The Contribution of Chemical Laboratories and Their Excesses to Service Quality (Study At Balai Penelitian Ternak Bogor)

[a] **Muhammad Husein Maruapey**; [b] **Tora Akadira**; [c] **Berry Sastrawan**

[a] Department of Public Afministration Universitas Djuanda; [b] Department of Public Afministration Universitas Terbuka; [c] Department of Public Afministration Universitas Djuanda;

ABSTRAK

Penelitian ini dilatarbelakangi oleh keluhan konsumen terkait kontribusi Laboratorium Kimia terhadap kualitas pelayanan di Balai Penelitian Ternak (BALITNAK) yang tergambar pada form pengaduan pelanggan, seperti hasil analisa yang kurang sesuai atau waktu analisa yang melebihi batas ketentuan managemen laboratorium, dan sistem administrasi yang belum efisien. Tujuan penelitian ini adalah untuk menganalisis kualitas pelayanan yang dilaksakan oleh laboratorium pelayanan kimia analitik Balai Penelitian Ternak. Penelitian ini menggunakan metode penelitian deskriptif-kuantitatif dengan teknik pengumpulan data dengan cara observasi, wawancara dan kuesioner, kemudian dari data yang terkumpul di analisis dengan rumus Weight Mean Score untuk menghitung rerata skor dari rekapitulasi data penelitian. Hasil dari penelitian secara keseluruhan menunjukkan bahwa kualitas pelayanan menunjukan skor rataan sebesar 4,26 dengan kategori penilaian sangat baik, sehingga hasil penelitian ini berdampak pada pelayanan yang lebih responsif dalam menghadapi keluhan masyrakat.

ABSTRACT

The background of this research is consumer complaints regarding the contribution of the Chemical Laboratory to service quality at the Balai Penelitian Ternak (BALITNAK) which is illustrated inform customer complaints, such as unsuitable analysis results or analysis time that exceed the laboratory management stipulations, and an inefficient administrative system. This study aimed to analyze the quality of service carried out by the analytical chemistry service laboratory of the Indonesian Research Institute for Animal Husbandry. This study uses a descriptive-quantitative research method with data collection techniques by means of observation, interviews and questionnaires, then the collected data is analysed using the formulaWeight Mean Score to calculate the average score from the recapitulation of research data. The results of the study as a whole show that service quality shows an average score of 4.26 with an outstanding rating category so the results of this study have an impact on services that are more responsive in dealing with public complaints.

INTRODUCTION

The effectiveness of public services is related to the relationship between the expected results and the results actually achieved. Organizations, programs or activities are considered effective if the outputs produced achieve the expected goals. Effectiveness is also related to the wise use of budgets (Spending Wisely), some explain that women's leadership in public services is also important (McLaren et al., 2019).

Indicators of the quality of public services include speed of service, punctuality, speed of response, friendliness, comfort, cleanliness, safety, beauty (aesthetics), ethics, and so on. Service standard is the minimum level that must be met in providing services. This standard aims to provide humane service, by treating customers (public) as subjects who must be served wholeheartedly and with respect. There are five dimensions of service quality that can be used to measure service quality, namely tangibles, reliability, responsiveness, assurance,

and empathy (Tjiptono & Gregorius Chandra, 2016). However, there is a gap where the image of public services is poor, due to the actions of unscrupulous employees who commit irregularities, so reform is needed in the bureaucracy, especially in transparency and accountability, so that the ideal goals of good governance can be achieved (Indahsari & Raharja, 2020). In addition, public organizations need to be adaptive and responsive and strengthened by exploring more varied ideas through academic discussions (Wicaksono, 2019). One solution is the use of technology such as Artificial Intelligence (AI), as the results of previous research show that this AI has been used in several companies to improve service performance (Pelau et al., 2021). Therefore, there is nothing wrong when the government uses this technology to improve its services even better. The results of previous research also stated that distance is a factor in constraints in public services (Damayanti & Tuti, 2021). However, the use of this technology in the Indonesian context still needs to improve adequate internet infrastructure throughout Indonesia. The results of other studies show that the use of websites as a means of information is not optimal, but several dimensions are sufficient (Sawir et al., 2023). Other strategies, such as using the mall as a means of public service, are considered quite effective for service accessibility, but there are research results that have slight deficiencies in terms of responsiveness as well (Firdausi Fikri & Nawangsari, 2023).

Problems in public services can arise when service effectiveness has not been achieved, for example, due to slow response or timeliness in providing services. In addition, if the quality of service does not meet established standards, such as lack of friendliness, cleanliness, or security, this can also be a problem according to the results of previous studies, where problems in public services, one of which is rigid procedures, lack of response in providing services, as well as inaccurate timeliness (Fadhlya et al., 2017), so that this has implications for decreasing community satisfaction (Herliani Putri Ratnaningsih et al., 2023). Improving the quality of public services is an important focus so that people get good, effective services and meet their expectations. So that public trust in service providers (government) is a factor that has a significant influence in contributing to customer satisfaction (Uzir et al., 2021), besides that the direct benefits of services provided by the government also contribute quite a lot to satisfaction (Pauline et al., 2023).

The chemical service laboratory of the Livestock Research Institute provides services to the public and researchers by providing services for analysing feed samples and feed ingredients. Based on initial observations, the authors found consumer complaints related to the services provided by the Laboratory of the Animal Research Institute as illustrated inform customer complaints. Such as the results of the analysis that are not appropriate or the analysis time that exceeds the limits set by the laboratory management, and the administrative system that is not yet efficient has difficulties in this service too, during the Covid-19 period when there were difficulties in providing this laboratory service, therefore a strategy was needed During Covid-19 it became important as the results of previous studies, namely with the policy of changing service standards online, so that people could still access services without any reason that services could not be provided due to a pandemic or other disaster (Hanapiah et al., 2022).

Based on data on the number of customers who carry out tests at the Chemical Services Laboratory of the Livestock Research Institute, the following data is obtained:

Table 1.

The number of Chemical Service Laboratory Sample Tests 2020 – 2022

Year	Proximate Testing	Testing of Fiber and Its Derivatives	Other Tests	Number of Tests
2020	6204	860	1116	8180
2021	5169	2944	2186	10299
2022	1623	614	466	2703

Source: Balai Penelitian Ternak Bogor, 2022

There is a drastic decrease in the 2022 period due to a change in policy that there is a separation of bodies by shifting researchers and engineering technicians to the Badan Riset dan Inovasi Nasional (BRIN). The number of sample tests in 2020 – 2021 has high number because the research activities of the Livestock Research Institute researchers are still being carried out with the help of the Livestock Research Institute's Chemical Services Laboratory.

During testing services, the Animal Research Laboratory has received several complaints from customers. In the period 2021-2022, there are complaints as follows:

Table 2.

The number of Customer Complaints of BALITNAK Service Laboratory

No	Year	Number of Complaints
1	2020	35 People/Customers
2	2021	26 People/Customers
3	2022	15 People/Customers

Source: Bogor Livestock Research Institute, 2022

Based on initial observations through interviews that have been conducted by the author with the head of the chemical service laboratory at the Livestock Research Center and found consumer complaints regarding the services provided by Laboratory Animal Research Center staff which are depicted on the customer complaint form. Such as an uncomfortable waiting room, inappropriate analysis results or analysis time that exceeds the limits set by the laboratory management, and an inefficient administration system. If the complaint is not handled immediately, it will reduce the level of customer trust in the Animal Research Institute and will not be able to provide excellent service to customers.

Literature Review

There are services carried out by the Public and Private (Business), both of which have similarities and differences. Following are the differences between Public and Private Service Quality:

a. The quality of public services can be influenced by the integrity and work discipline of employees (Nurjannah & Syamsir, 2022), while the quality of private services can be influenced by factors such as employee training, quality management, and supervision (Nataningtyas, 2022);

b. The quality of public services can be measured using the Servqual model and Cartesian diagrams (Wahju Wibowo & Imam Nuryanto, 2022), while the quality of private services can be measured using various methods such as mystery *shopping*, customer satisfaction surveys, and analysis of transaction data (Nataningtyas, 2022);

c. The quality of public services can be improved by various strategies such as building public service malls, setting operational standards, providing facilities and infrastructure, socializing services, and developing service information systems (Muslim, 2022), while the quality of private services can be improved by various strategies such as improving product quality. or services, improve operational efficiency, and increase customer satisfaction;

d. The quality of public services can be influenced by factors such as the speed of reporting test results, sample acceptance services, and the accuracy of fulfilling the test timeline (Nataningtyas, 2022), while the quality of private services can be influenced by factors such as product or service quality, price, and quality. customer service; And

e. The quality of public services can be measured using data collection techniques such as distributing questionnaires and quantitative analysis (Nurjannah & Syamsir, 2022), while the quality of private services can be measured using data collection techniques such as customer satisfaction surveys and analysis of transaction data (Nataningtyas, 2022).

In the new Public Management Study, research on Service Quality is endlessly reviewed and used as an analytical knife in assessing a service program that exists in the government, Indonesia with a wide area coverage, which consists of 416 Regencies and 98 Cities, of course it is very possible for each of these regions to launch innovation in public service. However, if services located in laboratories are rarely performed, based on search results through the Harzing's Publish or Perish application with a search system from Google scholar, starting from 2014 to 2023 (last 10 years) with search keywords in the title "quality of laboratory services " only 75 articles (Indonesian) were found, as shown in the image below:

Figure 1.

Search Results for "laboratory service quality"
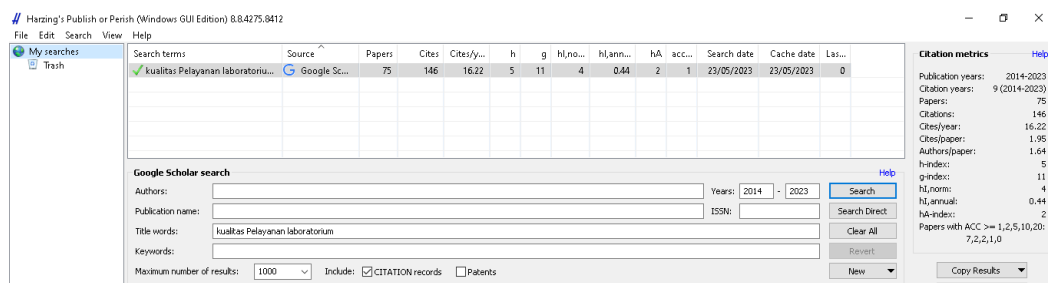
Source: Publish or Perish Aplication, 2023

In this study, we look more at how the contribution of employees in services at the laboratory can be accessed by the public if needed. As for the definition, according to KBBI, "contribution" means making a contribution. Referring to this understanding, as

a whole we can describe that contribution is a form of support or contribution provided by an entity, which plays a role in achieving better things.(Ministry of National Education, 2002). Contribution describes participation, engagement, involvement, and donations. In this context, contributions can be in the form of materials or actions. By contributing, a person also seeks to increase the efficiency and effectiveness of his life. Contributions can be made in various fields, such as thinking, leadership, professionalism, finance, and so on. Based on the explanation above, it can be concluded that contribution has meaning as a form of donation given in various forms, whether in the form of donations of funds, programs, ideas, or energy given to other parties to achieve better and more efficient results.(Ahira, 2012).

The author takes several scientific journals as a comparison and differentiator with previous research, such as research on public trust in the use of digital systems in their services, whether they meet expectations or not, in this study they find that "if perceived e-service consists of core services, facility services , and support services have a positive effect on perceived usefulness and trust in e-government, while trust in e-government affects perceived usefulness and citizen satisfaction. Finally, this study confirms that citizen satisfaction is influenced by perceived usefulness."(Kreuder-Sonnen & Zürn, 2020). Whereas in this study the service still uses manual services, so that it can be input in service quality in laboratories using system services so that it is integrated with reporting and transparency in public services.

Other studies regarding the quality of service at regionally owned water companies in Sukabumi, where in this study tested community satisfaction, the unique assumption is that the problems in this paper have problems where there are problems with insufficient water availability, pipe leaks occur, and prices are quite expensive. However, the research results are inversely proportional, where 86.2% of respondents were satisfied with the company's services. The samples were taken by 100 customers from 11,178 customers(Anwar et al., 2023). Therefore, the difference with this research is how in-depth the research results must be confirmed by the results of interviews or qualitative research must be in-depth so as to produce good quality research.

Other research on information services carried out by the government, with a case study in Jayapura where infrastructure facilities are still minimal, but in terms of the use of the website as an information medium is not left behind, although it still has technical deficiencies, it is substantially effective. Therefore, the suggestions in this study should provide technical training in the website technology (Sawir et al., 2023). Therefore, the difference in this study as input for the results of this study is the use of the website as a medium of information in all public services, so that it can increase the effectiveness of public services to the community. The theory used in this study uses the analytical tool Theory of Public Service Quality from Zeithaml which consists of, Tangible, Reliability, Responsiveness, Assurance, and Empathy (Zeithaml et al., 1990). The use of this theory based on the results of previous research has an impact on improving the quality of service in public agencies.

RESEARCH METHODS

In this study uses a mixed method research method with a descriptive analysis approach where the purpose of this research is to describe the quality of service quantitatively and qualitatively on the object studied.

The population of this study consisted of 119 people who are users of analysis services or customers and laboratory employees of the Bogor Livestock Research Institute. The population data used is data from 2022. To determine the research sample, researchers used an error rate of 5%. The formula used is as follows:

$$n = \frac{N}{1 + Ne^2}$$

Information :

n = sample size

N = total population

e = precision level/tolerance limit

Table 3.

Interpretation Criteria

No.	Score	Criteria
1.	1.00 - 1.80	Not very good
2.	1.81 - 2.60	Not good
3.	2.61 - 3.40	Pretty good
4.	3.41 – 4.20	Good
5.	4.21 – 5.00	Very good

Source: Sugiyono (2016)

Based on the sampling method described earlier, the researcher will collect data from 100 respondents who will fill out the provided questionnaire. To collect data from respondents, researchers will use several data collection techniques as follows (Sugiyono, 2016):

1. Observation: This data collection technique is carried out by observing the object of research and recording the visible symptoms.
2. Interview: This technique involves a structured question-and-answer interaction between the researcher and the respondent. Data were obtained directly from respondents through interviews.
3. Questionnaire: This technique involves distributing questionnaires to respondents to obtain the required data.

4. Literature Study: This technique involves studying literature obtained from books, articles, theses, documents, laws and regulations, and information sources from the internet.

The data analysis technique that will be used is descriptive analysis. This analysis is in the form of an explanation that describes the answers from the respondents in the questionnaire. Data obtained through interviews and literature study are used as supporting data to strengthen and deepen the results obtained from the questionnaire. The data obtained from the questionnaire is processed using the Weighted Mean Score (WMS) formula as follows (Sugiyono, 2016):

$$M = \sum f(x)/n$$

Information : M = Gain interpretation or criteria $\sum$= Addition

f = frequency of respondents' answers

x = Weighting

n = Number of research samples

RESULTS AND DISCUSSIONS

The results of research on the quality of service in the chemical service laboratory of the livestock research center based on the description of each dimension are as follows:

Table 4.

Recapitulation of Service Quality Variables at the Chemical Services Laboratory of the Bogor Livestock Research Institute.

DIMENSIONS	Average Value			
	Employee	Customer	Total	Category
a. Dimensions of Physical Evidence (Tangibles)				
The Waiting Room is comfortable and complete	3.88	3.51	3,7	Good
Laboratory equipment is complete, well maintained and accompanied by personal protective equipment	3.84	3.96	3.90	Good
The staff's clothing is polite and neat	4.60	4,13	4.37	Very good
Amount			3.99	Good
b. Dimensions of Reliability (Reliability)				
Timeliness in providing analysis results	4,44	3.79	4,12	Good
Ease of service procedures in the laboratory	4.52	4,20	4.36	Very good
Competence of laboratory staff	4,32	4,17	4,25	Very good
Amount			4,24	Very good
c. Dimensions of Responsiveness				

DIMENSIONS	Average Value			
	Employee	Customer	Total	Category
The attitude of officers in helping the community provide information	4,44	3.83	4,14	Good
Service is up to standard	4.48	4,24	4.36	Very good
Provide proof of payment transaction	4,28	4,23	4,26	Very good
Amount			4,25	Very good
d. Dimensions of Guarantee (Assurance)				
Ease of meeting officers	4.48	4.03	4,26	Very good
Officers are honest in providing services	4.52	4,29	4,41	Very good
Amount			4,33	Very good
e. Empathy Dimension				
Staff friendly attitude	4.52	4,24	4.38	Very good
Willing to accept suggestions regardless of social status	4.72	4.39	4.56	Very good
Amount			4.47	Very good
Total Average			4,26	Very good

Source: Research, 2023

The results of calculations from the questionnaire data recapitulation table consist of five dimensions, with special calculation results on the physical evidence dimension of 3.99 which is in the good category, the reliability dimension is 4.24 which is in the very good category, the responsiveness dimension is 4.25 which is in the very good category, the assurance dimension is 4.33 in the very good category, the empathy dimension is 4.47 in the very good category. In the recapitulation of the entire questionnaire, the final result is 4.26 which is included in the very good category. However, there is the lowest score in the physical evidence dimension of 3.99, this is due to the need to improve the quality of buildings and supporting facilities and infrastructure aimed at increasing comfort for consumers of the Animal Research Institute Laboratory. The empathy dimension gets the highest score of 4.47, this is supported by the positive attitude of service personnel, the prevention of fraud in service, and providing a sense of security to customers. The following are general interview results based on each dimension:

Tangible Dimension

The head of the Livestock Research Center pointed out that the condition of the building currently owned is indeed not fully able to support the implementation of services very well, especially services carried out in the building related to complete and usable laboratory equipment, provision of information facilities, waiting rooms and parking facilities. This is because the government budget funds for building repairs have not been available until now. The existence of a gap (gap) between perceptions and expectations, means that customers expect laboratory services from the tangible dimension to be even better.

Reliability Dimension

Service officers do not meet the requirements set by the national accreditation agency, so officers must have special expertise. That is, the more reliable the laboratory staff, the faster the analysis service will be provided, which will affect the level of laboratory customer satisfaction.

Responsiveness Dimension

laboratory customers feel dissatisfied with the services that have been provided or the services provided still do not meet the expectations of laboratory customers. These results are a concern in maintaining the quality of service in the BALITNAK chemical service laboratory and continuing to improve service even better in providing service to customers.

Assurance Dimension

The achievement of this good rating is supported by indicators in the form of the convenience of customers in meeting officers at the chemical service laboratory of the Animal Research Institute and honest officers in providing service information in chemical laboratories.

Empathy Dimension

Laboratory customers feel dissatisfied with the services provided or that the services provided are not good. This is a benchmark for laboratory staff to further improve the quality of service. Therefore, the higher the empathy given to laboratory staff, the more it will affect customer expectations. In the context of the empathy dimension, the level of concern related to service and the attitude of the officers can be carried out very well, seen by the average according to perceptions on the indicators of the friendly attitude of the officers and the attitude of the officers in respect. This achievement indicates the prevention of fraud against services and provides a sense of security in providing services to customers.

Obstacle

a. There are obstacles to indicators related to the dimensions of physical evidence, such as the condition of laboratory equipment that needs to be properly maintained, because it obtains an average score of 3.99. The waiting room is comfortable and complete with a score of 3.70. Laboratory equipment is complete, well maintained and accompanied by personal protective equipment with a score of 3.90. Polite staff attireneat4.37. All of these indicators are in the good rating category. This shows that the condition of service, especially the quality of the building, still needs to be improved in quality so that it can meet the need for better service and provide comfort for guests and also employees of the Ciawi Bogor Livestock Research Institute.

b. The obstacle to the reliability dimension indicator is the timeliness in providing analysis results to customers, who get an average score of 4.12 with a good rating. This shows the high expectations of customers for the speed of testing, but keep in mind that the testing process has certain stages and input from customers is very important in improving service quality, given the limitations of service personnel.

c. Barriers to the low indicators that exist in the responsiveness dimension (*Responsiveness*) namely the attitude of officers in helping the public provide information to obtain an average score of 4.14. Service is fulfilledstandardobtained an average score of 4.36. Providing proof of payment transactions obtained an average score of 4.26 with a very good rating. This shows that the information related to the analysis has not been thoroughly informed to the customer and the many parameters of the analysis the officer must understand and master the standards needed so that the service can run well in the BALITNAK accreditation laboratory in its entirety.

d. Obstacles that arise in the guarantee dimension are the ease in carrying out quality analysis services in accreditation service laboratories. One of the efforts that can be made is to reward customers who use testing services, obtaining an average score of 4.26 with a very good assessment, even though the average value is close to the minimum indicator limit. This is because customer expectations for analysis services have not been fully met, which causes obstacles in the awareness of service personnel.

Attempts made

The improvement efforts are made to overcome obstacles in improving service qualityin the laboratorythe chemistry of livestock research centers are as follows:

1. To overcome the constraints on the quality of analysis services related to the dimensions of physical evidence, efforts are needed to submit a budget for the procurement of equipment and building maintenance at the Animal Research Institute through various funding sources, such as special allocation funds, financial assistance, and routine activities sourced from the APBN. Proposals related to needs must be conveyed clearly.

2. To overcome the constraints on the quality of analysis services related to the reliability dimension, it is necessary to collaborate with government and private agencies to make it easier for officers to obtain information through analysis reports. This will increase the responsiveness of the service.

3. Efforts that can be made to overcome obstacles in the dimension of responsiveness are to carry out education and training for service officers at the Livestock Research Center at least once a year. The aim is to increase the expertise and understanding of officers related to analysis in the laboratory.

4. To overcome the low indicators in the guarantee dimension in quality analysis services in the laboratory, awards can be given to customers who carry out quality testing of feed and feed ingredients in chemical service laboratories on an ongoing basis.independentwith the award given by the livestock research center confirms that the feed samples and feed ingredients traded or used by breeders are guaranteed to produce quality results.

CONCLUSIONS

Based on research and discussion on Service Quality at the Bogor Animal Research Institute's Chemical Service Laboratory, the recapitulation results show that the quality of service analysis at the chemical service laboratory is in the very good category, with an average score of 4.26 on the Dimension of Tangibles, dimensions of empathy, dimensions of reliability, responsiveness, and dimensions of assurance. Therefore, the results of this study recommend that in the context of laboratory services, the need for qualified and complete (tangible) facilities to support excellent service.

REFERENCES

Ahira, A. (2012). *Terminologi Kosa Kata* (I). Bumi Aksara.

Anwar, A., Rachmawati, I., & Nur, T. (2023). The influence of service quality of tirta bumi wibawa regional drinking water company towards customer satisfaction. *Jurnal Governansi*, *9*(1), 7–17.

Damayanti, E., & Tuti, R. W. (2021). Quality of Clean Water Services for Regional Water Companies in Tangerang City. *Jurnal Manajemen Pelayanan Publik*, *5*(1), 1. https://doi.org/10.24198/jmpp.v5i1.30881

Departemen Pendidikan Nasional. (2002). *Kamus Besar bahasa Indonesia* (3 ed.). Balai Pustaka.

Fadhlya, D., Suprayogi, Y., & Imanudin. (2017). Quality of Library Services At Library and Archives of Regional West Java. *Jurnal Administrasi Negara*, *2*(1), 21–27.

Firdausi Fikri, A., & Nawangsari, E. R. (2023). GAP ANALYSIS TO MEASURE SERVICE QUALITY AT PUBLIC SERVICE MALL (MPP). *Jurnal Governansi*, *9*(1), 18–34.

Hanapiah, M. A., Nurasa, H., Widianingsih, I., & Pancasilawan, R. (2022). Public Service Quality During The COVID-19 Pandemic In Banten Province (Case Study: E-Sambat Application). *Aliansi : Jurnal Politik, Keamanan dan Hubungan Internasional*, *2021*(September), 338–344.

Herliani Putri Ratnaningsih, Yogi Suprayogi Sugandi, & Indra Aldila Wiradiputra. (2023). Pengaruh Kualitas Pelayanan Dan Kepercayaan Masyarakat Terhadap Kepuasan Dalam Pembuatan E-Ktp Di Kecamatan Coblong Kota Bandung. *Journal Publicuho*, *6*(1), 106–118. https://doi.org/10.35817/publicuho.v6i1.96

Indahsari, C. L., & Raharja, S. J. (2020). New Public Management (NPM) as an Effort in Governance. *Jurnal Manajemen Pelayanan Publik*, *3*(2), 73. https://doi.org/10.24198/jmpp.v3i2.25342

Kreuder-Sonnen, C., & Zürn, M. (2020). After fragmentation: Norm collisions, interface conflicts, and conflict management. *Global Constitutionalism*, *9*(2), 241–267. https://doi.org/10.1017/S2045381719000315

McLaren, H., Star, C., & Widianingsih, I. (2019). Indonesian women in public service leadership: A rapid review. *Social Sciences*, *8*(11). https://doi.org/10.3390/socsci8110308

Muslim, M. (2022). STRATEGI PENINGKATAN KUALITAS PELAYANAN PUBLIK (Studi pada Dinas Penanaman Modal dan Pelayanan Terpadu Satu Pintu Kabupaten Balangan).

Jurnal Administrasi Publik dan Pembangunan, *4*(1), 31. https://doi.org/10.20527/jpp.v4i1.5191

Nataningtyas, M. E. F. Y. D. P. D. R. (2022). Kualitas Pelayanan Publik Dan Kepuasan Pelanggan Laboratorium Pemeriksa Covid-19: Studi Kasus Di Laboratorium Biohazard Badan POM. *Journal of Government and Politics*, *4*(1), 78–90.

Nurjannah, L., & Syamsir. (2022). Pengaruh Integritas dan Disiplin Kerja Pegawai Terhadap Kualitas Pelayanan Publik di Dinas Dukcapil Kabupaten Lima Puluh Kota. *Jurnal Administrasi Politik dan Sosial*, *3*(1), 63–73. https://doi.org/10.46730/japs.v3i1.49

Pauline, T., Siwi, U., & Nawawi, Z. (2023). Building Citizen Satisfaction Towards E-Government Services : A Conceptual Framework. *Jurnal Manajemen Pelayanan Publik*, *06*(02).

Pelau, C., Dabija, D. C., & Ene, I. (2021). What makes an AI device human-like? The role of interaction quality, empathy and perceived psychological anthropomorphic characteristics in the acceptance of artificial intelligence in the service industry. *Computers in Human Behavior*, *122*(February), 106855. https://doi.org/10.1016/j.chb.2021.106855

Sawir, M., Robo, S., Abubakar, F., & Kamaluddin, S. (2023). Implementation Of Public Services In The Digital Era As A Public Information Media Regional Government Of Jayapura Regency , Papua Province. *Jurnal Manajemen Pelayanan Publik*, *06*(02).

Sugiyono. (2016). *Metode Penelitian kuantitatif, Kualitatif, dan R & D* (23 ed.). Alfabeta.

Tjiptono, F., & Gregorius Chandra. (2016). *Service, Quality & Satisfaction*. CV Andi Offset.

Uzir, M. U. H., Al Halbusi, H., Thurasamy, R., Thiam Hock, R. L., Aljaberi, M. A., Hasan, N., & Hamid, M. (2021). The effects of service quality, perceived value and trust in home delivery service personnel on customer satisfaction: Evidence from a developing country. *Journal of Retailing and Consumer Services*, *63*(April), 102721. https://doi.org/10.1016/j.jretconser.2021.102721

Wahju Wibowo, & Imam Nuryanto. (2022). Analisis Kualitas Pelayanan Publik dengan Metode Integrasi Servqual dan Diagram Kartesius. *E-Bisnis : Jurnal Ilmiah Ekonomi dan Bisnis*, *15*(1), 195–200. https://doi.org/10.51903/e-bisnis.v15i1.808

Wicaksono, K. W. (2019). Transforming The Spirit Of New Public Service Into Public Management Reform In Indonesia. *Jurnal Manajemen Pelayanan Publik*, *2*(1), 24. https://doi.org/10.24198/jmpp.v2i1.20190

Zeithaml, V., L A Parasuraman, & Leonard A Berry. (1990). *Delivering Quality Service: Balancing Customer Perception and Expectation*. The Free Press Advision of Mac Millan Inc.