

The Role of Trust in Mediating The Effect of Service Innovation on Satisfaction at The Medan City Population and Civil Registration Office

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Abstract

The development of information and communication technology has driven significant transformation in the delivery of public services, including at the Medan City Population and Civil Registration Office. This study aims to analyze the effect of service innovation on public satisfaction with trust as an intervening variable. A quantitative approach was used with a survey method involving 98 respondents who were users of the Population and Civil Registration Office services, both in person and online. Data analysis was conducted using Partial Least Squares (PLS) through the SmartPLS 4.0 software. The results show that service innovation has a positive but insignificant effect on public satisfaction ($t = 1.394$; $p = 0.164$), a positive and significant effect on trust ($t = 7.290$; $p = 0.000$), and trust has a positive and significant effect on public satisfaction ($t = 3.965$; $p = 0.000$). In addition, service innovation had a positive and significant effect on satisfaction through trust as an intervening variable ($t = 3.220$; $p = 0.001$). The construct reliability value was above 0.70, and all indicators met the convergent validity criteria with a factor loading value ≥ 0.60 . These findings indicate that increasing public trust is a key factor in strengthening the influence of service innovation on public satisfaction. Thus, the strategy for developing digital-based public services at the Medan City Disdukcapil needs to focus not only on technological innovation but also on building public trust through transparency, data security, and consistency of service.

Keywords: Service Innovation, Trust, Public Satisfaction.

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2nd International Conference on Islamic Community Studies (ICICS)

Theme: History of Malay Civilisation and Islamic Human Capacity and Halal Hub in the Globalization Era

<https://proceeding.pancabudi.ac.id/index.php/ICIE/index>

Introduction

The development of information and communication technology today has driven significant transformation in the delivery of public services, particularly in local government. One of the agencies directly affected by this change is the Population and Civil Registration Office (Disdukcapil), which has a strategic responsibility to provide responsive, efficient, and community-oriented population administration services. As public expectations regarding service quality increase, the use of social media as a means of two-way interaction and the implementation of service innovation have become crucial steps in building public trust and increasing public satisfaction with bureaucratic performance.

Social media has become a communication channel that is not only fast and cost-effective but also capable of reaching a wide audience. According to Lăzăroiu (2020), social media is a group of internet-based applications built on the ideology and technology of Web 2.0 that enables the creation and exchange of user-generated content. The Medan City Disdukcapil has used platforms such as Instagram, Facebook, YouTube, and WhatsApp to convey service information, respond to public inquiries, and receive complaints directly.

On the other hand, public service innovations such as the new generation klampid, online document management, and application-based services also provide convenience and efficiency in the service process. Kohli (2019) defines innovation as the application of new ideas, programs, or processes in an organization with the aim of improving operational effectiveness and service quality. These innovations are expected to reduce physical queues, speed up service processes, and increase transparency and accountability.

However, the success of social media and service innovations in improving public satisfaction is highly dependent on the level of public trust in service providers. Liu (2019) states that trust is an individual's willingness to accept risk based on positive expectations of the actions of others. Public trust can be built if services are considered consistent, safe, and open to scrutiny.

When services are considered satisfactory, the public will feel the benefits that meet their expectations. Mesra et al. (2024) explain that satisfaction is a feeling of pleasure or disappointment that a person experiences after comparing their perception of the performance of a product or service with their expectations. Therefore, public satisfaction is not only determined by the quality of service alone, but also by the perception of trust in the agency providing the service.

However, in practice, various problems are still found, such as discrepancies between information on social media and the reality on the ground, slow responses to complaints, and a lack of public understanding of the digital innovations being used. This indicates that social media and service innovations are not yet fully effective without an increase in public trust as a bridge to service satisfaction. Based on this description, this research is important to analyze the influence of social media and service innovations on public satisfaction, with trust as an intervening variable, at the Population and Civil Registration Office of Medan City.

Literature Review

2.1 Service Innovation

Service innovation is an effort to renew public service organizations or agencies in order to improve the effectiveness, efficiency, and convenience of services for the community. In the digital age, service innovation is an absolute necessity to respond to the demands of a community that wants faster, easier, and technologically integrated service processes. According to Kohli (2019), service innovation is the adoption of new ideas, systems, or practices within an organization, with the aim of improving the quality of service processes and outcomes. Yuen (2020) adds that service innovation plays a role in shaping the public's perception of service quality. Innovation creates added value and becomes a competitive

differentiator between service providers, especially in the public sector where service standards are similar.

2.2 Service Innovation Indicators

According to Yuen (2020), service indicators are as follows:

1) Process Digitization

Refers to the use of digital technology to replace manual processes, such as filling out online forms or uploading documents electronically.

2) Service Speed

Describes the time required to complete a service, from submission to receipt of documents, with the goal of faster service.

3) Accessibility

Indicates the ease with which the public can access services anytime and anywhere, without having to come directly to the office.

4) Electronic Queuing System

Refers to the implementation of a digital ordering or queue numbering system to reduce waiting times and physical crowding.

5) Ease of Use

Describes the extent to which the available service system is easy to understand and use by the general public, including those who are not familiar with technology.

2.3 Trust

Trust is the belief of the public in the integrity, competence, and good intentions of agencies or service providers in meeting promised expectations. In public services, trust is the main foundation for creating a healthy relationship between the public and the government. Without trust, even innovation or service quality will be difficult to have a maximum impact on user satisfaction. According to Azadi (2019), trust is a person's willingness to accept risk based on positive expectations of the actions or behavior of others who are considered reliable. In this context, the public is willing to use public services because they believe that agencies will carry out their functions fairly, transparently, and professionally. Earnshaw (2020) also emphasizes that trust is the main foundation for building long-term relationships between institutions and service users.

2.4 Trust Indicators

According to Zhang (2019), trust has the following indicators:

1) Information Security

The public's belief that their personal data is managed and stored securely by agencies without the risk of leakage or misuse.

2) Process Transparency

Openness in service procedures, including clear information about the requirements, time, and costs involved.

3) System Reliability

The level of stability and consistency of digital systems or service applications in operating without significant disruption.

4) Institutional Integrity

The image and reputation of the institution as an honest, responsible service provider, free from manipulative practices.

5) Service Consistency

Consistent quality of service received by the public over time, without discrimination or inconsistent treatment.

2.5 Satisfaction

Public satisfaction is the result of comparing public expectations before receiving a service with their perception of the actual quality of service received (Desy, et al., 2020). In public services, satisfaction not only reflects the technical success of service delivery, but also

reflects the emotional experience and perceived value felt by users. According to (Mesra, et al. 2024), satisfaction is a feeling of pleasure or disappointment that arises after comparing the performance of a product or service with one's expectations. This means that if the service received exceeds expectations, the public will feel satisfied; conversely, if it does not meet expectations, dissatisfaction will arise. Isautier (2020) explains that satisfaction is a short-term emotional reaction that arises after interaction with a service. This reaction is greatly influenced by the public's initial expectations and how they actually experience the service process.

2.6 Satisfaction Indicators

According to Isautier (2020), satisfaction indicators are:

1) Expectation Matching

The degree of compatibility between the services received by the community and their initial expectations regarding the quality, procedures, and results of the services.

2) Process Convenience

The ease and comfort felt by the public during the service process, including the atmosphere, queuing system, and treatment by staff.

3) Clarity of Information

The extent to which the service information provided is clear, easy to understand, and not confusing for the community.

4) Responsiveness

The speed and accuracy of agencies in responding to questions, complaints, or needs of the public during the service process.

5) Service Efficiency

Optimal use of time and resources in service delivery, without complicated or unnecessary processes.

2.7 Conceptual Framework

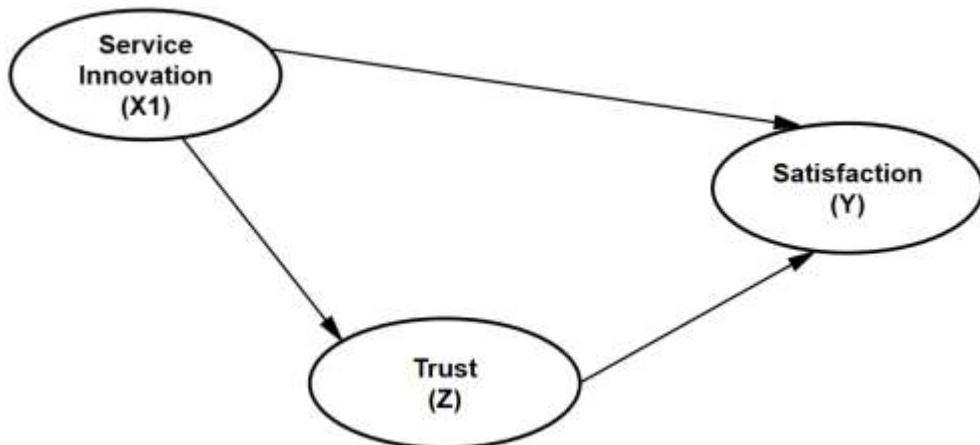


Figure 1. Conceptual Framework

2.8 Research Hypothesis

H₁ : Service innovation has a positive and significant effect on public satisfaction with the Medan City Population and Civil Registration Office.

H₂: Service innovation has a positive and significant effect on trust in the Population and Civil Registration Office of Medan City.

H₃: Trust has a positive and significant effect on service satisfaction at the Medan City Population and Civil Registration Office.

H₄ : Service innovation has a positive and significant effect on service satisfaction through trust in the Population and Civil Registration Office of Medan City.

Research Method

3.1 Type of Research

The type of research used by the researcher is quantitative research. This type of quantitative research is conducted to create a study aimed at adjusting a study and analyzing the impact of social media and service innovation on satisfaction with trust as an intervening variable at the Population and Civil Registration Office of Medan City.

3.2 Research Location and Time

This research was conducted at the Population and Civil Registration Office (Disdukcapil) of Medan City, Jalan Iskandar Muda No.270, Petisah Tengah, Kec. Medan Petisah, Medan City, North Sumatra, 20151, which is a local government agency responsible for population administration services, such as the processing of Identity Cards (KTP), Family Cards (KK), birth certificates, and other population documents.

3.3 Population and Sample

The population in this study is the entire community of Medan City who have used the services of the Medan City Population and Civil Registration Office (Disdukcapil), either directly at the service office or online through social media and digital services provided. This population includes service users who access various forms of population administration such as e-KTP recording, Family Card creation, birth certificates, and other population services. The number of users of the Medan City Disdukcapil services is 200 people per working day. With 22 effective working days in a month, the population of service users in a month is $200 \times 22 = 4,400$ people. Therefore, the population in this study is 4,400 people. Sampling was carried out using the Slovin formula, resulting in a sample size of 98 respondents.

3.4 Research Data Sources

The data source used in this study is primary data, which is data collected directly from respondents through the distribution of questionnaires. Primary data is original because it is obtained directly from the first source (the community of users of the Medan City Disdukcapil services).

Results And Discussion

4.1 Outer Model Analysis

Outer Model Analysis using the *PLS Algorithm* produced the following results:

1) Validity Test

Table 1. Outer Loadings Values

	Satisfaction	Service Innovation	Trust
X2.1		0.601	
X2.2		0.741	
X2.3		0.833	
X2.4		0.778	
Y.1	0.822		
Y.2	0.822		
Y.3	0.818		
Z.1			0.759
Z.2			0.801
Z.3			0.838

Source: Smart PLS Output, 2025

Based on the values in Table 1 above, which show the results of outer model testing through loading factor/outer loadings values, all indicators in each variable

have a loading value ≥ 0.60 . This indicates that each indicator is able to represent the construct being measured in a valid and robust manner. Therefore, it can be concluded that all items in the questionnaire have met the convergent validity criteria and can be used in further analysis. For further clarification, the above values can also be seen in the following figure.

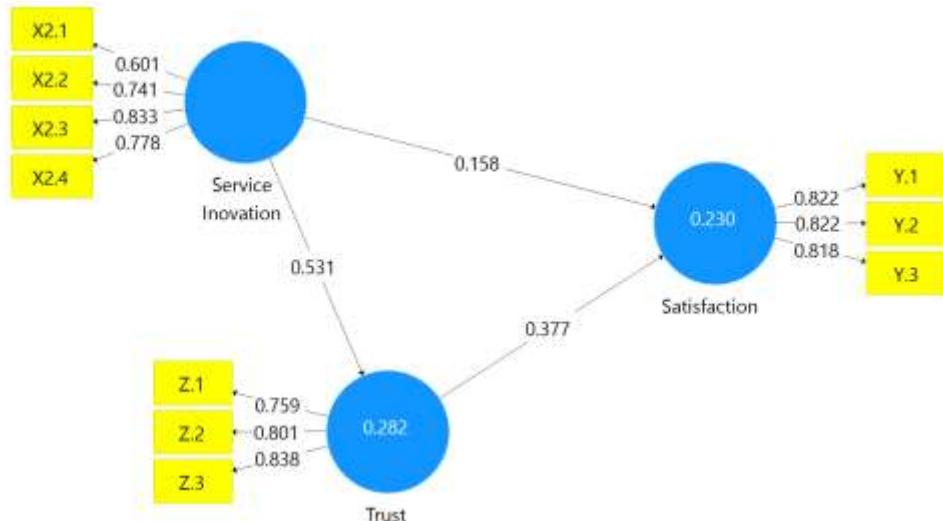


Figure 1. Conceptual Framework

2) Reliability Test

Table 2. Construct Reliability and Validity Test

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Service Innovation	0.733	0.762	0.829	0.552
Trust	0.723	0.743	0.842	0.640
Satisfaction	0.759	0.762	0.861	0.674

Source: Smart PLS Output, 2025

From Table 2 above, the reliability test results show that the Cronbach's Alpha and Composite Reliability values for all constructs are above 0.70. This indicates that all indicators have high internal consistency and are reliable in measuring their respective constructs. Thus, the research instrument is declared reliable and suitable for use in structural model testing.

3) Coefficient of Determination (R^2)

In assessing the model with PLS, we begin by looking at the R-square for each dependent latent variable. The table below shows the results of the R-square estimation using SmartPLS.

Table 3. R Square Results

	R Square	Adjusted R Square
Trust	0.282	0.276
Satisfaction	0.230	0.215

Source: Smart PLS, 2025

Table 3 shows the R-square values for both dependent variables. For the trust variable, the R-square value is 0.705, meaning that the influence of service

innovation is 0.282 or 28.2%, with the remainder attributable to other variables outside the model. The R-square value for satisfaction is 0.889, meaning that service innovation and trust account for 0.230 or 23%, with the remainder attributable to other variables outside the model.

4.2 Structural Model Testing (Inner Model)

Inner model or structural model testing was conducted to examine the relationship between constructs, significance values, and R-square of the research model. The structural model was evaluated using R-square for dependent constructs.

4.2.1 Hypothesis Testing

a) Direct Influence Between Variables

The direct effect between variables can be seen in the *path coefficients*. The data processing results show the direct effect values in the following table.

Table 4. *Path Coefficients* (Direct Effects)

	Original Sample	T Statistics	P Values	Conclusion
Service Innovation -> Satisfaction	0.158	1.394	0.164	Rejected
Service Innovation -> Trust	0.531	7,290	0.000	Accepted
Trust -> Satisfaction	0.377	3,965	0.000	Accepted

Source: Smart PLS Output, 2025

The results in Table 4 show the following direct effect values:

1. Service innovation has a positive but insignificant effect on satisfaction with a t-statistic value of 1.394 below 1.96 and a significance of 0.164 above 0.05, meaning that service innovation has a positive but insignificant effect on satisfaction because the significance value is above 0.05. The results of this study contradict previous research, which found that service innovation has a positive and significant effect on customer satisfaction with Garuda Indonesia at Yogyakarta International Airport (Nataya & Yudianto, 2022).
2. Service innovation has a positive and significant effect on trust with a t-statistic value of 7.290 above 1.96 and a significance of 0.000 below 0.05, meaning that service innovation has a positive and significant effect on trust because the significance value is below 0.05. The results of this study are also consistent with the research conducted by Muzaki et al (2021), which states that service innovation has a positive and significant effect on public trust.
3. Trust has a positive and significant effect on satisfaction with a t-statistic value of 3.965 above 1.96 and a significance of 0.000 below 0.05, meaning that trust has a positive and significant effect on satisfaction because the significance value is below 0.05. The results of this study are in line with previous studies, namely that trust has a positive and significant effect on satisfaction with a t-statistic value of 3.663 above 1.96 and a significance of 0.000 below 0.05, meaning that trust has a positive and significant effect on satisfaction because the significance value is below 0.05. Kasinem's (2021) research also states that trust has a positive and significant effect on customer satisfaction.

b) Indirect Influence Between Variables

The indirect effect between variables can be seen in the *specific indirect effects* value. The data processing results show that the indirect effect value can be seen in Table 5 below.

Table 5. *Specific Indirect Effects*

	Original Sample	T Statistics	P Values	Conclusion
Service Innovation -> Trust -> Satisfaction	0.200	3.220	0.001	Accepted

Source: Smart PLS, 2025

Table 5 shows the indirect effect between variables, namely service innovation has a positive and significant effect on satisfaction through trust with a t-statistic value of 3.220 and a significance value of 0.001, meaning that trust acts as an intervening variable between service innovation and satisfaction.

Conclusion

1. Service innovation has a positive but insignificant effect on public satisfaction at the Population and Civil Registration Office of Medan City.
2. Service innovation has a positive and significant effect on trust in the Medan City Population and Civil Registration Office.
3. Trust has a positive and significant effect on service satisfaction at the Medan City Population and Civil Registration Office.
4. Service innovation has a positive and significant effect on service satisfaction through trust in the Medan City Population and Civil Registration Office.

Recommendations

1. Service innovation with the statement "Our services offer a different value concept compared to competitors." Agencies should maintain systematic work design practices and continue to evaluate and improve so that work remains relevant, efficient, and supports optimal employee performance.
2. Public trust with the statement "I work with high intensity and enthusiasm every day." The Population and Civil Registration Office needs to implement real-time status tracking + automatic WhatsApp notifications for each stage (file received → verified → printed → ready for pickup) complete with an estimated completion time. This is a unique value proposition because residents do not need to guess the progress and can plan their arrival.
3. Public satisfaction with the statement "My expectations were met after using the Population and Civil Registration Office's services." The Population and Civil Registration Office should implement and announce a clear Service Level Agreement (e.g., ID cards ready in ≤ 2 working days) and display a progress countdown on official channels—if the SLA is exceeded, provide priority service compensation. This aligns expectations from the outset and enhances the sense of "promises kept."

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