

The Moderation Effect of Digital Transformation on the Influence of Effectiveness and Quality of Service on Public Service User Satisfaction in South Sulawesi

Reynilda^{1✉}, La Ode Amijaya Kamaluddin², Muh. Akbar Ali³, Husnul Khatimah⁴

¹Lecturer in Public Management Study Program, Nobel Indonesia Institute of Technology and Business

²Management Study Program, Nobel Indonesian Institute of Technology and Business

³Management Study Program, Nobel Institute of Technology and Business, Indonesia

⁴Management Study Program, Nobel Indonesian Institute of Technology and Business

✉Corresponding author: reynilda@nobel.ac.id

Abstract

Technological advances in the era of disruption have penetrated various fields including public management which is closely related to the needs of the community. This study aims to determine the effect of effectiveness on user satisfaction, the effect of service quality on user satisfaction, and the role of technological transformation as a moderator related to the relationship between effectiveness and service quality on user satisfaction in the public sector. The research method applies a quantitative method using a moderated regression model. Data collection was carried out using questionnaires at one-stop service offices (public service malls) in three municipalities in South Sulawesi, namely Makassar City, Pare-Pare City, and Palopo City with a sample size of 90 people. The results of the study indicate that effectiveness and service quality partially have a significant and positive effect on user satisfaction of public services. Digital transformation shows its role as a significant moderating variable in the relationship between effectiveness and quality of public services on user satisfaction of public services.

Abstrak

Kemajuan teknologi di era disrupsi telah merambah berbagai bidang termasuk manajemen publik yang berkaitan erat dengan kebutuhan masyarakat. Penelitian ini bertujuan untuk mengetahui pengaruh efektivitas terhadap kepuasan pengguna layanan, pengaruh kualitas layanan terhadap kepuasan pengguna layanan, dan peran transformasi teknologi sebagai pemoderasi terkait hubungan efektivitas serta kualitas layanan terhadap kepuasan pengguna layanan sektor publik. Metode penelitian menerapkan metode kuantitatif dengan menggunakan model regresi moderasi. Pengumpulan data dilakukan menggunakan kuesioner di kantor-kantor pelayanan satu pintu (mall pelayanan publik) pada tiga kotamadya lingkup Sulawesi Selatan yaitu Kota Makassar, Kota Pare-Pare, dan Kota Palopo dengan jumlah sampel sebanyak 90 orang. Hasil penelitian menunjukkan bahwa efektivitas dan kualitas layanan secara parsial berpengaruh signifikan dan positif terhadap kepuasan pengguna layanan publik. Transformasi digital menunjukkan perannya sebagai variable pemoderasi signifikan dalam hubungan efektivitas dan kualitas layanan publik terhadap kepuasan pengguna layanan publik.

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1. Introduction

The presence of technology in the era of disruption has led to the emergence of much caution in implementing applications for public services, which basically have the same goal, namely to create effectiveness and efficiency as well as public satisfaction with the services provided by the local government.(Aris, Agustang, & Idkhan, 2021). In addition, the issue of public services that has so far been identified with bureaucratic behavior in relation to the mindset of being served compared to serving as a consequence of a job makes the public dissatisfied with the public services provided by the government.

The portrait of public services in Indonesia is still marked by administration that is less responsive (delays), not punctual, officers who are still incompetent, and the existence of illegal levies.(Pambudi, 2023; Wardaniah, 2022)(2.3). The findings of the Republic of Indonesia Ombudman in 2022 regarding public services to 25 ministries, 14 institutions, 34 provincial governments, 98 city governments and 415 district governments that as many as 46.42% of agencies are in the green zone, 42.66% are in the yellow zone and 10.92% are in the red zone.(OMBUDSMAN OF THE REPUBLIC OF INDONESIA, 2023). These results provide an illustration that the majority of government public services have not provided satisfaction in the basic services expected by the community.

ResultsThis confirms Sonani and Iis' findings that service quality has a significant influence on public satisfaction.(Sonani & Yulia, 2021). Other researchers suggest that the quality of public services can influence many things such as customer satisfaction and loyalty.(Siswadi, Hari, & Sufrin, 2019). However, the quality of public services does not stand alone but is also related to performance, administrator quality, waiting room facilities and infrastructure, and certainty of time for completion of administrative services.(Reynilda, 2022; Lestari, Rusli, & Yuliani, 2020; Salam & Rosy, 2020).

The existence ofThe Covid-19 phenomenon with the new normal concept forces the use of an integrated governance model both vertically and horizontally as a form of transformation from the old model to the new public service.(Lumbanraja, 2020). Based on these results, a paradigm shift is needed in public service accountability and also a transformation considering new things in the application of various technologies to help solve public service problems. The paradigm shift as in the opening paragraph is the need for compliance with norms and responsibility for work as a consequence of professionalism in the duties of public servants. Robert Behn's study with his question to whom public officials should be accountable is a challenge that needs to be answered by the government by making a paradigm shift to transform into quality services.

The public service accountability approach with a new paradigm shift, namely the new public service, requires the government to act ethically, responsibly and in accordance with the principles of democracy and public interest.(Herizal, Mukhrijal, & Wance, 2020). In addition, it is also recommended to construct public service accountability on local norms that apply in society with the aim of being able to resolve various problems more effectively.(Sisilianingsih, Purwandari, Eitiveni, & Purwaningsih, 2023).

Several previous reviews have shown that the satisfaction of public service users is determined by the effectiveness of the service.(Natalia, Masjaya, & Kalalinggi, 2021). Other studies conclude that service quality is a competitive value that influences the public satisfaction index.(Cahyaningsih & Rudianto, 2021). Both factors can dynamically influence the interaction between service providers and users, but the shift in people's habits after the new normal needs to be adapted because it provides many benefits, especially digitalization.(Rusmanto, 2022).

The transformation of public services has shifted from manual to digital, because it is a manifestation of innovation and adaptation to new things to improve the quality of services according to the needs of the community that are effective and efficient. The West Java Provincial Government has applied technology for the public interest, namely Jabar Digital Service(Setyasih, 2022). The transformation of public administration services through digitalization has been proven to be able to provide quality public services. The results of the study show that this shows very positive results in meeting public expectations for public services.(Utami, 2022).

The presence of the concept of a public service mall in South Sulawesi has become a trend for local governments. The goal is to present an integrated public service space and a form of digital transformation in public services so that it can improve efficiency and quality of service. With the increase in efficiency and quality of service through digital transformation in public services, it is hoped that service users can get satisfaction with the public services provided. However, the status of the public service quality assessment by the Ombudsman which places South Sulawesi in the yellow zone requires attention to obtain corrections in improving services (OMBUDSMAN OF THE REPUBLIC OF INDONESIA, 2023).

The formulation of the research problem is how the transformation of public services through digitalization can moderate the relationship between the effectiveness and quality of services and the satisfaction of public service users.

2. Theoretical basis

2.1. The relationship between service effectiveness and user satisfaction

Public services demand effectiveness considering the current complex life in society. The ability of government agencies to provide services effectively and efficiently can be an indicator of the agency's responsibility to the needs of the community. Effectiveness in public services includes employee capacity, the ability to achieve service goals, and handling complaints. (Aris, Agustang, & Idkhan, 2021). These three parameters are the reference for assessing effective public services. (Herizal, Mukhrijal, & Wance, 2020). In several studies it has been found that effectiveness in the presentation of public services determines the satisfaction of the community as the main users of public services. (Waruwu & Masitho, 2016; Natalia, Masjaya, & Kalalinggi, 2021).

2.2. The relationship between service quality and user satisfaction

Service quality in the public sector is an accumulation of various aspects that are oriented towards user needs so that the relationship between quality and satisfaction is closely related. (Sonani & Yulia, 2021). The demands of today's society are not only on the achievement of service needs, attention to aspects or supporting and supporting features. The parameters for assessing service quality are reliability, responsiveness, assurance, empathy, and tangible. Previous studies have found that service quality is positively and significantly related to user satisfaction. (Cahyaningsih & Rudianto, 2021; Lestari, Rusli, & Yuliani, 2020; Salam & Rosy, 2020).

2.3. The relationship between service effectiveness and service quality moderated by digital transformation

The digital process that occurs in various sectors causes changes in production patterns, including in producing public services. Previous research concluded that digital transformation has an impact on increasing effectiveness and services in both the government and private sectors. (Rusmanto, 2022; Maryadi, Nawir, & Reynilda, 2023). Digital transformation can be measured based on the existence of information systems, queue features, service monitoring processes, and access to service results. Through digitalization, it is expected to increase the effectiveness and quality of services in relation to user satisfaction.

3. Method

This research is a research conducted with a quantitative approach. Quantitative research is a research method based on the philosophy of positivism in researching a certain population or sample with a sampling technique that is generally done randomly, and statistical data analysis to test the established hypothesis. (Sugiyono, 2019).

Table 1. Operational Definition of Variables

Variables	Definition	Indicator
Effectiveness	The relationship between output and the goals or targets that must be achieved (17)	<ul style="list-style-type: none"> • Achievement of service objectives • Complaint handling • Employee capacity
Quality of Service	Completeness of features of a product/service to meet user needs(20)	<ul style="list-style-type: none"> • Reliability • Responsiveness • Assurance • Empathy • Tangible
Digital Transformation	Integration of digital technologies into organizational aspects and operations(21)	<ul style="list-style-type: none"> • Information Systems • Online queue feature • Service monitoring • Accessibility of service output
User Satisfaction	User's level of feeling regarding the comparison of expectations and reality(22)	<ul style="list-style-type: none"> • Clarity of procedures • Justice of service • Speed of service • Service security

4. Results and Discussion

4.1. Description of Respondent Characteristics

Table 2. Research respondent profile

Profile	Measurement	N	%
Age	18-25 years	15	16.7
	26-35 years	35	38.9
	36-45 years	33	36.7
	45-55 years	7	7.8
Gender	Man	48	53.3
	Woman	42	46.7
Last education	junior high school level	3	3.3
	High school/vocational school equivalent	15	16.7
	Diploma/Bachelor	57	63.3
	Postgraduate	15	16.7

Source: Processed primary data, 2024

The total number of respondents from the three research locations was 90 people with various backgrounds. In terms of age, the largest distribution was in the age group of 26.35 years (38.9%) and 36-45 years (36.7%) which if the two groups were totaled as many as 68 respondents. Male gender showed a higher percentage as respondents, namely 48 respondents or 53.3% but not much different from the female group which showed a figure of 42 respondents (46.7%). As many as 63.3% of respondents were individuals who had received higher education or had bachelor/diploma status. The variation of respondents showed that public services in the three research locations could be accessed by all groups where this indicated the inclusiveness of the services that had been provided.

4.2. Validity and Reliability Test

Table 3. Validity and Reliability Test Results

Variables	Instrument	Outer Loading	Average Variance Extracted (AVE)	Results
Effectiveness(X1)	EF1.1	0.814	0.722	Valid
	EF1.2	0.801		Valid
	EF1.3	0.785		Valid
	EF2.1	0.797		Valid
	EF2.2	0.807		Valid
	EF2.3	0.844		Valid
	EF3.1	0.815		
	EF3.2	0.850		
Quality of Service (X2)	KL1.1	0.812	0.781	Valid
	KL1.2	0.803		Valid
	KL1.3	0.795		Valid
	KL2.1	0.843		Valid
	KL2.2	0.813		Valid
	KL2.3	0.800		Valid
	KL3.1	0.792		Valid
	KL3.2	0.800		Valid
	KL3.3	0.821		Valid
	KL4.1	0.813		Valid
	KL4.2	0.800		Valid
	KL4.3	0.793		Valid
	KL5.1	0.845		Valid
	KL5.2	0.858		Valid
Digital Transformation (Z)	TD1.1	0.750	0.745	Valid
	TD1.2	0.761		Valid
	TD1.3	0.768		Valid
	TD2.1	0.800		Valid
	TD2.2	0.845		Valid
	TD3.1	0.831		Valid
	TD3.2	0.757		Valid
	TD3.3	0.801		Valid
	TD4.1	0.766		Valid
	TD4.2	0.800		Valid
User Satisfaction(Y)	KP1.1	0.781	0.776	Valid
	KP1.2	0.796		Valid
	KP1.3	0.799		Valid
	KP2.1	0.821		Valid
	KP2.2	0.805		Valid
	KP2.3	0.796		Valid
	KP3.1	0.810		Valid
	KP3.2	0.800		Valid
	KP4.1	0.781		Valid
	KP4.2	0.801		Valid
	KP4.3	0.869		Valid

Source: Primary data processed, 2024

The correlation value on the outer module construct shows a value that is greater than the AVE value. Referring to this value, it can be stated that each parameter meets the validity criteria for measuring research variables.

Table 4. Results of variable reliability testing

Variables	Composite Reliability	Cronbach Alpha	Results
Effectiveness(X1)	0.761	0.742	Reliable
Quality of Service (X2)	0.882	0.801	Reliable
Digital Transformation (Z)	0.782	0.727	Reliable
User Satisfaction(Y)	0.814	0.781	Reliable

Source: Primary data processed, 2024

The Composite Reliability and Cronbach alpha values in each variable are above the standard value of 0.70. Based on these values, it can be concluded that each variable has met the reliability criteria for use in compiling a research model.

Table 5. R Square Test

Construction	R Square	Adj. R Square
Digital Transformation (Z)	0.556	0.551
User satisfaction(Y)	0.709	0.695

Source: Primary data processed, 2024

The regression coefficient measured based on the R Square value in model 1 (Digital Transformation) is obtained at 0.556 or 55.6% while in model 2 (User Satisfaction) it is 0.709 or 70.9%. Model 1 explains that 55.6% of digital transformation is constructed from the effectiveness and quality of service. Model 2 shows that 70.9% of user satisfaction in the public sector is influenced by the ability to offer effective, quality, and digital-based services.

Hypothesis testing after evaluating the SEM-PLS model found the path coefficient and p value results which appear in the following table:

Table 6. Hypothesis Test Results

Iner Variable	Original Sample	T Statistics	P Values	Results
Effectiveness of service towards User Satisfaction	0.417	6.301	0.020	Accepted
Quality of service towards User Satisfaction	0.889	12,058	0.000	Accepted
Effectiveness of services towards User Satisfaction moderated by Digital Transformation	0.378	2.247	0.041	Accepted
Quality of Service towards User Satisfaction moderated by Digital Transformation	0.901	14,224	0.000	Accepted

Source: Processed primary data, 2024

The results of the model analysis on the first hypothesis show a p-value of 0.020, smaller than 0.05 so that the first hypothesis is accepted that service effectiveness has a significant effect on user satisfaction. The p-value on the second hypothesis shows a value of 0.000, smaller than 0.05, so it can be stated that service quality has a significant effect on user satisfaction. The role of digital transformation as a moderator can be seen in the p-value of the third and fourth hypotheses where the values obtained are 0.041 and 0.000, both smaller than 0.05, so it is concluded that digital transformation significantly moderates the relationship between service effectiveness and quality on user satisfaction.

5. Conclusion

5.1. Relationship of Effectiveness to User Satisfaction

The results of statistical tests using the regression moderation model concluded that service effectiveness has a significant effect on user satisfaction. The direction of the resulting relationship is positive with a correlation value of 0.417 or quite strong. The employee capacity parameter is indicated as the dominant parameter forming the service effectiveness variable so that it can be used as a reference for increasing public satisfaction with the public services provided. Other parameters such as orientation towards goals and the availability of complaint mechanisms also influence and can be elaborated in the form of policies and technical instructions so that every element that

interacts, both employees and the public, can comprehensively understand the agency's efforts to provide effective services.

The results of the study are in line with previous studies which also found that the effectiveness of the services provided affects the satisfaction of service users, both products/services offered by the government and the private sector. The ability of an agency to provide an effective public service mechanism indirectly becomes a brand image for the agency. The concept of one-stop service and public service malls currently provided aims to create an effective and efficient public service ecosystem so that every factor related to service effectiveness needs attention.

5.2. Relationship between Service Quality and User Satisfaction

The regression moderation model used and tested resulted in findings that service quality has a significant and positive effect on user satisfaction. The relationship pattern found from the lane analysis is very strong with a coefficient of 0.889 so that service quality is stated to be very closely related to user satisfaction. User satisfaction is the main goal of public service so that each agency is expected to provide excellent and quality service.

The research findings are in line and consistent with several previous studies that stated a strong and positive relationship between service quality and user satisfaction in the public sector. Quality service features determine public perception of an agency. Completeness and clarity of service mechanisms and other supporting elements can increase user satisfaction, especially now that accessing public services is not only done offline but can also be done online.

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The effectiveness and quality of service factors show a significant and positive influence on the satisfaction of public service users. Digital transformation in the field of public services shows positive performance and is able to influence the relationship between effectiveness and quality of service and the satisfaction of the community using public services. The fairly broad research area is a limitation for researchers. Satisfaction related to the use of a public service has a broad spectrum to be studied so that further researchers can add other variables that have not been studied to analyze their relationship with the satisfaction of public service users.

References

- Aris, M., Agustang, A., & Idkhan, A. (2021). Effectiveness of Civil Service Services in Improving Public Services. *JGP*, 1(2), 127-133. Retrieved from <https://www.iyb.ac.id/jurnal/index.php/jgp/article/view/208>
- Cahyaningsih, E., & Rudianto, D. (2021). Analysis of the Public Satisfaction Index for Guidance and Services for Data Management and Presentation of Personnel Information. *JBKN*, 5(1), 13-24. doi:<https://jurnal.bkn.go.id/index.php/asn/article/view/297>
- Herizal, Mukhrijal., & Wance, M. (2020). Public Service Accountability Approach in Following the New Paradigm Changes of Public Administration. *GASPOL*, 1(1), 24-34. doi:<https://doi.org/10.24815/gaspol.v1i1.17327>
- Lestari, R., Rusli, X., & Yuliani, F. (2020). Quality of Public Services at the Population and Civil Registration Service. *JIANA*, 18(2), 118-123. doi:<http://dx.doi.org/10.46730/jiana.v18i2.7938>
- Lumbanraja, A. (2020). The Urgency of Public Service Transformation Through E-Government in the New Normal and Bureaucratic Regulation Reform. *ALJ*, 3(2), 220-231. doi:<https://doi.org/10.14710/alj.v3i2.220-231>
- Maryadi, M., Nawir, R., & Reynilda, R. (2023). Organizational Transformation at the Secretariat of the DPRD Takalar. *JPMB*, 7(1), 125-137.
- Natalia, J., Masjaya., & Kalalinggi, R. (2021). Effectiveness of Employee Services in the Level of Public Satisfaction at the Jawa Village Office, Samarinda Ulu District. *JIP*, 9(2), 68-75. doi:<https://e-journals2.unmul.ac.id/index.php/jip/article/view/895>

- OMBUDSMAN RI. (2023). Annual Report 2022: Monitoring Public Services for a Stronger Recovery. Jakarta: OMBUDSMAN RI.
- Pambudi, A. (2023). Public Service Problems and the Role of OMBUDSMAN Representatives in Assisting State Civil Apparatus. *JIWBP*, 13(2), 128-141. doi:<https://doi.org/10.0.131.165/jiwbp.v13i2.3178>
- Reynilda, R. (2022). The Effect of Work Competence, Work Motivation, and Work Discipline on Work Performance. *JMB*, 9(2), 425-438. doi:<https://doi.org/10.33096/jmb.v9i2.388>
- Rusmanto, W. (2022). Digital-Based Public Services Post Covid-19 Pandemic in Bandung City. *JISIP*, 6(4), 13-24. doi:<https://ejournal.mandalanursa.org/index.php/JISIP/article/view/3904>
- Salam, M., & Rosy, B. (2020). The Influence of Infrastructure and Quality of Administrative Services of the Population and Civil Registration Service on Public Satisfaction. *JIANA*, 18(2), 118-123. doi:<https://doi.org/10.37606/publik.v9i3.360>
- Setyasih, E. (2022). Digital Transformation of Local Government in the Era of Society 5.0: Case Study in West Java Province. *PAPATUNG*, 5(3), 59-66.
- Sisilianingsih, S., Purwandari, B., Eitiveni, I., & Purwaningsih, M. (2023). Analysis of Digital Transformation Factors of Public Services in Government in the Pandemic Era. *JTIK*, 10(4), 883-892. doi:<https://doi.org/10.25126/jtiik.2023107059>
- Siswadi, F., Hari, M., & Sufrin, H. (2019). The Influence of Service Quality on Customer Satisfaction and Customer Loyalty. *JPI*, 18(1), 42-53. doi:<https://doi.org/10.29244/jpi.18.1.42-53>
- Sonani, N., & Yulia, I. (2021). The Influence of Service Quality on Public Satisfaction in the Population Administration Service Section. *JVS*, 7(1), 14-21. Retrieved from <https://ojs.unida.ac.id/Jvs/article/view/4357>
- Sugiyono. (2019). *Qualitative, Quantitative, R&D Research Methods*. Bandung: Alfabeta.
- Utami, P. (2022). Public Administration Transformation: Innovation and Adaptation Towards Efficiency and Quality Public Services. *PAPATUNG*, 6(2), 1-9.
- Wardaniah, R. (2022). Criticism of Public Services of Local Government in Indonesia. *PUBLIC DIALECTICS*, 6(1), 1-7. Retrieved from <https://forum.upbatam.ac.id/index.php/dialektikapublik/article/view/5491/2569>
- Waruwu, H., & Masitho, B. (2016). Effectiveness of Passport Services at the Medan Class 1 Special Immigration Office. *JAP*, 4(1), 43-51.