



The Quality Of Public Services In The Licensing Process For Digital Printing Business Actors In Pekalongan City

Abdul Malik^{*1}, Suparno²

¹Program Studi Administrasi Publik, Fakultas Ilmu Sosial dan Ilmu Politik, Universitas 17 Agustus 1945 Semarang, Indonesia, Malikspensabat402@gmail.com

²Program Studi Administrasi Publik, Fakultas Ilmu Sosial dan Ilmu Politik, Universitas 17 Agustus 1945 Semarang, Indonesia, abdulmallik1401@gmail.com

*Penulis Korespondensi: Malikspensabat402@gmail.com

Abstract. *This study aims to analyze the influence of public service quality on business actors' compliance in the business licensing process, either directly or through business actor satisfaction as a mediating variable. The research was conducted among digital printing business actors in Pekalongan City, Central Java, using a quantitative approach with a survey method through a Likert-scale questionnaire, supplemented by interviews to deepen data interpretation. The research variables consisted of the quality of public services as an independent variable, the satisfaction of business actors as a mediation variable, and the compliance of business actors as a dependent variable. Data were analyzed using the Structural Equation Modeling approach to test the direct and indirect influences between variables. This study is expected to find that the quality of public services has a positive effect on the satisfaction of business actors, the satisfaction of business actors has a positive effect on the compliance of business actors, and the quality of public services affects the compliance of business actors both directly and through the satisfaction of business actors as mediators. This study's results are expected to make a theoretical contribution to public administration studies in the context of micro and small business licensing, as well as a practical contribution to the Pekalongan City Investment and One-Stop Integrated Services Office by improving service quality to encourage business actors' compliance.*

Keywords: *Quality Of Public Services; Business Satisfaction Of Business Actors; Business Compliance Actors; Business Licensing; Digital Printing*

1. LATAR BELAKANG

Digital transformation has fundamentally changed how governments and business actors interact in various aspects of life, including business license management. This phenomenon has also driven rapid growth in the digital printing industry across countries, in line with the Industrial Revolution 4.0, which positions digital technology as a key driver of economic activity. The digital printing business globally is projected to grow by nine to twelve percent annually through 2030, with a market value of twenty-five billion US dollars by 2025 (Tim Regional, 2025). Growth was driven by rising demand from the textile, packaging, and advertising sectors, which increasingly rely on print-on-demand services. This development positions micro, small, and medium enterprises in the digital printing sector as an important part of the creative economy ecosystem, which continues to transform with technological advances.

This global phenomenon is also felt in Indonesia. The country's digital printing industry is projected to grow at a compound annual growth rate of around six percent through 2024,

with the Java Region among the largest markets due to its high concentration of small business actors and creative industries (Wujud Unggul, 2025). This development is in line with the business licensing policy reform carried out by the Indonesian government through the implementation of the Risk-Based Online Single Submission system, which is designed to simplify the licensing process so that business actors, including micro and small businesses in the digital printing sector, can obtain Business Identification Numbers more quickly and transparently (Rokhman et al., 2024). This policy matters because most digital printing business actors in Indonesia are classified as micro and small businesses that depend on ease of administration to operate legally and sustainably. However, the success of policy implementation depends not only on system sophistication but also on the quality of service experienced directly by business actors during the permit processing process.

To understand the factors that affect this success, the quality of service in the context of electronic licensing is widely studied through the government's electronic service quality framework, which emphasizes the dimensions of efficiency, reliability, trust, and support for service users. Several studies show that electronic service quality significantly affects government service users' satisfaction and loyalty (Pham et al., 2023; Qatawneh et al., 2024). In addition to system quality, the competence of the apparatus serving business actors has also been shown to affect community satisfaction, both directly and through service quality as a mediating variable (Mulyawan et al., 2024). Business satisfaction is also believed to be an important bridge explaining why the quality of government electronic services can encourage business actors' compliance in managing and renewing their business licenses, as found in the context of electronic-based business registration services in other countries (AL-Kaabi, 2023). Placing satisfaction as a mediating variable aligns with the idea that compliance behavior rarely arises directly from system quality and officer competence. First, it goes through a psychological evaluation process: whether business actors' expectations for the services they receive are met.

Although many studies have examined the quality of electronic services and the competence of the apparatus, most research still focuses on large-scale government services, such as immigration, taxation, and population services. Research that specifically examines the combined influence of these two variables on the compliance of micro and small business actors in the digital printing sector is still very limited. In addition, research has not empirically examined business satisfaction as a mediating variable between service quality, apparatus competence, and business actor compliance, especially in areas outside big cities. This gap is

an important basis for further research, so the dynamics of small business actors' compliance with risk-based licensing policies can be understood more comprehensively.

This gap is evident in Pekalongan City, Central Java, an area known for a growing creative industry center based on textiles and printing, driven by rising demand for digital printing for promotion, packaging, and batik-derivative products typical of the region. The growth of the digital printing business in Pekalongan is also accompanied by an increasing need for business actors to manage their business legality through the Risk-Based Online Single Submission system. Based on the researcher's initial observations, some digital printing business actors in Pekalongan still face obstacles in understanding licensing procedures independently, so the quality of service provided by officers and systems is a key factor determining their satisfaction and compliance in managing business licenses.

Building on this empirical phenomenon, this study offers novelty by simultaneously examining the influence of public service quality and apparatus competence on the compliance of digital printing business actors, with business actor satisfaction as a mediating variable, in areas that have not been widely researched, such as Pekalongan. Theoretically, this study enriches the application of the government's electronic service quality framework and apparatus competency theory in the context of micro and small business licensing in the creative sector. Practically, the results of this research are expected to inform the Pekalongan City Investment and One-Stop Integrated Services Office in improving service quality and apparatus competence to encourage business actors' compliance with risk-based licensing policies.

Based on this description, this study aims to analyze the influence of public service quality and apparatus competence on the compliance of digital printing business actors in Pekalongan City, both directly and through business actors' satisfaction as a mediating variable. Thus, this study seeks to answer whether public service quality and apparatus competence affect the compliance of digital printing business actors in Pekalongan City, either directly or through business actors' satisfaction as a mediating variable. To answer this question, this article is systematically organized, starting with the literature review and hypothesis development, research methods, results and discussion, and concluding with policy implications for relevant stakeholders.

2. THEORETICAL STUDIES

Foundations of Public Service Quality Theory

Public service quality is a central concept in public administration that describes the extent to which services provided by government agencies meet the expectations and needs of the community and the business actors they serve. Theoretically, the quality of service is widely studied through the SERVQUAL framework developed by Parasuraman et al. (1988), which emphasizes five main dimensions, namely physical evidence, reliability, responsiveness, reassurance, and empathy. This framework is adapted to electronic government services by emphasizing efficiency, system reliability, trust, and support for service users. It is used to measure the quality of e-government services in various countries (Qatawneh et al., 2024).

Hardiyansyah (2011) emphasizes that public service quality can be seen in the conformity between the services provided and the set standards and the expectations of the community as service recipients, reflected in the simplicity of procedures, clarity of requirements, timeliness, and fairness in obtaining services. Law Number 25 of 2009 concerning Public Services also emphasizes that public services are activities to meet the needs of the community in accordance with laws and regulations on goods, services, and administrative services organized by public service providers. In the context of business licensing, public service quality is reflected in the extent to which business actors experience convenience, certainty, and comfort when managing Business Identification Numbers through the Risk-Based Online Single Submission system. In this study, public service quality refers to digital printing business actors' perceptions of the overall licensing process they receive, both in terms of electronic systems and interactions with the service provider apparatus.

Business Actor Satisfaction

Satisfaction describes a person's feelings of happiness or disappointment that arise after comparing the performance or results of a product or service with the expectations they had before using it. In the context of government services, service user satisfaction is defined as a comprehensive evaluation of the experience of using an electronic service, shaped by the compatibility between initial expectations and the actual performance of the system used (Qatawneh et al., 2024). The smaller the gap between expectations and perceived reality, the higher the satisfaction level felt by service users.

In the context of business actors, satisfaction is not only influenced by the final result in the form of the issuance of business licenses, but also by the entire process that is passed, including the ease of access to the system, clarity of information, and the responsiveness of officers when business actors experience obstacles. Rustanto & Syah (2022) found that the

quality of licensing services significantly increased the satisfaction of micro, small, and medium business actors because business actors felt the process aligned with their expectations for ease of doing business. Business satisfaction is then positioned as a variable linking the quality of service received with business actors' subsequent behavior, including their willingness to comply with applicable licensing provisions. In this study, business satisfaction is understood as a subjective assessment by digital printing business actors of whether their expectations are met during the business license management process through a risk-based licensing system.

Business Actor Compliance

Obedience etymologically comes from the word obedience, which means obedience and submission to applicable orders and rules. Compliance theory explains that compliance is the willingness of individuals and business actors to meet predetermined limits, both mandatory and voluntary, to fulfill associated obligations. Research by OLADIPO et al. (2022) notes that voluntary tax compliance is a process of convincing taxpayers to obey applicable legal provisions to achieve economic balance in a country.

In the context of business licensing, business actors' compliance is reflected in their willingness to manage, update, and maintain the validity of business licenses in accordance with applicable regulations, without needing encouragement through sanctions or coercion from the authorities. This voluntary compliance is closely related to business actors' positive experiences with the licensing system, including their satisfaction with the process. Business actors who are satisfied with licensing services tend to be more compliant in fulfilling their administrative obligations, as shown by the relationship between satisfaction and loyal or compliant behavior in various contexts of government electronic services (Pham et al., 2023). In this study, business actor compliance is understood as the willingness of digital printing business actors to manage and renew their business licenses in an orderly manner, in accordance with applicable risk-based licensing provisions.

Relevant Previous Research

Several previous studies have examined the relationship between service quality, satisfaction, and service users' continued behavior in various public and electronic service contexts. The study's findings are summarized as follows. First, research by Rustanto & Syah (2022) on micro, small, and medium business actors in Pulo Gadung, East Jakarta, found that licensing service quality has a positive and significant effect on business actors' satisfaction. This study emphasizes that ease of licensing is an important factor determining business actors' satisfaction with local government services.

Second, international research by Qatawneh et al. (2024) published in the journal *Global Knowledge, Memory and Communication* examined the mediating role of electronic trust and electronic satisfaction in the relationship between the quality of electronic services and the loyalty of government service users in Jordan. The results show that the quality of electronic services significantly affects satisfaction, which in turn significantly affects users' loyalty or sustainable behavior toward government services, strengthening the mediation pattern aligned with this study's framework.

Third, AL-Kaabi (2023), published in *The Electronic Journal of Information Systems in Developing Countries*, examines the impact of electronic government services on business satisfaction with online commercial registration systems in the Kingdom of Bahrain. This study found that convenience, completeness of information, and process efficiency in electronic business licensing services positively affect business actors' satisfaction, which in turn encourages the sustainable use of these services. The three studies consistently show that good service quality increases service user satisfaction, and this satisfaction further encourages positive follow-up behavior, including loyalty, sustainable use, and compliance with applicable regulations. This relationship pattern forms the basis for placing business actor satisfaction as a mediating variable between public service quality and business actor compliance in this study.

Hypothesis Development Framework

Based on the theoretical foundation and findings of previous research described above, this study develops a framework that positions public service quality as the independent variable, business actor satisfaction as the mediating variable, and business actor compliance as the dependent variable. This line of thinking is based on the argument that business actors' compliance rarely arises directly from the quality of the service received, but rather through a psychological evaluation process in the form of whether or not the expectations of business actors for the service are met, which is reflected in the level of satisfaction they feel.

Good quality of public services, reflected in the ease of the system, clarity of procedures, and responsiveness of the apparatus, is predicted to increase business actors' satisfaction with the licensing process they undergo. High satisfaction is then predicted to encourage business actors' willingness to manage and renew their business licenses in an orderly manner. In addition to the indirect path through satisfaction, the quality of public services may also directly influence business actors' compliance, since process ease can encourage compliance without requiring a thorough satisfaction evaluation. Thus, business actors' compliance in the business

licensing process results from the quality of public services received, either directly or through business actors' satisfaction as a mediating variable.

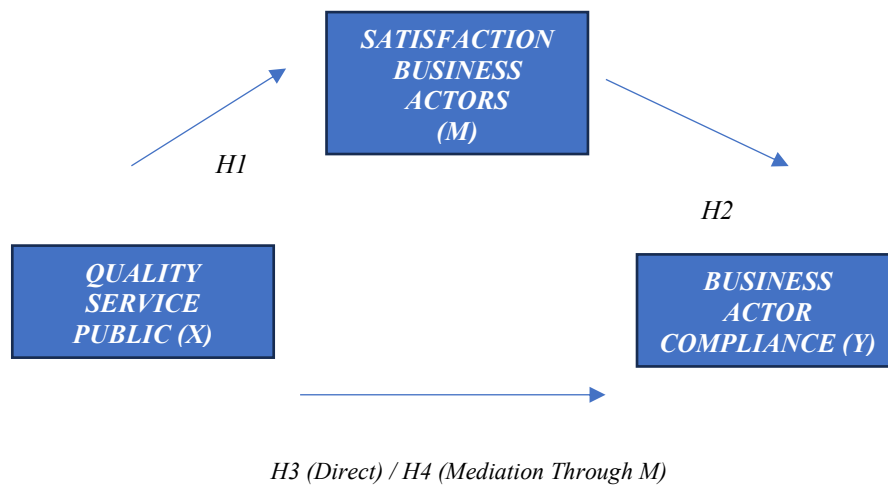


Figure 1. Research Thinking Framework

Research Hypothesis

Based on the described thinking framework, this study formulates the following hypotheses.

H1: The quality of public services has a positive and significant effect on the satisfaction of business actors in the business licensing process for digital printing business actors.

H2: Business actor satisfaction has a positive and significant effect on business actors' compliance in the business licensing process for digital printing business actors.

H3: The quality of public services has a positive and significant effect on the compliance of business actors in the business licensing process for digital printing business actors.

H4: The quality of public services affects the compliance of business actors through the satisfaction of business actors as a mediating variable.

3. RESEARCH METHODS

This study uses a mixed-methods approach with a concurrent triangulation design, in which quantitative and qualitative data collection is carried out simultaneously to obtain a more comprehensive understanding of the relationship between the use of digital technology, transparency of village public information, and the successful implementation of the Anti-Corruption Village Program. The quantitative approach tests the research hypothesis through statistical analysis, while the qualitative approach deepens and explains the quantitative

findings based on informants' experiences and perspectives. The two data types are integrated during result interpretation so each approach complements the other and validates the findings.

The research was carried out in Pekalongan City, Central Java. The research population consisted of 65 people, including company Owners, Head Office Staff, and Supervisors. Given the relatively small population, the study used a total sampling (census) technique, so all population members were included as respondents. In addition, several key informants, including owners, head office staff, and supervisors, were interviewed in depth to obtain qualitative data to support the quantitative results.

Quantitative data were collected using a five-point Likert scale questionnaire based on three research variables: Service Digitization (X), Licensing Public Information Transparency (Z), and Public Service Quality (Y), each with five indicators. Qualitative data were obtained through semi-structured interviews using interview guidelines developed from the same indicators to enable triangulation between data types. Before testing the hypothesis, the research instrument was tested for validity and reliability to ensure each indicator was suitable for data collection.

Quantitative data analysis was carried out using SPSS through descriptive statistics, validity tests, reliability tests, and regression assumption tests, including normality, multicollinearity, heteroscedasticity, and autocorrelation. Hypothesis testing used Moderated Multiple Regression (MMR) by creating interaction variables between the use of digital technology and the transparency of licensing information to test the role of moderation. Qualitative data were analyzed using thematic analysis through the stages of data recognition, coding, theme identification, theme review, theme naming, and interpretation preparation. Furthermore, the quantitative and qualitative results are integrated through triangulation techniques to support conclusions with statistical evidence and empirical explanations from informants.

4. RESULT

This study aims to analyze that Service Digitalization has a positive and significant influence on the Quality of Public Services. These findings show that the easier the digital licensing system is accessed, the more automated the process is felt, the more integrated the data, the easier information is obtained, and the more ready users and agencies are to use the digital system, the better the perception of business actors on the quality of public services. To strengthen the quality of business licensing services, the RBA OSS system must improve information accessibility, data integration, user readiness, and agency support. These findings

align with the article's research direction, which emphasizes the importance of public services that are easy, transparent, responsive, and oriented to business actors' needs.

Table 1. Respondent Characteristics (n = 66)

Features	Category	Frequency	Percentage
Departments	Owner	33	50,0%
	Head Office	22	33,3%
	Supervisor	11	16,7%
Gender	Male	61	92,4%
	Women	5	7,6%
Final Education	S1	30	45,5%
	High School/Vocational School	27	40,9%
	D3	9	13,6%
Age	25–47 years (average 31.7 years)	66	100%

Source: Primary data processed, 2026

Based on Table 1. Most respondents are business owners and male, with educational backgrounds ranging from high school/vocational to S1. This composition reflects the general characteristics of micro and small enterprises in the digital printing sector, which are typically managed directly by owners, with support from staff in operational positions.

Table 2. Descriptive Statistics of Research Variables

Variabel	N	Min	Max	Mean	Std. Deviation	TCR (%)	Category
Digitization of Services (X1)	66	2,50	5,00	3,82	0,42	76,4%	Good
Ecosystem Readiness (X2)	66	2,75	5,00	3,79	0,41	75,8%	Good
Quality of Public Service (Y)	66	2,60	5,00	3,72	0,43	74,4%	Good

Source: Primary data processed, 2026

All three variables fall in the good category (TCR in the range of 74%–76%), indicating that digital printing business actors in Pekalongan City are generally positive about service digitalization, the readiness of the supporting ecosystem, and the quality of public services in the business licensing process. However, there is still room for improvement because none of the variables reach the very good category ($TCR \geq 80\%$). At the item level, the highest achievements were obtained in the indicators of internet network condition (TCR 79.7%) and smooth access to the OSS RBA system (TCR 79.4%), while the lowest achievements were in the indicators of clarity and transparency of procedures and licensing fees (TCR 73.0%) and ease of finding information on licensing requirements (TCR 72.7%). These findings indicate that the technical infrastructure is relatively adequate. Still, information transparency and administrative procedures remain weak points that the Pekalongan City Investment and One-Stop Integrated Services Office needs to address.

Table 3. Results of the Validity Test of Questionnaire Items

Variabel	Item	r count	R table	Remarks
Digitization of Services (X1)	X1.1	0,613	0,242	Valid
	X1.2	0,646	0,242	Valid
	X1.3	0,589	0,242	Valid
	X1.4	0,416	0,242	Valid
Ecosystem Readiness (X2)	X2.1	0,289	0,242	Valid
	X2.2	0,520	0,242	Valid
	X2.3	0,440	0,242	Valid
	X2.4	0,494	0,242	Valid
Quality of Public Service (Y)	Y.1	0,579	0,242	Valid
	Y.2	0,453	0,242	Valid
	Y.3	0,466	0,242	Valid
	Y.4	0,591	0,242	Valid
	Y.5	0,651	0,242	Valid

Source: Primary data processed, 2026

All 13 statement items in the three variables were declared valid because they had a calculated r value greater than the r of the table (0.242), so that all items were worthy of being preserved and used for further analysis without the need to abort the item. The reliability test used Cronbach's Alpha, and the instrument was declared reliable if the Cronbach's Alpha value was greater than 0.60 (Sugiyono, 2013). Table 4 presents the reliability test results.

Table 4. Reliability Test Results

Variabel	Number of Items	Cronbach's Alpha	Remarks
Digitization of Services (X1)	4	0,759	Reliabel
Ecosystem Readiness (X2)	4	0,649	Reliabel
Quality of Public Service (Y)	5	0,773	Reliabel

Source: Primary data processed, 2026

The three research variables had a Cronbach's Alpha value above 0.60, so all instruments were declared reliable and consistently used to measure the construct in question.

Table 5. Heteroscedasticity Test

Variabel	t count	Sig.	Remarks
Digitization of Services (X1)	-0,465	0,644	Heteroscedasticity does not occur
Ecosystem Readiness (X2)	-0,166	0,869	Heteroscedasticity does not occur

Source: Primary data processed, 2026

The significance value of the two independent variables to the residual absolute is greater than 0.05, so the regression model is free from heteroscedasticity problems (homoscedastic).

Table 6. Multiple Linear Regression Analysis Results

Variabel	B	Std. Error	Beta	t count	Say.
(Constant)	0,561	0,375	-	1,498	0,139
Digitization of Services (X1)	0,278	0,112	0,275	2,492	0,015
Ecosystem Readiness (X2)	0,552	0,116	0,528	4,784	0,000

Source: Primary data processed, 2026

Based on Table 5, the multiple linear regression equation is: $Y = 0.561 + 0.278X_1 + 0.552X_2$. The constant value of 0.561 indicates that if Digitization of Services and Ecosystem Readiness are zero, Quality of Public Services is 0.561. The X1 regression coefficient of 0.278 shows that a one-unit increase in Service Digitization increases the Quality of Public Services by 0.278 units, holding other variables constant. The X2 regression coefficient of 0.552 indicates that a one-unit increase in Ecosystem Readiness increases the Quality of Public Services by 0.552 units, holding other variables constant. The standardized beta coefficient shows that Ecosystem Readiness (Beta = 0.528) has a greater influence than Service Digitalization (Beta = 0.275) on the Quality of Public Services.

Table 7. Coefficient of Determination (Model Summary)

R	R Square	Adjusted R Square	Std. Error of the Estimate
0,732	0,536	0,521	0,297

Source: Primary data processed, 2026

The Adjusted R Square value of 0.521 shows that Service Digitalization and Ecosystem Readiness together explain 52.1% of the variation in Public Service Quality. In contrast, variables outside this research model explain the remaining 47.9%, such as apparatus competence, the service agency's organizational culture, or other external factors not studied.

Table 8. F Test Results (ANOVA)

Model	Sum of Squares	df	Mean Square	F	Say.
Regression	6,431	2	3,216	36,391	0,000
Residual	5,567	63	0,088		
Total	11,998	65			

Source: Primary data processed, 2026

With $df_1 = 2$ and $df_2 = 63$ at a 5% significance level, the F table value is 3.143. The test results showed that the F value (36.391) was greater than the F table value (3.143), with a significance value of $0.000 < 0.05$. This means the third hypothesis (H3), namely that Digitalization of Services and Ecosystem Readiness simultaneously have a positive and significant effect on the Quality of Public Services, is accepted.

Table 9. Summary of Hypothesis Testing Results

Hipotesis	Statement	Results
H1	Service Digitalization (X1) has a positive and significant effect on the Quality of Public Services (Y)	Accepted
H2	Ecosystem Readiness (X2) has a positive and significant effect on the Quality of Public Services (Y)	Accepted
H3	X1 and X2 simultaneously have a positive and significant effect on the Quality of Public Services (Y)	Accepted

Source: Primary data processed, 2026

The interview was conducted with key informants, including the Owner/Owner of the company, Head of Office/Head of Company, and Supervisor. The interview aims to provide a more in-depth explanation of the quantitative findings to obtain a complete picture of how Service Digitalization positively and significantly influences the Quality of Public Services. These findings show that the easier the digital licensing system is to access, the more automated the process feels, the more integrated the data, and the easier it is for digital printing business actors in Pekalongan City to obtain information.

Based on the interview results, all informants generally said access to the OSS RBA system has run quite smoothly, although comfort levels differ by position. Owners and Head Offices, who most often interact directly with the system, stated that the verification process is much more automated than before. However, new permit applications still require manual verification. Owner: "In general, it went smoothly. For the past two years, I have been managing permits through the RBA OSS; technical problems are rare, at least the server is slow during busy hours."

Head Office reinforced this, explaining that most permit applications are now automated, although some still require manual verification.

Head Office: "Most of them are automated, especially for license extensions. But for the application of new permits, there are still several steps that need to be manually verified by the officer." Meanwhile, informants still complain about duplicate data entry when dealing with agencies outside the OSS, and they find permit requirements harder to understand independently, especially for those not directly involved in licensing administration. Head Office: "The data in the OSS system itself is quite integrated, but if I deal with agencies outside the OSS, I am still often asked to refill the same data." Supervisor: "I usually ask the owner or head office directly if I need information related to permits, because reading it myself on the official website is sometimes confusing for me."

The completion time for the licensing process is generally considered reasonable and in line with estimates, with services that are felt to be quite consistent each time they are accessed.

Owner: "On average about one to two weeks, not bad as expected, although it has also been delayed due to additional verification."

Head Office: "Usually about a week for an uncomplicated process; it's as I expected."

Nevertheless, procedural and cost transparency was the most consistent complaint across the three informants and the most prominent weak point in the interview results. Owner: "This is what I

think still needs to be improved. The procedure is actually on the website, but the explanation of the cost is sometimes not detailed, so I have to ask the officer directly." Head Office: "The procedure is quite clear in the system, but for the details of additional costs beyond what is listed, the explanation is less explicit, so I have to confirm again." Supervisor: "I don't really understand the details of the cost because it's not my part, but from the owner's story, the explanation sometimes needs to be re-asked."

Nevertheless, the three informants agreed that the treatment received during the licensing process was fair, that there was no difference in treatment compared to other business actors, and that they were overall quite satisfied with the services received. Supervisor: "As far as I know, the treatment is the same for all business actors; no one is privileged." Owner: "Overall, I am quite satisfied, although I still hope that the cost and procedure information can be clearer and more accessible without having to ask repeatedly." The quantitative and qualitative results are then integrated to provide a more comprehensive understanding of the relationship between research variables, as presented in Table 10.

Table 10. Integration of Quantitative and Qualitative Findings through Data Triangulation

Quantitative Findings	Qualitative Findings	Combined Synthesis / Interpretation
Red 3.82; TCR 76.4% (good category). $B = 0.278$; $t = 2,492$; $GIS = 0.015$ (positive significance)	The three informants considered system access smooth, but the verification of new permits and data integration between agencies outside the OSS were still not optimal.	The two types of data reinforce each other: digitizing services improves service quality, but there is still room to automate verification and improve data interoperability between agencies.
Red 3.79; TCR 75.8% (good category). $B = 0.552$; $t = 4,784$; $GIS = 0.000$ (Significant positive, largest contribution)	Network infrastructure readiness and digital literacy vary between positions; The supervisor explicitly admitted that he lacked confidence in operating the system.	The qualitative data explains why X2 has the greatest quantitative influence: the digital literacy gap among staff is a real determinant felt in the field, not just system availability.
The procedure and cost transparency items had the lowest TCR (73.0%) among all indicators.	The three informants (Owner, Head Office, Supervisor) consistently highlighted the lack of detail in cost explanations beyond what the system states.	Triangulation indicates a strong convergence: transparency of procedures and costs is the most obvious weak point and a top priority for service providers to fix.
$F = 36,391$; $sig = 0,000$; Adjusted R Square = 0,521 (52,1%)	The informant assessed that the quality of service was influenced by the combination of the smooth running of the system and the readiness of users/agencies, not just the digital system	The combined models of X1 and X2 proved to be relevant both statistically and from the perspective of the direct experience of business actors, reinforcing the external validity of the research findings

Table 10 shows that overall, the triangulation of quantitative and qualitative data shows a pattern of converging findings, namely that Service Digitalization and Ecosystem Readiness both contribute positively to the Quality of Public Services, with Ecosystem Readiness as a relatively more dominant factor, as well as procedural transparency and licensing costs as the most consistently identified weak points both from questionnaire data and interview results.

5. DISCUSSION

The Influence of Service Digitalization on the Quality of Public Services

The test results prove that Service Digitalization has a positive and significant effect on the Quality of Public Services in the business licensing process for digital printing business actors in Pekalongan City. These findings indicate that smoother access to the RBA OSS system, more automated verification and permit issuance, more integrated data between agencies, and easier access to information on requirements improve business actors' perception of the quality of service they receive. These findings are in line with the government's electronic service quality framework, which emphasizes the dimensions of efficiency, system reliability, and support for service users as stated by (Qatawneh et al., 2024), and consistent with the spirit of the Risk-Based Online Single Submission policy reform, which aims to simplify the licensing process (Rokhman et al., 2024).

The Effect of Ecosystem Readiness on the Quality of Public Services

Ecosystem readiness has also been shown to have a positive and significant effect on the Quality of Public Services, with a greater influence than Service Digitalization (judging from the beta coefficient value). These findings show that supporting factors outside the system itself, such as the adequacy of the internet network, digital literacy of business actors, regulatory support, and the openness of agencies to change, are actually stronger determinants of the perception of service quality than the sophistication of the digital system alone. These findings strengthen the argument that system sophistication does not alone determine the success of digital licensing service transformation; it also depends on the readiness of its user ecosystem, in line with the emphasis. Hardiyansyah (2011) argues that the quality of public services is reflected in the fit between the services provided and the real conditions and needs of service recipients.

Simultaneous Influence on the Quality of Public Services

Simultaneously, Service Digitalization and Ecosystem Readiness significantly affect the Quality of Public Services, contributing 52.1% (Adjusted R Square), which is classified as a strong contribution to research in the field of public administration with a cross-sectional survey design. This emphasizes that efforts to improve the quality of licensing services cannot only focus on the digitalization aspect of the system, but must be accompanied by strengthening the supporting ecosystem, ranging from network infrastructure, the capacity of human resources of business actors, to the readiness of regulations and the organizational culture of the service agency itself.

Practically, this finding provides input for the Pekalongan City Investment and One-Stop Integrated Services Office to not only invest in improving the RBA OSS system, but also strengthen socialization and assistance for micro and small business actors in the digital printing sector, especially related to the transparency of procedures and licensing fees which in the descriptive results are recorded as the indicators with the lowest relative achievement compared to other indicators.

6. CONCLUSIONS AND SUGGESTIONS

This study aims to analyze the influence of service digitization and ecosystem readiness on the quality of public services in the business licensing process for digital printing business actors in Pekalongan City. Using a mixed-methods concurrent triangulation design, this study combines multiple linear regression analysis of questionnaire data from 66 respondents with thematic analysis of in-depth interviews with key informants, including owners, head office staff, and supervisors. Combining these two data types allows for a more comprehensive understanding, as statistical findings can be explained and enriched through the direct experience of business actors in the field.

The hypothesis test results showed that service digitization (X1) had a positive and significant effect on public service quality (Y), with a regression coefficient of 0.278 and a significance of 0.015. These findings indicate that the smoother access to the Risk-Based Single Submission Online system, the more automated the verification process, the more integrated the data between agencies, and the easier it is to obtain information on requirements, the better digital printing business actors perceive the quality of service they receive. Furthermore, ecosystem readiness (X2) has also been proven to have a positive and significant effect on the quality of public services, even with a greater contribution than the digitization of services, as shown by the standardized beta coefficient value of 0.528 to 0.275. This finding confirms that supporting factors outside the system itself, such as the adequacy of the internet network, the level of digital literacy of business actors, regulatory support, and the openness of agencies to change, are actually stronger determinants of the perception of service quality than the sophistication of the digital system alone.

Simultaneously, the two independent variables significantly affected the quality of public services, with an F value of 36,391 that far exceeded the F table, as well as a contribution of 52.1 percent based on the Adjusted R Square value. This figure is relatively strong for public administration research with a cross-sectional survey design. It leaves about 47.9 percent of the variation explained by factors other than the model, such as the competence of the apparatus and the organizational culture of the service agency. Thus, the three hypotheses proposed, namely the influence of service digitalization, the influence of ecosystem readiness, and the simultaneous influence of both on the quality of public services, were all declared accepted.

The quantitative findings were reinforced by qualitative interview results, which showed a clear pattern of convergence between statistical data and informants' field experiences. The three informants agreed that access to the OSS RBA system has generally run smoothly and that the licensing completion time is reasonable. However, comfort with the system varies by

position, with supervisors admitting they are less confident operating it independently than owners and head offices. Duplicated data input when dealing with agencies outside OSS is also a recurring complaint. Most notably, the three informants consistently highlighted a lack of transparency in licensing procedures and fee details as the main weak points, in line with quantitative descriptive findings showing that indicators of transparency in procedures and costs had the lowest respondent achievement rate among all indicators measured. Nevertheless, all informants assessed that the treatment they received during the licensing process was fair and stated that they were quite satisfied with the service as a whole.

Theoretically, this research contributes to public administration studies by expanding the application of the government's electronic service quality framework to micro and small business licensing in the creative sector, especially in areas that have not been widely researched, such as Pekalongan City. This research also emphasizes that digital service quality cannot be understood only in terms of system sophistication; it must be considered alongside the readiness of the user ecosystem, a perspective that broadens the theory of government electronic service quality, which has largely been applied to large-scale government services.

Practically, this study recommends that the Pekalongan City Investment and One-Stop Integrated Services Office not only improve the RBA OSS system but also prioritize two concrete steps. First, strengthening the transparency of information regarding licensing procedures and fee details, considering that this aspect has consistently been identified as a weak point both from questionnaire data and from interview results. Second, organize socialization and digital literacy assistance for business actors in operational positions who still have low confidence in operating the licensing system independently. These two steps are expected to strengthen the overall quality of licensing services, which in turn encourages the satisfaction and compliance of digital printing business actors in Pekalongan City with risk-based licensing policies.

This study also has limitations that future research should consider, especially the sample scope, which includes only 66 respondents from one region, so findings should be generalized with caution. Future research should expand the regional scope, explicitly include the competency variables of apparatus and business actor compliance in the model, and consider a longitudinal approach to capture how business actors' perceptions of service quality change over time.

DAFTAR REFERENSI

- AL-Kaabi, R. (2023). The impact of e-government services on customer satisfaction in the private sector: A case study of the Kingdom of Bahrain (<scp>SIJILAT</scp>), an online commercial registration. *THE ELECTRONIC JOURNAL OF INFORMATION SYSTEMS IN DEVELOPING COUNTRIES*, 89(6). <https://doi.org/10.1002/isd2.12275>
- Bakhrur Rokhman, Tobirin, Ali Rokhman, & Denok Kurniasih. (2024). PENYELENGGARAAN PERIZINAN BERUSAHA BERBASIS RISIKO MELALUI SISTEM ONLINE SINGLE SUBMISSION (OSS). *Journal of Social and Economics Research*, 6(1), 1562–1580. <https://doi.org/10.54783/jser.v6i1.399>
- Hardiyansyah. (2011). *Kualitas pelayanan publik : konsep, dimensi, indikator, dan implementasinya*. Gava Media.
- Mulyawan, B., Kinanthi, S. L., Mastur, A. S. R., Febrianto, A., & Astuti, R. K. (2024). The role of employee competence in shaping public satisfaction: Examining service quality as a mediating factor. *Journal of Infrastructure Policy and Development*, 8(15), 10325. <https://doi.org/10.24294/jipd10325>
- OLADIPO, O. A., OGUNJOBI, J. O., & ELUYELA, D. F. (2022). THE IMPACT OF ETHICAL TAX BEHAVIOUR ON TAX COMPLIANCE OF TAX AUTHORITY AND CORPORATE TAXPAYERS OF LISTED MANUFACTURING COMPANIES IN NIGERIA. *Academia Letters*. <https://doi.org/10.20935/AL4698>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality. *Journal of Retailing*, 64(1), 12–40.
- Pham, L., Limbu, Y. B., Le, M. T. T., & Nguyen, N. L. (2023). E-government service quality, perceived value, satisfaction, and loyalty: evidence from a newly emerging country. *Journal of Public Policy*, 43(4), 812–833. <https://doi.org/10.1017/S0143814X23000296>
- Qatawneh, N., Al-Okaily, M., Alkhasawneh, R., Althonayan, A., & Tarawneh, A. (2024a). RETRACTED: The mediating role of e-trust and e-satisfaction in the relationship between e-service quality and e-loyalty toward e-government services. *Global Knowledge, Memory and Communication*, 1–21. <https://doi.org/10.1108/GKMC-07-2023-0263>
- Qatawneh, N., Al-Okaily, M., Alkhasawneh, R., Althonayan, A., & Tarawneh, A. (2024b). The mediating role of e-trust and e-satisfaction in the relationship between e-service quality and e-loyalty toward e-government services. *Global Knowledge, Memory and Communication*, 1–21. <https://doi.org/10.1108/GKMC-07-2023-0263>
- Rustanto, A. E., & Syah, D. O. (2022). Kualitas Pelayanan Perizinan dalam Meningkatkan Kepuasan Pelaku Usaha UMKM di Pulo Gadung, Jakarta Timur. *JURNAL SOSIAL EKONOMI DAN HUMANIORA*, 8(2), 318–326. <https://doi.org/10.29303/jseh.v8i2.70>
- Sugiyono. (2013). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Alfabeta.

Tim Regional. (2025, May). *Merayakan Pertumbuhan Bisnis Digital Printing melalui JPE 2025*. https://www.liputan6.com/amp/6026847/merayakan-pertumbuhan-bisnis-digital-printing-lewat-jpe-2025?utm_source=chatgpt.com

Wujud Unggul Official. (2025, May). *Tren Creative Printing 2025, Produk Custom & Premium Meningkat*. https://www.wujudunggul.com/post/trencreativeprinting2025?utm_source=chatgpt.com