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RESEARCH ARTICLE

Enhancing Service Quality Assessment: A SERVQUAL Scale Validation in Thailand's Public Sector

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Abstract

This research aims to examine the SERVQUAL scale, first proposed by Parasuraman et al. (1988), assessing its effectiveness and accuracy in gauging service quality within Thailand's public sector. The scale, known for its broad application across various sectors to measure service quality, is analyzed for its fit and precision in the context of Thai public services. The study engaged 060 government officers from Thailand's Northeastern region, who participated by completing a structured questionnaire. Utilizing second-order confirmatory factor analysis through JAMOVI software, the research sought to verify the scale's validity. The findings showed that the sub-scales designed to assess the core service quality variable demonstrated robust reliability. The measurement models corresponding to the SERVQUAL scale's five key dimensions—reliability, responsiveness, assurance, empathy, and tangibles—were found to closely match the empirical data. The study concludes that the SERVQUAL scale is highly reliable and applicable for use in Thailand's public sector, indicating its potential for extended application beyond its initial commercial use.

Keywords: Confirmatory factor analysis; public sector; SERVQUAL; service quality; Thailand

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1. Introduction

The pursuit of excellence in service quality has become a cornerstone in both the business and public sectors, reflecting a growing recognition of its impact on customer satisfaction and loyalty. In the realm of business and management, this has spurred the development of numerous frameworks and tools designed to measure and analyze service quality. Among these, the Service Quality (SERVQUAL) scale, introduced by Parasuraman, Zeithaml, and Berry (1988), has emerged as a seminal tool, offering a systematic approach to assess the gap between customer expectations and their perceptions of the service received. The SERVQUAL model identifies five key dimensions of service quality: tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman, Zeithaml, & Berry, 1988). Its widespread adoption across various service industries underscores its utility and the relevance of these dimensions in capturing the essence of service quality from the customer's perspective. However, the extension of the SERVQUAL model beyond its commercial origins into the public sector has prompted a reevaluation of its applicability and effectiveness. Public sector services, characterized by their non-commercial objectives and often compulsory nature, present unique challenges for service quality measurement. The inherent differences in service delivery objectives, customer expectations, and the role of stakeholders necessitate a critical examination of the SERVQUAL scale's dimensions and potentially, the development of modified or additional dimensions to accurately reflect service quality in public institutions (Donnelly, Wisniewski, Dalrymple, & Curry, 1995).

In Thailand, the public sector plays a pivotal role in delivering a wide range of services, from law enforcement and healthcare to education and social welfare. The quality of these services directly impacts the well-being of citizens and the public's trust in government institutions. Despite the critical importance of service quality in the public sector, there is a paucity of research focused on validating measurement tools like SERVQUAL within the Thai context (Mensah & Mensah, 2018). This gap in the literature highlights the need for empirical studies aimed at examining the suitability of the SERVQUAL scale for Thailand's public sector, considering cultural, operational, and service delivery nuances.

2. Literature Review

2.1 Public Service Delivery

Public service delivery is defined as the mechanisms, processes, and collaborative arrangements through which public services are provided to citizens by various levels of government, or in partnership with the private and non-profit sectors (Kekez, Howlett, & Ramesh, 2018). It includes a broad spectrum of activities and services aimed at fulfilling the public's needs, such as health, education, sanitation, and infrastructure. The effectiveness and efficiency of public service delivery are contingent upon governance structures, political capacities, managerial and analytical

competencies (Kekez, Howlett, & Ramesh, 2018), state capacity, transparency, and the integration of services (Afridi, 2017; Masuku & Jili, 2019). The overarching objective of public service delivery is to improve the quality of life for citizens, alleviate poverty, and foster economic growth by ensuring equitable access to essential services for all individuals (Afridi, 2017; Masuku & Jili, 2019).

Good public service delivery is achieved through a combination of factors that include problem-solving initiated by local staff, iterative experimentation for solution identification, and the creation of a community of practice for knowledge sharing among frontline workers. These elements foster innovation and adaptability in addressing the specific needs of communities (Woolcock, 2017). Additionally, a robust governance structure and accountability mechanisms ensure efficient service provision and responsiveness to the population's needs (Kerubo & Muturi, 2019). The qualifications and ongoing training of staff are crucial in maintaining high standards of service delivery, highlighting the importance of investing in human resources (Kerubo & Muturi, 2019). Furthermore, aspects such as good governance, effective public leadership (Sindane & Nambalirwa, 2012), a supportive work environment, modern technology, and a strong organizational culture that encourages experience sharing and innovation (Moti, 2022) are essential. These factors collectively contribute to the motivation, efficiency, and effectiveness of employees, leading to improved outcomes in public service delivery.

Good public service delivery, particularly through the implementation of e-governance and ICT, brings about a multitude of benefits including improved service quality, enhanced civic engagement, and increased trust in government. The modernization of public services through technology leads to more efficient and effective delivery, directly impacting citizens' satisfaction and fostering democracy (Naz, 2009). Furthermore, good public service delivery, supported by adequate remuneration packages for public servants, enhances the overall delivery of services, contributing to citizens' satisfaction and trust in governmental institutions (Jaisingh, 2019). The privatization and commercialization of public services also play a crucial role in making these services more accessible and affordable, particularly for the poor, thereby aiding in poverty reduction and socioeconomic development (Olomola, 2009). Additionally, the shift towards e-governance bridges the gap between government and citizens, promoting good governance, decentralization, and furthering socioeconomic development (Shaikh, Shah, & Wijekuruppu, 2016). Collectively, these improvements in public service delivery are essential for enhancing the quality of life for citizens, promoting economic growth, and strengthening the social contract between governments and their citizens.

2.2 Measuring Service Quality

The measurement of service quality encompasses a diverse array of methodologies and frameworks, reflecting the complexity of assessing customer satisfaction and service effectiveness across various sectors. Notably, Parasuraman, Zeithaml, and Berry (1994) have contributed to this field by developing alternative questionnaire formats that address customer expectations and service quality, offering valuable insights for both researchers and managers. In the realm of leisure, events, tourism, and sport (LETS) industries, Buswell, Williams, and Sutton highlight the significance of quantitative methods, particularly the SERVQUAL approach, as a prevalent technique for service quality assessment. Meanwhile, Collier and Bienstock (2006) expand the understanding of e-service quality by incorporating dimensions of process quality, outcome quality, and recovery quality, proposing a comprehensive framework that goes beyond mere Website interactivity. Additionally, research by Rauch, Collins, Nale, and Barr (2015) on mid-scale hotels introduces a three-dimensional model of service quality that emphasizes the service environment as a critical predictor of performance. Together, these studies illustrate the multifaceted nature of service quality measurement and the importance of tailored approaches to capture the nuanced expectations and perceptions of customers across different service contexts.

The SERVQUAL model, conceptualized by Parasuraman, Zeithaml, and Berry (1988), stands as a pivotal framework in the realm of service quality assessment, offering a systematic approach to understanding and improving customer service experiences. This model identifies five critical dimensions of service quality: tangibles (the physical appearance of facilities, equipment, and personnel), reliability (the ability to perform the promised service dependably and accurately), responsiveness (the promptness and willingness to assist customers), assurance (the knowledge, courtesy of employees, and their ability to convey trust), and empathy (providing caring and personalized attention to customers). By measuring the gap between what customers expect and what they perceive they have received, SERVQUAL provides a quantifiable measure of service quality. This is achieved through surveys that ask customers to rate their expectations of an ideal service and their perceptions of the actual service delivered on a Likert scale. The difference between these expectation and perception scores highlights areas where service falls short or exceeds customer expectations, guiding businesses in targeted quality improvement efforts. Despite its widespread adoption across various sectors, including finance, healthcare, education, and hospitality, SERVQUAL has faced scrutiny over its applicability and relevance to specific industries and cultural settings. Critics argue that the model's generic dimensions may not fully capture the unique aspects of service quality in different contexts or across diverse cultures, suggesting the need for industry-specific or culturally adapted versions of the model. Nonetheless, SERVQUAL's contribution to both academic research and practical applications in service quality management

cannot be understated. It has spurred a significant amount of research into service quality, customer satisfaction, and their implications for business strategy and performance. By providing a structured methodology for diagnosing and enhancing service quality, SERVQUAL has helped countless organizations refine their customer service operations, foster customer loyalty, and achieve competitive advantage in the service sector.

This study aims to validate the SERVQUAL model within the public sector in Thailand, recognizing the model's widespread application in service quality assessment across various industries and countries. SERVQUAL, which stands for Service Quality, is a research instrument that measures service quality based on the perception gap between customers' expectations and their experiences of service delivery. It focuses on five key dimensions: tangibles, reliability, responsiveness, assurance, and empathy. While SERVQUAL has been extensively validated and applied in the private sector and public services in different cultural and geographical contexts, its applicability and relevance in the Thai public sector remain underexplored. Thailand's public sector, characterized by its unique cultural, social, and economic landscape, presents a compelling case for the application of SERVQUAL. The country's commitment to enhancing public service delivery, coupled with its ongoing efforts to improve citizen satisfaction and engagement, underscores the need for a robust and culturally sensitive tool to measure service quality. This study, therefore, seeks to adapt and validate the SERVQUAL model to the Thai context, addressing potential cultural nuances and sector-specific service quality expectations that may influence the model's effectiveness. The validation process will involve a comprehensive review and potential adaptation of the SERVQUAL instrument to ensure its dimensions and items accurately capture the aspects of service quality most relevant to Thai public service users. This may include modifying language, scaling, or dimensions to better align with Thai cultural values and public service expectations. The study will employ quantitative methodology to collect data from a broad spectrum of public service users across the Northeastern region, aiming to assess the model's reliability, validity, and practical utility in this new context. By validating the SERVQUAL model in Thailand's public sector, this study not only contributes to the global body of knowledge on service quality measurement but also provides Thai public service managers and policymakers with a valuable tool for assessing and enhancing service delivery. The findings are expected to offer insights into the specific service quality dimensions that matter most to Thai citizens, facilitating targeted improvements that can lead to higher levels of citizen satisfaction and trust in public services.

3. Methods

3.1 Participants

In this study, a structured questionnaire was administered to 200 government officers from Thailand's Northeastern region to validate the SERVQUAL model within the public sector. The selection of participants from this specific region was strategic, considering its unique socio-economic and cultural context, which could offer valuable insights into the applicability and relevance of the SERVQUAL model in a diverse setting within Thailand. The Northeastern region, known for its distinct cultural heritage and as one of the country's largest administrative regions, provides a rich backdrop for examining public service quality perceptions among government officers who are both providers and recipients of public services. The demographics and attributes of the participants are detailed in Table 1.

Table 1. The demographics and attributes of the participants (n=200)

Characteristics	Frequency	Percentage
Gender		
Male	157	78.5
Female	43	21.5
Marital status		
Single	29	14.5
Married	167	83.5
Divorced	4	2.0
Educational background		
Secondary school or lower	1	.5
High school or equivalent	71	35.5
High vocational school	16	8.0
Bachelor's degree	103	51.5
Master's degree or higher	9	4.5
Other characteristics	Mean	SD
Age	44.795	6.8269
Tenure	24.890	7.8547
Income*	2,8632.995	5344.5516

*1 THB = 0.027776235 USD

The table summarizes the demographics and attributes of 200 participants, revealing a predominance of male (78.5%) over female (21.5%) participants. The majority are married (83.5%), with a small fraction being single (14.5%) or divorced (2%). Educational backgrounds vary, with most holding a Bachelor's degree (51.5%), followed by high school or equivalent (35.5%), high vocational school (8%), and a few with secondary school or lower (0.5%) or Master's degree or higher (4.5%). Other characteristics include an average age of approximately 44.8 years (SD = 6.8269), an

average tenure of around 24.89 years (SD = 7.8547), and an average income of 28,632.995 Thai Baht (SD = 5,344.5516), which can be converted to USD using the provided rate (1 THB = 0.027776235 USD). This demographic profile suggests a group predominantly composed of middle-aged, married men with a significant representation of bachelor's degree holders, indicating a mature, educated, and financially varied cohort.

3.2 Measures

The SERVQUAL questionnaire, a fundamental instrument for evaluating service quality, systematically captures customer expectations and perceptions across five key dimensions—tangibles, reliability, responsiveness, assurance, and empathy—using paired questions. These questions are rated on a Likert scale, typically from 1 (strongly disagree) to 5 (strongly agree), to assess the gap between what customers anticipate from an ideal service and what they experience. Each dimension's questions probe into specific aspects, such as the physical appearance of the service environment (tangibles), the accuracy and dependability of the service delivery (reliability), the promptness and willingness of staff to assist (responsiveness), the competence and courtesy of employees along with their ability to instill trust (assurance), and the personalized attention and understanding shown to customers (empathy). The reliability of each dimension, measured by Cronbach's alpha, ideally exceeds 0.7, indicating a high level of internal consistency and reliability in the assessment of service quality dimensions, thus providing a robust framework for identifying service gaps and areas for enhancement.

3.3 Data Collection

Between January and February 2023, a team of well-prepared research assistants was deployed to distribute questionnaires among government officials in Thailand's northeastern region. These assistants were thoroughly trained to explain to each respondent (1) the study's specific goals, (2) the benefits of participating in the study coupled with a strong commitment to confidentiality, and (3) the respondents' complete freedom to opt out of the survey or withdraw their participation at any time. The successful dissemination of the questionnaires was supported by the collaboration with academics from several universities in the area, who were instrumental in connecting the research assistants with the intended survey participants.

3.4 Data Analysis

The data collected from the survey of government officials in Thailand's northeastern region were subjected to rigorous analysis using Confirmatory Factor Analysis (CFA) through JAMOVI software, specifically to validate the SERVQUAL scale within the context of Thailand's public sector (Parasuraman, Zeithaml, & Berry, 1988). CFA is a statistical technique used to test the hypothesis that the relationships

between observed variables and their underlying latent constructs are consistent with the researcher's expectations based on a theoretical model. In this case, the theoretical model was the SERVQUAL scale, which posits that service quality can be decomposed into five distinct dimensions: tangibles, reliability, responsiveness, assurance, and empathy (Zeithaml, Berry, & Parasuraman, 1996). Using JAMOVI, a free and open-source statistical software known for its user-friendly interface and powerful analytical capabilities, the researchers aimed to confirm whether the SERVQUAL model is an appropriate tool for assessing service quality in the Thai public sector. This involved specifying a model where the observed variables (questionnaire items) were indicators of the five latent factors (SERVQUAL dimensions). The CFA sought to validate the structure of the SERVQUAL scale by assessing the fit of the model to the data, which includes examining various fit indices such as the Chi-square test, Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA) (Hu & Bentler, 1999). The validation process through CFA in JAMOVI allowed the researchers to rigorously test the SERVQUAL scale's applicability and reliability in capturing the nuances of service quality as perceived by government officials in Thailand. By confirming the factor structure of the SERVQUAL model, the study aimed to provide empirical evidence supporting the scale's use in the public sector of Thailand, potentially offering insights into areas for improvement in public service delivery (Bagozzi & Yi, 1988). This step is crucial for ensuring that the SERVQUAL scale accurately reflects the dimensions of service quality relevant to the Thai public sector context, thereby enabling more targeted and effective measures for enhancing service quality in government institutions.

4. Results

The Confirmatory Factor Analysis (CFA) results, detailed in Tables 2 and 3, validate the SERVQUAL scale's applicability for assessing service quality within the Thai public sector. Table 2's test for exact fit, with a chi-square (χ^2) value of 176 and degrees of freedom (df) of 150, results in a *p*-value of 0.076. This *p*-value, being above the conventional threshold of 0.05, suggests an acceptable fit of the model to the observed data, indicating that the discrepancies between the expected and observed covariance matrices are not significant. Further reinforcing this conclusion, Table 3 presents fit measures that underscore the model's robustness. The Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) values, at 0.989 and 0.986 respectively, are well above the 0.95 benchmark for indicating an excellent fit, demonstrating that the model's estimated parameters are highly consistent with the observed data. Additionally, the Root Mean Square Error of Approximation (RMSEA) of 0.0292, with a 90% confidence interval ranging from 0.00 to 0.0457, falls well below the 0.05 criterion for a close fit, suggesting that the model adequately captures the underlying structure of the data with minimal error. Collectively, these results from the CFA analysis provide strong statistical evidence that the SERVQUAL scale is a valid and reliable instrument for measuring service quality among government officials in Thailand's

northeastern region. The exact fit test and various fit measures collectively affirm the model's structural integrity and its suitability for evaluating service quality in this specific context, offering a solid foundation for future initiatives aimed at enhancing public service delivery based on reliable, contextually relevant assessments.

Table 2. Test for exact fit

χ^2	df	p
176	150	0.076

Table 3. Fit measures

			RMSEA 90% CI	
CFI	TLI	RMSEA	Lower	Upper
0.989	0.986	0.0292	0.00	0.0457

Table 4 offers a comprehensive analysis through Confirmatory Factor Analysis (CFA) to validate the dimensions of the SERVQUAL scale within the Thai public sector, focusing on reliability (RIB), responsiveness (RSP), assurance (ASS), empathy (EMP), and tangibles (TNG). This detailed statistical evaluation includes factor loadings, standard errors (SE), Z-scores, p-values, and standardized estimates for each indicator, underscoring the scale's statistical robustness and its relevance for assessing service quality. The factor loadings, highlighted in the "Estimate" column, quantify the strength of the association between each questionnaire item and its corresponding latent factor, with values closer to 1 indicating a stronger correlation. This is particularly evident in the tangibles dimension (TNG), where indicators like "TANG4" demonstrate exceptionally high loadings (0.935), signifying a potent measure of the physical evidence of service quality. The low standard errors and significant Z-scores across all indicators, coupled with universally significant p-values (<.001), robustly confirm the reliability of these associations, suggesting that the observed relationships between indicators and dimensions are statistically significant and not due to chance. The inclusion of standardized estimates, which are adjusted to have a mean of 0 and a standard deviation of 1, facilitates a comparative analysis across different scales, highlighting the relative strength of each indicator's association with its latent factor. This standardization is crucial for a clearer understanding of each dimension's contribution to the overall construct of service quality. The results encapsulated in Table 4 not only underscore the structural validity of the SERVQUAL scale in the context of Thailand's public sector but also

affirm its effectiveness as a tool for capturing the nuanced aspects of service quality as perceived by government officials. The significant and strong factor loadings across the dimensions of reliability, responsiveness, assurance, empathy, and tangibles confirm the SERVQUAL model's applicability and robustness, providing a reliable basis for assessing service quality and identifying areas for improvement in public service delivery. In essence, Table 4's comprehensive statistical evidence validates the SERVQUAL scale's dimensions within the Thai public sector, highlighting its potential as a foundational tool for future research and practical applications aimed at enhancing service quality. The analysis demonstrates the scale's capacity to effectively measure the various dimensions of service quality, offering valuable insights for the development of targeted strategies to improve public sector services.

Table 4. Factor loadings

Factor	Indicator	Estimate	SE	Z	p	Stand. Estimate
RIB	RIB1	0.635	0.0582	10.92	< .001	0.704
	RIB2	0.631	0.0497	12.70	< .001	0.783
	RIB3	0.775	0.0548	14.14	< .001	0.840
	RIB4	0.621	0.0555	11.20	< .001	0.717
RSP	RSP1	0.645	0.0556	11.60	< .001	0.731
	RSP2	0.743	0.2165	3.43	< .001	0.250
	RSP3	0.725	0.0571	12.71	< .001	0.784
	RSP4	0.693	0.0559	12.40	< .001	0.765
ASS	ASS1	0.582	0.0562	10.36	< .001	0.690
	ASS2	0.734	0.0607	12.09	< .001	0.766
	ASS3	0.668	0.0528	12.66	< .001	0.790
	ASS4	0.728	0.0562	12.95	< .001	0.799
EMP	EMP1	0.738	0.0599	12.32	< .001	0.765
	EMP2	0.735	0.0520	14.14	< .001	0.835
	EMP3	0.735	0.0544	13.50	< .001	0.805
	EMP4	0.789	0.0578	13.65	< .001	0.823
TNG	TNG1	0.872	0.0724	12.05	< .001	0.762
	TNG2	0.790	0.0809	9.76	< .001	0.654
	TNG3	0.831	0.0565	14.71	< .001	0.875
	TNG4	0.935	0.0667	14.02	< .001	0.845

5. Discussion

In this study, the application of the SERVQUAL model within the Thai public sector has been rigorously evaluated through Confirmatory Factor Analysis (CFA), yielding insights that affirm the model's structural validity and its relevance for

assessing service quality in this context. The findings, particularly those related to the model's exact fit and various fit measures, suggest a strong alignment between the observed data and the theoretical constructs of SERVQUAL, echoing the foundational work of Parasuraman, Zeithaml, and Berry (1988) on service quality assessment. This alignment underscores the robustness of the SERVQUAL framework for evaluating service quality beyond its traditional commercial applications, highlighting its utility in the public sector setting (Zeithaml, Parasuraman, & Berry, 1990). The detailed factor loadings for the SERVQUAL dimensions—tangibles, reliability, responsiveness, assurance, and empathy—reveal their significant relevance in the Thai public sector context. Notably, the tangibles dimension emerged as a strong predictor of service quality perceptions among government officials, challenging the conventional emphasis on interpersonal service aspects and aligning with Parasuraman et al.'s (1988) assertion of the tangibles' impact on service quality perceptions. This suggests that the physical aspects of service delivery, such as the appearance of facilities and equipment, are crucial in shaping service quality perceptions in the public sector, a finding that resonates with the broader literature on service quality (Donnelly, Wisniewski, Dalrymple, & Curry, 1995). The practical implications of these findings for public sector management are significant. By pinpointing the service quality dimensions most valued by government officials, managers can devise targeted improvement strategies. For instance, the pronounced importance of tangibles suggests that investments in physical infrastructure and the visual appeal of service facilities could substantially enhance service quality perceptions. This strategic focus is supported by the broader service quality literature, which advocates for tailored improvement efforts based on specific service dimensions (Babakus & Mangold, 1992). However, the study's focus on Thailand's northeastern region may limit the generalizability of its findings, suggesting a need for further research across different regions and public sector settings to fully validate the SERVQUAL model's applicability. Future studies could also explore longitudinal changes in service quality perceptions in response to modifications in service delivery practices, offering deeper insights into the dynamics of service quality in the public sector (Zeithaml et al., 1996). In conclusion, this study not only validates the SERVQUAL model's applicability in the Thai public sector but also highlights its potential as a foundational tool for enhancing public service delivery. By leveraging the insights gained from the SERVQUAL dimensions, public sector managers can implement focused strategies to improve service effectiveness and efficiency, ultimately fostering higher levels of satisfaction and trust among service users. This research contributes to the ongoing dialogue on service quality assessment, emphasizing the SERVQUAL model's versatility and its significant implications for public sector service quality improvement.

6. Conclusion

This study embarked on a comprehensive evaluation of the SERVQUAL model within the Thai public sector, specifically focusing on government officials in the northeastern region of Thailand. Through the meticulous application of Confirmatory Factor Analysis (CFA), this research has not only validated the structural integrity of the SERVQUAL dimensions—tangibles, reliability, responsiveness, assurance, and empathy—but also illuminated their significant relevance and applicability in assessing service quality in a public sector context. The findings reveal a strong alignment between the theoretical constructs of the SERVQUAL model and the observed data, underscoring the model's robustness and its utility beyond traditional commercial settings. Notably, the study highlights the critical role of tangibles in shaping service quality perceptions among public sector officials, challenging the conventional focus on interpersonal aspects of service delivery. This insight suggests that physical elements of service provision, such as infrastructure and the appearance of facilities, are pivotal in determining overall service quality perceptions. The practical implications of these findings are profound. By identifying the specific dimensions of service quality that are most impactful within the Thai public sector, this study offers valuable guidance for public sector managers. It suggests that targeted investments in the physical aspects of service delivery, alongside efforts to enhance reliability and responsiveness, could lead to significant improvements in service quality perceptions. Such strategic focus is essential for developing effective service improvement initiatives that are tailored to the unique needs and expectations of the public sector environment. However, the study acknowledges its limitations, including its regional focus, which may affect the generalizability of the findings. Future research is encouraged to explore the applicability of the SERVQUAL model across different regions and various public sector settings, as well as to examine the longitudinal effects of service improvement strategies on quality perceptions. In conclusion, this research contributes to the broader discourse on service quality assessment by demonstrating the SERVQUAL model's adaptability and relevance to the public sector. The insights gained from this study not only validate the model's dimensions but also highlight their importance in guiding public sector service improvement efforts. By leveraging these findings, public sector managers can enhance service delivery, ultimately fostering higher levels of satisfaction and trust among service users. This study paves the way for future research and practical applications aimed at elevating the quality of public services, reinforcing the SERVQUAL model's position as a valuable tool in the continuous pursuit of service excellence.

Author Contributions: SB was solely responsible for the conception and design of the study, data collection, analysis and interpretation of data, drafting the article, and final approval of the version to be published. As the sole author, SB carried out all aspects of the research process, from the initial conceptualization to the dissemination of the findings, ensuring the integrity and accuracy of the work presented.

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