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Examination of the Predictive Power of Service Quality Dimensions on Customer Satisfaction with Health Services in Rwanda

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Abstract

Purpose: The study examined whether the five service quality dimensions predict the satisfaction with health services in Rwanda and their predictive abilities.

Methodology: The quantitative research approach was employed to collect data for this study. The population of the study was 17,842,187 individuals who sought services from different health facilities from which a sample of 487 was chosen using a probability sampling method. Data were merged and cleaned to ensure quality before the actual analysis. The analysis of data was done using Statistical Package for Social Sciences (SPSS) and exported to Microsoft Excel for categorization of responses and easy manipulation of the data. Multiple linear regression analysis was employed to test how the service quality dimensions are associated with customer satisfaction with health services and the predictive power of each dimension.

Findings: Hypotheses tests were carried out and results showed that, all the five service quality dimensions are predictors of customer satisfaction with health services. As a result, the null hypotheses were rejected and alternative hypotheses were accepted. If the service quality dimensions are arranged in order of their predictive power beginning with the highest predictor; they can be ordered as Empathy, Assurances, Reliability, Tangibles and Responsiveness.

Contribution to Theory, Policy, and Practice: The research showed significant relationship between the five service quality dimensions and customer satisfaction with health services which has not been measured before. It also showed the predictive power of each of the dimensions which highlights where more efforts should be invested to improve satisfaction with health services in Rwanda. More efforts should be invested in those dimensions that predict satisfaction of customers more than others in case resources to improve all are not sufficient in a particular period of time.

Keywords: *Service Quality, Customer Satisfaction, Health Services, Predictive Power, Service Quality Measurement*

INTRODUCTION

The health sector is an important part of the economic development of countries globally (Ozyilmaz et al., 2022). For a very long time, the sector of health contributed hugely to human capital development which is essential to development in general (Adel & Imène, 2019). Delivering health services effectively is essential to keeping the population healthy and productive. There has been a growing desire for governments to increase the quality of health services so as to raise the living standards of their people. Health service seekers have also raised their standards regarding the service they receive from healthcare providers (Al Owad et al., 2022; Fatima et al., 2018; Nguyen et al., 2021). The challenges of service seekers associated with poor healthcare services undermine the desire for economic development and cause dissatisfaction among health service seekers (Ampaw et al., 2020; Habibi & Rasoolimanesh, 2021). Whatever the healthcare providers do to attain superior quality in healthcare provision results in service seekers' satisfaction of some sort (Afrashtehfar et al., 2020). The desire for improved healthcare quality by patients (service seekers) is continuously growing and healthcare providers should be aware and devise means to constantly meet their needs (Cruz & Mendes, 2019). It is imperative to know that pursuing a healthcare system that satisfies the needs of service-seekers results in productive relationships between them and healthcare providers (Al Owad et al., 2022; Ampaw et al., 2020). For the governments, it is even more beneficial to offer quality healthcare to maintain a healthy population that significantly contributes to socio-economic transformation.

The continuous measurement of healthcare services by healthcare providers is an important exercise that informs needed improvement in healthcare provision. Healthcare providers endeavour to tailor their measurements to the needs of service seekers (patients) (Afrashtehfar et al., 2020). Many healthcare providers undertake measurement processes of their systems, facilities, and other institutional and personnel aspects to attain accreditation, recognition, and classification in the face of their counterparts (Morales-Burton & Lopez-Ramirez, 2022). Much as these kinds of accreditation are important for healthcare service providers to compare with industry peers, they do not necessarily translate into the actual quality that responds to the needs of the patients. The effectiveness and efficiency of healthcare provision should be the driving force behind any assessments carried out within health facilities and systems. Dealing with the lives of people is far ahead of doing any other business and the standards of healthcare providers should be unmatched.

Problem statement

The importance of healthcare in the development of any country cannot be overstated. Human capital development is largely dependent on a healthy population (both mentally and physically) that is productive both efficiently and effectively (Jallow, 2020). Jallow argues that people living in highly risky health conditions are less productive as they always waste time and resources struggling to manage their health. This harms the overall economic development of countries where such conditions exist. Effective coordination of the management, employees, systems, and processes within a healthcare environment produces quality health services to its customers or patients (Kaur et al., 2023). They argue that health services are required to be

effective, safe, timely, fair, consistent, and tailored to the needs of the people to be qualified as of good quality. Different writers have made their contribution to the measurement of service quality in diverse situations (Adeinat, 2019; Lee & Cheng, 2018; Malik et al., 2020). They have employed different models in different settings including Six Sigma (Pathiratne et al., 2018), SERVQUAL (Parasuraman, Zeithaml, & Berry et al., 1988), and SERVPERF (Cronin & Taylor, 1992). It is believed that SERVQUAL has been widely employed to help companies to determine the gaps that exist between expected quality and the actual quality using the five service quality dimensions and to find suitable ways of filling these gaps (Jonkisz et al., 2021; Yarmak & Rollnik-Sadowska, 2022). In the context of Rwanda, there is little research to establish how the five service quality dimensions (Responsiveness, Reliability, Tangibles, Assurance and Empathy) influence satisfaction of customers with health services and their predictive abilities. This research aims to examine the relationship between the five dimensions of service quality and satisfaction of customers with health services and the predictive ability of each dimension.

Research objectives

1. To examine the relationship between the five service quality dimensions and customers satisfaction with health services
2. To establish the predictive ability of each service quality dimension on customer satisfaction with health services

LITERATURE REVIEW

The current reality is that, governments across the world are striving to increase access, ensure affordability and quality of health care for their people (Dixon, 2021). Responsible governments are striving to offer not only universal access to health care for their populations but also enhance the quality of health care. Implementing policies and strategies that promote universal access to quality health care has become indispensable in recent years for governments that put their people at the centre of all development efforts. Example is my country Rwanda that has successfully implemented universal health care insurance scheme called "Community Based Health Insurance" (CBHI) since 2004. The CBHI scheme is based on the practice of mutual support that exists in the Rwandan culture (Nyandekwe et al., 2020). Community Based Health Insurance has made significant contribution to the reduction of the amount of money people spend when they visit health facilities to seek medical services. It is also evident that, the CBHI has contributed to enhanced access to equitable health care and utilization of health services resulting in the overall standard of living of the people. The quality of healthcare is understood as the act of offering health services that are people centred, that are equitable, timely, effective, efficient and that offer security to the receiver (Hanefeld et al., 2017).

People responsible for managing healthcare are striving to define, continuously assess and improve healthcare quality with the aim of satisfying the needs of the people (Coccia, 2019; Coccia & Igor, 2018). The quality of service refers to the customer's experience derived from consuming a service in comparison with his/her expectation (Cronin & Taylor, 1992; Parasuraman, Zeithaml, & Berry et al., 1988). In other words, it is the difference between the customer's expected services

and the actual service received by the customer (Dagger et al., 2007; Parasuraman, Zeithaml, & Berry et al., 1988). Health services are particular in the sense that, they concern the lives of people that require reliable and consistent quality; they attract attention of the public to ensure that taxes paid to provide them with healthcare are put to good use (Nekoei-Moghadam & Amiresmaili, 2011).

In measuring service quality in different fields, SERVQUAL model has been widely used with its five service quality dimensions (Responsiveness, Reliability, Tangibles, Assurance and Empathy) as it is believed to offer a broad view in measuring the quality of service in various domains and settings (Parasuraman, Zeithaml, & Berry et al., 1985; Valenzo-Jiménez et al., 2019). SERVQUAL allows comparison of the expected service and the actual service received by the customer which results into satisfaction or lack of it. SERVQUAL enables service providers to determine where gaps exist in service chain and to generate suitable solutions to fix them (Jonkisz et al., 2021). The use of SERVQUAL model in various industries and contexts has facilitated its continuous improvement over the years (Murdifin et al., 2019). The model is also believed to allow flexibility for modification to suit service quality measurement in different domains and geographical settings (Lee &Kim, 2017). Depending on the field and geographical setting, new elements can be added and others removed under each of the five dimensions. Research has shown that, SERVQUAL questionnaire is regarded as the most standardized yet flexible instrument to measure the service quality and satisfaction of customers (Jonkisz et al., 2021; Sugiarto & Octaviana, 2021).

SERVQUAL has also been used in measuring health care quality in different contexts such as in China (Cull et al., 2017) in Saud Arabia (Al Fraihi & Latif, 2016) and in Switzerland *(*Ghali et al., 2023). The assessment of healthcare service quality is of particular importance due to the delicate nature of the sector and the required interactions between patients and providers. Overall, research shows that, SERVQUAL Model remains the most relevant tool to measure service quality and customer experience including in the health. This study measured service quality in both public and private health facilities in Rwanda.

Service Quality

Service quality emanates from the willingness to satisfy the needs of customers. Service quality therefore may be defined as the ability of organizations to provide expected service to customers (Ramya et al., 2019). When the expectations of the customer are met, the quality of service is good, when the expectations are exceeded, the quality is superior or excellent and when they are not met, the quality is poor or inferior. Without satisfying customers, there is no quality; therefore, organizations are required to strive to improve the wellbeing of people (governments), to meet the expectations of their customers to guarantee competitive advantage and to increasingly gain market share (companies).

Customer Satisfaction

Customer satisfaction should be the ultimate goal of organizations especially those that strive to make profit. Customer satisfaction refers to the degree to which customers are contented with goods, services and the overall experience received from an organization (Agnihotri et al., 2019). When people purchase goods or services, they expect them to meet their needs and to derive satisfaction from experiencing these goods and services (Gunawan, 2022; Hamzah & Shamsudin, 2020; Lim et al., 2020). Satisfaction is an essential part of marketing as it enables satisfied customers to be part of the marketing system of the organization and to desire to continue purchasing from the same organization (Ilias & Shamsudin, 2020; Zakari & Ibrahim, 2021). Customer satisfaction is a kind of evidence-based marketing that prevents customers from departing the organization, sustains business and promotes the imagine of organizations among its competitors.

Service Quality Measurement

Measuring service quality is done from the perspective of those who received the service to ascertain their level of satisfaction or lack of it. The measurement of service quality allows providers to identify gaps that exist in their service delivery chain and come up with remedial actions. Ngo and Hieu (2020) argue that, organizations seek to understand variables which influence the satisfaction of customers in order to institute strategies to improve the quality of services and to maintain a positive and growing relationship with their customers. Many scholars have recommended different models for measuring healthcare service quality (Donabedian, 2005; Black, 2000; Camilleri & O'Callaghan, 1998; Juwaheer & Kassean, 2006; Itumalla et al., 2014). Despite the initiatives to adopt other models for measuring healthcare service quality, SERVQUAL model (Parasaruman et al., 1988) is still the most employed model in various fields and contexts (Goumairi et al., 2020; Jonkisz et al., 2021; Salem & Kiss, 2023). This study also employed SERVQUAL to measure service quality in health sector in Rwanda.

The measurement is aimed at generating data to inform possible improvement in health service quality both in public and private health facilities. Continuous improvement of service quality measures is very necessary to ensure industry and context specific measurement tools to generate meaningful results. As it is commonly observed and experienced, the quality of healthcare depends on many factors that include patients care, systems, employees as well as the facilities within which health services are offered.

The SERVQUAL Model

Service quality measurement in different contexts has utilized SERVQUAL model developed by Parasuraman, Zeithaml, & Berry et al. (1985). SERVQUAL has been widely employed in various industries and settings to measure service quality (Jonkisz et al., 2021; Salem & Kiss, 2023) even though some authors have criticized it because of its validity issues (Jonkisz et al., 2021; Pakurár et al., 2019). Parasuraman, Zeithaml, & Berry et al. (1985) argues that, the service quality framework has widely concentrated on SERVQUAL model to measure service

quality focusing on the variation in the expected services and the actual service received to assess whether there is satisfaction or not. It is believed that SERVQUAL with its five dimensions (Responsiveness, Reliability, Tangibles, Assurance and Empathy) do support organizations' leadership to identify service gaps within the elements that shape service quality and appropriately address them (Jonkisz et al., 2021). In applying the SERVQUAL tool to measure service quality of health services in Rwanda, reliability and validity of the instrument were tested and found that the tool is valid and excellently reliable for use in this sector.

Conceptual Framework of the study

In research, conceptual framework implies the relationship between study variables. It defines the construction of activities the researcher anticipates to undertake to complete a research project. Luft et al. (2022) defines conceptual framework as an interconnected system of beliefs, assumption and expectations that guides a research study and consequently those who will consume the research results. The schematic representation of the conceptual framework for this study is shown below:

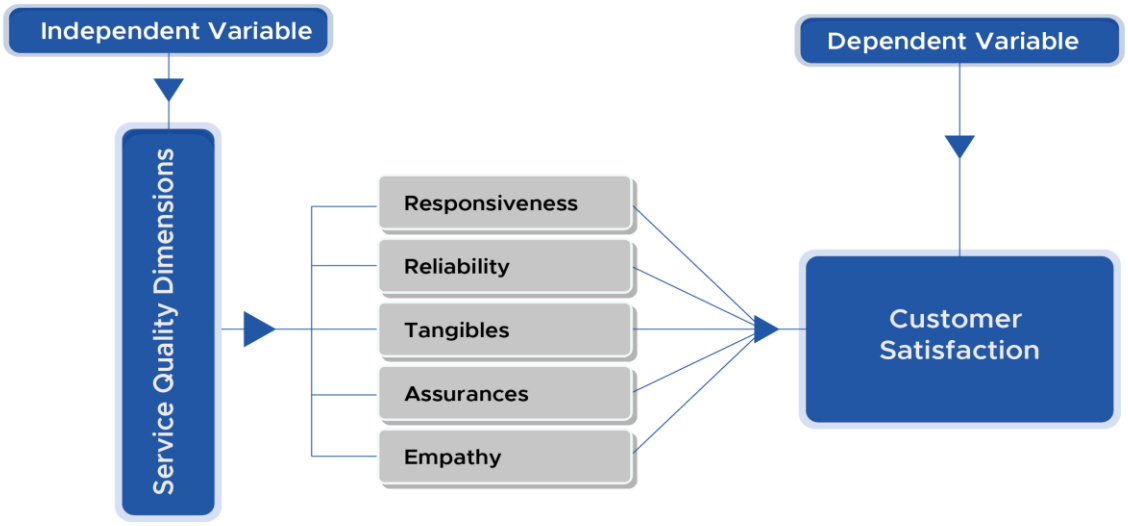

Figure 1: *Conceptual Framework*

Source: *Researcher (2025)*

This study has five hypotheses that are based on the five service quality dimensions are shown below:

Research Hypotheses

$H1_0$: Responsiveness is not a predictor of satisfaction of customers with health services

$H1_1$: Responsiveness is a predictor of satisfaction of customers with health services

$H2_0$: Reliability is not a predictor of satisfaction of customers with health services

$H2_1$: Reliability is a predictor of satisfaction of customers with health services

$H3_0$: Tangibles is not a predictor of satisfaction of customers with health services

$H3_1$: Tangibles is a predictor of satisfaction of customers with health services

$H4_0$: Assurance is not a predictor of satisfaction of customers with health services

$H4_1$: Assurance is a predictor of satisfaction of customers with health services

$H5_0$: Empathy is not a predictor of satisfaction of customers with health services

$H5_1$: Empathy is a predictor of satisfaction of customers with health services

Each of the above dimension has specific variables to measure customer satisfaction with health services offered at different health facilities. The variables for each dimension are presented in the table below.

Table 1: Dimensions and their respective variables

Dimensions	Variables
Responsiveness	Service provider (Healthcare) shows willingness to help customers; Service provider (Healthcare) delivers prompt services; Customers (Healthcare) are informed on when services are to be delivered; Feedback on requested services is given promptly (Healthcare); Customers (Healthcare) are aware of how service is offered; Customers (Healthcare) easily access information on services offered; Service provider (Healthcare) seeks feedback on the quality of the service offered Service provider (HF) reacts on the feedback from customers;
Assurance	Employees (Healthcare) show politeness; Actions of employees (Healthcare) guarantee trust among customers Employees (Healthcare) have appropriate skills to respond to the needs of customers;
Tangible	Visibility of signage to where services are provided (Healthcare); Service provider (Healthcare) has infrastructure, equipment and materials in good conditions; The workplace is clean (Healthcare); Inclusive pathways to facility available (Healthcare); Separate restrooms for women and men are available (Healthcare); Inclusive restrooms for PWDs are available (Healthcare); Inclusive restrooms are separated for women and men (Healthcare).
Empathy	There is customised treatment for persons with special needs (PWDs, expectant mothers, elderly etc.) (Healthcare); Service providers (Healthcare) are mindful of customer needs;
Reliability	Services are delivered as per requirements (Healthcare); Services are delivered as per set timeframe (Healthcare); Customers are informed on why services are not delivered as promised (Healthcare); Internet and IT System are reliable in delivering services (Healthcare); Use of technology to expedite service delivery (Healthcare);

Source: Researcher (2025)

METHODOLOGY

The research approach used was purely quantitative; customers (patients) who received health services from different hospitals, health centres and health posts were selected to respond to the questionnaire. The study was conducted in 88 health facilities situated in 14 districts across Rwanda. The health facilities included 23 public health facilities (hospitals and health centres), 13 government aided health facilities, 20 private health facilities, 32 health posts and 9 medical insurance schemes.

A multiple linear regression analysis was carried out in predicting values of a dependent variable Y, given a set of p explanatory variables (x_1, x_2,….,x_p). For this study, Y variable stands for the citizen's satisfaction while X_i variables are reliability, assurance, tangibles, empathy, and responsiveness.

In order to explain relationship between the dependent variable and the explanatory variables, the following equation was applied:

$$y_i = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \ldots + \beta_p x_{pi} + e_i$$

Where:

β_0 stands for the constant term and

β_1 to βp are the coefficients relating the p explanatory variables to the variables of interest.

So, multiple linear regression is an extension of simple linear regression, where there are p explanatory variables, or simple linear regression is a special case of multiple linear regression, where p=1. The term 'linear' is used because in multiple linear regression we assume that y is directly related to a linear combination of the explanatory variables.

As is the case with simple linear regression and correlation, this analysis does not allow us to make causal inferences, but it does allow us to investigate how a set of explanatory variables is associated with a dependent variable of interest at certain level of influence.

Regarding a hypothesis test, for the case of a simple linear regression the null hypothesis, H_0 is that the coefficient relating the explanatory (x) variable to the dependent (y) variable is 0, in other words it means that there is no relationship between the explanatory variable and the dependent variable. The alternative hypothesis H_1 is that the coefficient relating the x variable to the y variable is not equal to zero, in other words, there is some kind of relationship between x and y.

Sample selection

The sampling process employed purposive and random techniques; the random sampling employed two stage stratified sampling strategy. The districts were selected purposively while the

respondents were selected randomly. The selection of service seekers was randomly done based on a list of patients registered at the selected health facility as follows:

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

The confidence level of 95% was considered with Z score of 1.96, P is the population proportion obtained from the previous survey which is 55.54% of service seekers, q the difference from the P, the margin of error is 5%, N as the total population of health facilities (2,099) and the total population of customers (customers: 17,842,187). The sample size was 478 customers from all the 14 districts.

Data collection

The data collection was conducted in fourteen (14) districts of Rwanda and focused on people who had received health services from different health facilities in their area. Data was collected from 478 respondents who were randomly selected from people that had received health services in the fiscal year 2021/2022 (National Land Authority, 2022). A Likert scale with five-items was employed to rate the appreciation of health service recipients based on the 34 variables under all the five service quality dimensions.

Data analysis

Data collection was done using tablets fitted with Surveytogo software. Since the data were collected using tablets, they were automatically entered into a database for downloading and quality checks. The data analysis was preceded by data merging and cleaning to check its quality and remove any corrupted aspects and then data analysis followed. The analysis of data was done using Statistical Package for Social Sciences (SPSS) and exported to Microsoft Excel for categorization of responses and easy manipulation of the data. Statistical tests were employed to test the validity, and reliability and the study hypotheses. Pearson Correlation Coefficient was employed to test the validity of the study tool and Chronbach's alpha was used to test its reliability. Multiple regression analysis was employed to test the relationship between a set of predictors variables (service quality dimensions) and the outcome variable (customer satisfaction). The analysis of data was done based on the five service quality dimensions namely; Responsiveness, Assurance, Tangibles, Empathy and Reliability.

RESEARCH FINDINGS

This section presents the analysis of research findings and their interpretation. The survey was a cross sectional study to find out satisfaction of customers with health services delivered by public health centers, government aided health centers, and private health clinics in 14 selected districts. After the data analysis, statistical tests were carried out to assess the validity, reliability before applying multiple regressing analysis to examine the association between service quality dimensions and customers' satisfaction with health services. Bivariate and Pearson correlation

were used to test the validity of the research tool and Chronbach's alpha to test reliability or internal consistency.

In conducting scientific research, the validity is defined as the likelihood that a measurement or assessment measures what it is set to measure (Karnia, 2024). In other words, validity is the degree to which a research tool measures what it is intended to measure. The study features are considered valid if the calculated Pearson's correlation coefficient is greater than the critical value which necessitates the rejection of the null hypothesis that there is no correlation.

The reliability means the consistency, dependability, authenticity, trustworthiness and replicability of the results of any research (Karnia, 2024). The coefficient of reliability ranges 0 to 1; this implies that the higher the coefficient, the higher the reliability level (Andersson et al., 2024). It is generally agreed that internal consistency coefficient be at least 0.70. For this study, the Cronbach's alpha, α (or coefficient alpha), developed by Lee Cronbach (Miller & Smith, 2020) was used to measure the reliability or internal consistency. It was used to measure if the multiple-question Likert scale is reliable to accurately assess health services quality. The variables are rated on a Linkert scale of 1 to 5 where 1 represents the lowest level of satisfaction and 5 the highest. The five-point scale is divided into 1=strongly disagree, 2= disagree, 3= moderately agree, 4= agree, and 5 = strongly agree.

The formula for Cronbach's alpha used is:

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N-1) \cdot \bar{c}}$$

where

N = the number of items.

$\bar{c}$ = average covariance between item-pairs.

$\bar{v}$ = average variance

Table 2: Distribution of respondents by sex and by district

District	Sex	
	Female	Male
Gasabo	24	18
Gatsibo	8	18
Karongi	20	18
Kayonza	12	10
Kicukiro	10	8
Muhanga	15	5
Musanze	20	23
Nyagatare	36	27
Ngororero	6	11
Nyamagabe	26	19
Nyanza	34	15
Nyarugenge	23	19
Ruhango	7	8
Rulindo	23	15
Total	**264**	**214**

Source: Primary data (2025)

Regarding the sex distribution of respondents, the data indicates a higher female participation (264 females) compared to males (214). This could suggest that females are predominant in seeking healthcare services. The districts of Nyagatare, Nyanza, and Nyamagabe show a particularly high female representation. In contrast, districts of Gatsibo and Musanze had more male respondents.

Table 3: Distribution of respondents by district and by ownership of Health Facilities

District	Ownership of Health Facilities			Total
	Public	Government-Aided	Private	
Gasabo	0	0	42	42
Gatsibo	8	18	0	26
Karongi	23	15	0	38
Kayonza	6	16	0	22
Kicukiro	0	0	18	18
Muhanga	5	10	5	20
Musanze	17	21	5	43
Nyagatare	34	19	10	63
Ngororero	11	1	5	17
Nyamagabe	11	23	11	45
Nyanza	29	19	1	49
Nyarugenge	6	0	36	42
Ruhango	5	10	0	15
Rulindo	35	3	0	38
Total	**190**	**155**	**133**	**478**

Source: Primary data (2025)

The table above shows notable variation in the number of respondents per district, with Nyagatare (63), Nyanza (49), and Nyamagabe (45) showing the highest participation. This may reflect the population size in relation with the number of health facilities available in these districts. Based on table four above, health facilities are categorized as public, government-aided, and private. Public health facilities are the majority (190) followed by government-aided (155) and lastly those that are privately owned (133). Some districts such as Gasabo and Kicukiro rely exclusively on private facilities, while others like Rulindo, Karongi, and Kayonza reported no private health facilities, indicating disparities in healthcare ownership and possibly access.

Regarding the distribution of the health facilities into the three categories within rural and urban districts, Gasabo, Kicukiro, and Nyarugenge (all three in districts of City of Kigali) show a clear tilt toward mainly private health care provision which may reflect urban market dynamics and higher-income populations. On the other hand, rural districts show a stronger presence of public and government-aided health facilities suggesting that public investment plays a critical role in rural health service delivery.

Table 4: Reliability Statistics

Cronbach's Alpha	N of Items
.938	46

Source: Researcher (2025)

Table 5: Model validity and scalability

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.848[a]	.720	.717	.19789

Source: Researcher (2025)

Table 5: Model significance

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	47.460	5	9.492	242.392	.000[b]
	Residual	18.483	472	.039		
	Total	**65.944**	**477**			

Source: Researcher (2025)

Table 6: Estimated values of coefficients and significance levels of predictors

Coefficients Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	Constant Value	-.175	.039		-4.551	.000
	Responsiveness	.157	.026	.197	6.107	.000
	Assurance	.426	.039	.303	10.992	.000
	Tangibles	.167	.025	.165	6.646	.000
	Empathy	.270	.023	.311	11.565	.000
	Reliability	.231	.027	.283	8.476	.000

Source: Researcher (2025)

After conducting a bivariate correlation analysis for all questions, the Pearson correlation coefficient was statistically significant with a value less than 0.05. All the actual values as indicated in table seven above were found to be much higher than critical value (0. 0.089888). This indicates that, the questionnaire was comprehensive and completely valid for this survey and even for the future research projects. Concerning the reliability or internal consistency, the result of Cronbach's Alpha was 93.8% which is significantly higher than 70%, it indicates high accuracy, internal consistency and reliability of our measurement scale for future scientific studies.

The table 5 provides the overall fit and strength of the regression model where the R (0.848) indicates a strong positive correlation between the predictors and the outcome variable, the R^2 = 0.720 (72%) of the variance in the outcome variable is explained by the model, adjusted R^2 (0.717) for the number of predictors which is still high, indicating a good model fit. On the other hand, standard error (0.19789) indicates a relatively small average distance that the observed values fall from the regression line.

The table 6 indicates that, the regression model is significantly better than a model with no predictors where F = 242.392 and Sig. = .000 stands for the model that is highly significant ($p < 0.001$). There is a statistically significant relationship between the set of predictors and the dependent variable.

The table 7 shows that, the regression model is statistically robust, explaining 72% of the variation in the dependent variable. Each of the five service quality dimensions (Responsiveness, Assurance, Tangibles, Empathy, and Reliability) significantly contributes to the model where Empathy is the strongest predictor followed by Assurance, Reliability, Tangibles and Responsiveness in that order. This means that all the five service quality dimensions are predictors of customer satisfaction with health services implying that, the null hypotheses were rejected and alternative hypotheses were accepted. Additionally, the first three dimensions (Empathy,

Assurance and Reliability) have the greatest influence on the customers' satisfaction with healthcare services. In other words, if the service quality dimensions are arranged in order of their predictive power beginning with the one with the highest predictive power on health services; they are ordered as Empathy, Assurances, Reliability, Tangibles and Responsiveness. Empathy being the highest predictor of satisfaction with health services makes a lot of sense given the fact that health service seekers require healthcare givers to genuinely understand and share in the feelings, concerns, and their experiences. Health services' provision requires true emotional and physical connections between healthcare providers and health service seekers.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The findings from this distribution table highlight uneven patterns in health facility ownership and workforce demographics across districts in Rwanda. These disparities may have implications for equity in healthcare access, resource allocation, and policy planning. Addressing imbalances especially in private sector concentration and gender representation could contribute to a more inclusive and sustainable health system. The test results show that, the model is statistically strong and explains a large portion of the variance in the outcome variable and there is significant relationship between predictor variables and customers' satisfaction. This emphasizes the need to enhance interventions that influence satisfaction of customers with health services in Rwanda more than others based on their predictive power. Finally, it was evident that, the model is significant ($p < .001$), reliable, and has practical relevance for understanding the impact of service quality dimensions.

Recommendations

Service quality improvement is an unending process because customers' tests and preferences also keep evolving. Based on the findings of this study, the following recommendations are offered to contribute to the improvement in health services.

- Continuously undertake service quality measurements to identify success factors and challenges that health facilities face and devise strategies to address them sustainably
- Where resources may not be sufficient to improve all the dimensions at the same time, prioritise the interventions related to the dimensions which influence satisfaction of customers with health services more than others (Empathy, Assurance and Reliability).
- Organise regular performance reviews of the health performance indicators to assess service quality status and the level of achievement of the performance indicators' expected outcomes.
- Institute a staff recognition and reward system to motivate those who demonstrate exceptional service to customers

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