The Effectiveness of Public Service Quality on the Organization's Commitment to the Tanjungpinang SAR Office

Zainal Ilmi[1]*, Rahmat Hidayat[2], Armauliza Septiawan[3]
Universitas Terbuka, Indonesia
Email: zilmitiga@gmail.com[1]*, rahmah.hidayah@ecampus.ut.ac.id[2],
armauliza.septiawan@umrah.ac.id[3]

Abstract. *This study aims to analyze the effect of public service quality effectiveness on organizational commitment among SAR personnel at the Tanjungpinang SAR Office. Service quality is measured using Kotler's four service characteristics: intangibility, inseparability, variability, and perishability. The study is motivated by the decline in the Public Satisfaction Index (IKM) in 2023 and the low competency score of SAR personnel, with 67.57% falling below the required professional competency standard. This condition indicates potential challenges to organizational commitment, which may reduce the effectiveness of SAR operations. A quantitative approach was employed, involving 93 respondents, with data collected through questionnaires and analyzed using multiple linear regression. The findings reveal that all four dimensions of service quality significantly influence organizational commitment, both partially and simultaneously. Intangibility and inseparability provide the strongest contribution, while variability and perishability influence commitment through individual skills in delivering optimal service and implementing SAR personnel service SOPs supported by teamwork. These findings highlight that improving service quality in the SAR sector must be accompanied by strengthening human resource competencies to enhance organizational commitment. This study offers practical implications for policymakers in designing strategies to improve public services and develop human resources in SAR institutions, as well as contributing empirical insights to public service quality studies in emergency response organizations.*

Keywords: *public service quality; organizational commitment; SAR; service effectiveness; service characteristics.*

INTRODUCTION

Public services are fundamental indicators that reflect organizational performance both from internal and external aspects (Pidd, 2012). However, public services are often an objective target that is difficult to control directly because they are influenced by various external factors beyond the organization's control.

SAR office consists of several civil servants with various levels of education who occupy various positions, both directly related to SAR tasks, often referred to as SAR personnel, and those who support in the field of administration. The implementation of duties at the Tanjungpinang SAR Office is carried out in accordance with the provisions in the Regulation of the Head of the National SAR (Hassan & Omar, 2021) Agency Number PK. 22 of 2009 concerning Guidelines for the Implementation of SAR Operations.

The implementation of the tasks carried out by SAR personnel is not an easy responsibility, so each personnel member is expected to have competence in accordance with the standards of their respective positions (Schmied et al., 2017). Apart from these challenges, internal organizational factors play a significantly important role in influencing organizational performance. Several goals related to the individual dimension, such as employee achievements, performance improvement, employee satisfaction with management, promotion of workplace values, and the creation of a healthy and productive work environment, are the main focus in human resource management.

Service quality can be understood as a strategy to compare people's perception of the services received with their expectations of the service. If the reality of the service received exceeds expectations, then the service is of good quality. On the other hand, if the reality of the service is less than expected, then the service is of poor quality.

In public services, service quality is the result of the interaction of various factors that determine the effectiveness of services (Lanin & Hermanto, 2019). Previous research, such as Hutahuruk, Riyanto, and Sudjanadi (2019), showed that the speed of response, facilities, and SAR training had a positive correlation with the effectiveness of SAR operations nationally. Public service standards globally function as guidelines for service delivery and quality evaluation, with indicators such as reliability, effectiveness, efficiency, fairness, responsiveness, and community satisfaction (Alfiyani et al., 2024; Larono, 2020). This confirms that improving service quality is a universal demand in public administration.

At the Tanjungpinang SAR Office, the quality of service faces real challenges (Suryadi et al., 2022). The Community Satisfaction Index in 2022 was 86.27, but decreased to 85.73 in 2023, indicating a decline in service quality. In addition, the results of the evaluation of the 2023 ASN Professionalism Index show that 67.57% of SAR personnel still have substandard competency values, especially in technical aspects and operational readiness. The phenomenon of lack of responsiveness in SAR operations also shows that the quality of public services is not optimal, particularly in the dimensions of intangibility, inseparability, variability, and perishability (Ingari, 2018). This condition is exacerbated by field challenges, equipment quality, and unpreparedness in dealing with emergency situations.

Table 1. Recapitulation of the ASN Professionalism Index for the Competency Dimension of the Tanjungpinang SAR Office in 2023

No	Competency Dimension Value	Category	Number of Employees	Percentage
1	35-40	Excellent	4	3,60
2	30-34	Good	7	6,31
3	25-29	Enough	25	22,52
4	<25	Less	75	67,57
	Sum		**111**	**100,00**

Source: General Subdivision of the Tanjungpinang SAR Office, 2024

Given the characteristics of the job at the *Tanjungpinang SAR Office*, which demands toughness in high-pressure situations and critical conditions, competence is a must for every SAR personnel. However, measurement data on the competency dimension show that as many as 75 employees, or around 67.57%, are still below standard, with a competency index value of less than 25 out of a maximum score of 40. This discrepancy confirms that many apparatus have yet to reach an adequate level of competence at the *Tanjungpinang SAR Office*. Thus, the development and improvement of human resource competencies must be the main focus in efforts to improve the quality of SAR services.

Seeing the importance of the quality of SAR services for public safety, an in-depth study is needed on how the characteristics of service quality, as described in Kotler's concept (intangibility, inseparability, variability, and perishability), affect the organizational

commitment of SAR personnel. Organizational commitment is a key factor to ensure that SAR personnel remain professional, responsive, and service-oriented. The lack of research connecting the variables of service quality with organizational commitment in the SAR sector makes this study important to address empirical and practical needs.

Several relevant studies have shown a significant relationship between competence, service quality, and organizational commitment. Abdullah et al. (2020) emphasized that the quality of internal services affects commitment and job satisfaction. Sudewo et al. (2022) and Mula et al. (2024) underscored the importance of competence in improving accountability and the quality of public services. Zunizar et al. (2023) demonstrated that competencies contribute to organizational commitment through improved performance. However, these studies have not integrated Kotler's service quality dimensions with organizational commitment in the SAR context, representing an important research gap.

The novelty of this study lies in simultaneously and partially integrating the four characteristics of Kotler's services (intangibility, inseparability, variability, perishability) to measure their influence on the organizational commitment of SAR personnel. The context of SAR, which demands fast, precise, and responsive services, is a domain that has not been widely explored in the literature related to service quality and organizational commitment. This research fills the gap by linking the unique characteristics of service-based operations with the commitment of SAR personnel working in critical and high-risk situations.

This study aims to analyze the influence of intangibility, inseparability, variability, and perishability on the organizational commitment of SAR personnel, both partially and simultaneously. The research also seeks to assess the contribution of each dimension of service quality to the level of attachment SAR employees have to the institution, as well as provide an empirical understanding of the effectiveness of service quality in the SAR sector.

Theoretically, this study enriches the literature on public administration and service management by integrating the theory of service quality and organizational commitment in the context of SAR. Practically, it offers strategic recommendations to improve the responsiveness, competence, professionalism, and service standards of SAR at the *Tanjungpinang SAR Office*. The broader implications include increasing public trust, enhancing the effectiveness of rescue operations, and strengthening the credibility of SAR institutions as providers of vital rescue services for public safety.

MATERIALS AND METHOD

This study employed a quantitative method based on positivism with deductive-inductive logic, focusing on testing the influence of public service quality on organizational commitment at the Tanjungpinang SAR Office. The research design was systematically prepared to test hypotheses regarding the effectiveness of public service quality and organizational commitment. The study was conducted over approximately one month.

The research population consisted of all SAR personnel at the Tanjungpinang SAR Office with more than one year of service, totaling 100 people across various roles (instructors, SAR officers, land/water facility crews, nursing personnel, and radio operators). Total sampling was used, so the entire population served as the sample to ensure representativeness.

Primary data were collected through a questionnaire distributed via Google Forms to SAR personnel in the Tanjungpinang, Batam, Bintan, Karimun, and Lingga* task areas,

supported by observation and interviews. Secondary data came from documents, reports, books, and journals related to public service quality and organizational commitment. Variable measurements used a Likert scale to capture respondents' perceptions of public service quality and organizational commitment.

Data analysis began with descriptive statistics to summarize respondents' answers, followed by instrument testing including validity and reliability tests (Cronbach's Alpha > 0.70). Classical assumption tests—normality, multicollinearity, heteroscedasticity, and autocorrelation—were conducted to verify the regression model's suitability. Multiple linear regression analysis was then performed using SPSS. Hypotheses were tested with an F test for simultaneous effects of independent variables on the dependent variable, a t-test for partial influence of each independent variable, and the determination coefficient (R^2) to assess the contribution of public service quality in explaining organizational commitment variance.

RESULTS AND DISCUSSION

This section presents the results of an analysis of the effectiveness of the quality of public services on the organization's commitment to the Tanjungpinang SAR Office. The research focuses on four dimensions of service quality based on the Kotler model—intangibility, inseparability, variability, and perishability—as independent variables that affect the organizational commitment of SAR personnel. Given the strategic role of the SAR Office in providing prompt and professional public services, understanding the relationship between service quality and organizational commitment is important to improve the performance of the institution.

The organizational commitment of SAR personnel is analyzed through two dimensions, namely emotional approach and involvement in the organization. The emotional approach describes the loyalty and dedication of SAR personnel to the institution, while engagement reflects their active participation in the organization's activities to support the achievement of the vision and mission. This study examines how the quality of public services according to Kotler's model affects these two dimensions. The findings of the study show that the quality of effective service is not only determined by the technical aspects of operations, but also by the level of commitment of SAR personnel as the main implementer of services. Thus, the effectiveness of public services at the Tanjungpinang SAR Office is highly dependent on the ability of SAR personnel to provide quality services, build strong working relationships, increase organizational involvement, and strengthen emotional commitment to the institution.

A. **Description of Research Object**
   1. A brief history of SAR organizations in Indonesia

      The SAR organization in Indonesia, which is now known as Basarnas, originated from the term "black area" which refers to countries that do not have an official SAR institution. After gaining independence, in 1950 Indonesia officially joined the international aviation organization, ICAO (International Civil Aviation Organization). This membership puts Indonesia in a position that is expected to be able to handle aviation and shipping accidents in its territory. As a follow-up to this membership, the Indonesian government issued Government Regulation Number 5 of 1955 which stipulated the establishment of the Aviation Council and the establishment of the SAR committee.

This SAR committee has the main responsibility for establishing the SAR Joint Agency, determining the location of regional centers, and regulating the budget and material needs. Furthermore, in 1959, Indonesia also became a member of the International Maritime Organization (IMO), which further emphasized the importance of the role of SAR in the country. With Indonesia's joining ICAO and IMO, attention to the duties and responsibilities of SAR is increasing. As a large country with a strong spirit of mutual cooperation, Indonesia is committed to meeting the expectations of the international community in handling aviation and shipping accidents effectively.

As time went by, as well as the increase in transportation accidents at that time, the idea of forming a National SAR organization that was able to coordinate all SAR activities under one integrated command emerged. As a first step to deal with these SAR tasks, in 1968 the Decree of the Minister of Transportation Number T.20/I/2-4 was issued which stipulated the formation of a Local SAR Team in Jakarta, with the responsibility for its formation entrusted to the Directorate of Civil Aviation. This team then became the forerunner of the National SAR organization which was later formed in Indonesia. In the same year, Indonesia was also involved in the South East Asia Coordinating Committee on Transport and Communications project, where Indonesia acted as an umbrella project for countries in Southeast Asia. The project is managed by the U.S. Coast Guard with the aim of collecting the data needed to plan the development and refinement of SAR organizations in Indonesia.

2. Development of the Basarnas Organization

Based on recommendations given by the US. The Coast Guard, on February 28, 1972, issued Presidential Decree Number 11 of 1972 which stipulated the establishment of the Indonesian SAR Agency (BASARI). The organizational structure of BASARI includes several main elements, namely the leadership, the National SAR Center (Pusarnas), the Rescue Coordination Centers (PKR), the Rescue Sub-sub-Coordination (SKR), and various other SAR elements.

The National SAR Center (Pusarnas) is a unit within BASARI that has the main responsibility for carrying out SAR operations throughout Indonesia. Although the available personnel and equipment are still limited, Pusarnas has successfully handled various flight and shipping accidents with quite good results. Examples are the handling of the accident of PANAM's Boeing 727 aircraft in Bali in 1974 and the operation of the Twin Otter aircraft in Sulawesi known as the Tinombala operation.

3. Organizational Structure of Tanjungpinang SAR Office

The location of this research was determined at one focal point, namely the Tanjungpinang SAR Office, which is located at Jalan Raja Haji Fisabilillah No. 2 KM 6.5, East Tanjung Pinang District, Tanjung Pinang City, Riau Islands Province, Indonesia, with the postal code 29124. The Tanjungpinang SAR Office is a technical implementation unit in the area under the auspices of the National SAR Agency, with a task area that covers most of the Riau Islands Province except for Natuna Regency and Anambas Regency.

In carrying out its functions, the Tanjungpinang SAR Office is supported by non-structural work units, namely the Batam SAR Post, the Tanjungbalai Karimun SAR Post, and the Lingga SAR Standby Unit. This office has a vision and mission that is

the main foundation and is upheld by all personnel in carrying out their duties and responsibilities.

The vision of the Tanjungpinang SAR Office is: "The Realization of Reliable and Effective Search and Rescue in the context of Indonesia Advancing Towards a Golden Indonesia 2045".

Furthermore, by referring to the duties, functions, and authorities regulated in laws and regulations and as an implementation of the mission of the President and Vice President for the 2025-2029 period, the mission of the Tanjungpinang SAR Office is:

a. Carry out SAR activities with a reliable, effective, and integrated and coordinated approach between various institutions efficiently, in accordance with international standards. In addition, carry out mitigation, preparedness, and operations in dealing with accidents, disasters, and situations that threaten human safety.

b. Strengthening the SAR implementation system by meeting the needs of human resources, facilities and infrastructure, as well as communication systems. In addition, integrating all SAR potentials and strengthening the regulatory and institutional framework that supports.
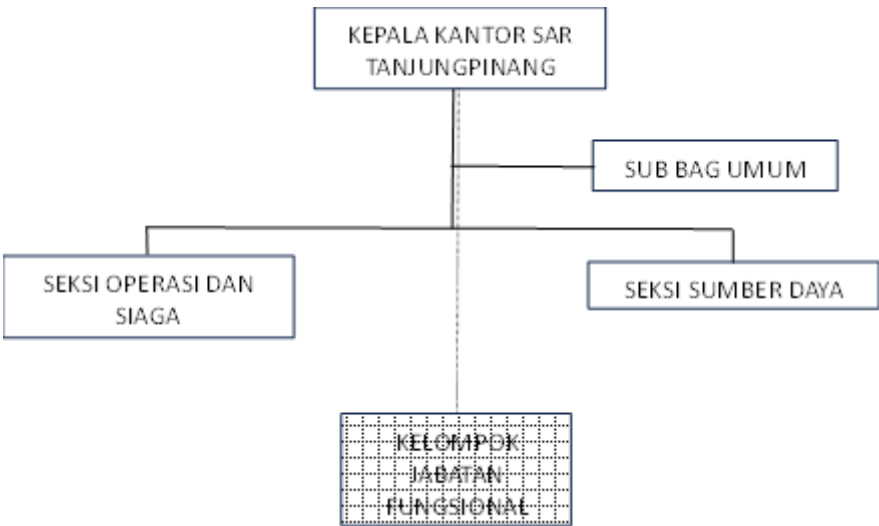
Figure 1. Organizational Structure of the Tanjungpinang SAR Office
Source: Tanjungpinang SAR Office, 2025

The organizational structure of the Tanjungpinang SAR Office shows a clear division of tasks to support the implementation of SAR operations effectively and efficiently. In the highest position, there is the Head of the Tanjungpinang SAR Office who holds full responsibility for management, strategic decision-making, cross-unit coordination, and ensuring that all SAR tasks are carried out in accordance with regulations. Under it, the General Sub-Division acts as an administrative support unit that handles office administration, planning, reporting, personnel, finance, and management of state-owned property to ensure smooth operations. Furthermore, the Operations and Standby Section became the core unit for the implementation of search and rescue tasks, including organizing, implementing SAR operations, and preparing personnel and equipment for 24 hours. Meanwhile, the Resources Section manages all technical and logistical needs, ranging from equipment, vehicles, communication facilities,

SAR infrastructure, to human resources, both SAR personnel and SAR potential. In addition, the Functional Position Group contains personnel with special technical expertise who provide operational and technical support according to their competence. Overall, this organizational structure describes an integrated coordination between managerial, administrative, operational, and technical functions, so that the Tanjungpinang SAR Office can carry out rescue tasks in a responsive, professional, and timely manner.

B. Results of Questionnaire Distribution

This research was carried out at the Tanjungpinang SAR Office with a focus on the research object of Service Quality and Organizational Commitment with SAR personnel who work in the Tanjungpinang SAR Office spread across the Tanjungpinang City area, Batam City, Bintan Regency, Lingga Regency and Karimun Regency.

From the initial target of 100 respondents who were expected to fill out the questionnaire through *Google Form*, there were 93 respondents who managed to fill out and submit complete data. This shows a response rate of 93%, which reflects high participation in filling out online questionnaires. The data from the respondents were then further analyzed according to the criteria that had been set in the study.

C. Respondent Description and Profile

The characteristics of the respondents in this study are presented in the form of descriptive data that have been obtained in the research. The data of the research results were obtained directly from the respondents, namely through a research questionnaire that had been prepared by the researcher. Each respondent has a different response in answering the research instrument so that it is necessary to classify the respondents to find out in general identity such as gender, age and employment status. In this study, there were 93 respondents who answered the research instrument and were presented in the following description:

Table 2. Respondent Identity Data Profile by Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Male Valid	83	89.2	89.2	**89.2**
Woman	10	10.8	10.8	**100.0**
Total	**93**	**100.0**	**100.0**	

Source: SPSS Output, 2025

The respondent profile shows that most of the SAR personnel at the Tanjungpinang SAR Office are men, which is 89.2%, while women are only 10.8%. This gender composition gives an idea that the operational workforce structure of SAR is dominated by men, which has the potential to affect work dynamics and organizational commitment. In the context of public services, the Tanjungpinang SAR Office implements a structured and interrelated service strategy to achieve optimal services in the Riau Islands area. One of the indicators of the success of these services is the Community Satisfaction Index (IKM), which is used to evaluate the level of community satisfaction with SAR services based on the service standards that have been set. Service effectiveness evaluations are carried out periodically every quarter to ensure service quality improvement while strengthening the commitment of SAR personnel

organizations to the vision and mission of the institution. The dominance of male respondents also shows that gender aspects are an important part that can affect the quality of services and the level of organizational commitment. This is especially relevant when it is associated with the characteristics of public services according to Kotler, where the quality of service and employee commitment are key factors in achieving the effectiveness of the organization as a whole.

Table 3. Age-Based Respondent Identity Data Profile

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 21-30 Years	33	35.5	35.5	**35.5**
31-40 Years	43	46.2	46.2	**81.7**
41-50 Years	16	17.2	17.2	**98.9**
51-58 Years	1	1.1	1.1	**100.0**
Total	**93**	**100.0**	**100.0**	

Source: SPSS Output, 2025

Based on Table 4.3 which presents the profile of respondent identity data based on age, it can be explained that most of the SAR personnel at the Tanjungpinang SAR Office are in the productive age range, which is between 21 and 40 years old. In detail, 35.5% of respondents were 21-30 years old and 46.2% were 31-40 years old, so that a total of 81.7% of SAR personnel were in this age group. The 41-50 age group comprised 17.2% of respondents, while the 51-58 age group accounted for only 1.1%.

Table 4. Respondent Identity Data Profile Based on Employment Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**PNS**	89	95.7	95.7	**95.7**
	PPPK	4	4.3	4.3	**100.0**
	Total	**93**	**100.0**	**100.0**	

Source: SPSS Output, 2025

Based on Table 4.4 which presents the profile of respondent identity data based on employment status, it can be seen that the majority of SAR personnel at the Tanjungpinang SAR Office have the status of Civil Servants (PNS), namely 89 people or 95.7% of the total respondents. Meanwhile, SAR personnel with the status of Government Employees with Employment Agreements (PPPK) only amount to 4 people or 4.3%.

D. Description of Research Variables

The description of the variables plays an important role in the research as a tool to describe the basic characteristics of the data to be analyzed. New data will be meaningful if presented in the form of descriptive statistical summaries, both with an analytical approach and without analysis, so that the information becomes easier to understand. Descriptive statistics function to convey information in a simple way; one example is the analysis of respondents' responses. This analysis aims to facilitate the understanding of the general views of respondents on the variables studied, such as Intangibility, Inseparability, Variability, and Perishability as

well as Organizational Commitment with a total of 93 respondents.

Respondents provided relevant answers based on their experience when performing job duties properly and correctly. The analysis of these responses uses a Likert scale, which describes the scores of statements that have been filled in by the respondents through a questionnaire. The interpretation of the answer score is divided into a range of 1 to 4 scores.

To conduct a descriptive analysis of each research variable, the average score of all questions asked was calculated. The questionnaire is designed to find out the relationship between the variables studied. The scale range is used to calculate the average of respondents' responses with a specific formula that will be applied to the answer score that has been filled.

$$RS = \frac{Max\ Score - Min\ Score}{Max\ Score}$$

$$RS = \frac{4-1}{4}$$

$$RS = \frac{3}{4} = 0.75$$

Thus, the following scale categories are obtained:
- Scale   Range 1-1.75   : Very Bad
- Scale   Range 1.76-2.5   : Poor
- Scale Range   2.5-3.25   : Good
- Scale   Range 3.26-4.0   : Excellent

The formulation for calculating the index value is:

Index value= ((F1 x 1) + (F2 x 2) + (F3 x 3) + (F4 x 4) + (F5 x 5)) / n

Information:

F = Frequency

N = Number of samples.

The results of the organizational commitment variable frequency test showed that respondents generally had a positive level of commitment. The average score on all statements was above 3, indicating a tendency to agree with statements related to responsibility, collaboration, and prioritizing organizational interests over personal interests. Statements that emphasize community interest and collaborative spirit get the highest average score, while responsibility to the job description gets the lowest average score. This illustrates that respondents have a very high organizational commitment, although there is still room for improvement in specific aspects of job responsibilities.

The results of the intangibility variable frequency test showed that respondents gave a positive assessment of intangible aspects of services. The average score on all statements ranged from 3.13 to 3.34, with a median of 3.00 for each statement, indicating that most respondents chose a yes-for-all answer. The statement "Always ready to help people in need of services" obtained the highest average (3.34), indicating that the aspect of willingness to help was highly appreciated by respondents. Meanwhile, the statement "Fast and precise in completing tasks" had the lowest average (3.13), although it still showed a positive rating. Overall, these results reflect that the services provided are as expected, not convoluted, and responsive to the needs of the community.

The results of the inseparability variable frequency test showed that respondents gave a positive assessment of the aspect of service integration involving direct interaction between service providers and the community. The average score on all statements ranged from 3.12 to

3.33, with a consistent median of 3.00, indicating that most respondents chose a yes-for-all answer. The statement "Providing a sense of comfort in serving the community" obtained the highest average (3.33), indicating that comfort in service is highly appreciated. Meanwhile, the statement "Have adequate knowledge in the field of SAR" has the lowest average (3.12), but still shows a positive assessment. Overall, these results indicate that the services provided are responsive to complaints, supported by adequate equipment, and carried out with polite communication, thereby creating good service experience for the community.

The results of the variability variable frequency test showed that respondents gave a positive assessment of the service variability dimension which included understanding, skills, and administrative support. The average score on all statements ranged from 3.01 to 3.41, with the median generally at 3.00, except for the statement "Have individual skills in providing maximum service "which had a median of 4.00, indicating a higher level of understanding. Statements regarding individual skills in providing maximum service received the highest average (3.41), which indicates that this aspect is highly appreciated by respondents. In contrast, statements about equipment support and support administration had the lowest average (3.01), although they still showed a positive assessment. Overall, these results show that services in these aspects are well done, supported by adequate individual skills and an understanding of community needs, although administrative support still needs to be improved.

The results of the perishability variable frequency test showed that respondents gave a positive assessment of the dimensions of resilience and service readiness which were temporary and could not be stored. The average score on all statements ranged from 3.15 to 3.28, with a consistent median of 3.00, indicating that most respondents chose a yes-up answer. The statements "Prioritizing sincere service to the community" and "Implementing SOP for SAR personnel services supported by teamwork" obtained the highest average (3.28), indicating that aspects of sincere service and teamwork are highly appreciated. Meanwhile, the statement "Mastering the system and SOPs in the implementation of SAR tasks" has the lowest average (3.15), although it still shows a positive assessment. Overall, these results show that the services provided are responsive, ready to stand by, and supported by a friendly attitude and good teamwork in the implementation of SAR tasks.

E. Descriptive Analysis Test

Descriptive analysis is used to process research data with the aim of indicating basic statistical calculations, such as minimum, maximum, mean, standard deviation, and variance. These parameters serve as a measure to describe the overall distribution of the data, making it easier to understand the characteristics of the data obtained in the study, as seen in the following table:

Table 5. Descriptive Statistics Test Results

	N	Minimum	Maximum	Mean	Hours of deviation	Variance
Intangibility	93	6	20	16.40	2.423	**5.873**
Inseparability	93	6	20	16.38	2.824	**7.976**
Variability	93	5	20	16.03	2.779	**7.727**
Perishability	93	8	20	16.25	2.768	**7.666**
Organizational	93	9	20	16.40	2.687	**7.220**

	N	Minimum	Maximum	Mean	Hours of deviation	Variance
Commitment						
Valid N (listwise)	93					

Source: SPSS Output, 2025

Based on the details in table 4.11, it is described as follows:

1. Regarding the intangibility variable (X1), a minimum total score of 6 and a maximum total score of 20 were obtained. The average total score is 16.40 with a standard deviation of 2.42 and a variance value of 5.87. The results of the statistical calculation indicate that the level of data distribution on the intangibility variable is in the medium category, or the data shows a sufficient level of heterogeneity. This condition reflects that respondents' opinions on the intangibility variable are diverse or non-homogeneous.

2. For the inseparability variable (X2), a minimum total score of 6 and a minimum total score of 20 were obtained, with an average total score of 16.38, standard deviation of 2.82 and variance of 7.98. The rate of dissemination of this data also shows a high level of heterogeneity, which means that respondents' opinions on the inseparability variable are quite varied.

3. The variability variable (X3) had a minimum total score of 5 and a maximum of 20, with an average of 16.03, a standard deviation of 2.78 and a variance of 7.73. These results show a fairly wide distribution of data and the heterogeneity of respondents' opinions on this variable.

4. In the perishability variable (X4), the minimum total score obtained was 8 and a maximum of 20, with an average total score of 16.25, standard deviation of 2.77 and variance of 7.67. The level of data crossover is also moderate, showing that respondents' opinions on the perishability variable are quite diverse.

5. As for the organizational commitment variable (Y), the minimum total score is 9 and maximum 20 with an average total score of 16.40, standard deviation of 2.69 and variance of 7.22. This data shows a moderate level of deployment, which means that respondents' opinions on organizational commitment variables are quite heterogeneous.

   Overall, these descriptive results show that respondents' opinions on all variables studied have a fairly high level of variation, indicating a diversity of perceptions among respondents.

F. Validity Test

Validity testing is used to measure the validity or validity of a questionnaire's statement. A questionnaire will be considered valid if the statement can reveal something measured from the questionnaire. In this study, it was used to measure the validity or not of a questionnaire with a total score of 5% significance and a sample of 93 respondents. To test its validity, the researcher compared the Pearson correlation of each question item with the *table r product moment*. If the calculation > the table, then the statement item is declared valid. The results of the validity test can be presented in the table below with n = 93, then df is obtained as 93-2 =

91 and α = 5 %, then the rtable value is 0.205.

- $r_i > 0.205$ *then the questionnaire statement item is valid*
- $r_i < 0.205$ *then the questionnaire statement item is not valid*

Table 6. Validity Test Results

Variable	Statement	Calculation	rtabel	Conclusion
item-total statistics				
n = 93 rtabel = 0.205				
Intangibility (X1)	P1	0,890	0,205	Valid
	P2	0,787	0,205	Valid
	P3	0,704	0,205	Valid
	P4	0,817	0,205	Valid
	P5	0,779	0,205	Valid
Inseparability (X2)	P1	0,777	0,205	Valid
	P2	0,736	0,205	Valid
	P3	0,784	0,205	Valid
	P4	0,803	0,205	Valid
	P5	0,781	0,205	Valid
Variability (X3)	P1	0,720	0,205	Valid
	P2	0,833	0,205	Valid
	P3	0,740	0,205	Valid
	P4	0,772	0,205	Valid
	P5	0,687	0,205	Valid
Perishability (X4)	P1	0,769	0,205	Valid
	P2	0,780	0,205	Valid
	P3	0,810	0,205	Valid
	P4	0,746	0,205	Valid
	P5	0,788	0,205	Valid
Organizational Commitment (Y)	P1	0,883	0,205	Valid
	P2	0,669	0,205	Valid
	P3	0,626	0,205	Valid
	P4	0,673	0,205	Valid
	P5	0,887	0,205	Valid

Source: Primary data processed, 2025

Based on the results of the correlation coefficient test of the statement items in the table above, information was obtained that all question items in each variable have a calculation value > rtable, based on this it can be decided that each question item is valid and can proceed to the realism test.

G. Reliability Test

The reality test is useful to determine whether the research instrument used, in this case the questionnaire can be used more than once or at least by the same respondent. Reliability calculation is a calculation of the consistency of questionnaire data using *Cronbach's Alpha* formula. The use of this formula is adjusted to the scoring technique carried out on each item in the instrument. The *item-total correlation value* in an indicator to be declared reliable is at least 0.70. The following are the results of the reality test of each variable:

Table 7. Reliability Test Results

Variabel	Cronbach's Alpha	Minimum Standards	Conclusion
Intangibility (X1)	0,855	0,70	Reliable
Inseparability (X2)	0,828	0,70	Reliable
Variability (X3)	0,803	0,70	Reliable
Perishability (X4)	0,835	0,70	Reliable
Organizational Commitment (Y)	0,803	0,70	Reliable

Source: Primary data processed, 2025

Based on the results of the reliability test in table 4.13 above, information was obtained that all variables had a Cronbach's alpha value of > 0.70 so that it can be concluded that all variables are reliable.

H. Classic Assumption Test

Classical assumption tests are performed as an initial stage before linear regression analysis to ensure the feasibility of the model. The normality test using Kolmogorov–Smirnov showed an Asymp value. The sig. is 0.200 (>0.05), so that the residual is normally distributed, which is also supported by a bell-shaped histogram pattern and P-Plot dots that follow a diagonal line. Furthermore, the results of the multicollinearity test showed that all independent variables had a tolerance value above 0.10 and VIF below 10, so that there were no symptoms of multicollinearity. The heteroscedasticity test via scatterplot describes the distribution of random points above and below the Y axis, indicating the absence of a specific pattern. To strengthen the graph results, the Glejser test was performed and showed that the entire significance value of the independent variable was greater than 0.05, so it could be concluded that heteroscedasticity did not occur. Finally, the Durbin-Watson autocorrelation test yielded a DW value of 2.05 that was between DU (1.74) and 4–DU (2.26), which means that the regression model is independent of autocorrelation and residual between observations. Overall, the four tests showed that the data were eligible for multiple linear regression analysis.

I. Multiple Linear Correlation and Regression Test

The Pearson correlation test shows that all service quality variables have a positive and significant relationship with organizational commitment, as evidenced by a significance value of 0.000 (<0.05) on all variables. The level of closeness of relationships is also in the strong category according to Sugiyono's (2019) criteria, namely Intangibility ($r = 0.723$), Inseparability ($r = 0.755$), Variability ($r = 0.787$), and Perishability ($r = 0.759$), which indicates that the better the quality of public services in each dimension, the higher the commitment of SAR personnel organizations. Furthermore, the results of multiple linear regression showed that all independent variables had a positive and significant effect on organizational commitment, with the equation model $Y = 0.991 + 0.209X_1 + 0.208X_2 + 0.287X_3 + 0.244X_4$. The regression coefficient showed that Variability had the greatest influence on increasing organizational commitment (0.287), followed by Perishability (0.244), Intangibility (0.209), and Inseparability (0.208). The constant of 0.991 indicates that without the contribution of all service quality variables, the organization's commitment is at a base value of 0.991. Overall,

the results of the analysis prove that intangibility, inseparability, variability, and perishability are important determinants in increasing organizational commitment at the Tanjungpinang SAR Office.

J.   Hypothesis testing

Hypothesis testing was carried out to determine the influence of intangibility, inseparability, variability, and perishability variables on organizational commitment, both simultaneously and partially, through multiple linear regression analysis. The results of the simultaneous test (F-test) showed a significance value of 0.000 (<0.05) and Fcal 58.393 (> Ftable 2,470), so that all independent variables together had a significant effect on organizational commitment. Furthermore, the partial test (t-test) confirmed that all independent variables had a significant influence individually, shown by a significance value of <0.05 each and a tally greater than ttable 1.987, namely intangibility (t=2.165; Sig=0.033), inseparability (t=2.317; Sig=0.023), variability (t=2.942; Sig=0.004), and perishability (t=2.715; sig=0.008). These results confirm that the four dimensions of service quality have a positive contribution in increasing organizational commitment. Meanwhile, a determination coefficient (Adjusted R^2) of 0.714 showed that 71.4% of the variation in organizational commitment could be explained by the four independent variables, while the remaining 28.6% were influenced by other factors outside the research model. This finding indicates that the quality of public services is an important determinant in shaping the organizational commitment to the Tanjungpinang SAR Office.

K. Research Discussion

This study aims to determine the influence of service quality on organizational commitment. The quality of service in the field of SAR services is measured through four main dimensions based on the characteristics of the model proposed by Kotler which include intangibility, inseparability, variability and perishability. Meanwhile, Organizational Commitment is interpreted as an emotional approach and employee involvement with the organization, which in this context is SAR personnel with the Tanjungpinang SAR Office.

The results of the quantitative analysis show that the four dimensions of service quality have a positive and significant effect on organizational commitment both partially and simultaneously where a score of 58,393 > 2,470 was obtained. This shows that the better the efforts of SAR personnel in providing effective SAR services to the community, the higher the level of commitment of SAR personnel themselves to the Tanjungpinang SAR Office.

Based on a literature search, studies that link the service quality model with service characteristics such as the Kotler model directly with organizational commitment variables are still very limited. Most previous research has focused more on the effect of service quality on external customer satisfaction or loyalty, rather than on internal aspects of the organization. In fact, according to Septiawan & Sintaningrum (2018), an effective organization is not only measured through the achievement of external satisfaction, but also internal satisfaction through the achievement of organizational goals.

This condition shows that there is a research gap so that this research is expected to have novelty value in expanding the application of the Kotler model in the context of organizational commitment. Thus, the results of this study provide a new theoretical contribution in enriching

the study of human resource management and organizational behavior, especially in the public sector, because the quality of services provided is highly determined by the capacity of human resources themselves (Hidayat, 2025).

Overall, although similar research is still limited, the results of this study prove that the concept of service quality according to Kotler that is commonly used in the private sphere is still relevant and effective in increasing the commitment of public sector organizations.

CONCLUSION

The results of the study show that simultaneously all variables of Intangibility, Inseparability, Variability, and Perishability have a significant effect on the organizational commitment of SAR personnel at the Tanjungpinang SAR Office, and partially each variable is also proven to have a significant influence. However, some indicators still show the lowest scores despite being in the good category, so it needs to be the attention of the organization. In the intangibility variable, the indicator of "speed and accuracy in completing tasks" needs to be improved through periodic evaluations related to punctuality and work accuracy. In the inseparability variable, the indicator of "adequate technical knowledge in the field of SAR" demands increased competence through training and strengthening of technical understanding. In the variability variable, the indicator of "completeness of equipment and supporting administration" indicates the need to increase the availability of more adequate operational facilities. Meanwhile, in the perishability variable, the indicator of "system mastery and SOPs in the implementation of SAR tasks" indicates the importance of strengthening personnel's understanding of work systems and standard procedures through regular coaching and simulation. For further research, it is recommended to add other independent variables beyond the four characteristics of the service, considering that there are still other factors that have the potential to affect organizational commitment and can enrich the research model.

REFERENCES

Alfiyani, L., Setiyadi, N. A., Yakob, A., Mulyono, D., Rohmat, R., Rizqi, M. F., Prakoeswa, & Sumaji, M. A. (2024). Cfa dan gap analisis: Analisis indeks kepuasan masyarakat terhadap kualitas pelayanan publik. *Jurnal Keilmuan dan Keislaman*, 29–44.

Dewi, K. E. O., & Riana, I. G. (2019). Pengaruh pengembangan karir, kompensasi dan komitmen organisasional terhadap retensi karyawan pada Bintang Kuta Hotel. *E-Jurnal Manajemen*, *8*(2), 7836–7862.

Dewi, S. K., & Sudaryanto, A. (2020). Validitas dan reliabilitas kuesioner pengetahuan, sikap dan perilaku pencegahan demam berdarah. *Semnaskep*.

Hassan, S. H. M., & Omar, R. A. R. (2021). People's Islamic Religious School (SAR) in Northern Malaysia: Administrative model for notable achievements. *Turkish Journal of Computer and Mathematics Education*, *12*(3), 2555–2567. https://doi.org/10.17762/turcomat.v12i3.1254

Hutahuruk, P. S., Riyanto, C. K., & Sudjanadi. (2019). Response time, sarana & prasarana pergudangan dan diklat search and rescue (SAR). *Jurnal Manajemen Bisnis Transportasi dan Logistik (JMBTL)*, *5*(2), 221–228.

Ingari, B. K. (2018). *Influence of outsourced public service provider's quality dimensions on performance of Nairobi City County* (Tesis tidak dipublikasikan). JKUAT-COHRED.

Kotler, P. (1997). *Manajemen pemasaran: Analisis, perencanaan, dan pengendalian*. PT Prehalindo.

Lanin, D., & Hermanto, N. (2019). The effect of service quality toward public satisfaction and public trust on local government in Indonesia. *International Journal of Social Economics*, *46*(3), 377–392. https://doi.org/10.1108/IJSE-04-2017-0151

Larono, S. (2020). Analisis survei kepuasan masyarakat pada pelayanan perijinan di Dinas Penanaman Modal dan Pelayanan Terpadu Satu Pintu (DPMPTSP) Kabupaten Kepulauan Talaud. *Jurnal Manajemen Pendidikan dan Ilmu Sosial*, *1*(1), 18–32.

Mula, L. S., Mattoasi, & Usman. (2024). Pengaruh kompetensi sumber daya manusia dan komitmen organisasi terhadap kualitas informasi laporan keuangan (Survei pada Pemerintah Desa Se-Kecamatan Boliyohuto Kabupaten Gorontalo). *JEMSI: Jurnal Ekonomi, Manajemen dan Akuntansi*, *10*(1), 436–444.

Pidd, M. (2012). *Measuring the performance of public services: Principles and practice*. Cambridge University Press. https://doi.org/10.1017/CBO9780511791550

Rahmah, F. F., Agustina, E. S., Yulistia, A., & Kurniawati, A. B. (2023). Pengaruh penggunaan media boneka tangan terhadap keterampilan menyimak anak usia 5–6 tahun. *Jurnal Kumara Cendekia*, *11*(3), 271–279.

Riyanto, V., & Tanjungsari, H. T. (2020). Kualitas layanan dan nilai yang dipersepsikan terhadap niat pembelian pengguna jasa MRT dengan kepuasan pelanggan sebagai mediasi. *Jurnal Manajerial dan Kewirausahaan*, *2*(3), 838–846.

Schmied, J., Borch, O. J., Roud, E. K. P., Berg, T. E., Fjørtoft, K., Selvik, Ø., & Parsons, J. R. (2017). Maritime operations and emergency preparedness in the Arctic: Competence standards for search and rescue operations contingencies in polar waters. In *The interconnected Arctic—UArctic Congress 2016* (pp. 245–255).

Septiawan, A., & Sintaningrum. (2018). Aplikasi systematic mapping review sebagai upaya pengukuran efektivitas pembangunan desa pesisir Natuna. *Jurnal Ilmu Pemerintahan: Kajian Ilmu Pemerintahan dan Politik Daerah*, *3*(2), 149–170.

Sudewo, P. A., Meilifa, & Christiana, W. (2022). Hubungan kompetensi manajerial dan sosial kultural dengan akuntabilitas kinerja organisasi pemerintah: Studi kasus di BPOM. *Jurnal Widyaiswara Indonesia*, *3*(3), 119–130.

Sugiyono. (2013). *Cara mudah menyusun skripsi, tesis dan disertasi (STD)* (A. Nuryanto, Ed.; 1st ed.). Penerbit Alfabeta.

Sugiyono. (2019). *Metode penelitian kuantitatif kualitatif dan R&D* (2nd ed.). Penerbit Alfabeta.

Suryadi, S., Fatahurazak, F., Adhayanto, O., & Arianto, B. (2022). Strategic study on the business development of regional owned enterprises in Tanjungpinang City. *Golden Ratio of Marketing and Applied Psychology of Business*, *2*(2), 108–129.

Zunizar, R., Ribhan, & Mardiana, N. (2023). The influence of competence and job satisfaction on the performance of employees in Indonesian educational and professional development institutions (LP3I) through organizational commitment as a mediation variable. *International Journal of Environmental, Sustainability and Social Science*, *4*(6), 1847–1858.