

Implementation of Information and Communication System-Based Public Services in the Context of Increasing Satisfaction of Licensing Service Users at the Surabaya City Investment and One-Stop Integrated Services Office

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ABSTRACT

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This study aims to evaluate the implementation of public service delivery based on information and communication technology through the Online Single Submission (OSS) system at the Investment and One-Stop Integrated Services Office (DPMPTSP) in Surabaya. Using a descriptive quantitative approach and the SERVQUAL framework, the research involved 120 respondents representing users of licensing services. Data were collected through a structured questionnaire and analyzed using descriptive statistics. The findings indicate that the overall quality of OSS-based services is perceived as very good, with reliability emerging as the strongest dimension, particularly in the absence of illegal levies and unofficial intermediaries. Conversely, the assurance dimension received the lowest score, indicating the need for better alignment between service delivery and user expectations. The study concludes that while digital systems improve transparency and procedural integrity, service effectiveness must also be supported by responsive systems, clear communication, and improved technical support. The results provide practical insights for optimizing digital public services and enhancing citizen satisfaction in the context of e-government.

INTRODUCTION

In the current era of bureaucratic reform and digital transformation, public service quality has become a critical indicator of governmental performance, particularly at the local level. Citizens increasingly demand public services that are not only efficient and accessible but also transparent and accountable (Gronroos, 2016). Among the various types of public services, licensing services hold a strategic role due to their frequent interactions with both the public and the business sector. In response to the increasing demand for improved service quality, governments have adopted information and communication technology (ICT)-based systems to streamline procedures and improve service delivery.

The Surabaya City Government, through the Investment and One-Stop Integrated Services Agency

(Dinas Penanaman Modal dan Pelayanan Terpadu Satu Pintu, or DPMPTSP), has implemented two major digital platforms: Surabaya Single Window Alfa (SSW Alfa) and the nationally mandated Online Single Submission (OSS) system. These platforms aim to enhance public satisfaction by reducing bureaucracy, increasing transparency, and accelerating licensing processes (Eprilianto et al., 2020; Haerana & Riskasari, 2022). Despite these efforts, the effectiveness of digital systems in improving user satisfaction remains a subject of concern and scholarly inquiry.

A significant issue observed is the consecutive decline in the Public Satisfaction Index (Indeks Kepuasan Masyarakat, or IKM) recorded by DPMPTSP from September to November 2024. Although the scores remained within the "excellent" category, the downward trend suggests that certain

elements of the service may not fully meet users' expectations. This gap highlights the need for a critical assessment of the quality dimensions embedded in digital service implementation. It is essential to determine whether the ICT-based systems, particularly OSS, have successfully addressed user needs or whether there are lingering deficiencies in their execution.

To address this concern, this study adopts the Service Quality (SERVQUAL) model developed by Parasuraman, Zeithaml, and Berry (1988). The SERVQUAL framework is widely used to measure service quality by evaluating the gap between customer expectations and perceptions across five dimensions: tangibles (physical facilities and communication materials), reliability (accuracy and dependability of service delivery), responsiveness (willingness to assist users promptly), assurance (courtesy and competence of service staff), and empathy (individualized attention and fairness). This model is particularly relevant in public service research as it emphasizes citizen-centered evaluation and continuous service improvement (Kotler & Keller, 2016).

Through the SERVQUAL lens, this study examines how each dimension is perceived by users of OSS in DPMPTSP Surabaya and how these perceptions influence overall satisfaction. The findings are expected to provide both theoretical insights and practical recommendations for optimizing digital service delivery. Ultimately, this research contributes to the development of responsive, efficient, and inclusive governance aligned with the principles of good public service and digital government innovation (Styareni & Fanida, 2021).

LITERATURE REVIEW

Service Quality

Service quality is a crucial concept in evaluating the effectiveness of public service delivery. Parasuraman, Zeithaml, and Berry (1988) define service quality as the gap between customer expectations and their perceptions of the actual services received. The SERVQUAL model, developed by the same authors, identifies five key dimensions to assess service quality: tangibles (physical facilities and appearance), reliability (ability to perform promised services accurately), responsiveness (willingness to help customers and provide prompt service), assurance (knowledge and courtesy of staff and their ability to inspire trust), and empathy (individualized attention and care). This model

remains a standard reference in public service quality research.

Numerous empirical studies have demonstrated the relevance of SERVQUAL in public service contexts, including digital governance. For instance, Al-Ababneh (2021) highlights the importance of tangibles in forming favorable first impressions and improving perceived service credibility. Setiawan and Sayuti (2020) emphasize that reliability contributes significantly to building public trust in licensing services. Meanwhile, responsiveness has been shown to enhance user satisfaction, as institutions that respond swiftly to user needs are perceived as more service-oriented (Sihombing & Pratama, 2022). Given these insights, the SERVQUAL framework is an appropriate analytical tool for evaluating digital service platforms such as OSS (Online Single Submission) used by Surabaya's Investment and One-Stop Integrated Services Agency (DPMPTSP)

Public Satisfaction Index

The Public Satisfaction Index (Indeks Kepuasan Masyarakat or IKM) is an official instrument used by government agencies in Indonesia to measure the quality of public services based on user perceptions. IKM is derived from survey responses, which assess several service attributes, including procedures, processing time, fees, staff competence, and infrastructure. In the context of licensing services, IKM plays a vital role in gauging citizens' experiences with digital service systems such as OSS and SSW Alfa. At DPMPTSP Surabaya, the IKM is routinely evaluated and functions not only as a performance indicator but also as a reference for service improvement strategies.

Although DPMPTSP's IKM scores remained in the "excellent" category from September to November 2024, the declining trend suggests a possible gap between service expectations and outcomes. This raises concerns regarding adherence to the principles of public service delivery as outlined in Ministerial Decree No. 63/KEP/M.PAN/7/2003, which mandates that public services be governed by transparency, accountability, participation, equality, and fairness. These principles align closely with the SERVQUAL dimensions and are reflected in the national IKM indicators. Prior research by Setiawan and Sayuti (2020) confirmed that these dimensions significantly influence satisfaction in licensing services. Similarly,

Sihombing and Pratama (2022) demonstrated that responsiveness and empathy are essential for ensuring citizen-centered service experiences, particularly in digital environments. When integrated effectively, both IKM and SERVQUAL offer a holistic approach to measuring and enhancing public service quality.

METHOD

This study adopts a descriptive quantitative approach, as defined by Sugiyono (2012), which is aimed at describing systematically, factually, and accurately the characteristics of a particular population or phenomenon. The research was conducted at the Investment and One-Stop Integrated Services Office (DPMPTSP) of Surabaya City, focusing specifically on the implementation of public service systems based on information and communication technology, particularly the Online Single Submission (OSS) platform. The data collection was carried out over the period of January to February 2025.

The target population consists of all service users of OSS at DPMPTSP Surabaya, including individuals from the general public, business actors, and institutional representatives. A total of 120 respondents were selected through random sampling to ensure that each member of the population had an equal chance of being chosen, thereby reducing selection bias and increasing the representativeness of the sample.

The main data collection instrument is a questionnaire, designed using a differential scale ranging from 1 to 4. This scale enables respondents to express their level of agreement with various service quality indicators based on the SERVQUAL dimensions: tangibles, reliability, responsiveness, assurance, and empathy. Each dimension is operationalized into several items (15 in total), which evaluate aspects such as service facilities, responsiveness of staff, procedural clarity, and fairness in service delivery.

To ensure the reliability and validity of the instrument, the questionnaire items were constructed based on established indicators of service quality in the public sector, as defined by Parasuraman et al. (1988) and aligned with the performance indicators outlined in Ministerial Decree No. 63/KEP/M.PAN/7/2003. Prior to formal data collection, a pilot test was conducted on a small group

of respondents to refine question clarity and measurement accuracy.

The data were analyzed using descriptive statistical techniques, which included the calculation of means, percentages, and index scores for each service quality dimension. These metrics were then interpreted to assess the level of public satisfaction with the OSS-based licensing services. Additionally, the Public Satisfaction Index (IKM) was used as a reference framework to evaluate how the respondents' perceptions align with national service standards.

This quantitative method provides a clear picture of the effectiveness of ICT-based public services at DPMPTSP Surabaya and allows for identification of specific areas needing improvement in order to enhance citizen satisfaction and service performance.

RESULT

This study aimed to assess the implementation of public service delivery based on information and communication technology in the licensing sector at DPMPTSP Surabaya, using the SERVQUAL framework. The findings are presented in the following subsections:

Respondent Characteristics

No	Respondent Characteristics	Indicator	Freq	%
1.	Gender	Male	67	55,83%
		Female	53	44,17%
2.	Age	18 - 25 years old	23	19,17%
		26 - 35 years old	33	27,50%
		36 - 45 years old	32	26,67%
		46 - 55 years old	24	20%
		> 55 years old	8	6,67%
3.	Service User Status	Businessman	20	16,67%
		Individual/ General Public	68	56,67%
		Institutions/ Organizations	25	20,83%
		Other:	7	5,83%

A total of 120 respondents participated in the survey, representing users of OSS licensing services. The gender distribution was relatively balanced, with 67 male respondents (55.83%) and 53 female respondents (44.17%). In terms of age, the majority fell within the productive age range: 27.5% were aged 26–35, followed by 26.67% aged 36–45, and 20% aged 46–55. Regarding service user categories,

56.67% were individual users, 20.83% were from institutions, and 16.67% were business owners, showing a diverse profile of OSS system users in Surabaya.location, with aspirations to expand in the future.

Mean Scores for Each Service Quality Dimension

Dimension	Statment	Response Scores				Mean	Mean Dimen sion
		1	2	3	4		
Tangible	X1.1	1	2	25	92	3,733	3,56
	X1.2	8	3	56	53	3,4	
Reliability	X2.1	0	2	79	39	3,308	3,79
	X2.2	0	2	67	51	3,408	
	X2.3	0	0	0	120	4	
	X2.4	0	0	0	120	4	
	X2.5	0	0	0	120	4	
	X2.6	0	0	0	120	4	
Responsi-veness	X3.1	2	5	61	52	3,358	3,39
	X3.2	17	0	2	101	3,558	
	X3.3	2	6	71	41	3,258	
Insurance	X4.1	0	5	67	48	3,358	3,38
	X4.2	0	2	68	50	3,4	
Empathy	X5.1	0	1	58	61	3,5	3,74
	X5.2	0	0	2	118	3,983	

Based on the analysis of survey responses, the average scores for each of the five SERVQUAL dimensions were as follows:

- Reliability: 3.79
- Empathy: 3.74
- Tangibles: 3.56
- Responsiveness: 3.39
- Assurance: 3.38

These results indicate that users generally perceive the quality of licensing services as very good, with all mean scores exceeding 3.30 on a 1–4 differential scale.

Interpretation of Each Dimension

Reliability scored the highest, with perfect scores (4.00) on items related to the absence of illegal levies, bribery, and intermediaries (e.g., “Are there any unofficial brokers or illegal fees?”). This suggests that

users trust the integrity and procedural consistency of the OSS system.

Empathy followed closely, with users acknowledging courteous and respectful behavior from staff (mean = 3.50) and nearly all respondents indicating the absence of discrimination in service provision (mean = 3.98).

Tangibles received positive ratings, particularly in terms of low or no-cost services (mean = 3.73). However, the quality of infrastructure (e.g., facilities and equipment) scored slightly lower (mean = 3.40), indicating room for improvement in physical service environments.

Responsiveness showed mixed perceptions. While complaint management was rated well (mean = 3.56), the timeliness of service delivery scored the lowest within this dimension (mean = 3.25), reflecting concerns about service speed.

Assurance received the lowest overall dimension score (mean = 3.38), with users rating the competence of staff as generally good (mean = 3.40), but noting a slight gap in staff’s alignment with users' expectations (mean = 3.36).

Overall, the highest-scoring item across all dimensions was the absence of illegal practices, such as bribery and unauthorized brokers, in the reliability dimension (mean = 4.00). This reflects a high level of transparency and procedural fairness in the licensing service.

Conversely, the lowest-scoring item was found in the responsiveness dimension, specifically regarding the speed of service delivery, which received a mean score of 3.25. This indicates that while the digital system has improved administrative integrity, users still expect more timely processing.

These findings suggest that the implementation of ICT-based services has significantly enhanced procedural transparency and public trust, but further improvements are needed in service efficiency and technical responsiveness to fully meet user expectations.

DISCUSSION

Tangibles

The tangibles dimension refers to the physical facilities, infrastructure, service tools, and the appearance of service personnel. In this study, the average score for tangibles was 3.56, indicating that

respondents generally perceive the physical quality of services at DPMPTSP Surabaya as good. A notable strength lies in the affordability of services, with many being offered free of charge or at low cost (mean = 3.73), reflecting efficiency in public service provision. However, the lower score for physical infrastructure (mean = 3.40) suggests that certain aspects—such as waiting areas, signage, or equipment for in-person assistance—still require improvement. This finding aligns with the tangibles dimension of the SERVQUAL model (Parasuraman et al., 1988), which emphasizes the importance of physical evidence in shaping customer expectations. It is also supported by Al-Ababneh (2021), who argues that well-maintained physical facilities and professional staff appearance contribute to positive first impressions and enhance public trust in government services.

Reliability

The reliability dimension recorded the highest average score (3.79), with several items receiving perfect scores (4.00). These include indicators related to the absence of unauthorized levies, corruption, and intermediaries, demonstrating strong procedural integrity in the OSS-based licensing system. This outcome underscores the system's ability to provide consistent and dependable services, which is central to the reliability dimension of SERVQUAL. Reliability, as emphasized by Parasuraman et al. (1988), concerns the organization's ability to deliver on its service promises accurately and dependably. This finding is in line with Setiawan and Sayuti (2020), who highlight that reliable service delivery significantly strengthens public confidence and satisfaction in public institutions, making it a fundamental benchmark of trustworthy governance.

Responsiveness

The responsiveness dimension yielded an average score of 3.39, reflecting a more variable perception among respondents. While the complaint handling process was positively evaluated (mean = 3.56), the timeliness of service delivery received the lowest score across all items (mean = 3.25). This suggests a disconnect between user expectations and the actual speed of digital service processing. Delays may stem from inefficiencies in the system's back-end infrastructure or insufficient coordination between service units. According to the SERVQUAL model,

responsiveness refers to the willingness and readiness of staff to provide prompt service. Sihombing and Pratama (2022) further affirm that in the digital era, responsiveness is not merely a function of staff behavior but also of the technological systems' capacity to support real-time service. Hence, improvements in digital infrastructure and service coordination are crucial to enhancing responsiveness.

Assurance

Assurance, with the lowest average score of 3.38, reflects user perceptions regarding the competence, courtesy, and credibility of service personnel. Although staff were generally viewed as competent (mean = 3.40), a slight gap remains in their ability to fully instill user confidence, likely due to inconsistencies in communication or lack of personalized service. This dimension, as outlined by Parasuraman et al. (1988), is particularly vital in contexts where users rely heavily on the knowledge and professionalism of public servants. Hasan and Abdullah (2019) emphasize that building assurance requires not only individual staff competence but also systemic transparency and communication effectiveness. Therefore, addressing this gap necessitates ongoing training in interpersonal communication and standardized information dissemination.

Empathy

The empathy dimension received an average score of 3.74, making it the second-highest rated dimension. Respondents positively evaluated staff behavior, particularly in terms of fairness and non-discrimination (mean = 3.98), reflecting the institution's commitment to inclusive and equitable service. According to SERVQUAL, empathy represents the ability to provide individualized attention and understand specific user needs. These findings indicate that DPMPTSP personnel exhibit a high degree of professionalism and sensitivity to user diversity. Alghamdi (2016) supports this view by stating that empathetic service delivery improves user satisfaction by fostering a sense of being heard and respected. This suggests that DPMPTSP Surabaya has effectively institutionalized empathy as part of its service culture, reinforcing its alignment with public service values.

CONCLUSION

This study confirms that the implementation of the OSS-based licensing service at DPMPSTP Surabaya is generally perceived positively, particularly in terms of reliability and empathy, which reflect users' trust in transparent and fair procedures. The absence of illegal practices, courtesy of staff, and inclusivity in service delivery contribute to increased public trust. However, lower scores in responsiveness and assurance suggest that the speed and consistency of information delivery still require substantial improvements. These findings highlight that while digital platforms enhance procedural integrity, service excellence also depends on human interaction and technical readiness.

The implications of this research suggest that improving technical infrastructure and front-line communication is critical for enhancing citizen satisfaction in digital public services. Future research should explore comparative analyses between OSS implementations in different cities to identify best practices and localized challenges. Moreover, qualitative approaches—such as in-depth interviews or focus group discussions—could provide deeper insights into user experiences and expectations, particularly from marginalized or digitally underserved populations. This will allow policymakers to develop more inclusive, responsive, and adaptive e-government strategies.

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