

The Relationship Between Service Quality Dimensions and Customer Satisfaction in the Malaysian Public Service: Evidence from Northern Malaysia

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ABSTRACT

This study examines the relationship between service quality dimensions and customer satisfaction in selected Malaysian public service agencies using the SERVQUAL framework. A quantitative cross-sectional design was employed involving 210 respondents who recently received services from government agencies in Taiping, Perak, a semi-urban administrative and historical city in Northern Malaysia. Data were analyzed using Pearson correlation and multiple regression analysis through SPSS version 26. The findings from Pearson correlation analysis revealed that all five SERVQUAL dimensions, namely tangibility, reliability, responsiveness, assurance, and empathy, were significantly associated with customer satisfaction. However, multiple regression analysis showed that only reliability and empathy significantly predicted customer satisfaction, with reliability emerging as the strongest predictor. The findings indicate that citizens in semi-urban public service settings place greater emphasis on accurate, dependable, and empathetic service delivery compared to physical facilities or service speed. These results suggest that public sector agencies should strengthen “first-time right” service practices, staff competency, and interpersonal communication skills to enhance public trust and satisfaction. This study contributes to the growing literature on public sector service quality by extending the application of SERVQUAL to a semi-urban Malaysian administrative context, an area that remains relatively underexplored compared to studies conducted in highly urbanized or centralized settings. The study further highlights that despite ongoing digital transformation initiatives within Malaysian public services, human-centered dimensions such as reliability and empathy continue to play a critical role in shaping citizen satisfaction.

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1. INTRODUCTION

Service quality in public organizations refers to the degree of excellence, efficiency, and effectiveness demonstrated in delivering services to citizens. In the contemporary public administration landscape, service quality has become a critical determinant of citizen trust, public satisfaction, and perceptions of government credibility and effectiveness. As public expectations continue to evolve, government agencies are increasingly expected not only to deliver services efficiently but also to provide experiences that are responsive, reliable, transparent, and citizen oriented. The ability of public institutions to meet customer expectations is therefore closely associated with the overall perception of governance quality and institutional performance. According to Zumrah (2015), service quality is one of the most important components for organizations engaged in service delivery. Similarly, previous studies have demonstrated that good customer relationships and organizational competitiveness are strongly influenced by the quality of services provided (Paul et al. 2016; Kant & Jaiswal, 2017).

In Malaysia, various administrative reforms and modernization initiatives have been introduced since the 1980s to strengthen the quality and efficiency of public service delivery. Among the major initiatives implemented were the “Clean, Efficient, and Trustworthy” campaign, the Client’s Charter, the ISO 9000 certification program, Total Quality Management (TQM), and the Government Transformation Program (GTP) (Jidwin & Mail, 2015). These initiatives reflect the Malaysian government’s long-standing commitment to embedding customer-oriented principles within the public sector. The implementation of TQM, in particular, was intended to improve organizational performance, enhance operational efficiency, and ensure that services delivered are aligned with customer expectations and public needs. According to Ali et al. (2017), the adoption of TQM contributes significantly to improving public sector performance and strengthening public confidence in government services by enhancing service quality.

Despite ongoing reforms and modernization efforts, concerns about the quality and effectiveness of public service delivery in Malaysia remain prevalent. Public complaints involving delays, procedural inefficiencies, inconsistent service experiences, and limited responsiveness continue to challenge the credibility of government institutions. Although technological advancements and digital government initiatives have accelerated under the 12th Malaysia Plan, the effectiveness of these reforms may not be experienced equally across different geographical and administrative contexts. Recent findings indicate that approximately 54% of citizens remain dissatisfied with public service delivery in Malaysia (Yi, 2023), suggesting that structural reforms and digitalization alone may not necessarily translate into improved citizen satisfaction.

Existing studies on service quality within the Malaysian public sector have predominantly focused on urban areas, healthcare institutions, universities, or highly centralized administrative settings. Comparatively limited attention has been given to semi-urban administrative environments, particularly smaller historical and secondary cities where face-to-face interactions and conventional service delivery mechanisms continue to dominate public engagement. In these settings, citizens may place greater emphasis on interpersonal communication, service dependability, and staff responsiveness compared to technological sophistication or physical infrastructure. Consequently, there remains a significant research gap regarding how citizens in semi-urban areas perceive service quality dimensions and which aspects of service delivery most strongly influence customer satisfaction.

Taiping, Perak, is a suitable context for examining this issue, given its role as a semi-urban administrative hub serving both urban and nearby rural populations. As one of Malaysia's historical cities, Taiping continues to rely substantially on conventional public service interactions despite broader national digital transformation efforts. The unique characteristics of this environment provide an opportunity to examine whether the SERVQUAL dimensions, namely Tangibility, Reliability, Responsiveness, Assurance, and Empathy, remain relevant predictors of customer satisfaction within a semi-urban Malaysian public service context.

Therefore, this study investigates the relationship between service quality dimensions and customer satisfaction among individuals who received services from selected government agencies in Taiping, Perak. This study contributes to the growing public-sector service quality literature by extending the application of the SERVQUAL framework to a semi-urban Malaysian administrative setting that remains relatively underexplored in existing research. The findings are expected to provide valuable insights for policymakers, public sector managers, and government agencies to strengthen citizen-centered service delivery and enhance public trust in Malaysian public institutions.

2. LITERATURE REVIEW

2.1 Service Quality in MPS

Service quality is commonly defined as the extent to which a service meets or exceeds customer expectations and needs. Within the public sector, service quality plays a critical role in shaping institutional credibility, citizen trust, and public perception toward government effectiveness. Unlike private organizations that focus primarily on profitability and market competitiveness, public sector organizations are expected to deliver services that are equitable, efficient, transparent, and responsive to societal needs. According to Amankwah et al. (2019), service providers should view customer needs not merely as obligations, but as essential elements for maintaining organizational relevance and public confidence. Similarly, Tumiwa et al. (2018) argued that public service quality should emphasize transparency, accountability, efficiency, participation, and equality in service delivery.

Over the past two decades, the Malaysian Public Service (MPS) has undergone substantial transformation under the influence of New Public Management (NPM) principles and administrative modernization initiatives. Various reforms, such as the implementation of the Sasaran Kerja Tahunan (SKT), Skim Saraan Malaysia (SSM), ISO 9000 certification, Total Quality Management (TQM), client charters, and Kumpulan Meningkatkan Kualiti Kerja (KMK), were introduced to improve accountability, organizational efficiency, and service performance (Zumrah, 2015; Alwi et al., 2020). These reforms reflected the government's effort to establish a more customer-oriented public administration system capable of delivering high-quality services to citizens.

More recently, the Malaysian government has intensified digital transformation initiatives under the 11th and 12th Malaysia Plans, emphasizing agile governance, digital connectivity, and data-driven administration. However, despite these advancements, concerns regarding service delays, inconsistent service experiences, bureaucratic inefficiencies, and limited responsiveness continue to persist among citizens. Siddiquee and Xavier (2021) noted that traditional command-and-control governance structures are increasingly inadequate for addressing evolving public expectations. Likewise, Ong et al. (2022)

highlighted that modern public service delivery requires greater alignment between government services and citizens' actual needs and experiences.

Existing studies consistently demonstrate that service quality significantly influences customer satisfaction across both public and private sectors. However, findings regarding the most influential dimensions of service quality remain inconsistent across contexts. While some studies emphasize responsiveness and tangibility as dominant predictors, others identify reliability and empathy as stronger determinants of satisfaction, particularly in public-sector settings characterized by direct human interaction and procedural dependence. These inconsistencies suggest that citizens' perceptions of service quality may differ according to administrative environments, geographical settings, and service delivery structures. Therefore, further investigation is necessary to understand how the dimensions of service quality operate within semi-urban public service environments in Malaysia.

2.2 Customer Satisfaction

Customer satisfaction is the extent to which customers perceive that a product or service has met their expectations and needs. In the public-sector context, customer satisfaction reflects citizens' evaluations of government service delivery and serves as an important indicator of institutional performance and governance effectiveness. Wang et al. (2019) emphasized that customer satisfaction is closely associated with the quality of services delivered by public sector organizations. Similarly, Lamsal and Gupta (2022) argued that achieving citizen satisfaction remains one of the primary objectives of governments worldwide because it reflects the effectiveness and legitimacy of public institutions.

Unlike customer satisfaction in the private sector, where organizational success is often measured by profitability and customer loyalty, public-sector satisfaction focuses more broadly on trust in government, fairness, accessibility, responsiveness, and societal well-being. Hamzah et al. (2017) noted that customer satisfaction contributes significantly to organizational productivity and competitive advantage. In contrast, public sector satisfaction emphasizes the government's ability to fulfill public expectations and deliver services that enhance community welfare rather than financial gain (Liestyanti & Prawiraatmadja, 2021). According to Alwi et al. (2020), public satisfaction serves as a useful benchmark for evaluating whether government agencies successfully meet citizens' needs and expectations.

Customer satisfaction is also influenced by emotional and psychological factors arising from service experiences. Johnson and Karlay (2018) explained that satisfaction is formed through customers' evaluations after receiving services, while Ong et al. (2022) emphasized that satisfaction involves emotional responses resulting from comparisons between expectations and actual service experiences. Positive experiences generate feelings of trust, appreciation, and confidence, whereas poor service quality may result in dissatisfaction and negative perceptions toward institutions (Bambale et al. 2020).

Previous literature further suggests that customer satisfaction contributes to long-term public trust and continued use of government services. According to Kant and Jaiswal (2017), satisfied customers are more likely to continue engaging with service providers. Similarly, Kalaja et al. (2016) highlighted that positive service experiences increase citizens' willingness to reuse government services and maintain confidence in public institutions. In the public sector context, customer satisfaction therefore extends beyond service evaluation and becomes an important component of governance legitimacy and institutional trust.

2.3 Underpinning Theory: SERVQUAL Model

The SERVQUAL model remains one of the most widely utilized frameworks for measuring service quality across both private and public sector settings. Initially developed by Parasuraman et al. (1988), SERVQUAL was designed to assess the gap between customer expectations and perceived service performance. Earlier versions of the model consisted of ten dimensions before being refined into five core dimensions, namely tangibility, reliability, responsiveness, assurance, and empathy (Kalotra & Sharma, 2017; Paul et al. 2016; Altuntas & Kansu, 2020; Vanichchinchai, 2021). The continued relevance of SERVQUAL lies in its multidimensional structure, which enables researchers and practitioners to evaluate service quality comprehensively from the customer's perspective. Johnson and Karlay (2018), as well as Karagianni and Theriou (2018), regarded SERVQUAL as one of the most reliable approaches for measuring customer perceptions and satisfaction regarding service experiences.

Although alternative models, such as SERVPERF and the electronic service quality framework (e-SERVQUAL), have emerged, SERVQUAL remains particularly suitable for public-sector studies involving direct human interaction and face-to-face service encounters (Karagianni & Theriou, 2018; Johnson & Karlay, 2018). In many public service environments, especially in semi-urban or less digitally dependent settings, citizens continue to evaluate service quality based on interpersonal communication, the reliability of service delivery, officers' responsiveness, and the overall treatment they receive during service interactions. Therefore, SERVQUAL provides an appropriate theoretical foundation for examining customer satisfaction within the Malaysian Public Service context. Furthermore, prior studies demonstrate that SERVQUAL dimensions significantly influence customer satisfaction across various government sectors including healthcare, transportation, taxation, education, and administrative services. However, findings regarding the relative importance of each dimension remain inconsistent across studies and geographical settings. This suggests the need for further contextual examination, particularly within semi-urban Malaysian public service environments that remain underrepresented in existing literature.

2.3.1 Tangibility

Tangibility refers to the physical attributes of an environment, including the building and front office area, parking availability, staff appearance, completeness of communication equipment, cleanliness, orderliness, and room comfort (Tumiwa et al. 2018). Tangibility is the aesthetic quality of an organization's physical spaces, which enables them to have attractive furnishings such as office desks, tables, and chairs that can seat clients and make them feel more welcome (Andrew et al. 2021). The appearance of an employee is important in an organization as it shows the first impression towards customers and the image of the organization itself (Villi & Koc, 2018). Citizens use a variety of government-provided services, spend a lot of time on government property, and interact directly with its infrastructure (Altuntas & Kansu, 2020).

2.3.2 Reliability

Reliability is the capacity to provide services in a timely, accurate, and satisfactory manner while adhering to standards (Karagianni & Theriou, 2018). Reliability is more closely linked to service accuracy and the capacity to keep accurate records for a range of clients (Shakri et al., 2015), as well as the ability of an organization to deliver a service precisely and consistently (Mohamed&Mohamed Ali, 2019). Reliability in the public sector is when the government provides services from the very beginning and ought to be concerned with keeping its word and providing services on time (Alwi et al. 2020). According to

Yusuf et al. (2022), reliability in the public sector is the situation where customers will be happy and satisfied if public department staff are more accurate and dependable in delivering the services they have promised.

2.3.3 *Responsiveness*

Responsiveness refers to a service provider's capacity and readiness to help customers and offer timely assistance (Liestyanti & Prawiraatmadja, 2021). An organization is said to be highly responsive if it offers a clear and varied program, a set waiting time for customers, accurate and quick service, and comprehensive information services for its clients (Setiono & Hidayat, 2022). In public service, the dimension of responsiveness measures the disposition of government staff to respond quickly to public needs and provide prompt service (Karagianni & Theriou, 2018). Responsiveness builds trust that the government can listen to community needs and act on what it hears (Lamsal & Gupta, 2022). It can be measured by the degree of match between community preferences and service outcomes (Alwi et al. 2020).

2.3.4 *Assurance*

Assurance encompasses the expertise employees, or the organization possess regarding the services offered, as well as their politeness and ability to inspire confidence in customers (Ivonnny & Niken, 2020). An organization that possesses the assurance attribute is deemed capable of offering its customers good assurance if it can provide a sense of security, protect the privacy of customer information, and offer expert services (Setiono & Hidayat). In the public sector, assurance is the capacity of public servants to inspire confidence and trust in their clients, as well as the knowledge and civility of the company and its staff.

2.3.5 *Empathy*

Empathy is the ability to relate, care for, and comprehend the needs of consumers in addition to being easy to get along with (Karagianni & Theriou, 2018). According to Ramya et al. (2019) empathy is the thoughtful, personalized care that customer service organizations provide to their clients. This dimension aims to convey that each consumer is unique to the business through personalized or tailored services. It also refers to the capacity to improve communication with clients while providing services (Wijaya et al. 2020). In the public sector context, empathy refers to the ability of a government employee to attend to the needs of their clients by offering convenient hours of operation, giving personalized attention and putting oneself in the client's shoes to gain a better understanding of what the client actually wants (Alwi et al. 2020). Empathy is important as it enhances not only positive, but also long-term relationships between the public and institutions (Andrew et al. 2021).

Thus, there are five hypotheses in this study:

- Ha1: There is a significant relationship between tangibility and customer satisfaction.*
- Ha2: There is a significant relationship between reliability and customer satisfaction.*
- Ha3: There is a significant relationship between responsiveness and customer satisfaction.*

Ha4: There is a significant relationship between assurance and customer satisfaction.

Ha5: There is a significant relationship between empathy and customer satisfaction

3. METHODOLOGY

A This study employed a quantitative cross-sectional research design using convenience sampling due to accessibility considerations and time limitations associated with online data collection. A cross-sectional design involves collecting data from respondents at a single point in time and is widely used in behavioral and social science research because it is practical, cost-effective, and less time-consuming than longitudinal approaches. The quantitative approach was considered appropriate for this study as data were collected through a structured questionnaire distributed to respondents. The study population comprised individuals who had recently received services from six selected government agencies in Taiping, Perak. Taiping was selected as the study location because it functions as one of the primary administrative hubs in Northern Perak, serving both urban and nearby rural populations. In addition, the area represents a semi-urban environment where conventional face-to-face public service interactions remain prevalent despite increasing digitalization initiatives within the Malaysian public sector.

Data collection was conducted using an online questionnaire developed through Google Forms. The survey link was distributed via various digital platforms, including WhatsApp, Telegram, and social media, to reach individuals who had recently received services from the Malaysian Public Service (MPS) within approximately 50 kilometers of Taiping. A total of 210 usable responses were successfully collected and analyzed. This sample size is considered adequate for quantitative behavioral and social science research. According to Roscoe's (1975) Rule of Thumb, a sample size ranging between 30 and 500 is generally acceptable for most behavioral research studies. Furthermore, Hair et al. (2022) suggested that sample sizes exceeding 200 respondents are generally sufficient for multivariate statistical analysis involving multiple predictors.

3.1 Research Instrument

A questionnaire is a very practical tool for quickly gathering data from many respondents. There were seven sections in the research questionnaire: Parts A, B, C, D, E, F, and G. The demographic section, covering respondents' backgrounds and personal information, was in Part A. The questions include background information on race, age, gender, household income, education, and occupation. Part B consists of questions pertaining to the dependent variable, namely customer satisfaction. Meanwhile, the items of the independent variables were asked in parts C to G—tangibility (Part C), reliability (Part D), assurance (Part E), responsiveness (Part F), and empathy (Part G). Likert-type questions with a range of 5 points from 1 to 5 were used in Sections B to G. These Likert-type items gave a range of 5 points from 1 to 5, in which responses were 1 – 'Strongly Disagree', 2 – 'Disagree', 3 – 'Uncertain', 4 – 'Agree' and 5 – 'Strongly Agree'. The survey comprises general inquiries about the correlation between each independent variable and the moderating variable with respect to customer satisfaction. Each element's indicator was chosen in order to estimate the public's response to the questions. The reliability of the questionnaire was evaluated

using Cronbach's Alpha (α), and the relationship between the variables was examined using the correlation test.

Below is an overview of the research instruments:

Table 1. Research instruments

Items	Questionnaire
Customer Satisfaction	Overall, I am satisfied with government agencies service quality. I am happy with my experience of being a customer for government agencies. I am satisfied with the officers' professionalism. I am satisfied with the quick service that I received from government agencies. I am satisfied with the respectful behavior of the officers. I will recommend the government agencies to my friends for similar service delivery.
Tangibility	The equipment provided by government agencies are up to date. The waiting area at government agencies are spacious, comfortable and attractive. The floors, counter and restrooms at government agencies is clean. The design of government agencies is user-friendly for the elderly and people with disabilities. The appearance of the officers is neat and well-dressed. The infographics at government agencies is attractive and easy to understand.
Reliability	The officers deliver the service according with standard of procedure, rules and regulation. The officers acting professionally in delivering service; such as good body gesture and maintain eye contact. The officers have skill and knowledge to complete the tasks correctly on the first attempt. Government agencies deliver services within the promised time frame.
Responsiveness	The officers provide accurate information to me. The officers clearly explain on what I need to do next. The officers respond quickly towards my complaint. The officers are willing to answer each of my question. The officers are available and ready to assist me on the dot when I approached them. The officers give full attention to me even though they seem too busy.
Assurance	I can rely on the officers to meet my needs. I feel confident that the officers will keep my personal information secure and confidential. The officers provide clear and helpful information. The officers have knowledge in answering my questions.
Empathy	The officers are giving attention to me and desire to help. I am convenient with government agencies operating hours. I feel valued and respected when dealing with the officers. The officers give related professional advice for my business. The officers show patience in delivering service. The officers were very concern on people with special needs such as elderly, pregnant women or people with disabilities.

Source: Instrument modified from Adane&Debebe (2020) and Parasuraman et al. (1988)

3.2 Data Collection

The questionnaire has approval from the Universiti Teknologi MARA (UiTM) Research Ethics Committee on 27 March 2025, with reference number ERC/01/2025(ST/MR/17), and the questionnaire link was distributed to the public who received services from MPS Taiping, Perak. The data for this study are primary, collected through self-administered questionnaires. The questionnaire was created in both Malay and English. Terms and vocabulary familiar to the respondents were used in this study. The data was collected within two weeks in April 2025.

The mediating effect was confirmed by the Sobel-Goodman mediation test. The analysis helps to assess whether ESG performance as sustainability intention mediates the relationship between explanatory variables and banks' Sustainability-Protective Behaviour.

3.3 Data Analysis Procedures

Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 26. A descriptive analysis was first conducted to summarize the respondents' demographic characteristics. Reliability analysis using Cronbach's Alpha was subsequently performed to assess the internal consistency of the measurement items. Normality testing was conducted using skewness and kurtosis values to determine the distributional properties of the data. Pearson correlation analysis was then employed to examine the relationship between the SERVQUAL dimensions and customer satisfaction, while multiple linear regression was conducted to identify the most significant predictors of customer satisfaction in the Malaysian Public Service context. The level of statistical significance for all inferential analyses was set at $p < 0.05$. The demographic composition of the respondents, with the majority being Malay, reflects the actual population structure of the selected semi-urban area in Northern Perak, where the Malay community is the dominant population group. Therefore, the demographic distribution obtained in this study is considered representative of the local social context in which the research was conducted.

4. ANALYSIS AND FINDINGS

This section provides a detailed examination of how five service quality dimensions, tangibility, reliability, responsiveness, assurance, and empathy, relate to customer satisfaction within the Malaysian Public Service (MPS). The following details the demographic profile of respondents, assessment of data through reliability and normality testing, and the statistical results from correlation and multiple regression analyses.

4.1 Reliability and Normality Test

To assess the internal consistency of the research instrument, a reliability test was performed using data from 210 respondents. The findings are as follows:

- a) Excellent Consistency: Customer satisfaction, tangibility, empathy, and responsiveness achieved Cronbach's alpha values of 0.921, 0.904, 0.926, and 0.934, respectively.
- b) Good Consistency: Reliability and assurance demonstrated strong internal consistency with alpha values of 0.885 and 0.891.
- c) Overall Outcome: Based on these results, the reliability analysis of all independent and dependent variables was deemed successful and accepted for further analysis.

Furthermore, a normality test was conducted to ensure the data followed a normal distribution, which is essential for valid statistical inference. Normality was evaluated using Skewness to measure asymmetry and Kurtosis to assess peakedness. Following the criteria established by Hair et al. (2022), values between -1 and +1 are considered excellent, while those between -2 and +2 are regarded as acceptable.

4.2 Demographic Profile

There were 210 respondents who participated in this study by completing the provided questionnaire via Google Form. Table 2 shows the demographic profile of the respondents in this study.

Table 2. Demographic profile

Profile	Frequency	Percentage (%)
Gender		
Male	79	37.6
Female	131	62.4
Total	210	100.0
Age		
Below 21 years old	6	2.9
21 – 30 years old	62	29.5
31 – 40 years old	67	31.9
41 – 50 years old	40	19.0
51 – 60 years old	25	11.9
61 years old and above	10	4.8
Total	210	100.0
Race		
Malay	204	97.1
Chinese	1	0.5
Indian	1	0.5
Others	4	1.9
Total	210	100.0
Educational Background		
Sijil Pelajaran Malaysia	32	15.2
Diploma/STPM/Certificate	77	36.7
Degree	83	39.5
Master	14	6.7
Doctorate	4	1.9
Total	210	100.0
Occupation		
Government servant	69	32.9
Private sector	62	29.5
Freelance	8	3.8
Entrepreneurship	6	2.9
Housewife	15	7.1
Student	40	19.0
Others	10	4.8
Total	210	100.0

Source: Researcher

Table 2 presents the demographic profile of 210 respondents, of whom 62.4% are female. The majority are aged 31-40 (31.9%), and 97.1% of respondents are Malay. A degree is the highest level of educational attainment, at 39.5%. According to the data, most respondents work as government servants (32.9%), and 33.8% have an income below RM3000. Finally, the majority of the respondents recorded that they had received service from a hospital/clinic (41.9%), followed by others (13.8%), Jabatan Pengangkutan Jalan (JPJ) (12.4%), Jabatan Imigresen Malaysia (JIM) (10%), Lembaga Hasil Dalam Negeri (LHDN) (7.6%), while Jabatan Pendaftaran Negara (JPN) and Pejabat Pendidikan Daerah (PPD) each recorded at 7.1%.

4.3 Pearson Correlation Coefficient

In research, correlation analysis is a statistical technique used to determine how strongly two or more variables are related. A p-value is also used because it is a statistical measure that assesses how well a hypothesis fits the observed data and indicates whether the hypothesis is accepted or rejected. The level of

statistical significance is typically defined as a p-value of 0.05 or less. Pearson correlation analysis was utilized in this study to find the relationship between service dimensions: Tangibility, Reliability, Responsiveness, Assurance, and Empathy with customer satisfaction. According to Sekaran & Bougie (2016), correlation values between 0.10 and 0.29 indicate a weak relationship, between 0.30 and 0.49 a moderate relationship, and between 0.50 and 1.00 a strong relationship.

Table 3. Pearson correlation coefficient.

Variable	R-Value	P-Value	Decision
Tangibility	0.585	0.000 ($p < 0.05$)	Ha1 supported
Reliability	0.778	0.000 ($p < 0.05$)	Ha2 supported
Responsiveness	0.752	0.000 ($p < 0.05$)	Ha3 supported
Assurance	0.669	0.000 ($p < 0.05$)	Ha4 supported
Empathy	0.727	0.000 ($p < 0.05$)	Ha5 supported

Source: Researcher

Based on Table 3, the correlation for tangibility is $r = 0.585$, which falls within the 0.50 to 1.00 range. This finding revealed a high relationship between tangibility and customer satisfaction. Meanwhile, the significant value of $p = 0.000$, which is less than the p-value at 0.05 ($p < 0.05$), indicates that the independent variables of tangibility and customer satisfaction have a significant relationship. As a result, Ha1 has been accepted. For reliability, the correlation ($r = 0.778$) with $p\text{-value} = 0.000$ indicated a strong positive linear relationship between reliability and customer satisfaction. The findings from this study also show that the p-value is less than 0.05, indicating a significant relationship between reliability and customer satisfaction and acceptance of Ha2.

The correlation value between responsiveness and customer satisfaction is $r = 0.752$. It indicated a strong relationship between the two variables, since the value falls between 0.50 and 1.00. Furthermore, the $p\text{-value} = 0.000$, which is lower than the significance level ($p < 0.05$), indicating that responsiveness and customer satisfaction have a significant relationship, and Ha3 has been accepted. As for the assurance dimension, the correlation value $r = 0.669$ falls within the specified range of 0.50 to 1.00. This finding revealed a high relationship between assurance and customer satisfaction. Meanwhile, the significant value of $p = 0.000$, which is less than the p-value at 0.05 ($p < 0.05$), indicates that the independent variables of assurance and customer satisfaction have a significant relationship. As a result, Ha4 has been accepted.

For the last variable, empathy, the Pearson Correlation was $r = 0.727$, indicating a positive relationship between empathy and customer satisfaction. The relationship between the two variables is high because the value is between 0.50 and 1.00. Empathy and customer satisfaction were significantly correlated at the 0.00 level ($p < 0.05$), indicating that Ha5 has been accepted. In conclusion, all the service dimensions – Tangibility, Reliability, Responsiveness, Assurance, and Empathy - indicate a strong relationship with customer satisfaction in MPS.

4.4 Multiple Linear Regression

The Multiple linear regression is a statistical method that forecasts the value of a response variable using multiple explanatory variables. Multiple regression analysis is used to examine the relationships between multiple independent variables and a single dependent variable (Sekaran & Bougie, 2016). In this study, multiple regression analysis was conducted to examine the influence of five service quality dimensions (tangibility, reliability, responsiveness, assurance, and empathy) on customer satisfaction. Table 4 displays the outcome of the analysis.

Table 4. Multiple regression analysis

Variable	Standardized Beta	t-Value	P-Value (Sig.)	Decision
Tangibility	0.033	0.521	0.603	Not significant
Reliability	0.442	4.909	0.000	Significant ($p < 0.05$)
Responsiveness	0.151	1.523	0.129	Not significant
Assurance	-0.056	-0.643	0.521	Not significant
Empathy	0.295	3.244	0.001	Significant ($p < 0.05$)

Source: Researcher

According to Table 4, the model summary, multiple linear regression, and overall fit statistics from the multiple regression analysis. The overall model was significant ($F = 76.847$, $p < 0.00$), indicating that the combination of these variables significantly predicts customer satisfaction. Among all dimensions, reliability is the most dominant factor ($\beta = 0.442$, $p = 0.000$), followed by empathy ($\beta = 0.295$, $p = 0.001$). Both variables showed significant results as p-values less than 0.05 ($p < 0.05$), suggesting that when customers feel the service is reliable, feel understood and cared for, their satisfaction levels tend to increase significantly.

In contrast, responsiveness ($\beta = 0.151$, $p = 0.129$), tangibility ($\beta = 0.033$, $p = 0.603$), and assurance ($\beta = -0.056$, $p = 0.521$) were not significant, even though Pearson correlation analysis showed positive correlations. This is because the p-values are above 0.05 and not considered strong predictors in this model. In conclusion, while all service quality dimensions relate to customer satisfaction, reliability and empathy have the strongest and most distinctive impact when considered alongside the other dimensions.

5. DISCUSSION

The findings of this study demonstrate that all SERVQUAL dimensions, namely tangibility, reliability, responsiveness, assurance, and empathy, were significantly correlated with customer satisfaction within the Malaysian Public Service (MPS). However, multiple regression analysis revealed that only reliability and empathy significantly predicted customer satisfaction, with reliability emerging as the most dominant factor. These findings suggest that citizens in semi-urban public service settings place greater importance on dependable, accurate, and empathetic service delivery compared to physical facilities or procedural speed.

The significant influence of reliability is consistent with previous studies by Shakri et al. (2015), Alwi et al. (2020), Ong et al. (2022), and Yusuf et al. (2022), which identified reliability as one of the strongest determinants of customer satisfaction in public sector settings. The findings indicate that respondents value government officers who provide accurate information, deliver services consistently, and resolve issues

efficiently without repeated follow-ups. In semi-urban administrative environments such as Taiping, where some citizens travel considerable distances to access government services, reliability becomes especially important in shaping public trust and satisfaction.

Empathy also emerged as a significant predictor of customer satisfaction, supporting earlier findings by Mohamed and Mohamed Ali (2019), Andrew et al. (2021), and Setapa et al. (2024). The result highlights the continuing importance of interpersonal communication, individualized attention, and respectful treatment in public service delivery. Despite increasing digitalization initiatives within the Malaysian public sector, many citizens, particularly in semi-urban and smaller administrative areas, continue to rely heavily on face-to-face interactions when dealing with government agencies. This suggests that human-centered service delivery remains essential in enhancing citizen satisfaction and trust toward public institutions.

Although tangibility, responsiveness, and assurance demonstrated significant positive relationships with customer satisfaction in the correlation analysis, these dimensions were not significant predictors in the regression model. This finding suggests that while physical facilities, prompt service, and officer professionalism remain important, they may not independently influence customer satisfaction when reliability and empathy are considered simultaneously. Unlike studies conducted in highly urbanized settings where tangibility and technological infrastructure are often emphasized, the present findings indicate that citizens in semi-urban environments prioritize accurate and dependable service experiences over modern facilities or digital sophistication.

5.1 Research Limitation

This study has several limitations that may affect the interpretation of the findings in the conclusion and generalizability in wider contexts. The first limitation of this study is lack of focus on a single department. This is because this study includes various government departments and agencies. However, each agency operates under different procedures, standards, resource availability, and environments. For example, the experience of visiting hospitals might differ from that of visiting JPJ or LHDN. As a result, this diversity may pose challenges in isolating which service quality dimension has the strongest impact on a particular agency. The second limitation is that this study employed a cross-sectional research design, where the data were collected from respondents only once. Even though this method is useful for identifying current patterns and relationships between variables, such as service dimensions and customer satisfaction, it does not allow for measuring changes. Hence, this study cannot evaluate or compare whether customer satisfaction has increased or declined before and after customers received services from government agencies. The third limitation is that this research employed non-probability sampling, which selects respondents based on their availability and willingness to participate. Although this method was practical, convenient, cost-effective, and time-efficient, it limits the generalizability of the findings as the sample size was small and may not fully represent the diverse population of public service users in Malaysia. Additionally, it could increase the risk of sampling bias as the online method may have excluded individuals with limited internet access and low digital literacy, especially older adults and rural residents, and individuals who are more likely to repeat in participating in the study, as they may possess stronger opinions, better internet access, or have a greater interest in the topic.

5.2 Suggestion for Future Research

The first suggestion is that future research should collect data from a single government department rather than multiple agencies. Each government agency operates differently in terms of standard procedures, staff interactions and behavior, and organizational structures. Thus, by limiting the study to one department, future researchers could conduct a deeper analysis and obtain more consistent data, making it easier to identify the specific service dimensions that influence customer satisfaction in that department. The second suggestion is that future research could adopt a longitudinal design to gain a more comprehensive understanding of customer satisfaction at MPS. This would allow a meaningful comparison to determine whether customer satisfaction increases, decreases, or remains the same. It also provides stronger evidence of whether the service quality dimensions have truly influenced customer satisfaction, or whether other factors are involved in delivering the service to citizens. The third suggestion is that future research should use probability sampling methods, such as random or stratified sampling, in which everyone has a fair chance of being selected. This method will reduce bias and improve the reliability and generalizability of the results. A larger sample size will also help future researchers obtain more accurate results when comparing different groups of respondents and provide stronger findings.

6. CONCLUSION

This study examined the relationship between SERVQUAL dimensions and customer satisfaction within selected Malaysian public service agencies in Taiping, Perak. The findings revealed that all five service quality dimensions, namely tangibility, reliability, responsiveness, assurance, and empathy, were positively associated with customer satisfaction. However, reliability emerged as the most dominant predictor, followed by empathy, indicating that citizens place greater importance on accurate, dependable, and empathetic service delivery when evaluating public services.

The findings provide important theoretical and practical implications for the Malaysian Public Service. In particular, the study highlights that technological modernization and digital transformation initiatives alone may not be sufficient to enhance citizen satisfaction unless they are supported by reliable, responsive, and human-centered service delivery practices. This emphasizes the continuing importance of interpersonal communication, professionalism, and procedural accuracy within Malaysia's evolving public administration landscape.

This study contributes to the growing literature on public sector service quality by providing empirical evidence from a semi-urban Malaysian administrative context that remains relatively underexplored in existing research. The findings may serve as a useful reference for policymakers, public sector managers, and frontliners in strengthening service delivery strategies, enhancing customer satisfaction, and fostering greater public trust toward Malaysian government institutions.

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8. CONFLICT OF INTEREST STATEMENT

The authors declare that there are no financial, personal, or professional relationships that could be perceived as influencing the research conducted or the results presented in this manuscript.

9. AUTHORS' CONTRIBUTIONS

Nur Amirah Ismail: Conceptualization, methodology, data collection, formal analysis, and drafting the original manuscript. **Azlyn Ahmad Zawawi:** Supervision, critical revision of the manuscript for intellectual content, and final approval of the version to be published. Both authors have reviewed and approved the final version of the manuscript.

10. DECLARATION OF GENERATIVE AI IN THE WRITING PROCESS

This work was prepared using Gemini to refine academic language, structural organization, and critical analysis. This tool allowed the author(s) to examine and edit the content and accept full responsibility for the publication.

11. DATA AVAILABILITY/SUPPLEMENTARY MATERIALS

The primary data generated during this study were collected via self-administered questionnaires. The datasets used and analysed during the current study are available from the corresponding author upon reasonable request.

12. ETHICS STATEMENT

Ethical approval for this study was obtained from the Universiti Teknologi MARA (UiTM) Research Ethics Committee on 27 March 2025, with the reference number: ERC/01/2025(ST/MR/17). Informed consent was obtained from all participants prior to their involvement in the online survey, and all data were treated with strict confidentiality.

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