

Exploring the Impacts of e-Government Service Quality on Citizen Satisfaction and Trust: Evidence from Population Administration Services

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Abstract. Enhancing citizen trust in government services is a critical challenge, and e-government initiatives have been proposed as a potential solution. This study examines the effect of e-government service quality on citizen satisfaction and trust in the context of population administration services provided by the Population Administration Services in Serang City, Indonesia. A quantitative research approach was employed, utilizing surveys to collect data from 379 users of the Smartdukcapil online platform. The findings reveal that e-government service quality has a significant positive impact on citizen satisfaction, with information quality emerging as the most crucial indicator. Citizen satisfaction, in turn, positively influences citizen trust, particularly regarding the competence of the Civil Registration Office. The research highlights the mediating role of citizen satisfaction in the relationship between e-government service quality and citizen trust. The study contributes to the understanding of how e-government initiatives can enhance citizen satisfaction and trust, emphasizing the importance of managing citizen expectations, improving interactions, and enhancing communication channels. Practical implications and recommendations for the Population Administration Services in Serang City are provided, focusing on prioritizing efforts to enhance e-government service quality to foster a healthier relationship with citizens.

Keywords: E-Government Service Quality (e-GovQual), Citizen Satisfaction, Citizen Trust, Accessibility.

1. Introduction

The world has undergone significant transformations in the past few decades, namely globalization, democratization, information, and communication technology. This transformation has impacted the increasing complexity of societal needs and mobility, prompting the growth of public awareness, demands, and perceptions towards governments. Various events or occurrences faced by governments worldwide, such as uncertain economic situations, corruption cases, employee deviations, and public mal-administration, demonstrate the government's inability to meet public expectations, leading to a decline in trust in public administration (Yildiz & Saylam, 2013). In European countries, trust levels in governments and public institutions have reported the largest decline in this century (López-López et al., 2018).

The current challenge for governments is how to address the crisis of public trust in public services. Governments need to make continuous efforts to improve public services as an integral part of building a welfare system in society. One of the improvement efforts in public services, particularly in Indonesia, is in the management of population administration. Although the population development program has been implemented for a long time, it still needs refinement to meet the increasingly complex demands of society. This requires the smooth, fast, and orderly management of population administration to prevent the occurrence of expectation gaps that could create disharmony between government agencies and direct service users from the public.

In response to these conditions, current governance is not only oriented towards clean governance and strong governance but also directed towards open governance. Clean, strong, and trustworthy governance is a crucial support in strengthening public values for various parties. Therefore, public information openness becomes crucial as a form of government transparency to build trust and enhance public participation (Kim & Lee, 2012). In the context of population administration and civil registration management, the concept of open government is not only associated with the level of direct service to the public but also related to the presentation of valid population biodata information and the accurate management of data to protect population status or vital events experienced by individuals.

Open Government Public (OGP) has become a platform for participating countries to develop governance that promotes openness, public engagement, accountability, and the use of technology to strengthen governance. One form of public administration reform in Indonesia related to the implementation of open government is e-government. The government applies e-government to ensure efficiency, transparency, accountability, and effectiveness in interactions between the government, other governments, and citizens. This e-government transformation is expected to contribute to more efficient public service delivery, greater opportunities for public participation, and improved responsiveness in the public sector.

When the government fails to demonstrate integrity and openness in its activities or actions, it becomes unresponsive, leading to a trust deficiency. Therefore, the development of e-government applications in public services ultimately aims to help counter the steady decline in citizens' trust in the government. Citizen trust is considered a key factor in the success of public initiatives, especially in the formulation of public policies, e-government projects, and others. Trust is also a representation of the reliability of service delivery or the expectation that policies will meet the needs of citizens (Van de Walle & Bouckaert, 2003).

Focusing on the concept of open government implemented by the government, trust is the ultimate goal of the open government strategy that can have potential positive effects (Léveillé & Timms, 2015; Safarov et al., 2017). Citizen trust is described as something that cannot emerge automatically but is dynamic and therefore must be well-managed (Dwiyanto, 2011). The elements of the process of good governance significantly determine the participation of various stakeholders, which then positively impacts citizen satisfaction (Wu and Jung, 2016). Thus, citizen satisfaction with perceived public services is related to the trust of citizens, both in the broad and narrow perspectives of service quality performance (Bouckaert &

Van de Walle, 2001; Van Ryzin, 2007). It can be assumed that citizen satisfaction is an essential parameter to measure the quality of services provided by an institution (Kumasey, 2014).

Based on the initial observations conducted, which encompassed both the examination of the *smartdukcapil* website and a thorough review of the 2022 Government Agency Performance Report (LKJIP) released by the Civil Registry and Population Office of Serang City, it has come to light that several strategic issues persist. These concerns predominantly revolve around the adequacy of facilities and infrastructure in meeting the stipulated service standards directly associated with civil administration and population registration services. Among the identified issues are the following:

1. A noticeable deficiency in the coverage of population and civil registration document ownership.
2. The evident inadequacy in the accessibility and utilization of population data and information is due to the suboptimal and evolving functionalities of the SIAK Information System.

Furthermore, an insightful exploration into the results of a public satisfaction survey regarding the performance of public services at the Civil Registry and Population Office of Serang City has revealed a Public Satisfaction Index (IKM) score of 82.37 in 2022, indicating a decline from the 84.76 recorded in 2021. Despite the preceding years witnessing a consistent uptrend in the IKM assessment results from 2018 to 2021, as graphically depicted in Figure 1.1, the tangible enhancements in IKM have yet to effectually transform the overall posture and quality categorization of services at the Civil Registry and Population Office. This persistent categorization still places the services within the C category of service quality qualification. Moreover, it is noteworthy that the observed increase in IKM from 2018 to 2019 was found to be below the average aggregate index of public satisfaction in Serang City during that specific period, as highlighted in the figures. This intricate analysis underscores the ongoing challenges faced by the Civil Registry and Population Office in attaining a sustained and substantial improvement in public service quality.

The ideal construction of public services is greatly influenced by contemporary paradigms in public administration. Therefore, the main task is to find a level of quality (as well as quantity) that can maximize public satisfaction for the community beyond the resource constraints faced by public service providers. Specifically, this research focuses on e-government service quality as a representation of the e-government concept and the concept of public service quality developed by previous studies (Alanezi et al., 2012; Papadomichelaki & Mentzas, 2009, 2012). The concepts of citizen satisfaction are based on the works of another previous studies (Romero-Subia et al., 2022; Salim et al., 2017; Van Ryzin, 2007), while the concept of citizen trust is derived from the concepts developed by Grimmelikhuijsen & Knies (2017), Lanin & Hermanto (2019), Porumbescu (2016). To be concerned, the study's focus will be directed toward aligning development plans with the specific challenges faced by the Population Administration Services (Disdukcapil) of Serang City through the optimization of the electronic service system (*smartdukcapil* application).

Previous research examining the impact of e-government applications on the levels of satisfaction and trust in the government has yielded varied results. Findings indicate a positive effect between e-government and satisfaction (Badri et al., 2015; Chatterjee & Suy, 2019; Collins et al., 2019; Frinaldi & Embi, 2015; Wu, 2021) and trust (Abdulkareem & Ramli, 2022; Badri et al., 2015; González-Gallego et al., 2020; Gracia & Ariño, 2015; Hardill & O'Sullivan, 2018; Yang, 2018). Conversely, Goldfinch et al., (2009) found a negative effect, while other studies found no significant effect between e-government and trust (Stephan Grimmelikhuijsen & Porumbescu, 2017; Morgeson et al., 2011). While only one study reveals that citizen satisfaction was also found to mediate the impact of e-government on public trust (González-Gallego et al., 2020).

Inconsistencies in previous research findings reveal a lack of understanding of the processes linking e-government usage to citizen satisfaction and trust in public services provided by the government (Morgeson

et al., 2011). This lack of understanding diminishes the government's ability to effectively utilize e-government administration tools in improving service quality to the public. Empirical studies reviewing the interaction between e-government service quality and citizen satisfaction and trust are limited, indicating potential for more intensive research in this area. In the framework of the e-government concept, the interconnection between e-government, service quality, satisfaction, and trust can be discerned based on a preliminary mapping of previous literature. The output of VOSviewer visualization indicates that while these concepts have been extensively studied (Figure 1 – Figure 3), particularly in studies linking service quality, e-government, citizen satisfaction, and public trust in a single research construct or model are relatively scarce.

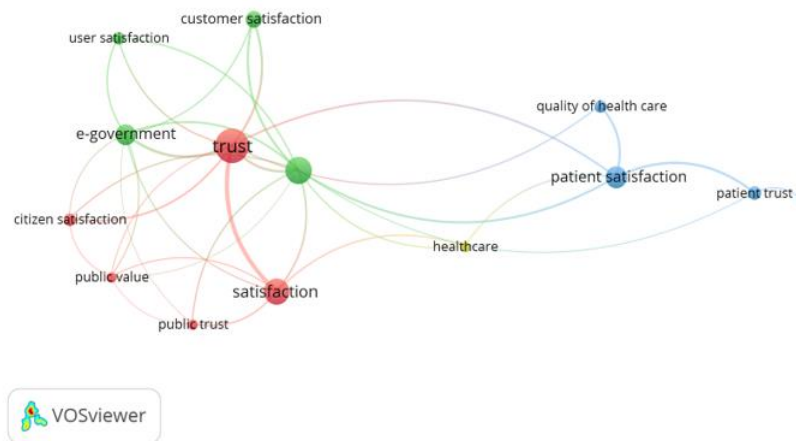


Figure 1. Network Visualization of Concept Mapping.

Source: Bibliography processed with VOSviewer (2023)

The VOSviewer outputs also reveal that research focusing on service quality, e-government, citizen satisfaction, and public trust in public organizations has been gaining attention in the last five years, albeit with limited integration of these concepts into a single research framework. The concept of citizen satisfaction has been the subject of study since 2016, while research on service quality, e-government, and public trust emerged from 2018 onwards.

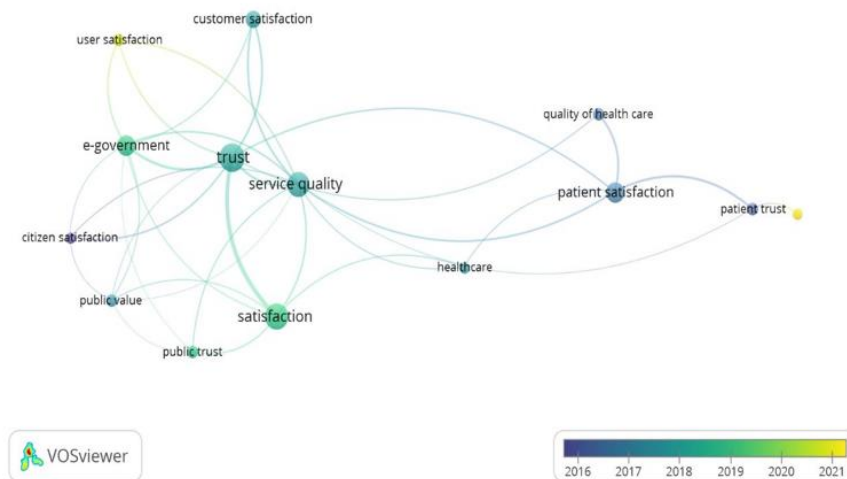


Figure 2. Overlay Visualization of Concept Mapping.

Source: Bibliography processed with VOSviewer (2023)

The overlay visualization indicates the potential interaction among the concepts of service quality, satisfaction, and trust. The contextual relationships among these concepts can be observed in the field of public administration, particularly in the efforts to create greater public value for the community as users of public services.

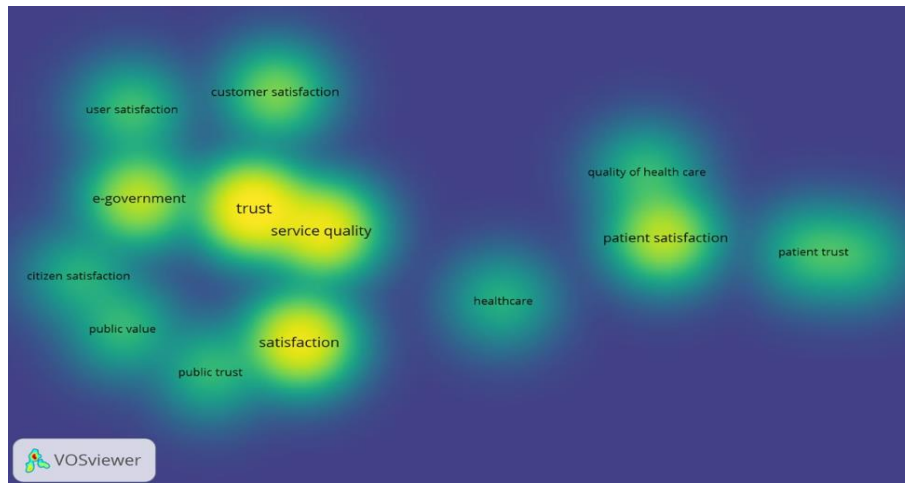


Figure 3. Density Visualization of Concept Mapping.
Source: Bibliography processed with VOSviewer (2023)

The density visualization further indicates that service quality is the most extensively studied topic, both in non-public and public organizations. Conversely, e-government research is relatively abundant, while studies on citizen satisfaction and public trust remain limited. This suggests there is an opportunity to conduct research on similar topics, especially in the context of public organizations like the Population Administration Services of Serang City. Despite the implementation of e-government services, the Population Administration Services in Serang City continues to face challenges in maintaining citizen trust and satisfaction. As the background to this research has been stated previously, this study aims to investigate the relationship between e-government service quality, citizen satisfaction, and citizen trust in the context of population administration services in Serang City.

2. Literature Review

2.1. Association Between E-Government Service Quality and Citizen Satisfaction

Several previous studies have provided valuable insights into citizen satisfaction with e-government services. Magoutas & Mentzas, (2010) introduced a semantic-based adaptive framework for monitoring citizen satisfaction in e-government, incorporating three adaptive axes: utilizing previously collected citizen data through questionnaires, addressing citizen issues, and employing metadata from visited pages. The results indicated that the framework added value for both citizens (enhanced satisfaction with services) and public administration (value creation for the public organization). In a parallel study, Baharon et al., (2017) examined factors influencing citizen satisfaction with the e-government portal in Malaysia. Four determinants were tested: perceived ease of use, citizen trust, service quality, and content quality. The findings revealed that citizen satisfaction with the e-government portal in Malaysia tends to be moderately

positive, primarily driven by three of the four determinants. Service quality emerged as the most significant predictor, followed by perceived ease of use and content quality. Sachan et al., (2018) investigated the adoption of e-Government to identify the significance of the process on user satisfaction. The findings showed that increased adoption of e-government processes led to improved user perceptions of website ease of use, subsequently enhancing perceived usefulness and ultimately increasing user satisfaction. This study provided evidence that the embedded technological capabilities in government website processes are crucial factors in determining e-government service quality and, consequently, driving user satisfaction. González-Gallego et al., (2020) developed an open-data government model and explored its direct and indirect impact on citizen trust through citizen satisfaction. Overall, the research findings indicated that open data policies enhance citizen satisfaction, confirmed across the entire sample. When the government provides open data to citizens, they become more satisfied with the quality of public services.

2.2. Association Between Citizen Satisfaction and Citizen Trust

Numerous studies have thoroughly explored the intricate relationships involving government performance, citizen satisfaction, and trust. Van Ryzin, (2007) established a conceptual framework based on the expectation-disconfirmation theory, emphasizing trust as a critical element reflecting government performance and citizen satisfaction. Badri et al., (2015) investigated three models, revealing that demographic factors, user service expectations, and perceived service quality influence satisfaction, subsequently impacting trust in government. Beeri et al., (2019) demonstrated that effective local government performance management has a direct and indirect effect on citizen trust through satisfaction. Lanin & Hermanto (2019) highlighted that locally provided public services, especially in crucial areas like education and health, enhance citizen satisfaction and trust. Collectively, these studies offer comprehensive insights into the nuanced dynamics of government-citizen interactions, underscoring the pivotal roles of trust and satisfaction in effective governance. These empirical findings underscore a crucial understanding of the positive linear relationship between citizen satisfaction and trust in government agencies or electronic service providers, indicating that increased citizen satisfaction fosters enhanced trust among citizens as service users in government agencies.

2.3. Association Between E-government Service Quality and Citizen Trust

Past investigations into this subject have yielded diverse results, with certain studies indicating a positive correlation between citizen trust in the government and an increased utilization of government websites. Conversely, other research suggests that e-government initiatives primarily serve to enhance trust in local administration. The predominant focus has been on exploring the dynamics between service providers and users, emphasizing the role of e-government in establishing trust-based connections between citizens and public administration. However, there has been limited exploration into the specific impacts of various e-government on citizen trust in the context of public administration. A study has postulated that the government's interest extends beyond understanding how trust in the government promotes the acceptance of e-government (Bannister & Connolly, 2011), and it also involves recognizing how the acceptance of e-government contributes to a heightened trust in the government.

Efforts have been undertaken to assess the importance of e-government initiatives, such as the quality of electronic services and communication in public administration, on citizen trust. While various studies have conceptualized trust in diverse dimensions (Porumbescu, 2016a, 2016b; Salim et al., 2017), recent research has specifically concentrated on comprehending how the government can foster trust in public administration. Morgeson et al., (2011) revealed that e-government has the potential to enhance citizens' trust in the future performance of an institution, even though it may not necessarily result in heightened satisfaction. While Kolsaker & Lee-Kelley (2008) and Bélanger & Carter (2008) discovered that the

positive impacts of e-government utilization on trust are confined to individuals who already have trust in their government. To gain a deeper understanding of the interaction between e-government and citizens' trust, further investigation is warranted to unveil the processes that connect e-government utilization to trust in the government. Previous empirical findings underscore the crucial comprehension of the interplay between e-government service quality and perceived trust in the government or electronic service providers, suggesting a positive linear correlation where enhanced e-government service quality promotes increased trust among citizens as service users in government agencies.

2.4. Conceptual Framework and Research Hypotheses Development



Figure 4. Conceptual Framework

From various previous empirical results, it is known that there is a connection gap that is still not very strong between e-government service quality and citizen trust directly when framed in the expectation - disconfirmation theory. While on the other hand, previous literature indicates the significance of citizen trust as the ultimate outcome of delivering public services to the community. However, it is undeniable that citizen satisfaction is crucial in reinforcing citizen trust and is considered an outcome of e-gov service quality. Based on these considerations, a conceptual framework for the research can be constructed, as illustrated in Figure 1. Subsequently, the research hypotheses proposed in this study are as follows.

H1: E-government service quality significantly impacts citizen satisfaction at the Population Administration Services in Serang City.

H2: Citizen satisfaction significantly impacts citizen trust at the Population Administration Services in Serang City.

H3: E-government service quality significantly impacts citizen trust at the Population Administration Services in Serang City.

H4: E-government service quality has a significant impact on citizen trust, mediated by citizen satisfaction, at the Population Administration Services in Serang City.

3. Method

This research employs a quantitative research methodology with the goal of elucidating, validating, and substantiating hypotheses pertaining to the observed phenomena. Based on the type of quantitative research, data verified through survey methods is used as material for data analysis carried out with a statistical approach to getting answers to problem formulations in research. This research takes place at the Population Administration Services (Disdukcapil) of Serang City, during the period from July to September 2023. Several important considerations influenced the selection of Serang City as the research location, including:

1. Serang City is an autonomous region resulting from the division of Kabupaten Serang in the

- Province of Banten.
2. Serang City is the second smallest region in the Province of Banten, experiencing rapid urban development.
 3. The population growth rate in Serang City is high, leading to a correspondingly high population density.

This research establishes electronic service users at the Population Administration Services (Disdukcapil) of Kota Serang as the unit of analysis, employing a cross-sectional or one-shot observational approach, indicating that data is collected at a specific point in time. The primary data collected are derived from respondents' answers to questionnaires distributed to users of electronic services (online applications) at Disdukcapil Kota Serang. Additionally, there is secondary data in this study obtained from records, documentation, and reports published by Disdukcapil Kota Serang. These secondary data will be utilized to discuss the research findings, thereby reinforcing the obtained results.

The questionnaire instrument in this study comprises statements related not only to e-government service quality, but also citizen satisfaction and citizen trust that are distributed online by sending the survey link to residents who have accessing electronic services (*smartdukcapil*) or visiting the Population Administration Services (Disdukcapil) of Kota Serang. The distribution of the survey link is facilitated by enumerators responsible for data collection. Participation in this research is voluntary and anonymous to safeguard respondent privacy.

3.1. Population and Sample

In determining population it can be done by setting the target population and affordable population according to the research problem. The target population in this study is people who use electronic services (*smartdukcapil* application) in Serang City Disdukcapil. The number of service users targeted by the population of this study is people who are recorded accessing "*smartdukcapil*" in Serang City. The number of *Smartdukcapil* users in Serang City identified is 28,125 people, presented per each sub-district in Serang City.

Table 1. Number of users "*smartdukcapil*" City at the sub-district level

Sub-district	Sum	Percentage
Serang	10,173	36,17
Kasemen	3,313	11,78
Walantaka	4,565	16.23
Curug	1,987	7.06
Cipocok Jaya	4,183	14.8
Taktakan	3,904	13,88
Total	28.125	100

(retrieved from: <http://disdukcapionline.serangkota.go.id> (June 2023))

The sampling technique employed in this study is proportionate stratified random sampling, and the calculation of the research sample is determined by specifying the sample size. The sample size for the target population is 28,125 with a margin of error of 5 percent is 379. Then, from the sample size of 379, the proportion of samples based on each sub-district will be made as follows:

- 1) Serang District, calculated as $10,173 / 28,125 \times 379 = 137.08$ (rounded to 137)
- 2) Kasemen District, calculated as $3,313 / 28,125 \times 379 = 44.64$ (rounded to 45)
- 3) Walantaka District, calculated as $4,565 / 28,125 \times 379 = 61.50$ (rounded to 61)
- 4) Curug District, calculated as $1,987 / 28,125 \times 379 = 26.78$ (rounded to 27)
- 5) Cipocok Jaya District, calculated as $4,183 / 28,125 \times 379 = 56.39$ (rounded to 56)

6) Taktakan District, calculated as $3,904 / 28,125 \times 379 = 52.61$ (rounded to 53).

3.2. Research Instrument and Data Analysis

The instrument scale formulated in this study serves as a guide for establishing the brief duration of intervals in the measuring tool, drawing inspiration from earlier research. The e-government service quality construct adapted from Magoutas & Mentzas, (2010) and Al Balushi & Ali (2020) comprises eight aspects (Form of interaction, service reliability, support mechanism, usability, quality of information, security, service performance, personalized). While the citizen satisfaction construct, adapted from (Romero-Subia et al., 2022; Salim et al., 2017), consists of four indicators. The Citizen trust construct, adapted from Grimmelikhuijsen & Knies (2017) and consisting of three aspects (competence, virtue, and honesty). As established in this study, the constructs were first tested in an initial pilot test with all of the constructs used in the study demonstrated good internal consistency, with Cronbach’s Alpha values of 0.949 for e-government service quality, 0.75 for citizen satisfaction, and 0.71 for citizen trust, exceeding the recommended threshold of 0.7.

The collected data will be analyzed using descriptive statistical methods and inferential analysis. To analyze the effect of e-government service quality on citizen satisfaction and citizen trust, structural equation modeling techniques are used in this study. The data that has been collected is then analyzed using the SmartPLS 4 software tool to answer important research questions. Furthermore, secondary data will be utilized to provide context and support findings generated from primary data. This research ensures compliance with research ethics standards, including respondent privacy and data security policies. Participation in this research is optional, and the identities of respondents will remain confidential to safeguard their privacy. The study is carefully designed to ensure the credibility and reliability of data, aiming to produce informative and impactful findings.

4. Results

Based on the collected primary data, the characteristics of the respondents are outlined in Table 2. The majority of respondents constituting 65.2 percent (247 individuals), are male service users, while the remaining 34.8 percent (132 individuals) are female service users. Among the 379 participants in this study, 50.9 percent (193 individuals) are service users with a bachelor's degree. High school graduates makeup 18.5 percent (70 individuals) of the respondents, followed by 17.2 percent (65 individuals) with a diploma. Postgraduate degree holders comprise 12.1 percent (46 individuals), and the remaining 1.3 percent (5 individuals) have a junior high school education background.

Table 2. Respondent characteristics

Characteristic	Freq	Percentage
Sex		
Male	247	65.2
Female	132	34.8
Total	379	100.0
Education		
Junior High School	5	1.3
Senior High School	70	18.5
Diploma	65	17.2
Bachelor degree	193	50.9
Master degree	46	12.1

Total	379	100.0
Age		
< 25 years old	80	21.1
Between 26 - 35 years old	103	27.2
Between 36 - 45 years old	106	28.0
Above 45 years old	90	23.7
Total	379	100.0
Religion		
Islam	302	79.7
Christian	57	15.0
Catholic	9	2.4
Hindu	2	.5
Buddha	2	.5
Confucian	7	1.8
Total	379	100.0

Concerning the distribution of age, most of the respondents are situated into the 36-45 years age category, comprising 106 individuals or 28 percent of the total respondents. Following closely are individuals aged 26-35 years, with 103 respondents or 27.2 percent. Additionally, 90 respondents, or 23.7 percent are over 45 years old, and the remaining 80 individuals, or 21.1 percent are under 25 years old. Regarding religious affiliation, the majority of respondents adhere to the Muslim faith, accounting for 302 individuals or 79.7 percent of the total respondents. Christian service users make up 57 individuals or 15.0 percent, while 9 respondents, or 2.4 percent are Catholic service users. The smaller categories include 7 individuals or 1.8 percent identifying as Confucian, and 2 individuals each, or 0.5 percent identifying as Hindu and Buddhist users.

Analyzing the geographical distribution based on respondents, the largest group is found to hail from the Serang District, totaling 137 individuals or 36.1 percent. Following closely are residents from Walantaka District (61 individuals or 16.1 percent), Cipocok Jaya District (56 individuals or 14.8 percent), and Taktakan District (53 individuals or 14 percent). Kasemen District and Curug District account for 45 individuals or 11.9 percent and 27 individuals or 7.1 percent, respectively. Out of the 379 online population administration service users in Serang City who participated in this study, the majority, comprising 196 individuals or 51.7 percent, accessed Smartdukcapil from personal devices such as smartphones or laptops. Another 113 individuals or 29.8 percent accessed Smartdukcapil from the Mandiri Disdukcapil (ADP) Pavilion, and 70 individuals, or 18.5 percent accessed both.

The frequency of access to the Smartdukcapil portal reveals that the largest group of respondents, 147 individuals or 38.8 percent, accessed it one or more times a month. Additionally, 122 individuals, or 32.2 percent accessed it one or more times a year, 31 individuals or 8.2 percent accessed it daily, and 45 individuals, or 11.9 percent accessed it at least once a week. Notably, 34 individuals or 9 percent of respondents reported never having accessed the Smartdukcapil portal. In terms of the specific services accessed, the majority of respondents, accounting for 162 individuals or 42.7 percent, utilized electronic KTP services. The second most accessed service was population administration services in the form of Family Cards, with 75 individuals or 19.8 percent. Moreover, 67 respondents, or 17.7 percent accessed more than one of the mentioned services. Birth certificates were accessed by 44 individuals or 11.6 percent, while Death Certificate and Child Identity Card services were accessed by 18 individuals, or 4.7 percent, and 13 individuals, or 3.4 percent, respectively.

Table 3. Loading Factor

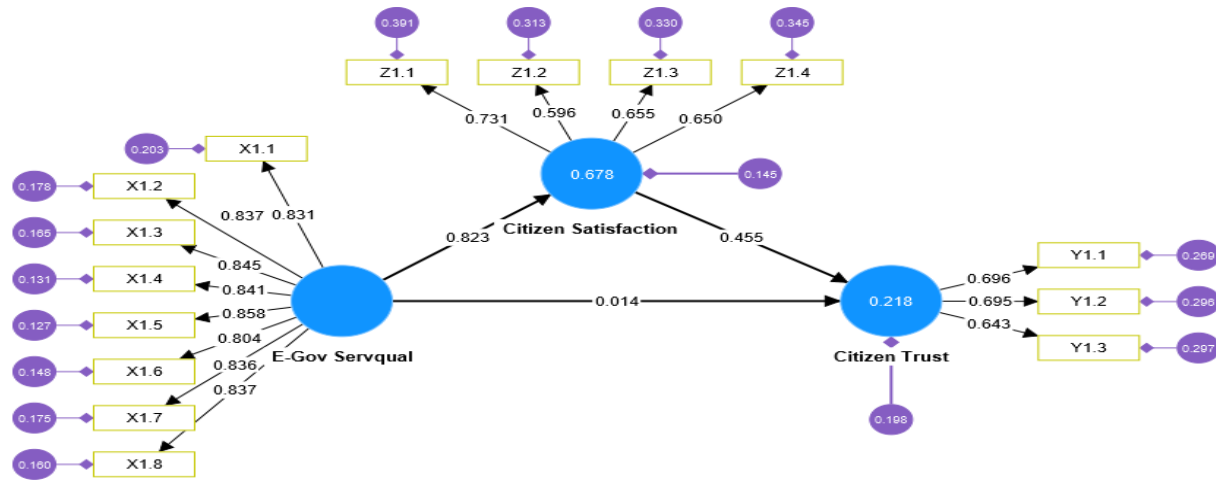
Construct	Indicator	Loading Factor	t-test	
<i>E-Gov Service Quality (X₁)</i>	X _{1.1}	Form of interaction	0,831	36,787
	X _{1.2}	Service reliability	0,837	42,570
	X _{1.3}	Support Mechanism	0,845	43,403
	X _{1.4}	Usability	0,841	30,343
	X _{1.5}	Quality of Information	0,858	39,930
	X _{1.6}	Security	0,804	30,500
	X _{1.7}	Service Performance	0,836	36,443
	X _{1.8}	Personalized	0,837	33,475
<i>Citizen Satisfaction (X₂)</i>	Z _{1.1}	Satisfaction with overall electronic services	0,731	18,001
	Z _{1.2}	Satisfaction with the consistency of electronic services	0,596	12,999
	Z _{1.3}	Satisfaction with the experience of electronic service	0,655	15,464
	Z _{1.4}	Electronic service meets expectations	0,650	18,267
<i>Citizen Trust (Y₁)</i>	Y _{1.1}	Competence	0,696	10,423
	Y _{1.2}	Virtue	0,695	9,673
	Y _{1.3}	Honesty	0,643	11,479

Source: Output Primary data processing results (2023).

In Table 3, all outer loading values surpass 0.50 and are statistically significant at the 0.05 level criteria, with also t-statistic values found exceeding 1.96. This indicates that the variable indicators observed in the study meet convergent validity requirements. Examining each variable, the E-government Service Quality variable (X₁) exhibits a prominent tendency in the quality of information (X_{1.5}), with a factor weight coefficient of 0.858 and a t-statistic of 39.930, while the lowest indicator is associated with security (X_{1.6}), featuring a factor weight coefficient of 0.804 and a t-statistic of 30.500. For the Citizen Satisfaction variable (Z₁), the highest inclination is found in the satisfaction with overall electronic services (Z_{1.1}), featuring a factor weight coefficient of 0.731 and a t-statistic of 18.001, while the lowest satisfaction indicator pertains to the consistency of electronic services (Z_{1.2}), with a factor weight coefficient of 0.596 and a t-statistic of 12.999. Regarding the Citizen Trust variable (Y₁), the highest tendency is observed in competence (Y_{1.1}), with a factor weight coefficient of 0.696 and a t-statistic of 11.479, while the indicator with the lowest factor weight is honesty (Y_{1.3}), featuring a factor weight coefficient of 0.643 and a t-statistic of 9.673.

In practice, the quality of e-government services is most often perceived in terms of the quality of interactions and the reliability of the services provided. The findings of this research are highly relevant to the New Public Service (NPS) theory (Denhardt & Denhardt, 2007), which emphasizes a transformation in public service delivery that includes more responsive services, greater public participation, and a stronger focus on outcomes. Within the NPS framework, good interaction reflects the government's responsiveness to the needs and desires of citizens (Denhardt & Denhardt, 2015). Citizens using e-government services, such as Smartdukcapil at the Serang City Civil Registry Office (Disdukcapil), experience smooth and intuitive interactions, which create a positive user experience. This demonstrates the government's commitment to providing services that are responsive to the feedback and requests of the public. While citizen trust is more likely to be demonstrated by the aspect of honesty. The most important element felt by users of Smartdukcapil services regarding honesty is the sincere attitude present in every service process. In other words, honesty refers to the genuine approach of the Serang City Civil Registry (Disdukcapil) in conducting each step of population administration services for its users. This finding confirms the theory developed by Grimmelikhuijsen et al., (2013) about the empirical construct of

perceived trust in government organizations. Additionally, the expectation-disconfirmation theory in the public sector (Grimmelikhuijsen & Knies, 2017; Grimmelikhuijsen & Porumbescu, 2017) provides valuable insights into discussing public trust in online population administration services at Disdukcapil Kota Serang. According to this theory, trust in government can be formed through the disconfirmation



process between the public's expectations and their actual experience with public services.

Figure 2: Path Coefficients and Loading Factor

Figure 2 illustrates the beta coefficient values for the interactions between variables and the loading factor values for each indicator within the variable. Specifically, regarding the inter-variable relationships, it was observed that the beta coefficient of e-government Service Quality on Citizen Satisfaction was found to be 0.823. The beta coefficient value of e-government Service Quality on Citizen Trust was determined to be 0.014, while the beta coefficient of Citizen Satisfaction on Citizen Trust was found to be 0.455. Based on the t-statistic values from the data analysis calculations, it is noted that all t-statistic values remain above the critical value of 1.960, except for the impact of e-Government Service Quality on Citizen Trust.

The hypothesis testing results are as follows:

H1: E-government service quality significantly impacts citizen satisfaction at the Population Administration Services in Serang City.

The path coefficient between e-government service quality and citizen satisfaction shows a positive influence of 0.823. This coefficient is significant at the 0.05 level, as the t-statistic value exceeds 1.96, specifically 13.167. Based on these findings, Hypothesis 1 is accepted, indicating a significant positive impact of e-government service quality on citizen satisfaction perceived by users of population and civil registration services at the Population Administration Services in Serang City.

Table 4. Path Coefficient

	Path Coefficient	t-Statistic	p-value
<i>E-Gov Service Quality -> Citizen Satisfaction</i>	0,823	22,787	0,00
<i>E-Gov Service Quality -> Citizen Trust</i>	0,014	,103	0,918
<i>Citizen Satisfaction -> Citizen Trust</i>	0,460	2,887	0,004

<i>E-Gov Service Quality -> Citizen Satisfaction -> Citizen Trust</i>	0,292	2,7 88	0.00 6
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H2: Citizen satisfaction significantly impacts citizen trust at the Population Administration Services in Serang City.

The path coefficient between e-government service quality and citizen trust indicates a positive influence of 0.014. However, this coefficient is not significant at the 0.05 level, as the t-statistic value is less than 1.96, specifically 0.103. Consequently, Hypothesis 2 is rejected, demonstrating no significant impact of e-government service quality on citizen trust perceived by users of population and civil registration services at the Population Administration Services in Serang City.

H3: E-government service quality significantly impacts citizen trust at the Population Administration Services in Serang City

The path coefficient between citizen satisfaction and citizen trust reveals a positive influence of 0.823. This coefficient is significant at the 0.05 level, with a t-statistic value exceeding 1.96, specifically 2.946. Consequently, Hypothesis 3 is accepted, indicating a significant positive impact of citizen satisfaction on citizen trust perceived by users of population and civil registration services at Population Administration Services in Serang City.

H4: E-government service quality has a significant impact on citizen trust, mediated by citizen satisfaction, at the Population Administration Services in Serang City

The path coefficient from e-government service quality to citizen satisfaction exhibits a positive value of 0.878, which is deemed significant at the 0.05 level (t-statistic = 6.309 < 1.960). Additionally, a substantial positive impact of 0.298 is observed in the effect of citizen satisfaction on citizen trust, supported by a t-statistic value of 2.538 (also < 1.960). The findings are graphically presented in Figure 4.6, illustrating the outcomes of the simple mediation test regarding the mediating role of citizen satisfaction between the effect of e-government service quality on citizen trust. Findings reveal that citizen satisfaction could effectively mediate the effect of e-government service quality on citizen trust. This mediation effect is deemed perfect, as no significant direct effect is discerned between e-government service quality and citizen trust. Consequently, Hypothesis 4 is confirmed, signifying that enhanced e-government service quality correlates with heightened public trust through perceived satisfaction among service users at the Population Administration Services in Serang City.

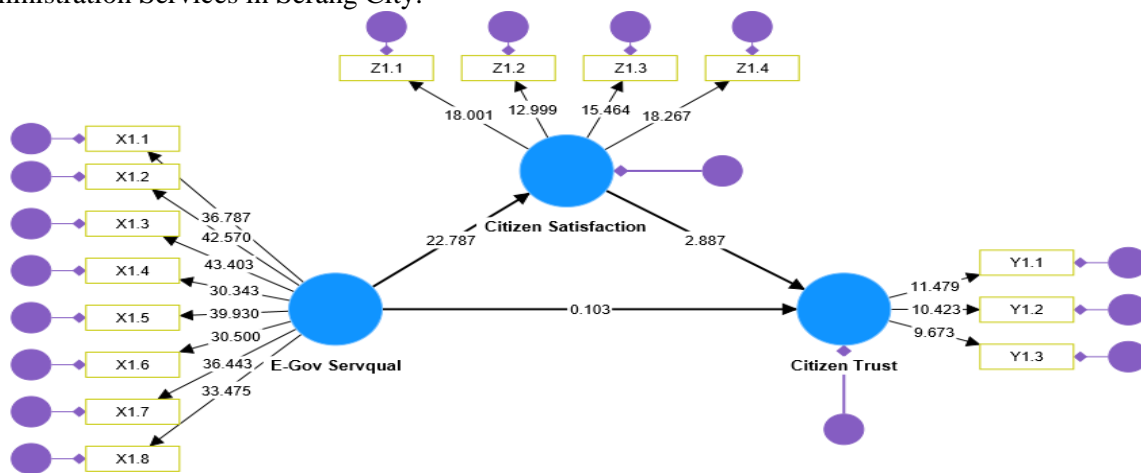


Figure 3. t-statistic value.

5. Discussion

The research data processing findings on online population administration service users in Serang City reveal crucial aspects. The gender-based comparison indicates the majority are male, yet females also represent a significant portion, highlighting inclusive service use. Regarding education, half of the respondents hold a bachelor's degree, suggesting a tendency for higher education. Respondents with diverse educational backgrounds, including high school, diploma, postgraduate, and even junior high school graduates, show the service caters to various educational levels. In terms of age, significant variation exists among users in Serang City. The majority fall within the 36-45 age range, with diversity in the 26-35 and over 45 age groups. This indicates accessibility for different age groups. Lastly, in religion, the majority are Muslims, but there is diversity in Christianity, Catholicism, Confucianism, Hinduism, and Buddhism, indicating accessibility across various religious communities. In summary, these findings demonstrate that online population administration services in Serang City have broad coverage and can be accessed by diverse segments of society, including different genders, educational backgrounds, ages, and religions. This is a positive indication of the government's efforts to provide inclusive and equitable access to population administration services for all city residents.

The findings related to respondent characteristics present relevant information regarding online population administration service users in Serang City. Respondent characteristics reveal the geographical distribution of users, with the majority coming from the Serang District. This provides insights into service usage distribution across various districts in Serang City. The majority of respondents access Smartdukcapil Kota Serang through personal devices like smartphones or laptops. This highlights user preferences in accessing online population administration services. The findings also indicate that the majority of respondents access Smartdukcapil Kota Serang at least once a month, while some access it daily or at least once a week. This information is crucial for understanding service usage patterns and potential improvements needed. About the most utilized services, findings reveal that electronic ID card (*KTP elektronik*) services dominate, followed by Family Cards (*Kartu Keluarga*), multiple-service usage, and birth certificate services. This provides insight into how Serang City residents interact with these services in their daily lives.

This study examines the impact of E-Government service quality on citizen satisfaction within the context of online population administration services at Serang City Civil Registry. The research reveals a positive and great effect of e-government service quality on citizen satisfaction. The New Public Service (NPS) theory provides insights into the significant effect of e-government service quality on citizen satisfaction. Key factors include responsiveness to citizens' needs, increased public participation, focus on outcomes, and improved accessibility. Users' positive interaction with the Smartdukcapil platform supports the idea of efficient electronics in terms of service delivery. Efficient e-government services not only contribute to process efficiency but also enhance citizen satisfaction and inclusive governance.

Although E-Government service quality was perceived positively, the study did not find a significant causal relationship between service quality and citizen trust in the competence of Serang City Civil Registry. This contrasts with expectations based on the New Public Service paradigm, emphasizing transparency and accountability. The study suggests that factors beyond service quality, such as societal, economic, political, and cultural elements, affect citizen trust. The multidimensional nature of trust and the public perception of the entire government institution can also influence the relationship between service quality and trust. Further research into the contextual and social dynamics is necessary to fully comprehend the intricate interplay of these factors.

Prioritizing citizen needs, gathering constructive feedback, maintaining transparency, and demonstrating accountability contribute to building trust (Badri et al., 2015; Mahmood et al., 2019; Salim et al., 2017). Citizen satisfaction, reflecting overall satisfaction with Smartdukcapil services, enhances citizen trust, particularly concerning the competence of Serang City Civil Registry. The findings align with the New Public Service perspective, highlighting the interdependence of citizen satisfaction and trust. The government's focus on meeting expectations, positive relationships, transparency, and accountability fosters an environment conducive to building and maintaining citizen trust.

E-gov service quality has a crucial role in enhancing citizen trust in online population administration services. When the public has confidence in the dependability, safety, and effectiveness of such services, they are inclined to actively participate and have faith in the government's capability to manage their information with accountability. The study acknowledges the varied results in existing literature regarding the relationship between public service quality and citizen trust (Badri et al., 2015; Lanin & Hermanto, 2019; Salim et al., 2017), highlighting the importance of considering multiple influencing factors. Factors such as normative expectations, quality of service, and organizational processes contribute to citizen satisfaction, influencing the complex relationship between E-Government service quality and citizen trust. The New Public Service paradigm (Denhardt & Denhardt, 2015) underscores the importance of relational trust, emphasizing shared values and goals between the government and citizens. Ultimately, trust is built when the government meets expectations and operates transparently, leading to more engaged and supportive citizens.

This research reveals that citizen satisfaction is notably influenced by e-government service quality, while citizen trust is strongly influenced by citizen satisfaction. The highest impact is observed in the general satisfaction with electronic services, emphasizing the importance of information quality. New Public Service (NPS) theory explains that high e-government service quality enhances citizen satisfaction through responsiveness to needs, increased public participation, outcome orientation, and good accessibility (He & Ma, 2021; Kim & Lee, 2012). Increased satisfaction, in turn, builds greater trust in government institutions, specifically the Serang City Civil Registry as the provider of population administration services. Field interview results support quantitative data analysis findings, indicating that aspects like positive interaction, service reliability, competence, virtue, and honesty play vital roles in shaping citizen satisfaction and also their trust in e-government services in Serang City Civil Registry. Qualitative data provides deeper insights into the experiences of Serang City residents in accessing online population administration services and why they feel satisfied and increasingly trust the Civil Registry.

From the NPS perspective, it's essential to note that e-gov service quality is critical in building public trust, but it's not the sole factor. As findings of this study confirm the results shown in previous research (Stephan Grimmelikhuijsen & Knies, 2017; Stephan Grimmelikhuijsen & Porumbescu, 2017), public expectations and research context can moderate or mediate the interaction between e-gov service quality with citizen trust. The research provides a valuable understanding of the complex relationship between electronic public services, citizen trust, and other factors within the New Public Service paradigm. With increased citizen satisfaction, the government can benefit from positive citizen engagement in governance processes (Sachan et al., 2018; Salim et al., 2017; Van Ryzin, 2007). Therefore, the utilization of technology in public services, as implemented in Smartdukcapil Serang City, can contribute to building better connections between the government and the public, enhancing legitimacy, and improving government performance in providing efficient and responsive services. The research underscores the importance of managing public expectations, improving interactions, and enhancing communication channels to build citizen satisfaction and trust in e-gov services, as this comply with previous findings (Porumbescu, 2016b, 2016a; Salim et al., 2017). The consequences of these results suggest that the government, particularly the Serang City Civil Registry, can prioritize efforts to enhance citizen satisfaction by improving the quality of

their online population administration services. This, in turn, can strengthen citizen trust, leading to a healthier relationship between the government and the public, ultimately enhancing the overall effectiveness of population administration services. The research confirms that the E-Government service quality in Serang City Civil Registry has several strong aspects, especially in positive interaction and service reliability. The findings highlight that, despite changing the way public services are delivered, technology cannot replace the importance of "human aspects" in the service delivery process. Serang City residents, as users of population administration services, seek a positive experience and reliable service, forming the foundation for their trust in the services provided by Serang City Civil Registry.

Moreover, the research suggests that the theoretical framework of the New Public Service theory (Denhardt & Denhardt, 2015) can be applied to understand the indirect relationship between e-government service quality and trust through citizen satisfaction. The findings highlight that meeting user expectations is essential before addressing the enhancement of perceived trust in the Serang City Civil Registry. This is aligned with NPS theory that stresses the importance of responding to public needs, fostering active public participation, focusing on outcomes, and ensuring good accessibility (Denhardt & Denhardt, 2007; 2015). In the realm of online population administration services, the quality of information provided significantly affects citizen satisfaction, indicating that the government should prioritize maintaining high information quality in its online services.

The research findings shed light on how technology and human interaction can work together to enhance public trust. While it is also crucial to recognize that other elements such as public expectations and specific research contexts, play significant roles in building public trust (Stephan Grimmelikhuijsen & Knies, 2017; Stephan Grimmelikhuijsen & Porumbescu, 2017). Therefore, a comprehensive approach that considers these factors is key to developing successful public services in an increasingly digital world. The research highlights the importance for the Serang City Civil Registry to understand public expectations, improve interactions, and deliver high-quality services to foster citizen satisfaction and trust in online population administration services. This approach not only benefits the Serang City Civil Registry through positive citizen engagement but also enhances its legitimacy and performance in providing effective and responsive online services.

Ultimately, the trust of the community in using services stems from the attitudes formed within the community. This is consistent with the expectation-disconfirmation model related to services (Stephan Grimmelikhuijsen & Porumbescu, 2017). However, it is also crucial to recognize that the attitudes of service users can be influenced by contextual factors within the organization, such as the implementation of electronic government (e-government). The theoretical model mentioned earlier reflects the latest research in this study, emphasizing that in public organizations, particularly government agencies, contextual factors alone cannot enhance public trust unless service users are first satisfied. This model can serve as a foundation for further research examining the relationship between organizational contextual factors, such as the quality of e-government services, and the attitudes of the community as service users. It also indicates that organizational contextual factors are diverse, with e-government service quality potentially being only one of these factors.

6. Conclusion

This study has explored the relationship between e-government service quality, citizen satisfaction, and citizen trust in the context of population administration services in Serang City. The findings demonstrate the significant positive impact of e-government service quality on citizen satisfaction, with information quality emerging as the most crucial factor. Additionally, citizen satisfaction positively influences citizen trust, particularly in terms of the perceived competence of the Population Administration Services in Serang

City. The research highlights the mediating role of citizen satisfaction in the relationship between e-government service quality and citizen trust, aligning with the New Public Service theory's emphasis on responsiveness, public participation, outcome orientation, and accessibility. By prioritizing efforts to enhance e-government service quality, the Population Administration Services can strengthen citizen satisfaction and subsequently foster increased citizen trust, contributing to a healthier relationship between the government and the public.

While the findings are promising, the study acknowledges the complex and multidimensional nature of citizen trust, suggesting that factors beyond service quality, such as societal, economic, political, and cultural elements, may also influence citizen trust. Future research should explore alternative models and concepts in e-government service quality, as well as consider diverse socio-demographic factors and qualitative approaches to gain a deeper understanding of individuals' experiences and perceptions.

Ultimately, this study underscores the importance of combining technology with traditional public service values in an increasingly digital era. By managing citizen expectations, improving interactions, and enhancing communication channels, the Population Administration Services in Serang City can leverage e-government initiatives to build citizen satisfaction and trust, fostering a more engaged and supportive relationship with the community.

References

- Abdulkareem, A. K., & Ramli, M. R. (2022). Does trust in e-government influence the performance of e-government? An integration of information system success model and public value theory. *Transforming Government: People, Process and Policy*, 16(1), 1–17. <https://doi.org/10.1108/TG-01-2021-0001>
- Al Balushi, T., & Ali, S. (2020). Theoretical Approach for Instrument Development in Measuring User-Perceived E-government Service Quality: A Case of Oman E-government Services. *International Journal of Electronic Government Research (IJEGR)*, 16(1), 40–58. <https://doi.org/10.4018/IJEGR.2020010103>
- Alanezi, M. A., Mahmood, A. K., & Basri, S. (2012). E-government service quality: A qualitative evaluation in the case of Saudi Arabia. *Electronic Journal of Information Systems in Developing Countries*, 54(1), 1–20. <https://doi.org/10.1002/j.1681-4835.2012.tb00382.x>
- Badri, M., Al Khaili, M., & Al Mansoori, R. L. (2015). Quality of Service, Expectation, Satisfaction and Trust in Public Institutions: The Abu Dhabi Citizen Satisfaction Survey. *Asian Journal of Political Science*, 23(3), 420–447. <https://doi.org/10.1080/02185377.2015.1055773>
- Baharon, B. M., Yap, C. S., Ashar, S. F. E., Hanafi, M. H. H. M., & Hazmi, M. S. R. M. (2017). Citizen Satisfaction with E-government Portals in Malaysia. *International Journal of Business and Information*, 12(3), 289 – 309.
- Bannister, F., & Connolly, R. (2011). Trust and Transformational Government: A Proposed Framework for Research. *Government Information Quarterly*, 28(2), 137–147.
- Beeri, I., Uster, A., & Vigoda-Gadot, E. (2019). Does Performance Management Relate to Good Governance? A Study of Its Relationship with Citizens' Satisfaction with and Trust in Israeli Local Government. *Public Performance and Management Review*, 42(2), 241–279. <https://doi.org/10.1080/15309576.2018.1436074>
- Bélanger, F., & Carter, L. (2008). Trust and Risk in E-government Adoption. *The Journal of Strategic Information Systems*, 17(2), 165–176. <https://doi.org/10.1016/j.jsis.2007.12.002>
- Chatterjee, R., & Suy, R. (2019). An Overview of Citizen Satisfaction with Public Service: Based on the

- Model of Expectancy Disconfirmation. *Open Journal of Social Sciences*, 7, 243–258. <https://doi.org/10.4236/jss.2019.74019>
- Collins, B. K., Kim, K. J., & Tao, J. (2019). Managing for Citizen Satisfaction: Is Good Not Enough? *Journal of Public and Nonprofit Affairs*, 5(1), 21–38. <https://doi.org/10.20899/jpna.5.1.21-38>
- Denhardt, J. V., & Denhardt, R. B. (2007). *The new public service: serving, not steering*. M.E. Sharpe, Inc.
- Denhardt, Janet V., & Denhardt, R. B. (2015). The New Public Service Revisited. *Public Administration Review*, 75(5), 664–672. <https://doi.org/10.1111/puar.12347>
- Frinaldi, A., & Embi, M. A. (2015). Influence of Public Service Quality in Citizen Satisfaction (Study in Private Hospital Y in Padang, West Sumatra Province). *Journal of Government and Politics*, 6(1), 102–114. <https://doi.org/10.18196/jgp.2015.0008>
- Goldfinch, S., Gauld, R., & Herbison, P. (2009). The Participation Divide? Political Participation, Trust in Government, and E-government in Australia and New Zealand. *Australian Journal of Public Administration*, 68, 10.1111/j.1467-8500.2009.00643.x.
- González-Gallego, N., Nieto-Torrejón, L., & Pérez-Cárceles, M. C. (2020). Is Open Data an Enabler for Trust? Exploring the Link and the Mediating Role of Citizen Satisfaction. *International Journal of Public Administration*, 43(14), 1218–1227. <https://doi.org/10.1080/01900692.2019.1668412>
- Gracia, D. B., & Ariño, L. C. (2015). Rebuilding Public Trust in Government Administrations Through E-government Actions. *Revista Española de Investigación de Market ESIC*, 19(1), 1–11. <https://doi.org/10.1016/j.reimke.2014.07.001>
- Grimmelikhuijsen, S., Porumbescu, G., Hong, B., & Im, T. (2013). The Effect of Transparency on Trust in Government: A Cross-National Comparative Experiment. *Public Administration Review*, 73(4), 575–586. <https://doi.org/10.1111/puar.12047>
- Grimmelikhuijsen, Stephan, & Knies, E. (2017). Validating a scale for citizen trust in government organizations. *International Review of Administrative Sciences*, 83(3), 583–601. <https://doi.org/10.1177/0020852315585950>
- Grimmelikhuijsen, Stephan, & Porumbescu, G. A. (2017). Reconsidering the expectancy disconfirmation model. Three experimental replications. *Public Management Review*, 19(9), 1272–1292. <https://doi.org/10.1080/14719037.2017.1282000>
- Hardill, I., & O’Sullivan, R. (2018). E-government: Accessing Public Services Online: Implications for Citizenship. *Local Economy*, 33(1), 3–9. <https://doi.org/10.1177/0269094217753090>
- He, A. J., & Ma, L. (2021). Citizen Participation, Perceived Public Service Performance, and Trust in Government: Evidence from Health Policy Reforms in Hong Kong. *Public Performance and Management Review*, 44(3), 471–493. <https://doi.org/10.1080/15309576.2020.1780138>
- Kim, S., & Lee, J. (2012). E-participation, Transparency, and Trust in Local Government. *Public Administration Review*, 72(6), 819–828. <https://doi.org/10.1111/j.1540-6210.2012.02593.x>
- Kolsaker, A., & Lee-Kelley, L. (2008). Citizens’ attitudes towards e-government and e-governance: a UK study. *International Journal of Public Sector Management*, 21(7), 723–738. <https://doi.org/10.1108/09513550810904532>
- Lanin, D., & Hermanto, N. (2019). The effect of service quality toward public satisfaction and public trust

on local government in Indonesia. *International Journal of Social Economics*, 46(3), 377–392. <https://doi.org/10.1108/IJSE-04-2017-0151>

López-López, V., Iglesias-Antelo, S., Vázquez-Sanmartín, A., Connolly, R., & Bannister, F. (2018). e-Government, Transparency & Reputation: An Empirical Study of Spanish Local Government. *Information Systems Management*, 35(4), 276–293. <https://doi.org/10.1080/10580530.2018.1503792>

Magoutas, B., & Mentzas, G. (2010). SALT: A semantic adaptive framework for monitoring citizen satisfaction from e-government services. *Expert Systems with Applications*, 37(6), 4292–4300. <https://doi.org/10.1016/j.eswa.2009.11.071>

Mahmood, M., Weerakkody, V., & Chen, W. (2019). The influence of transformed government on citizen trust: insights from Bahrain. *Information Technology for Development*, 25(2), 275–303. <https://doi.org/10.1080/02681102.2018.1451980>

Morgeson, F. V., Vanamburg, D., & Mithas, S. (2011). Misplaced trust? Exploring the structure of the e-government-citizen trust relationship. *Journal of Public Administration Research and Theory*, 21(2), 257–283. <https://doi.org/10.1093/jopart/muq006>

Papadomichelaki, X., & Mentzas, G. (2009). A multiple-item scale for assessing e-government service quality. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 5693 LNCS, 163–175. https://doi.org/10.1007/978-3-642-03516-6_14

Papadomichelaki, X., & Mentzas, G. (2012). E-GovQual: A multiple-item scale for assessing e-government service quality. *Government Information Quarterly*, 29(1), 98–109. <https://doi.org/10.1016/j.giq.2011.08.011>

Porumbescu, G. A. (2016a). Comparing the Effects of E-Government and Social Media Use on Trust in Government: Evidence from Seoul, South Korea. *Public Management Review*, 18(9), 1308–1334. <https://doi.org/10.1080/14719037.2015.1100751>

Porumbescu, G. A. (2016b). Placing the Effect? Gleaning Insights into the Relationship between Citizens' Use of E-Government and Trust in Government. *Public Management Review*, 18(10), 1504–1535. <https://doi.org/10.1080/14719037.2015.1122827>

Romero-Subia, J. F., Jimber-del Rio, J. A., Ochoa-Rico, M. S., & Vergara-Romero, A. (2022). Analysis of Citizen Satisfaction in Municipal Services. *Economies*, 10(9), 1–24. <https://doi.org/10.3390/economies10090225>

Sachan, A., Kumar, R., & Kumar, R. (2018). Examining the impact of e-government service process on user satisfaction. *Journal of Global Operations and Strategic Sourcing*, 11(3), 321–336. <https://doi.org/10.1108/JGOSS-11-2017-0048>

Salim, M., Peng, X. B., Almakhtary, S. Q., & Karmoshi, S. (2017). The Impact of Citizen Satisfaction with Government Performance on Public Trust in the Government: Empirical Evidence from Urban Yemen. *Open Journal of Business and Management*, 5, 348–365. <https://doi.org/10.4236/ojbm.2017.52030>

Van de Walle, S., & Bouckaert, G. (2003). Public service performance and trust in government: The problem of causality. *International Journal of Public Administration*, 26(8–9), 891–913. <https://doi.org/10.1081/PAD-120019352>

Van Ryzin, G. (2007). Pieces of a Puzzle: Linking Government Performance, Citizen Satisfaction, and Trust. *Public Performance & Management Review*, 30(4), 521–535. <https://doi.org/10.2753/pmr1530->

9576300403

Wu, W.-N. (2021). Does Citizens' 311 System Use Improve Satisfaction with Public Service Encounters?—Lessons for Citizen Relationship Management. *International Journal of Public Administration*, 44(8), 665–673. <https://doi.org/10.1080/01900692.2020.1744644>

Yang, Y. (2018). Is Transparency A Double-Edged Sword in Citizen Satisfaction with Public Service? Evidence from China's Public Healthcare. *Journal of Service Theory and Practice*, 28(4), 484–506. <https://doi.org/10.1108/JSTP-06-2017-0102>

Yildiz, M., & Saylam, A. (2013). E-government Discourses: An Inductive Analysis. *Government Information Quarterly*, 30(2), 141–153. <https://doi.org/10.1016/j.giq.2012.10.007>