

Tourist security and service quality in the Constitutional Province of Callao, 2025

Seguridad turística y calidad del servicio en la Provincia Constitucional del Callao, 2025

Nadia Carpio Vergara¹, Geraldine Cueva Anampa^{2*}, Marcelo Farfan Davila³, AnaLucia Mendoza Camayo⁴, Bryan Poccorpachi Zavala⁵, Diana Quispe Farfan⁶ & Alexander Benavides Roman⁷

¹ Estudiante, Administración en Turismo y Hotelería, Universidad César Vallejo, Callao, Perú.

² Estudiante, Administración en Turismo y Hotelería, Universidad César Vallejo, Callao, Perú.

³ Estudiante, Administración de Empresas, Universidad César Vallejo, Callao, Perú.

⁴ Estudiante, Contabilidad, Universidad César Vallejo, Callao, Perú.

⁵ Estudiante, Administración de Empresas, Universidad César Vallejo, Callao, Perú.

⁶ Estudiante, Administración de Empresas, Universidad César Vallejo, Callao, Perú.

⁷ Doctor, Facultad de Derecho y Humanidades, Universidad César Vallejo, Callao, Perú.

* Corresponding author: gcuevaan01@uvvirtual.edu.pe

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ABSTRACT

This study aimed to determine the relationship between tourist safety and service quality in Callao, Peru. A quantitative, non-experimental, and correlational design was adopted. The sample included 94 tourists selected by convenience in tourist areas. Data collection was carried out using Likert scale questionnaires and analyzed with SPSS, employing descriptive statistics and Spearman's correlation.

A moderate and significant positive correlation was found between general tourist safety and service quality ($r = 0.615$, $p < 0.001$). The dimensions of medical, road, informational, and environmental safety also showed positive and significant correlations with service quality. However, public safety did not present a significant correlation. It is concluded that, with the exception of public safety, the dimensions of tourist safety positively influence the perception of service quality in Callao, highlighting safety as a crucial element for the visitor's experience.

Keywords: Cultural tourism, Safety, Quality, Public safety, Medical, Road safety, Information, Environmental safety.

RESUMEN

Este estudio tuvo como objetivo principal determinar la relación entre la seguridad turística y la calidad del servicio en el Callao, Perú. Se adoptó un enfoque cuantitativo, de diseño no experimental y correlacional. La muestra incluyó 94 turistas seleccionados por conveniencia en zonas turísticas. La recolección de datos se realizó mediante cuestionarios Likert y se analizó con SPSS, usando estadística descriptiva y la correlación de Spearman.

Se encontró una correlación positiva moderada y significativa entre la seguridad turística general y la calidad del servicio ($r = 0.615$, $p < 0.001$). Las dimensiones de seguridad médica, vial, informativa y ambiental también mostraron correlaciones positivas y significativas con la calidad del servicio. No obstante, la seguridad pública no presentó una correlación significativa. Se concluye que, salvo la seguridad pública, las dimensiones de la seguridad turística influyen positivamente en la percepción de la calidad del servicio en el Callao, siendo la seguridad un elemento crucial para la experiencia del visitante.

Palabras clave: Turismo cultural, seguridad, calidad, seguridad pública, médica, vial, informativa, ambiental.

INTRODUCTION

Tourism has a major impact on global sustainable development. In this context, safety is key to effective tourism development. Poor management of this aspect by local governments can significantly restrict the growth of the sector, as it creates a perception of risk among visitors and fear of physical and personal harm, which could translate into negative experiences. This situation gives rise to the phenomenon known as tourist insecurity, which is closely linked to low levels of tourist satisfaction (Chirre, 2023). However, for tourism to develop efficiently and sustainably, security is a determining factor. The presence of insecurity in certain regions of Peru has had a deterrent effect on the arrival of tourists, directly affecting the flow of both domestic and international visitors. In this sense, tourist safety is positioned as an essential component of public policy, as its absence can limit the growth of the sector and even damage the reputation of destinations (Marchan et al., 2023).

It is essential to highlight that protection in the tourism sector is one of the key foundations for the sustainable advancement and expansion of a tourist destination. This encompasses a series of steps and methods aimed at protecting the well-being and physical, mental, and financial security of travelers. The success of these strategies is manifested in a sense of protection and, as a result, is reflected in the excellence of the service provided (Marchan et al., 2023).

The following general objective is proposed: To determine the connection between tourism safety and service quality in the Constitutional Province of Callao in 2025.

Specific objectives are:

- Identify the relationship between public safety and service quality in the Constitutional Province of Callao in 2025.
- Identify the relationship between medical safety and service quality in the Constitutional Province of Callao in 2025.
- Identify the relationship between road safety and service quality in the Constitutional Province of Callao in 2025.
- Identify the relationship between information security and service quality in the Constitutional Province of Callao in 2025.

- Identify the relationship between environmental safety and service quality in the Constitutional Province of Callao in 2025.

The justification for conducting this research from a theoretical approach lies in its potential to increase understanding of the selected variables, providing additional information for those who wish to explore the field of tourism, allowing them to compare the results with the effectiveness of tourism safety in relation to service quality. Similarly, in a social context, the importance of the topic for the tourism sector is evaluated, considering the effect that safety has on it, so that the findings could help companies in the sector to reconsider the relevance of tourism safety in attracting more customers and maintaining their presence in the market.

LITERATURE REVIEW

At the international level, Taris Almache (2020) studied public insecurity in tourist sites in Riobamba, Ecuador. This analysis is exploratory, descriptive, and correlational in nature, with a non-experimental approach. A sample was selected and questionnaires were developed to conduct the surveys. The data allowed hypotheses to be verified using Spearman's Rho measure, showing that management is not related to tourist safety. Despite this, security flaws were identified and strategies to improve it were proposed. It was concluded that there is no correlation between management and safety, and that reducing insecurity is key to increasing tourism.

At the national level, Ruíz and Tello (2020) indicate that the objective of their study conducted in San Martín was to establish the connection between tourist safety and the quality of the service offered. They evaluated public insecurity and its effect on the perception of domestic tourists. This was a descriptive-correlational, non-experimental study with a population of 230,112 tourists and a sample of 384 participants. The conclusion was that there is definitely a significant connection between safety and quality of services, with a coefficient of 0.793.

Focusing on the local level, authors Ramos and Vértiz (2023) conducted research in the district of Callao with the aim of understanding visitors'

perceptions of tourist safety. A quantitative method was used, with a non-experimental, descriptive design. Through surveys of 364 people, information was collected on different dimensions of safety, such as citizen protection, medical assistance, transportation conditions, tourist services, and information available to visitors. Most respondents considered the level of safety to be acceptable, although they pointed out opportunities for improvement in some key areas.

The following general hypothesis was formulated: There is a significant relationship between tourist safety and service quality in the Constitutional Province of Callao, 2025.

Specific hypotheses are:

- There is a relationship between public safety and service quality in the Constitutional Province of Callao, 2025.
- There is a relationship between medical safety and service quality in the Constitutional Province of Callao, 2025.
- There is a relationship between road safety and service quality in the Constitutional Province of Callao, 2025.
- There is a relationship between information security and service quality in the Constitutional Province of Callao, 2025.
- There is a relationship between environmental safety and service quality in the Constitutional Province of Callao, 2025.

METHODOLOGY

This study was conducted as basic, quantitative, non-experimental research focused on expanding the theoretical understanding of tourism safety. A quantitative approach was used to collect and analyze numerical data using statistical techniques, seeking objective and reproducible results that would allow for analysis of the effect of tourism safety on service quality. The non-experimental design facilitated the observation of phenomena in their natural environment without alteration, while the correlational scope evaluated the direct

relationship between tourism safety and service quality. The hypothetical-deductive method was applied to validate or refute hypotheses, in order to guide decisions and develop effective strategies to improve tourism safety in the Constitutional Province of Callao.

Study variables and population

The first variable, tourism safety, was conceptualized as a term that encompasses anticipation and comprehensive care, considering the physical, mental, and economic safety of local and international travelers, as well as service providers and the community in general (Chirre, 2023). Operationally, this variable was measured using a questionnaire that included five dimensions: public safety, medical safety, road safety, information safety, and environmental safety.

The second variable, service quality, was conceptually defined as the measure of the discrepancy between customer expectations and their actual experience, representing an additional value that companies offer to ensure public satisfaction (Silva & Villena, 2024). Operationally, this variable was also measured through a questionnaire, considering four specific dimensions: reliability, responsiveness, protection, and empathy.

The study population consisted of 3,097 tourists (local and foreign) who visited the Constitutional Province of Callao in January 2023, according to the regional tourism report of MINCETUR. Given the impracticality of surveying the entire population, a representative sample was selected. Following the known population formula for basic random sampling, a final sample of 94 users was obtained (Vizcaíno et al., 2023). The selection was made impartially using tools such as Excel, ensuring that the findings were representative and unbiased, which improves the validity and confidence in the conclusions.

$$n = \frac{Nz^2pq}{(N-1)e^2 + z^2pq}$$

Sample formula

Data collection and analysis

Data was collected using a survey, employing a form with closed questions and a Likert scale to assess various factors related to safety. The validity of the instrument was ensured by expert judgment, and its reliability was determined using Cronbach's alpha test, seeking a value equal to or greater than 0.70.

The data collected was organized in Microsoft Excel and then exported to SPSS statistical software for analysis. Descriptive statistics (frequency tables and graphs) were applied to interpret perceptions of tourism safety and service quality in Callao, facilitating the identification of critical aspects for improving tourism management (Bisquerra, 2021). In addition, inferential statistics, specifically an ordinal logistic regression analysis, were used to make conjectures about the population based on the sample and to find out how tourism safety influences service quality. This made it possible to validate the hypotheses put forward and to draw conclusions that will contribute to the formulation of practical suggestions for improving safety.

Table 1. Reliability of the instruments.

Variables	Cronbach's alpha	Nº. Of items
Tourist safety	0,655	20
Service quality	0,831	13

The quality of service demonstrated good reliability, indicating strong internal consistency of its items. However, tourist safety presented questionable reliability, suggesting the need to review and optimize its items for future applications, although it was considered acceptable for the exploratory purposes of the current study.

RESULTS AND DISCUSSION

The results of this study were based on a sample of 94 tourists, selected by basic random sampling from a population of 3,097 visitors (local and foreign) to Callao in January 2023. Inclusion criteria (users who visited the two most emblematic destinations in Callao in the last two years, over 18 years of age, and with consent) and exclusion criteria (those who did not meet the above criteria) were applied. For data collection, a survey with closed questions and a Likert scale was used, the validity and reliability of which were ensured.

The data analysis, organized in Microsoft Excel and processed in SPSS, included descriptive statistics (frequency tables and graphs) to interpret perceptions of tourist safety and service quality. Subsequently, inferential statistics, specifically an ordinal logistic regression analysis, were applied to determine how tourism safety influences service quality. This approach allowed us to validate the hypotheses and obtain relevant conclusions to improve tourism management and visitor services in Callao, all under strict ethical principles of privacy, informed consent, and originality.

Table 2. Normality test of the variables tourist safety and service quality.

Kolmogórov-smirnov			Shapiro-wilk			
Static	Gl	Sig.	Static	Gl	Sig.	
Seguridad turística	,084	94	,097	,978	94	,106
Calidad del servicio	,096	94	,031	,966	94	,015

Note: The table shows the results of the normality tests applied to the variables Tourism Safety and Service Quality. Tourism Safety shows a normal distribution ($p > 0.05$), while Service Quality does not ($p < 0.05$). As a result, non-parametric statistical methods were used. In addition, the Lilliefors correction was applied in the Kolmogorov-Smirnov test. Finally, Spearman's correlation was used to analyze the relationship between the two variables.

Table 3. Level of correlation between the variables of tourist safety and service quality.

			Service quality	Tourist safety
SPEARMAN'S RHO	Tourist safety	Correlation coefficient	1,000	,615**
		Sig. (two-tailed)	.	<,001
		N	94	94
	Service quality	Correlation coefficient	,615**	1,000
		Sig. (two-tailed)	<,001	
		N	94	94

Own elaboration

Table 4. Correlation level between the first dimension, Public Safety, and the second variable, Quality of Service.

			Service quality	Public safety
SPEARMAN'S RHO	Service quality	Correlation coefficient	1,000	-,193
		Sig. (two-tailed)	.	,064
		N	94	93
	Public safety	Correlation coefficient	-,193	1,000
		Sig. (two-tailed)	,064	
		N	93	93

Own elaboration

Table 5. Level of correlation between the second dimension, medical safety, and the second variable, service quality.

			Service quality	Medical safety
SPEARMAN'S RHO	Service quality	Correlation coefficient	1,000	,413**
		Sig. (two-tailed)	.	<,001
		N	94	94
	Medical safety	Correlation coefficient	,413**	1,000
		Sig. (two-tailed)	<,001	
		N	94	94

Own elaboration

Table 6. Level of correlation between the third dimension, road safety, and the second variable, service quality.

			Service quality	Road safety
SPEARMAN'S RHO	Service quality	Correlation coefficient	1,000	-,141
		Sig. (two-tailed)	.	,177
		N	94	93
	Road safety	Correlation coefficient	-,141	1,000
		Sig. (two-tailed)	,177	
		N	93	93

Own elaboration

Table 7. Level of correlation between the fourth dimension, information security, and the second variable, service quality.

			Service quality	Information safety
SPEARMAN'S RHO	Service quality	Correlation coefficient	1,000	-,001
		Sig. (two-tailed)	.	,993
		N	94	93
	Information safety	Correlation coefficient	-,001	1,000
		Sig. (two-tailed)	,993	.
		N	93	93

Own elaboration.

Table 8. Correlation level between the fifth dimension, environmental safety, and the second variable, service quality.

			Service quality	Environmental safety
SPEARMAN'S RHO	Service quality	Correlation coefficient	1,000	,548**
		Sig. (two-tailed)	.	<,001
		N	94	94
	Environmental safety	Correlation coefficient	,548**	1,000
		Sig. (two-tailed)	<,001	.
		N	94	94

Own elaboration.

The findings of this research show a moderate and statistically significant positive correlation between tourist safety and service quality in the constitutional province of Callao, with a Spearman coefficient of 0.615 and a significance level of $p < 0.001$. This result demonstrates that, as tourists perceive a higher level of safety in their environment, they also evaluate the quality of the service received more positively. Perceived safety transcends purely physical aspects, encompassing trust, peace of mind, and the visitor's overall experience, factors that directly affect tourist satisfaction. In this sense, it reaffirms the findings of authors such as García et al. (2020) and Marchán et al. (2023), who argue that perceived safety has a

direct impact on destination quality and tourist loyalty. Likewise, it coincides with the studies by Ruiz and Tello (2021), whose results also show a significant relationship between safety and tourism infrastructure, reinforcing the idea that safety is a key component for the development of sustainable tourism.

Regarding the first specific objective, which sought to identify the relationship between public safety and service quality in the constitutional province of Callao, the results reflected a weak and insignificant correlation between the two variables ($r = -0.193$, with a two-tailed significance value of 0.064). This indicates that there is no statistically significant linear association in this sample, which differs from the expectations based on Peruvian studies by Carrillo Rengifo (2024), which postulate that the perception of security and institutional management directly influence satisfaction with public services. The weak link observed in this context in Callao could be mediated by citizen perception and institutional efficiency (Carrillo, 2021), which prevents clear improvement. Therefore, the need for a comprehensive approach that combines police strengthening, investment in essential public services (transportation, health, sanitation), and greater institutional transparency to raise the quality of service perceived by tourists in the Callao areas is emphasized.

Regarding the second specific objective, which analyzed the relationship between medical safety and service quality, the results revealed a positive and significant relationship with a coefficient of 0.413, indicating a moderate correlation. This suggests that a better perception of medical safety is associated with a higher perception of service quality. Medical safety, which encompasses strategies to reduce risks in healthcare through safe clinical practices and compliance with protocols, is fundamental to the tourist experience. This finding is consistent with King Kee Beraun (2025), who argues that logistics management, including aspects of medical safety, directly influences perceived quality. It also aligns with Ayllaucan (2023), who found a positive and moderate correlation between quality management and tourist safety in public health entities in Callao, reinforcing that the strength of

clinical safety measures has a positive impact on service quality. Thus, the relationship between these two factors is not only functional but also strategic for strengthening the tourism system.

The third specific objective addressed the relationship between road safety and service quality in the constitutional province of Callao. The results of this research showed a weak and insignificant negative relationship ($r = -0.141$), implying that there is insufficient evidence to affirm a consistent linear association between the two variables in the sample studied. This finding contrasts with that of Espinoza (2020), who points out that poor public and road safety negatively affects the quality of safety in the provincial service. The discrepancy suggests that, in this specific research, road safety does not seem to clearly influence the overall perception of the tourism service, unlike other studies that do show a more direct connection.

For the fourth specific objective, which was to identify the relationship between information security and service quality in the constitutional province of Callao, the research revealed that the relationship is practically nil ($r = -0.001$) and statistically insignificant, indicating an absence of significant linear correlation. This result suggests that, although tourists may perceive a medium or high level of information safety (availability of clear information, tourist signage, ease of communication), this did not directly impact their assessment of the quality of service received. This finding contrasts with the views of authors such as Marchan and Miranda et al. (2021), who argue that good information management and communication with tourists is key to improving their experience. In the specific context of Callao, this divergence could be due to the fact that the information provided is perceived as sufficient but not decisive, or that other factors, such as the friendliness of the staff or the fulfillment of the promised services, are more highly valued by visitors when evaluating the quality of the service.

Finally, the last specific objective focused on identifying the relationship between environmental safety and service quality in tourist destinations in the constitutional province of Callao. The results of the research determined a

moderate to strong positive relationship between environmental safety and service quality ($r = 0.548$), with a p-value of less than 0.001. This is because an environment free of natural or environmental hazards contributes directly to customer well-being, trust, sustainability, and satisfaction. These findings are consistent with Marchan (2023), who also found a positive and significant relationship, highlighting that customers value safe, clean, and environmentally responsible spaces as an integral part of good service. This reaffirms that environmental safety is a key factor in the perception of quality tourism service in Callao destinations.

CONCLUSIONS

It is concluded that there is a positive and statistically significant relationship between tourist safety and service quality in the Constitutional Province of Callao in 2025. This finding validates the general hypothesis and highlights the importance of implementing strategies that strengthen tourist safety as a means of raising service standards, increasing visitor satisfaction, and positioning Callao as a competitive and reliable tourist destination.

In relation to the first specific objective, a weak negative relationship was identified between Service Quality and Public Safety in the Constitutional Province of Callao. These results indicate that there is no statistically significant association. For this reason, there is a need for a comprehensive approach that combines institutional efficiency, the strengthening of citizen safety, and greater investment in public services to enhance the tourist experience in the region.

In relation to the second specific objective on Medical Safety and Service Quality in public health entities in Callao, the results showed a moderate and statistically significant positive correlation. In this sense, it is reaffirmed that the effective implementation of medical safety measures not only improves care but also contributes strategically to strengthening the tourism system in the region.

In relation to the third specific objective related to Road Safety and Service Quality in the Constitutional Province of Callao, the results

showed a weak and insignificant negative correlation. Despite this, it is recommended to strengthen road infrastructure, improve tourist signage, and ensure safe and efficient transportation, especially in areas with high visitor traffic.

In relation to the fourth specific objective, it is concluded that there is no significant relationship between information safety and service quality in the Constitutional Province of Callao in 2025. This indicates that, although tourists perceive an acceptable level of tourist information, this aspect did not directly influence their evaluation of the service received. Therefore, it is recommended that the usefulness and relevance of the information be strengthened so that it contributes more effectively to the visitor experience.

Finally, with regard to the fifth specific objective, a moderate to strong positive relationship was found between Service Quality and Environmental Safety in tourist destinations in Callao in 2025. This indicates a statistically significant association, where a better perception of service is related to a greater perception of environmental safety.

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