

THE ROLE OF ORGANIZATION, EMPLOYEE COMPETENCE, AND AVAILABILITY OF INFRASTRUCTURE TOWARDS USER SATISFACTION WITH SERVICE QUALITY AS AN INTERVENING VARIABLE AT THE MAIN CUSTOMS AND EXCISE SERVICE OFFICE TYPE B BATAM

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Abstract

This study aims to analyze the influence of organizational roles, employee competencies, and the availability of infrastructure on service quality and user satisfaction, and to examine the role of service quality as an intervening variable at the Batam Type B Customs and Excise Main Service Office. The study uses an explanatory quantitative approach. The study population was 124 service users and a sample of 95 respondents determined by the Slovin formula at a 5% error rate and proportionate random sampling technique. Primary data were collected through a 1–5 Likert scale questionnaire and analyzed using Structural Equation Modeling based on Partial Least Square (SEM-PLS) with SmartPLS. The results showed that organizational roles significantly influenced service quality, employee competencies significantly influenced service quality and user satisfaction, and the availability of infrastructure significantly influenced service quality. Service quality significantly influenced service user satisfaction. Conversely, organizational roles and infrastructure did not have a direct significant effect on user satisfaction. Service quality mediated the influence of employee competencies and the availability of infrastructure on user satisfaction, but did not mediate the influence of organizational roles. The R^2 value for service quality of 0.876 and user satisfaction of 0.726 indicate strong explanatory power of the model. This finding confirms that improving user satisfaction primarily requires strengthening service quality, employee competence, and infrastructure support.

Keywords: organizational role, employee competence, infrastructure, service quality, service user satisfaction.

1. INTRODUCTION

Public service is a crucial aspect of governance because it directly impacts public satisfaction and service effectiveness. The Batam Type B Customs and Excise Main Service Office plays a strategic role in providing customs and excise services to exporters, importers, business owners, and the public. Source research indicates that fast, precise, and accurate service is a primary need for service users. Organizational structure, inter-unit coordination, employee competency, and the availability of facilities and information technology are considered internal factors that can shape service quality. The results of the Public Satisfaction Survey (IKM) regarding the services of the Batam Type B Main Customs and Excise Office in 2024 showed excellent performance. The average IKM score reached 93.14 with an Average Respondent Rating (NRR) of 3.72, which falls into the "Very Good" category. When viewed quarterly, there is a significant upward trend. In the second quarter, the IKM score was 88.07 (NRR 3.52), which is in the good category. This achievement increased in the third quarter to 92.86 (NRR 3.71) and peaked in the fourth quarter with a score of 98.49 (NRR 3.94), both in the very good category.

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Survei Kepuasan Masyarakat KPUBC Tipe B Batam Periode Triwulan I,II,III Tahun 2024



Indikator	Indeks	Kategori	Tren
U1: Persyaratan	3.47	Baik	-
U2: Sistem, Mekanisme dan Prosedur	3.43	Baik	-
U3: Waktu Penyelesaian	3.38	Baik	-
U4: Biaya/Tarif	3.83	Sangat Baik	-
U5: Produk Spesifikasi Jenis Pelayanan	3.34	Baik	-
U6: Kompetensi Pelaksana	3.45	Baik	-
U7: Perilaku Pelaksana	3.45	Baik	-
U8: Sarana dan Prasarana	3.48	Baik	-
U9: Penanganan Pengaduan, Saran dan Masukan	3.88	Sangat Baik	-
NRR Tertimbang / Usuar	3.52	Baik	-
Indeks Kepuasan Masyarakat (IKM)	88.07	Baik	-

Indikator	Indeks Triwulan II	Indeks Triwulan III	Kategori	Tren
U1: Persyaratan	3.47	3.73	Sangat Baik	0.26 ▲
U2: Sistem, Mekanisme dan Prosedur	3.43	3.63	Sangat Baik	0.20 ▲
U3: Waktu Penyelesaian	3.38	3.55	Sangat Baik	0.17 ▲
U4: Biaya/Tarif	3.83	3.94	Sangat Baik	0.11 ▲
U5: Produk Spesifikasi Jenis Pelayanan	3.34	3.51	Baik	0.16 ▲
U6: Kompetensi Pelaksana	3.45	3.73	Sangat Baik	0.28 ▲
U7: Perilaku Pelaksana	3.45	3.71	Sangat Baik	0.26 ▲
U8: Sarana dan Prasarana	3.48	3.75	Sangat Baik	0.26 ▲
U9: Penanganan Pengaduan, Saran dan Masukan	3.88	3.90	Sangat Baik	0.02 ▲
NRR Tertimbang / Usuar	3.52	3.71	Sangat Baik	0.19 ▲
Indeks Kepuasan Masyarakat (IKM)	88.07	92.86	Sangat Baik	4.79 ▲

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Figure 1.1 Public Satisfaction Survey KPUBC Type B Batam Period of Quarter I, II, III of 2024

Based on the results of the Public Satisfaction Index (IKM) measurement in the previous period, it can be seen that most service indicators are still in the "Good" category. This condition indicates that in general the quality of service at the Passenger Terminal under the supervision of the Batam Type B Main Customs and Excise Service Office has been running quite optimally and is able to meet service user expectations. However, this achievement still leaves room for improvement, especially in indicators that have not yet reached the "Very Good" category, such as requirements, systems and procedures, completion time, competence of implementers, behavior of implementers, and facilities and infrastructure.

Comparison with 2025 performance indicates a significant improvement in service performance. In 2025, nearly all indicators experienced an increase in index values and were generally in the "Very Good" category, making this category dominant. This improvement reflects the success of ongoing efforts to improve and strengthen service quality, including through streamlining procedures, increasing the competence and professionalism of service providers, and improving supporting facilities and infrastructure.



2a-CP. INDEKS KEPUASAN PENGGUNA JASA

Indeks Kepuasan Masyarakat KPUBC Tipe B Batam Periode Triwulan I Tahun 2025

Indikator	Indeks Triwulan I (2024)	Indeks Triwulan I (2025)	Kategori	Tren
U1: Persyaratan	3.780	3.880	Sangat Baik	-0.200 ▼
U2: Sistem, Mekanisme dan Prosedur	3.810	3.660	Sangat Baik	-0.250 ▼
U3: Waktu Penyelesaian	3.935	3.820	Baik	-0.415 ▼
U4: Biaya/Tarif	4.000	3.960	Sangat Baik	-0.040 ▼
U5: Produk Spesifikasi Jenis Pelayanan	3.910	3.640	Sangat Baik	-0.270 ▼
U6: Kompetensi Pelaksana	4.000	3.680	Sangat Baik	-0.320 ▼
U7: Perilaku Pelaksana	3.978	3.680	Sangat Baik	-0.298 ▼
U8: Sarana dan Prasarana	3.870	3.600	Sangat Baik	-0.270 ▼
U9: Penanganan Pengaduan, Saran dan Masukan	3.875	3.960	Sangat Baik	-0.085 ▼
NRR Tertimbang	3.940	3.698	Sangat Baik	-0.242 ▼
Indeks Kepuasan Masyarakat (IKM) Last Performance	88.400	92.444	Sangat Baik	-4.044 ▼

Indeks Kepuasan Masyarakat KPUBC Tipe B Batam Periode Triwulan II Tahun 2025

Indikator	Indeks Triwulan II (2024)	Indeks Triwulan II (2025)	Kategori	Tren
U1: Persyaratan	3.71	3.710	Sangat Baik	-0.000 ▼
U2: Sistem, Mekanisme dan Prosedur	3.61	3.680	Sangat Baik	-0.080 ▼
U3: Waktu Penyelesaian	3.55	3.580	Sangat Baik	-0.030 ▼
U4: Biaya/Tarif	3.94	3.880	Sangat Baik	-0.060 ▼
U5: Produk Spesifikasi Jenis Pelayanan	3.81	3.620	Sangat Baik	-0.190 ▼
U6: Kompetensi Pelaksana	3.91	3.708	Sangat Baik	-0.202 ▼
U7: Perilaku Pelaksana	3.71	3.700	Sangat Baik	-0.010 ▼
U8: Sarana dan Prasarana	3.76	3.780	Sangat Baik	-0.020 ▼
U9: Penanganan Pengaduan, Saran dan Masukan	3.9	3.840	Sangat Baik	-0.060 ▼
NRR Tertimbang	3.71	3.708	Sangat Baik	-0.002 ▼
Indeks Kepuasan Masyarakat (IKM)	91.88	91.880	Sangat Baik	-0.000 ▼

Indeks Kepuasan Masyarakat KPUBC Tipe B Batam Periode Triwulan III Tahun 2025

Indikator	Indeks Triwulan III (2024)	Indeks Triwulan III (2025)	Kategori	Tren
U1: Persyaratan	3.466	3.717	Sangat Baik	0.251 ▲
U2: Sistem, Mekanisme dan Prosedur	3.491	3.640	Sangat Baik	0.149 ▲
U3: Waktu Penyelesaian	3.379	3.600	Sangat Baik	0.221 ▲
U4: Biaya/Tarif	3.828	3.967	Sangat Baik	0.139 ▲
U5: Produk Spesifikasi Jenis Pelayanan	3.345	3.683	Sangat Baik	0.338 ▲
U6: Kompetensi Pelaksana	3.448	3.667	Sangat Baik	0.219 ▲
U7: Perilaku Pelaksana	3.468	3.667	Sangat Baik	0.199 ▲
U8: Sarana dan Prasarana	3.463	3.660	Sangat Baik	0.197 ▲
U9: Penanganan Pengaduan, Saran dan Masukan	3.879	3.960	Sangat Baik	0.081 ▲
NRR Tertimbang	3.533	3.718	Sangat Baik	0.185 ▲
Indeks Kepuasan Masyarakat (IKM) Last Performance	88.074	92.763	Sangat Baik	4.689 ▲

Indeks Kepuasan Masyarakat KPUBC Tipe B Batam Periode Triwulan IV Tahun 2025

Indikator	Indeks Triwulan IV (2024)	Indeks Triwulan IV (2025)	Kategori	Tren
U1: Persyaratan	3.78	3.880	Sangat Baik	-0.100 ▼
U2: Sistem, Mekanisme dan Prosedur	3.81	3.680	Sangat Baik	-0.200 ▼
U3: Waktu Penyelesaian	3.91	3.880	Baik	-0.030 ▼
U4: Biaya/Tarif	4.00	3.812	Sangat Baik	-0.188 ▼
U5: Produk Spesifikasi Jenis Pelayanan	3.96	3.612	Baik	-0.348 ▼
U6: Kompetensi Pelaksana	4.00	3.608	Baik	-0.392 ▼
U7: Perilaku Pelaksana	3.98	3.604	Sangat Baik	-0.376 ▼
U8: Sarana dan Prasarana	3.87	3.598	Baik	-0.278 ▼
U9: Penanganan Pengaduan, Saran dan Masukan	3.88	3.912	Sangat Baik	-0.028 ▼
NRR Tertimbang	3.94	3.592	Sangat Baik	-0.348 ▼
Indeks Kepuasan Masyarakat (IKM)	90.49	89.21	Sangat Baik	-1.288 ▼

Figure 1.2 Public Satisfaction Index in 2025

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This increase in public satisfaction is inseparable from the role of Customs and Excise employees, who are at the forefront of providing customs and excise services. Professionalism, punctuality, clarity of information, and employee friendliness are key factors in building public trust and satisfaction. This also demonstrates that employee performance not only impacts the achievement of internal organizational targets but is also directly felt by service users and the wider community. Therefore, the high 2024 IKM achievement strengthens the argument that Batam Customs and Excise employee performance significantly contributes to improving the quality of public services. Factors such as employee job satisfaction, work environment, motivation, and organizational commitment are important to further examine, as they indirectly determine service quality, which is ultimately reflected in public satisfaction. Previous research summarized in this thesis indicates that employee competency and facilities can be related to service quality and public satisfaction, while the role of organizational structure is also important in improving service efficiency and responsiveness. A research gap lies in the limited simultaneous examination of the role of organization, employee competency, and infrastructure with service quality as mediators in the context of customs and excise services in Batam. Therefore, this study examines both direct and indirect relationships between these variables.

2. LITERATURE REVIEW AND HYPOTHESIS

2.1 Theoretical Study

The theoretical review outlines theories related to the research. The empirical review outlines studies relevant to the research to be conducted. This section also outlines the research framework and the proposed action hypotheses.



Figure 2.1 *Grand Theory, Middle Theory and Applied Theory*

2.1.1 Grand Theory

Human Resource Management (HRM)

Human Resource Management (HRM) has experienced rapid development in the last decade, particularly since 2019, when organizations faced global challenges such as the pandemic, digitalization, and changes in the work environment. According to Collings et al. (2021), modern HRM is no longer merely an administrative function but has become an

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integral part of organizational strategy. Strategic HRM practices are necessary for companies and public institutions to adapt to environmental changes while maintaining competitiveness. This perspective emphasizes that human resource management must align with the organization's overall vision, mission, and goals. Furthermore, the COVID-19 pandemic has significantly changed the face of HR. Hamouche (2021) emphasized that human resource management in times of crisis must prioritize employee well-being, safety, and mental health. Organizations are required not only to manage productivity but also to ensure a safe, flexible work environment that supports work-life balance. This demonstrates the inextricable strategic role HR plays in maintaining organizational sustainability, particularly in the public sector, which provides vital services to the public. Furthermore, the concept of *caring human resource management* developed as a new approach. Saks (2022) explains that HRM that emphasizes concern for employee well-being will increase employee engagement, organizational commitment, and individual performance. This means that HRM success is measured not only by administrative aspects or productivity, but also by the extent to which an organization is able to build positive emotional and psychological relationships with its employees.

2.1.2 Middle Theory

Herzberg's Two -Factor Theory

The Two-Factor Theory was proposed by Frederick Herzberg in 1959 through his book entitled *The Motivation to Work*. This theory explains that job satisfaction and dissatisfaction are influenced by two groups of factors: motivator factors and hygiene factors. According to Herzberg (1959), motivator factors relate to intrinsic aspects of work that can increase employee motivation and job satisfaction, such as achievement, recognition, responsibility, and career development. Meanwhile, hygiene factors relate to external conditions of the job, such as organizational policies, work relationships, supervision, working conditions, salary, and work facilities and infrastructure. Herzberg's Two - Factor Theory is an important theory in the study of organizational behavior that explains the sources of employee job satisfaction and dissatisfaction. This theory emphasizes that job satisfaction does not always stem from the same factors as job dissatisfaction. Robbins and Judge (2022) explain that Herzberg differentiated between factors that contribute to job satisfaction and factors that merely prevent dissatisfaction. Therefore, organizations need to understand that increasing job satisfaction involves more than just improving general working conditions; they must also address the psychological aspects that encourage employees to feel meaningful in their work.

2.1.3 Applied Theory

2.1.3.1 User Satisfaction

Service user satisfaction can be understood as an emotional or evaluative state that occurs when the service received by the service user meets or exceeds their expectations. For example, a study conducted in the United Arab Emirates stated that: "Customer satisfaction is defined as the result of a cognitive and affective evaluation, where some comparison standard is compared to the actual perceived performance." Thus, satisfaction is not just the result of the service, but also involves the service user's perception of the extent to which the service provider's performance meets those expectations. In the context of public services, research by Joko Tri Nugraha et al. (2023) suggests that the level of public satisfaction with public services is one indicator of the bureaucracy's success in serving the public. In this case, service user satisfaction reflects the public's perception that the service received meets the promised service standards, the process is easy, transparent, and the results are satisfactory. Therefore, for public institutions such as service offices, evaluating service user satisfaction is an integral part of improving service quality. Furthermore, a study conducted by Johan Fahri (2022) in the context of a local port highlighted that user satisfaction is influenced not only by technical aspects of the service (such as waiting time and facilities) but also by emotional aspects and user perceptions of the service as a whole. This underscores that measuring user satisfaction in public institutions must consider a broader range of variables than just technical efficiency or effectiveness.

2.1.3.2 Quality of Service

Understanding Service Quality

Service quality in the context of public services refers to the extent to which an agency or service provider is able to meet or exceed user expectations. For example, an article by Ilham Hidayah Napitupulu et al. (2024) found that service

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quality in the field of information systems applications and public services encompasses the dimensions of reliability, flexibility, security, ease of use, and accessibility. Thus, service quality emphasizes not only the final outcome of the service but also the processes, environment, and technological support used. Research using human resource management and organizational behavior as a foundation explains that organizational effectiveness is influenced by individuals, groups, structures, and organizational systems. In the context of public services, service quality is the result of the interaction between organizational systems, employee capabilities, and supporting resources. Service quality then becomes the experience felt by service users and contributes to satisfaction. Organizational roles encompass structure, internal policies, inter-unit coordination, leadership, supervision, and resource management. Employee competencies encompass knowledge, skills, communication, problem-solving abilities, and professionalism. Infrastructure encompasses physical facilities, information technology, service spaces, and supporting infrastructure. Service quality emphasizes timeliness, precision and accuracy, ease of procedures, responsiveness, and service attitude. Service user satisfaction is an evaluation of the service received compared to expectations.

2.1.3.3 Role of Organization

Role of Organization

The role of an organization in the context of public services often refers to how the structure, policies, procedures, coordination between work units, and overall organizational governance determine the effectiveness and efficiency of the services provided. For example, a study by Ade Sudrajat, Rd. Raya Mustiraya & Dyah Bayu Framesthi (2025) found that organizational restructuring that simplifies the structure, delegates authority, and adjusts functional roles can improve the responsiveness and efficiency of public services. This demonstrates that the role of an organization is not simply a matter of "the existence or absence of an organization," but rather how the organization is designed and run to support quality services.

2.2 research framework ,

The hypotheses tested are: H1 organizational role → service quality; H2 employee competence → service quality; H3 infrastructure → service quality; H4 organizational role → satisfaction; H5 employee competence → satisfaction; H6 infrastructure → satisfaction; H7 service quality → satisfaction; H8 service quality mediates organizational role → satisfaction; H9 service quality mediates employee competence → satisfaction; H10 service quality mediates infrastructure → satisfaction; and the simultaneous influence of research variables on service quality and service user satisfaction.

3. RESEARCH METHODS

This study uses a quantitative approach with explanatory research to test the causal relationship between variables. The independent variables consist of Organizational Role (X1), Employee Competence (X2), and Availability of Facilities and Infrastructure (X3). Service Quality (Z) is the intervening variable, while Service User Satisfaction (Y) is the dependent variable. The research location is the Batam Type B Customs and Excise Main Service Office. The study population consisted of 124 service users. With a 5% error rate, the Slovin formula yielded a sample of 95 respondents. Sampling used proportionate random sampling. Primary data were obtained through a closed-ended questionnaire with a Likert scale of 1–5. The data were then analyzed using SEM-PLS with the help of SmartPLS. Model evaluation included the outer model through factor loading, discriminant validity, Cronbach's Alpha, Composite Reliability, and AVE; while the inner model was evaluated through R^2 and structural relationship testing.

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Component	Information
Approach	Quantitative, explanatory research
Population	124 service users
Sample	95 respondents
Sampling techniques	Proportionate random sampling
Instrument	Likert scale questionnaire 1–5
Analysis	SEM-PLS / SmartPLS
Variables	X1 Organizational Role; X2 Competence; X3 Facilities and Infrastructure; Z Service Quality; Y Satisfaction

4. RESULTS AND DISCUSSION

4.1 Results

4.1.1 Respondent Identity Based on Gender

4.1.2 Evaluation of the Measurement Model (Outer Model)

The results of the outer model evaluation indicate that the research indicators generally meet convergent validity, with most factor loadings above 0.70. Discriminant validity is also considered quite good because most indicators have higher loadings on the construct they are supposed to be on compared to other constructs. Construct reliability meets the criteria, with Cronbach's Alpha and Composite Reliability above 0.70, and AVE above 0.50.

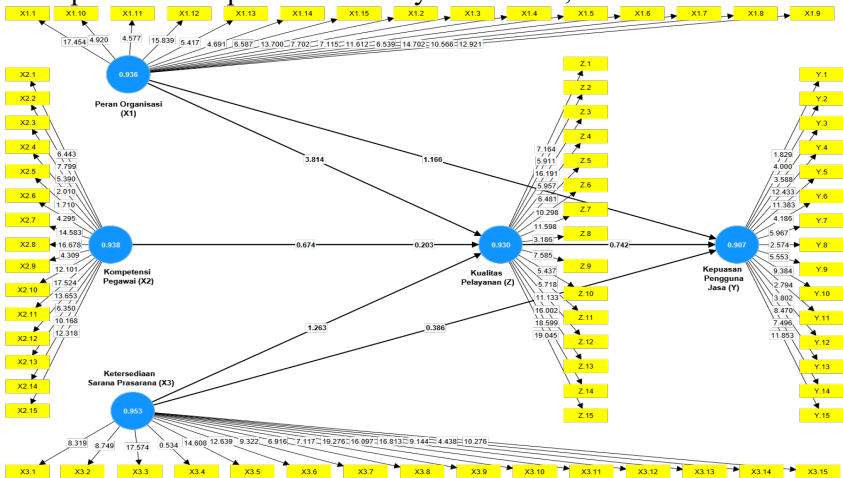


Figure 4.1 Outer Model

At this stage, a *cross-loading analysis* is conducted as part of the discriminant validity test in the measurement model. This test aims to ensure that each indicator in the study has a higher correlation with the construct (latent variable) being measured compared to other constructs. Therefore, *cross-loading* is a crucial step in assessing the extent to which indicators accurately represent variables and do not overlap with other variables in the model. The results of this analysis will provide an overview of the quality of the research instrument and the suitability of the indicators for building the structural model used.

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Table 4.2 Cross Loading

	User Satisfaction (Y)	Availability of Infrastructure (X3)	Employee Competence (X2)	Quality of Service (Z)	Role of Organization (X1)
X1.1	0.643	0.711	0.594	0.751	0.817
X1.2	0.428	0.497	0.594	0.536	0.567
X1.3	0.482	0.473	0.515	0.528	0.590
X1.4	0.670	0.748	0.712	0.737	0.822
X1.5	0.445	0.396	0.593	0.500	0.553
X1.6	0.382	0.406	0.603	0.507	0.524
X1.7	0.461	0.522	0.695	0.584	0.615
X1.8	0.578	0.745	0.713	0.789	0.806
X1.9	0.511	0.567	0.550	0.701	0.715
X1.10	0.499	0.543	0.453	0.576	0.629
X1.11	0.570	0.699	0.643	0.668	0.725
X1.12	0.483	0.607	0.450	0.531	0.592
X1.12	0.639	0.639	0.680	0.690	0.776
X1.14	0.625	0.510	0.610	0.641	0.737
X1.15	0.573	0.700	0.602	0.705	0.751
X2.1	0.418	0.520	0.672	0.579	0.607
X2.2	0.546	0.740	0.774	0.667	0.724
X2.3	0.620	0.796	0.833	0.718	0.734
X2.4	0.585	0.691	0.761	0.656	0.660
X2.5	0.455	0.494	0.636	0.548	0.498
X2.6	0.469	0.727	0.773	0.666	0.662
X2.7	0.559	0.691	0.751	0.647	0.636
X2.8	0.444	0.564	0.671	0.578	0.644
X2.9	0.287	0.512	0.616	0.530	0.491
X2.10	0.221	0.179	0.316	0.272	0.293
X2.11	0.065	0.290	0.387	0.334	0.300
X2.12	0.310	0.388	0.548	0.472	0.507
X2.13	0.595	0.604	0.794	0.684	0.623
X2.14	0.670	0.626	0.803	0.692	0.682
X2.15	0.500	0.583	0.559	0.482	0.575
X3.1	0.518	0.726	0.603	0.605	0.606
X3.2	0.594	0.861	0.697	0.734	0.721
X3.3	0.549	0.826	0.756	0.720	0.716
X3.4	0.607	0.852	0.767	0.711	0.723
X3.5	0.504	0.743	0.620	0.639	0.622
X3.6	0.380	0.651	0.546	0.608	0.649
X3.7	0.530	0.791	0.701	0.687	0.703

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X3.8	0.496	0.723	0.597	0.618	0.628
X3.9	0.681	0.879	0.662	0.692	0.655
X3.10	-0.007	-0.094	-0.184	-0.124	-0.101
X3.11	0.539	0.767	0.645	0.645	0.678
X3.12	0.538	0.791	0.808	0.681	0.693
X3.13	0.359	0.676	0.600	0.657	0.614
X3.14	0.363	0.624	0.454	0.583	0.512
X3.15	0.408	0.663	0.611	0.603	0.612
Y.1	0.271	0.203	0.144	0.219	0.203
Y.2	0.757	0.619	0.554	0.613	0.566
Y.3	0.391	0.227	0.273	0.254	0.339
Y.4	0.456	0.237	0.348	0.357	0.352
Y.5	0.727	0.533	0.433	0.547	0.573
Y.6	0.659	0.526	0.443	0.487	0.526
Y.7	0.767	0.490	0.545	0.620	0.577
Y.8	0.480	0.242	0.269	0.397	0.357
Y.9	0.418	0.240	0.303	0.349	0.308
Y.10	0.802	0.527	0.545	0.624	0.620
Y.11	0.754	0.523	0.547	0.597	0.576
Y.12	0.571	0.408	0.433	0.382	0.484
Y.13	0.544	0.323	0.440	0.371	0.459
Y.14	0.363	0.254	0.232	0.251	0.302
Y.15	0.646	0.357	0.452	0.484	0.515
Z.1	0.400	0.531	0.444	0.533	0.473
Z.2	0.590	0.379	0.444	0.597	0.463
Z.3	0.531	0.456	0.512	0.612	0.521
Z.4	0.554	0.649	0.664	0.735	0.671
Z.5	0.669	0.649	0.597	0.813	0.754
Z.6	0.626	0.708	0.710	0.835	0.800
Z.7	0.629	0.730	0.681	0.824	0.767
Z.8	0.398	0.461	0.435	0.497	0.415
Z.9	0.542	0.726	0.639	0.739	0.671
Z.10	0.403	0.401	0.494	0.522	0.486
Z.11	0.430	0.618	0.512	0.588	0.512
Z.12	0.451	0.616	0.654	0.662	0.635
Z.13	0.502	0.634	0.669	0.730	0.736
Z.14	0.371	0.423	0.512	0.545	0.575
Z.15	0.460	0.547	0.564	0.629	0.602

Source : Primary data processed (2026)

Based on the results of the discriminant validity test using the cross loading value, it can be analyzed that each indicator in the research variable shows varying levels of correlation with the constructs being measured, namely

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Organizational Role (X1), Employee Competence (X2), Availability of Facilities and Infrastructure (X3), Service Quality (Z), and Service User Satisfaction (Y).

4.1.3 Convergent Validity

The *convergent validity* of the measurement model with the reflective indicator model is assessed based on the correlation between *the item score/component score* and *the construct score* calculated using PLS. The following are the results of the *convergent validity* measurement model test using *loading factors* :

Table 4.3 Results of Instrument Validity Test Using Loading Factor

		User Satisfaction (Y)	Availability of Facilities and Infrastructure (X3)	Employee Competence (X2)	Quality of Service (Z)	Role of Organization (X1)
X1.1						0.817
X1.2						0.767
X1.3						0.790
X1.4						0.822
X1.5						0.753
X1.6						0.724
X1.7						0.715
X1.8						0.806
X1.9						0.715
X1.10						0.729
X1.11						0.725
X1.12						0.792
X1.12						0.776
X1.14						0.737
X1.15						0.751
X2.1				0.772		
X2.2				0.774		
X2.3				0.833		
X2.4				0.761		
X2.5				0.736		
X2.6				0.773		
X2.7				0.751		
X2.8				0.771		
X2.9				0.716		
X2.10				0.716		
X2.11				0.787		
X2.12				0.748		
X2.13				0.794		
X2.14				0.803		
X2.15				0.759		

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X3.1		0.726			
X3.2		0.861			
X3.3		0.826			
X3.4		0.852			
X3.5		0.743			
X3.6		0.751			
X3.7		0.791			
X3.8		0.723			
X3.9		0.879			
X3.10		0.794			
X3.11		0.767			
X3.12		0.791			
X3.13		0.776			
X3.14		0.724			
X3.15		0.763			
Y.1	0.771				
Y.2	0.757				
Y.3	0.791				
Y.4	0.746				
Y.5	0.727				
Y.6	0.766				
Y.7	0.767				
Y.8	0.780				
Y.9	0.718				
Y.10	0.802				
Y.11	0.754				
Y.12	0.771				
Y.13	0.744				
Y.14	0.763				
Y.15	0.746				
Z.1				0.733	
Z.2				0.797	
Z.3				0.712	
Z.4				0.735	
Z.5				0.813	
Z.6				0.835	
Z.7				0.824	
Z.8				0.797	
Z.9				0.739	
Z.10				0.722	

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Z.11				0.788	
Z.12				0.762	
Z.13				0.730	
Z.14				0.745	
Z.15				0.729	

Source : Primary data processed (2026)

4.1.4 Reliability Test

An instrument can be said to be reliable if its *Average Variance Extracted* value is more than 0.5, *Cronbach's Alpha* is more than 0.6, and *Composite Reliability* is more than 0.7. The following results of reliability calculations using *Average Variance Extracted* (AVE), *Cronbach's Alpha*, and *Composite Reliability* can be seen in the following table:

Table 4.4 Calculation of AVE, Cronbach Alpha, and Composite Reliability

	Cronbach's alpha	Composite reliability (rho a)	Composite reliability (rho c)	Average variance extracted (AVE)
User Satisfaction (Y)	0.891	0.907	0.885	0.556
Availability of Facilities and Infrastructure (X3)	0.934	0.953	0.941	0.539
Employee Competence (X2)	0.921	0.935	0.923	0.557
Quality of Service (Z)	0.922	0.930	0.921	0.560
Role of Organization (X1)	0.930	0.936	0.930	0.574

Source : Primary data processed (2026)

4.1.5 Structural Model Evaluation (Inner Model)

Evaluation of the *inner model* can be seen from several indicators including the coefficient of determination (R^2), *Predictive Relevance* (Q^2), and *Goodness of Fit Index* (GoF) (Hussein, 2015). The results of the structural model displayed by Smart PLS 3.0 in this study are as follows:

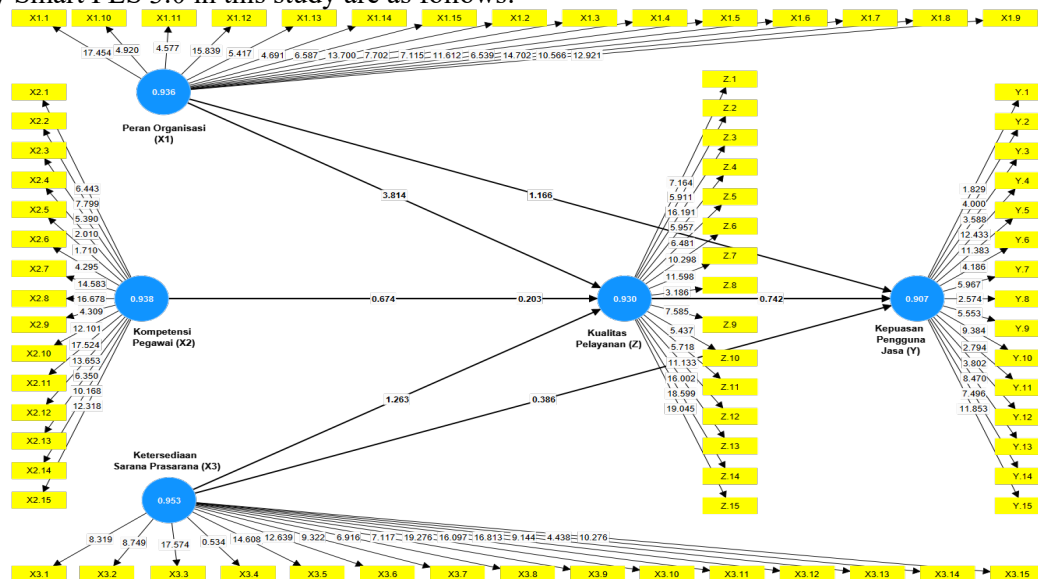


Figure 4.2 Structural Model (Inner Model)

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4.1.6 R^2 (R-square) Results

In assessing a model using PLS, we begin by looking at the *R-square* for each dependent latent variable. The results of the R^2 calculation in this study are as follows:

Table 4.6 Correlation Value (r^2)

	R-square	R-square adjusted
User Satisfaction (Y)	0.726	0.714
Quality of Service (Z)	0.876	0.872

Source : Primary data processed (2026)

The R^2 value for Service User Satisfaction is 0.726, which means that 72.6% of the variation in satisfaction can be explained by Organizational Role, Employee Competence, Availability of Infrastructure, and Service Quality. The R^2 value for Service Quality is 0.876, meaning that 87.6% of the variation in service quality can be explained by the three independent variables. The remaining 27.4% and 12.4%, respectively, are explained by other factors outside the model.

Connection	Coefficient (O)	t-statistic	p-value	Decision
X1 → Z	0.625	3,814	0,000	Significant
X2 → Z	0.568	4,920	0,000	Significant
X3 → Z	0.395	2,794	0.005	Significant
X1 → Y	0.528	1,166	0.244	Not significant
X2 → Y	0.466	3,802	0,000	Significant
X3 → Y	-0.124	0.386	0.700	Not significant
Z → Y	0.590	4,577	0,000	Significant
Mediation	Indirect coefficient	t-statistic	p-value	Decision
X1 → Z → Y	0.200	0.645	0.519	Does not mediate significantly
X2 → Z → Y	0.558	5,967	0,000	Mediating significantly
X3 → Z → Y	0.577	4,186	0,000	Mediating significantly
Simultaneous test	Coefficient	t-statistic	p-value	Decision
X1+X2+X3 → Z	0.320	0.742	0.458	Not significant
X1+X2+X3+Z → Y	0.728	3,135	0.002	Significant

4.2. DISCUSSION

The role of the organization significantly influences service quality. These findings indicate that managerial functions, coordination, supervision, and organizational resource management can create a more structured work system and support fast, accurate, and responsive service. However, the role of the organization does not directly influence user satisfaction. Service users experience the final outcome of the service more than the internal aspects of the organization. Employee competence significantly influences service quality and user satisfaction. Employees with good knowledge, skills, communication abilities, and professionalism are better able to provide accurate information, resolve problems, and serve users responsively. The indirect effect through service quality is also significant, thus strengthening the mechanism by which competence influences satisfaction. The availability of infrastructure significantly impacts service quality, but does not directly impact user satisfaction. Facilities, information technology, service spaces, and supporting infrastructure primarily improve the service process. The indirect effect through service quality is proven significant. These findings indicate that infrastructure is a supporting factor whose benefits are

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primarily felt when these facilities translate into faster, easier, and more convenient service processes. Service quality significantly influences user satisfaction with a coefficient of 0.590, a t-statistic of 4.577, and a p-value of 0.000. Thus, service quality is a key factor in shaping satisfaction. Overall, the model linking organization, competence, infrastructure, service quality, and satisfaction shows a significant simultaneous influence on user satisfaction ($t=3.135$; $p=0.002$). There is an important note in the results of the simultaneous test on service quality: the t-statistic value of 0.742 and p-value of 0.458 indicate that the three independent variables together are not significant on the simultaneous path reported in the thesis. Thus, the simultaneous conclusion needs to be read in conjunction with the partial results: each of X1, X2, and X3 is significant on Z, but the combination of simultaneous paths tested in Table 4.9 is not significant. This demonstrates the importance of paying attention to path specifications in SEM-PLS interpretation.

5. CONCLUSION AND SUGGESTIONS

5.1 Conclusion

The study concluded that organizational role, employee competence, and infrastructure availability play a significant role in shaping service quality. Partially, all three significantly influence service quality. Employee competence and service quality significantly influence user satisfaction, while organizational role and infrastructure do not show a significant direct effect on satisfaction. Service quality was shown to mediate the influence of employee competence and infrastructure on service user satisfaction, but did not mediate the influence of organizational role. The R^2 values of 0.876 for service quality and 0.726 for service user satisfaction indicate strong explanatory power of the model. Therefore, strategies to improve service user satisfaction should prioritize service quality, strengthening employee competence, and optimizing infrastructure, along with strengthening organizational coordination and implementation.

5.2 Suggestions

The Batam Type B Customs and Excise Main Service Office is recommended to strengthen employee competency through regular training, technical and communication skills development, and professionalism enhancement. Facilities and infrastructure continue to need to be improved, particularly to support digital-based services and user convenience. The organization's role needs to be strengthened through coordination, supervision, and integration of work systems so that internal policies can be translated into quality service perceived by users. Service quality needs to be prioritized through improvements in speed, accuracy, responsiveness, and transparency. Future researchers can add variables such as leadership, organizational culture, or service digitalization, and expand the research object.

REFERENCES

- Apriyanti, R., Ruhana, F., & Ahmad, M. (2022). The influence of employee professionalism and competence in improving the quality of employee service. *Jurnal Ilmiah Pemerintahan*, 5(2), 88–101.
- Avita Putri, A., & Bayu Cahyoadi, B. (2023). Meningkatkan kepuasan pengguna layanan publik melalui fasilitas dengan kualitas pelayanan sebagai variabel intervening. *Jurnal Pendidikan dan Pengembangan Ekonomi*, 10(3), 121–134.
- Collings, D. G., et al. (2021). Strategic human resource management in changing organizational environments.
- Endrawan, G., Lanin, D., Erianjoni, & Frinaldi, A. (2023). The influence of accessibility, quality of facilities and information technology on public satisfaction in the education sector. *Jurnal Kajian Strategi*, 15(2), 55–70.
- Ekowati, D. (2024). Organizational Change in Public Service. *International Research Journal of Business Studies*, 14(2), 159–170.
- Fahri, J. (2022). Exploring Public Satisfaction with the Infrastructure of Services at a Local Seaport.
- Griffin, R. W., Phillips, J. M., & Gully, S. M. (2020). *Organizational Behavior*.
- Hair, J. F., et al. (2021). *Multivariate Data Analysis / PLS-SEM references used in the thesis*.
- Hardiyansyah. (2020). *Kajian pelayanan publik*.
- Luthans, F., & Youssef-Morgan, C. M. (2021). *Organizational Behavior and related motivational perspectives*.
- Meyer, J. P., Allen, N. J., & Morin, A. J. (2020). *Organizational commitment perspectives*.
- Nugraha, J. T., et al. (2023). *Public service satisfaction and public bureaucracy*.

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Ningrum, A. P., & Wicaksana, R. A. (2023). The Effect of Public Service Quality on Community Satisfaction in the Analysis of Systematic Literature Review. *DIA: Jurnal Administrasi Publik*, 22(2). DOI: 10.30996/dia.v22i02.9975.

Robbins, S. P., & Judge, T. A. (2022). *Organizational Behavior*.

Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*.

Sugiyono. (2021). *Metode penelitian kuantitatif*.

Viola, F. O., & Sukmana, H. (2022). *Exploring Public Satisfaction in Rural Public Services*.

Catatan: artikel ini disusun berdasarkan isi tesis “Peran Organisasi, Kompetensi Pegawai dan Ketersediaan Sarana Prasarana terhadap Peningkatan Kepuasan Pengguna Jasa dengan Kualitas Pelayanan sebagai Variabel Intervening pada Kantor Pelayanan Utama Bea dan Cukai Tipe B Batam” karya Rinaldi Adriansyah, Universitas Batam, 2026. Nilai statistik dan kesimpulan di atas mengikuti hasil yang tercantum dalam tesis sumber.