of E-government systems. Cogent Business & Management 10, 2186739. https://doi.org/10.1080/23311975.2023.2186739

Sari, N.P., 2021. Data BPJS Kesehatan Diduga Bocor, Menteri Tjahjo Dukung Kemkominfo Usut Tuntas [WWW Document]. Kementerian Pendayagunaan Aparatur Negara dan Reformasi Birokrasi. URL https://www.menpan.go.id/site/berita-terkini/data-bpjs-kesehatan-diduga-bocor-menteri-tjahjo-dukung-kemkominfo-usut-tuntas (accessed 8.18.25).

Scott, M., DeLone, W., Golden, W., 2016. Measuring eGovernment success: a public value approach. European Journal of Information Systems 25, 187–208. https://doi.org/10.1057/ejis.2015.11

Song, M., Meier, K.J., 2018. Citizen Satisfaction and the Kaleidoscope of Government Performance: How Multiple Stakeholders See Government Performance. Journal of Public Administration Research and Theory: J-PART 28, 489–505.

Weigl, L., Roth, T., Amard, A., Zavolokina, L., 2024. When public values and user-centricity in e-government collide – A systematic review. Government Information Quarterly 41, 101956. https://doi.org/10.1016/j.giq.2024.101956

Whitten, D., 2004. Information Systems Service Quality Measurement: The Evolution of The SERVQUAL Instrument. Journal of International Technology and Information Management 13. https://doi.org/10.58729/1941-6679.1195