
Managing emergency service quality and user satisfaction: A qualitative study of the Surabaya Fire and Rescue Department

Fitri Nur Rifani^{1*}

¹ Universitas Widya Kartika, Surabaya, Indonesia

*Corresponding Author: nurrifani18@gmail.com

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Abstract

Fire and rescue services require responsive service quality to meet public needs in rapidly changing and uncertain emergency situations. This study aims to analyze service quality and user satisfaction at the Surabaya Fire and Rescue Department. A descriptive qualitative approach was employed using *purposive sampling* involving five informants with direct experience using the services. Data were collected through interviews, observation, and documentation and analyzed through data reduction, data presentation, and conclusion drawing. The findings show that users perceived the services positively, particularly in terms of response speed, staff competence and composure, the variety of rescue services, and communication that provided a sense of safety. However, distance, traffic congestion, road conditions, limited fleet availability, and supporting facilities continued to affect service delivery. This study contributes by positioning service quality and user satisfaction as important foundations for more integrated and consistent emergency service management.

Keywords: Service quality; User satisfaction; Emergency services; Fire and rescue services; Service management.

Abstrak

Pelayanan pemadam kebakaran sebagai layanan darurat membutuhkan kualitas respons yang mampu memenuhi kebutuhan masyarakat dalam situasi yang cepat dan tidak pasti. Penelitian ini bertujuan menganalisis kualitas layanan dan kepuasan pengguna pada Dinas Pemadam Kebakaran dan Penyelamatan Kota Surabaya. Penelitian menggunakan pendekatan kualitatif deskriptif dengan *purposive sampling* terhadap lima informan yang memiliki pengalaman langsung menggunakan layanan. Data diperoleh melalui wawancara, observasi, dan dokumentasi, kemudian dianalisis melalui reduksi data, penyajian data, dan penarikan kesimpulan. Hasil menunjukkan bahwa pengguna menilai pelayanan secara positif, terutama pada kecepatan respons, kompetensi dan ketenangan petugas, keragaman layanan penyelamatan, serta komunikasi yang memberikan rasa aman. Namun, jarak, kepadatan lalu lintas, kondisi jalan, keterbatasan armada, dan fasilitas masih memengaruhi proses pelayanan. Penelitian berkontribusi dengan menempatkan kualitas layanan dan kepuasan pengguna sebagai dasar pengelolaan layanan darurat yang lebih terpadu dan konsisten.

Kata Kunci: Kualitas layanan; Kepuasan pengguna; Pelayanan darurat; Pemadam kebakaran; Pengelolaan layanan.

Introduction

Firefighting services are a form of emergency service that directly concerns public safety. Unlike ordinary public services, they operate under urgent and high-risk conditions in which users require immediate assistance and appropriate action (Herhan & Bakhri, 2026). Service quality is therefore assessed not only by the final outcome of an intervention but also by response speed, staff competence, communication clarity, facility availability, and the organization's ability to adapt its actions to the circumstances of an incident. An (2016) shows that fire service quality is associated with citizen satisfaction and organizational image, making public experience an important basis for assessing service performance. This perspective positions users not merely as recipients of assistance, but as parties who directly experience service quality from the moment a report is submitted until the response is completed.

The need for fast and reliable services becomes increasingly important because emergency situations do not always involve fires. People may require assistance with gas leaks, safety incidents, animal rescue, or other situations requiring technical intervention. This variety of needs requires organizations to have competent personnel, adequate resources, and procedures that support rapid and appropriate action. Opjame et al. (2021) show that human resource quality, fire service quality, and facilities are associated with citizen satisfaction. In a different context, de Wit and Helsloot (2021) found that the public considers preparedness and rapid turnout important aspects of fire services. These findings indicate that emergency service quality is strongly influenced by an organization's ability to respond to user needs under uncertain conditions. Service delivery must therefore combine personnel capability, operational readiness, and responsiveness to different emergency situations.

This context is relevant to the services provided by the Surabaya Fire and Rescue Department, which not only responds to fires but also provides various forms of rescue services to the community. The availability of reporting channels and operational support enables people to obtain assistance during emergencies, but service quality ultimately depends on staff capabilities and the organization's capacity to follow up on incoming reports. Adelberty (2016) previously examined the service quality of the Surabaya Fire Department in terms of staff attitudes, procedures, response time, facilities, and service delivery. That study provides an initial picture of service quality in Surabaya; however, changing service needs and the increasingly diverse nature of rescue services make it necessary to examine user experiences more specifically. Focusing on service quality and user satisfaction is therefore important for understanding how people evaluate the services they receive during emergency situations.

Research on fire service quality has been conducted in various contexts. Adelberty (2016) showed that the quality of the Surabaya Fire Department can be assessed through staff attitudes, procedures, response time, facilities, and service delivery, but the study did not specifically connect these experiences with broader emergency service management. Another study by Opjame et al. (2021) found that service quality, human resources, and facilities were associated with citizen satisfaction, but focused on a quantitative approach in Tanah Datar Regency. Ramli et al. (2024) found that the five SERVQUAL dimensions contributed to improving fire service quality in Bone, but the study remained focused on evaluating service quality dimensions. Meanwhile, Purwanti (2025) found citizen satisfaction with procedures and staff responsibility in Bengkulu City, although service discipline remained an issue. These differences in focus provide an opportunity to examine service quality and user satisfaction in an integrated manner in Surabaya.

This study aims to analyze service quality and user satisfaction in the emergency services provided by the Surabaya Fire and Rescue Department. The study focuses on community experiences when receiving services, particularly response speed, staff capabilities, communication during interventions, service variety, and support from facilities and operational capacity. The urgency of this study lies in the need to understand service quality from the users' perspective rather than solely from organizational procedures or internal capabilities. This perspective is particularly relevant because Setyarini et al. (2026), in a study of PSC 119 emergency services in Malang, showed that response time was strongly associated with user satisfaction. Accordingly, this study is expected to provide a more comprehensive understanding of user experiences with emergency services in Surabaya while providing a basis for examining the implications of service quality for emergency service management.

Method

This study employed a qualitative approach with a descriptive design to understand the experiences and assessments of the community regarding the service quality of the Surabaya Fire and Rescue Department. Informants were selected using *purposive sampling* based on criteria relevant to the research objectives (Creswell, 2014). The selection criteria were: (1) residing in Surabaya; (2) being at least 18 years old; (3) having used, received, or directly interacted with services provided by the Surabaya Fire and Rescue Department; and (4) being able to describe their experiences and assessments of the services received. Based on these criteria, the study involved five informants: Iqbal (23 years old), Johana (48 years old), Winona (22 years old), Nila (22 years old), and Suyono (50 years old). Primary data were obtained through in-depth interviews, while observation and documentation were used as supporting data to enrich the understanding of service processes, staff responses, and supporting facilities.

Data were collected through interviews, observation, and documentation to obtain an overview of service delivery based on community experiences and observed service conditions. Face-to-face interviews were conducted using a semi-structured interview guide to ensure that the questions remained focused while allowing informants to describe their experiences in greater depth. Observations focused on service activities, including responses to reports and interactions between staff and the community, while documentation was used as supporting data from official documents, reports, and information related to the services of the Surabaya Fire and Rescue Department. Data analysis was conducted in three stages: data reduction, data presentation, and conclusion drawing (Miles & Huberman, 1994). Relevant information was selected during data reduction, after which the data were presented descriptively and thematically. The final stage involved interpreting patterns in the data to draw conclusions regarding service quality, user satisfaction, and their implications for emergency service management.

Results and Discussion

Service quality and user satisfaction in emergency services

In emergency situations, users form their perceptions of a service within a very short period. People need accessible assistance, personnel who can act quickly, and services that provide a sense of safety while they face unexpected circumstances. The experiences of people using the services of the Surabaya Fire and Rescue Department indicate that perceptions of service quality are shaped not only by the successful resolution of a problem but also by the process through which assistance is delivered. Based on the five dimensions of service quality—*responsiveness*, *reliability*, *assurance*, *empathy*, and *tangibles*—these experiences can be used to examine how service quality is perceived and how such perceptions relate to user satisfaction.

Table 1. Findings on service quality and user satisfaction

Service quality dimension	Interview findings	User satisfaction	
<i>Responsiveness</i>	Staff speed and responsiveness in responding to emergency reports	Positive	
<i>Reliability</i>	Staff ability to handle fires and various rescue services	Positive	
<i>Assurance</i>	Competence, professionalism, discipline, and ability to provide a sense of safety	Positive	
<i>Empathy</i>	Staff friendliness, attentiveness, and communication during service delivery	Positive	with reservations
<i>Tangibles</i>	Fleet, equipment, access, and condition of supporting service facilities	Positive	with reservations

Source: Author analysis, 2026.

Table 1 shows that users' assessments were generally positive across all service quality dimensions, although *empathy* and *tangibles* still received some reservations. This pattern indicates that user satisfaction is shaped not only by the final outcome of emergency response but also by response speed, staff capabilities, a sense of safety, interactions during service delivery, and the physical conditions supporting the service process.

Responsiveness is the dimension most directly experienced by users because emergencies require assistance within a short period. Iqbal, who had used an animal rescue service, stated, "After I reported it, the staff came and helped. I think the response was quite fast." This statement indicates that response speed is an important part of users' evaluations. Suyono's experience reflects a similar assessment. He considered the staff responsive when handling a fire and noted that they immediately worked in a coordinated manner. However, he also explained that a distant location and narrow roads could make the staff's arrival take longer.

These findings show that users distinguish between staff responsiveness and travel-related obstacles in reaching the incident location. Tjiptono and Chandra (2011) explain that service quality concerns a provider's ability to meet users' needs and expectations through the service process. In emergency services, this fulfillment is reflected in the response to reports and the actions taken by staff after arriving at the location. These findings are also consistent with Mosimanegape et al. (2020), who found a relationship between service quality and user satisfaction in public services. Thus, rapid responses and prompt action constitute service experiences that strengthen positive user evaluations, while delays caused by road conditions are not automatically perceived as service failures.

For the *reliability* dimension, users' attention shifts from how quickly staff arrive to how effectively they can provide assistance according to the situation. This is evident in Nila's experience of using the service to open a motorcycle disc lock. She stated, "I did not know before that the fire department could help open a motorcycle lock. After looking for information, I found out that I could contact them. I think it made things easier because I did not have to look for other assistance, and the process was also quite fast." This experience indicates that users consider a service reliable when staff can provide assistance that matches the problem they face, including non-fire-related services.

Winona's experience when requesting assistance to remove a bee nest further supports this assessment. She stated, "After it was reported, the staff came and immediately assessed the situation. They were quite calm and knew how to handle it, so we as residents did not panic as much." Lovelock and Wirtz (2011) define *reliability* as the ability of a service provider to deliver services dependably and according to users' needs. This finding is consistent with Aqsa et al. (2020), who showed that service

quality is an important component in shaping satisfaction with public services. In this study, reliability is reflected in the staff's ability to handle various situations, leading users to view the fire department not only as a firefighting service but also as a provider of rescue services for other emergency situations.

Assurance is evident when staff capabilities generate a sense of safety and trust among users. Johana's experience when dealing with a gas leak illustrates this aspect. She stated, "When there was a gas leak, I was quite panicked because I was afraid something might happen. The staff came, inspected the situation, and told us what to do. What made me feel calm was that they did not just handle the problem but also explained it to us." This statement indicates that a sense of safety arises not only from the staff's intervention but also from users' understanding of the actions being taken.

These findings indicate that staff competence and communication work together in shaping *assurance*. Tjiptono and Chandra (2011) associate *assurance* with a service provider's ability to generate trust and a sense of safety among users. Meanwhile, Setyobakti and Murniati (2020) show that service quality dimensions are associated with community satisfaction in government services. In the case of the Surabaya Fire and Rescue Department, professionalism, composure, and the ability to explain actions make users feel that the situation is being handled by competent personnel. Therefore, *assurance* is one of the elements that strengthens user satisfaction with the service.

In the *empathy* dimension, service quality is reflected in users' experiences during interactions with staff. In emergency situations, people do not always need technical action alone; they also need treatment that makes them feel cared for. Johana's experience shows that explanations from staff can reduce the anxiety experienced by users. This indicates that communication is part of service quality because users evaluate the service based on how staff interact with them throughout the response process.

Chan et al. (2021) show that citizen satisfaction with public services can be understood through various dimensions of the service experience, rather than solely through service outcomes. The findings of this study reinforce this perspective because staff interactions influence how users interpret the service they receive. Zhang et al. (2022) also show that satisfaction with public services is related to the degree of alignment between citizens' expectations and their actual experiences. In this study, communication that helps users understand the situation makes the service experience more responsive to their needs. However, the assessment of *empathy* still involves some reservations because the quality of interaction depends on the circumstances and needs of users during an emergency.

The *tangibles* dimension reflects another aspect of the user experience, namely the physical conditions that support service delivery. This aspect includes the fleet,

equipment, service posts, and access to the incident location. Suyono's experience shows that access conditions can affect the user experience, as he explained that distant locations or narrow roads can cause staff to arrive later. In this context, physical constraints do not directly indicate that staff are unable to provide the service; rather, they show that service quality is also influenced by the environment in which the service is delivered.

Lovelock and Wirtz (2011) explain that service users may consider directly observable aspects as part of their assessment of service quality. Mosimanegape et al. (2020) likewise position service quality as a factor associated with user satisfaction in public services. The findings show that limitations in physical aspects do not eliminate the community's positive assessment of the service because users continue to experience benefits from the staff's actions. Thus, *tangibles* receives a positive assessment, but with some reservations because fleet conditions, access, and supporting facilities can influence the service experience.

When the five dimensions are considered together, user satisfaction appears to be shaped primarily by their direct experience of the service. A rapid response makes users feel that assistance is available when needed; staff capabilities in handling different situations strengthen service reliability; competence and communication provide a sense of safety; and positive interactions make the service process more helpful. Conversely, limitations in physical facilities and access remain areas of concern that can affect the user experience without eliminating the overall positive assessment.

This pattern reinforces Zhang et al.'s (2022) view that satisfaction with public services is related to the comparison between expectations and actual experiences. In this study, users evaluate not only whether their problems are resolved but also how the assistance is delivered. This is consistent with Aqsa et al. (2020), who position service quality as an important element of satisfaction with public services. Thus, user satisfaction with emergency services provided by the Surabaya Fire and Rescue Department can be understood as the outcome of an overall service quality experience rather than merely the successful technical resolution of an emergency.

Implications of service quality and user satisfaction for emergency service management

Emergency services need to be understood as a system that connects service quality with an organization's ability to manage responses, resources, technology, and user experience. The findings from Surabaya show that staff are responsive, but arrival times can be affected by traffic, distance, and road conditions. Therefore, Figure 1 is used to synthesize the findings into a conceptual framework. The upper section positions *Service Quality & Service Management* as the foundation, the four aspects on the left as areas that need to be managed, *Emergency Service Management* as the space

for integration, and the three aspects on the right as the directions of the implications. The arrows indicate a conceptual flow from the foundation and the aspects being managed to integration and, ultimately, the implications, rather than causal relationships. Ostrom et al. (2015) emphasize the integration of organization, technology, experience, and performance. Nadeak et al. (2018) show that system quality, information quality, service quality, use, satisfaction, and benefits are associated with the success of Jakarta Siaga 112.

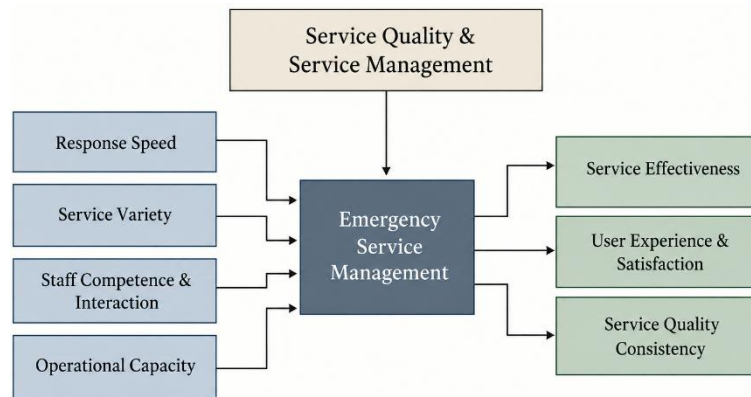


Figure 1. Conceptual Framework of Emergency Service Management in Emergency Public Services

Source: Developed by Author.

Response Speed is the aspect most readily perceived by users because emergency situations require immediate action. Informants in Surabaya described staff as responsive, but arrival times could be longer when locations were far away, roads were narrow, or traffic was congested. This condition indicates that speed should not be understood solely as staff behavior, because personnel, fleet, routes, and coordination also determine service time. Wirtz and Lovelock (2021) explain that service management requires the integration of *people*, *technology*, and *strategy* to ensure that service processes produce consistent performance. Consistent with this view, Saputri and Maesaroh (2019) found that the performance of the Semarang Fire Department was not yet optimal because targets had not been achieved, staff experienced delays, and infrastructure remained inadequate. This similarity indicates that response barriers in Surabaya are more appropriately understood as operational issues that need to be managed rather than simply as measures of staff slowness.

Service Variety indicates that the Surabaya Fire and Rescue Department addresses user needs that extend beyond firefighting. Informants described experiences involving gas leaks, bee nests, animal rescue, vehicle lockouts, and fires. This variety requires the organization to adapt its actions, equipment, and competencies without compromising safety standards. Vargo and Lusch (2016) explain that services involve value creation through interaction and coordination, meaning that resources need to be directed toward user needs. Sahid et al. (2023), in a study of the Makassar Fire Department, analyzed service quality through *tangibles*, *reliability*, *responsiveness*, *assurance*, and

empathy and identified the need for speed, preparedness, community synergy, stronger staff competencies, and infrastructure. This comparison reinforces that variations in user needs cannot be addressed simply by adding types of assistance; they require the organization to adapt its resources and competencies to the characteristics of each incident.

Staff Competence & Interaction is reflected in staff members' ability to work calmly, coordinate effectively, communicate clearly, and provide a sense of security when users face stressful situations. Informants' experiences with gas leaks, bee nests, and fires show that technical skills become more meaningful when accompanied by explanations that help users understand the actions taken by staff. Lemon and Verhoef (2016) explain that experience develops throughout the *customer journey* through various *touchpoints*, meaning that interactions during service delivery contribute to users' overall evaluation of the service. Ahn et al. (2020), in research on the 119 emergency medical service, found that user satisfaction was associated with service quality and arrival time, while friendliness and service accuracy were also important aspects in users' evaluations. This finding reinforces that competence in emergency services encompasses technical skills, appropriate action, communication, and the ability to maintain users' sense of calm throughout the service process.

Operational Capacity connects incoming reports with the organization's ability to provide assistance in the field. The Surabaya findings show that *Command Center 112* and digital access help the public submit reports, but follow-up remains influenced by fleet availability, equipment, location accessibility, and supporting facilities. Chan et al. (2021) show that public service design needs to consider accessibility, convenience, and service support because these elements shape citizens' experiences and satisfaction. Citradewi and Rotzami (2024) found that the quality of emergency complaint services through the Semarang City *Call Center 112* still faced implementation challenges, including response-speed issues, although the service had been developed as an integrated security system. This comparison indicates that a complaint channel does not operate independently. Technology needs to be supported by internal capacity, work standards, discipline, and access conditions that enable information to be translated into appropriate and consistent action.

These four aspects converge within *Emergency Service Management* as a space for integration, ensuring that service does not stop at receiving reports but continues until assistance is delivered appropriately. Speed requires personnel and fleet resources, service variety requires adaptive capabilities, interaction requires communication competence, while operational capacity requires adequate systems and resources. Ostrom et al. (2015) identify organization, service experience, technology, and performance as important agendas in service development, while Wirtz and Lovelock (2021) emphasize the roles of *people, technology, and strategy* in service management.

Mata et al. (2023) found that *service quality*, *expectation*, and *perceived justice* had positive effects on *public satisfaction* with government responses to Typhoon Odette. This finding reinforces that emergency service management needs to integrate resources, processes, technology, and user orientation so that the quality of assistance can be experienced in tangible terms.

This integration is directed toward *Service Effectiveness*, *User Experience & Satisfaction*, and *Service Quality Consistency*, as shown on the right side of Figure 1. Effectiveness is evident when assistance corresponds to the needs of an incident, user experience develops through convincing responses and interactions, while consistency means that quality standards remain maintained despite differences in incident characteristics. Zhang et al. (2022), through a meta-analysis, showed that citizen satisfaction is associated with the comparison between perceived service performance and user expectations. Mosimanegape et al. (2020) found that *tangibility*, *empathy*, *assurance*, and *responsiveness* were positively associated with *customer satisfaction* in public services and emphasized employee training and the review of quality standards. The findings from Surabaya show a similar tendency: users evaluate services positively when staff are responsive, competent, communicative, and able to provide a sense of security. Thus, service quality needs to be maintained as an experience that is effective, reassuring, and consistent.

Conclusion

The services provided by the Surabaya Fire and Rescue Department are perceived positively because users experience not only relatively prompt staff responses but also competence, composure, communication, and the ability to address diverse needs, ranging from firefighting to non-fire rescue services. This satisfaction develops because users receive assistance that they consider appropriate to the situation and feel safer throughout the service process. However, the quality of the service experience is not entirely within staff control, as distance, traffic congestion, road conditions, fleet limitations, and supporting facilities can affect service delivery. This condition indicates that emergency service quality needs to be managed in an integrated manner through response speed, service variety, staff competence and interaction, and operational capacity. Managing these four aspects provides a means of maintaining service effectiveness while sustaining user experience and service quality consistency.

This study contributes by viewing fire and rescue services not merely as firefighting services but as emergency services that generate user experiences through a combination of human, operational, and technological aspects. The conceptual framework developed also helps explain how service quality findings can be translated into implications for emergency service management. However, the study has limitations because it employs a qualitative approach with a limited number of

informants and focuses on user experiences within the context of Surabaya City; therefore, the findings are not intended for statistical generalization. Future research could expand the number and characteristics of informants, incorporate the perspectives of staff and service managers, and compare multiple regions. Quantitative measurements of response time, user satisfaction, service quality, and operational capacity could also be used to further examine the relationships among the identified aspects.

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