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Service Quality Dimensions and Customer Satisfaction in Fitness Services: Evidence from a SERVQUAL Survey in Greater Jakarta

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A B S T R A C T

This study investigates how perceived service quality influences overall customer satisfaction in fitness services. Using the SERVQUAL framework (tangibles, reliability, responsiveness, empathy, and assurance), we analyze survey responses from 60 customers of a commercial gym in Greater Jakarta. Reliability testing indicates acceptable internal consistency for most constructs (Cronbach's α = 0.59–0.79). Multiple regression results show that reliability, responsiveness, empathy, and assurance significantly predict satisfaction ($R^2 = 0.83$; $p < 0.01$), while tangibles are positive but not statistically significant. The findings highlight the managerial importance of human-centered service delivery—particularly assurance and empathy—over physical cues alone. Implications for service operations and customer experience management are discussed

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INTRODUCTION

Service organizations compete largely through customer experience and relationship quality. In fitness services, customers interact frequently with frontline employees, equipment, and facilities; therefore, perceived service quality is a central antecedent of satisfaction, retention, and positive word-of-mouth (Kotler & Keller, 2016). A widely used approach to measure perceived service quality is SERVQUAL, which conceptualizes service quality as a multi-dimensional construct capturing tangibles, reliability, responsiveness, assurance, and empathy (Zeithaml, V.A. Parasuraman, A. & Berry, 1993). Despite extensive evidence across industries, empirical studies in fitness services in emerging urban markets remain limited.

This paper addresses that gap by examining which SERVQUAL dimensions most strongly predict overall satisfaction among gym customers in Greater Jakarta. The study contributes by (i) providing descriptive insights into perceived service quality levels, (ii) validating measurement reliability, and (iii) estimating the relative effects of each SERVQUAL dimension on satisfaction for managerial prioritization.

Fitness services represent a high-contact, experience-based industry where perceived value is formed through repeated service encounters. Unlike many product categories, customers cannot fully evaluate the "quality" of a gym membership at the point of purchase; they learn quality over time as they use facilities, interact with staff, and experience process elements such as membership administration, cleanliness routines, and complaint handling. This makes perceived service quality a strategic lever for differentiation, especially in urban markets where competing gyms often converge in terms of pricing tiers and equipment offerings.

From a management perspective, satisfaction matters because it is closely tied to retention economics: recurring membership revenue is typically earned over months, while acquisition costs (promotions, sales commissions, free trials) are incurred upfront. Dissatisfied members are more likely to discontinue subscriptions, reduce usage, and generate negative word-of-mouth. Conversely, satisfied members are more likely to renew, purchase add-on services (personal training, classes), and recommend the gym to peers.

Although SERVQUAL is frequently applied across service industries, its managerial usefulness depends on context-specific evidence about which dimensions most drive outcomes. In the fitness context, managers often face trade-offs between capital-intensive investments in physical facilities (e.g., new machines, interior redesign) and capability investments in people and processes (e.g., staff training, service recovery systems). Empirical estimates of the relative effects of service quality dimensions can therefore inform resource allocation.

Accordingly, this study addresses the following research question: Which SERVQUAL dimensions (tangibles, reliability, responsiveness, empathy, assurance) most strongly predict overall customer satisfaction in a fitness service setting in Greater Jakarta? To answer this question, we analyze a structured survey and provide statistical evidence that can be translated into actionable priorities for service operations and customer experience management.

The remainder of the paper is organized as follows. Section 2 reviews relevant theory and prior empirical findings. Section 3 presents the conceptual thinking and hypotheses. Section 4 describes the research design, measures, and analytical approach. Section 5 reports results, followed by discussion in Section 6. Section 7 concludes with managerial implications and limitations.

LITERATURE REVIEW

Customer satisfaction refers to a post-consumption evaluation comparing perceived performance to expectations (R.L. Oliver, 2014). In service settings, satisfaction is shaped by both the outcome and the service delivery process (Zeithaml, V. A., Bitner,M. J., &Gremler, 2009). SERVQUAL posits five core dimensions:

- Tangibles: physical facilities, equipment, and appearance of personnel.
- Reliability: ability to perform promised service dependably and accurately.
- Responsiveness: willingness to help customers and provide prompt service.
- Assurance: knowledge and courtesy of employees and their ability to inspire trust.
- Empathy: caring, individualized attention provided to customers.

Prior research generally shows positive associations between these dimensions and satisfaction; however, effect sizes vary by context. For high-contact services, assurance and empathy often dominate because they reduce uncertainty and increase perceived relational value (Grönroos, 2007). In fitness services, interpersonal interactions (e.g., trainer guidance, staff helpfulness) can be more salient than purely physical cues, especially when customers are inexperienced or risk-averse.

Service Quality as a Managerial Construct

Service quality is commonly defined as a customer's overall judgment about service excellence or superiority. It is distinct from satisfaction: quality judgments can be more enduring and attribute-based, while satisfaction is often a transaction-specific evaluation (R.L. Oliver, 2014); (Zeithaml, V. A., Bitner,M. J., &Gremler, 2009). In practice, the two are strongly linked, and many studies model service quality as an antecedent of satisfaction because quality perceptions shape performance beliefs and expectation confirmation.

SERVQUAL and its Application

The SERVQUAL model operationalizes service quality by comparing customer perceptions (and sometimes expectations) across five dimensions (Valarie A. Zeithaml & Parasuraman, 2002). Its widespread use is partly due to its diagnostic value: managers can pinpoint whether weaknesses are rooted in physical evidence (tangibles), process dependability (reliability), speed of help (responsiveness), interpersonal care (empathy), or trust-building competence (assurance). Nevertheless, research also notes limitations, such as potential overlap among dimensions and context sensitivity (e.g., different services may emphasize different dimensions). Therefore, studies are encouraged to test

measurement reliability and interpret effects with attention to the service setting.

Fitness Services Context

Gyms combine operational services (equipment availability, cleanliness, scheduling, payment systems) with relational services (guidance, motivation, safety assurance). Customers may feel vulnerable when using unfamiliar equipment or adopting new routines; this increases the salience of assurance (competence and trust) and empathy (individualized attention). Reliability and responsiveness are also important because fitness services involve repeated visits where inconsistencies—broken equipment, delayed assistance, inaccurate billing—accumulate into dissatisfaction.

Theoretical Rationale Linking SERVQUAL to Satisfaction

Expectation-confirmation logic suggests that when service performance meets or exceeds expectations, customers report higher satisfaction (R.L. Oliver, 2014). Each SERVQUAL dimension can contribute to confirmation: tangibles provide quality signals, reliability reduces the risk of service failure, responsiveness reduces customer effort, empathy increases perceived relational value, and assurance reduces uncertainty and perceived risk. Based on this logic and prior evidence in high-contact services (Grönroos, 2007), the study anticipates positive effects for all dimensions, while recognizing that the strongest drivers may be those associated with frontline employee behavior.

Conceptual Thinking

Conceptual thinking in management research involves transforming practical problems into theoretically grounded constructs and specifying directional relationships among them. In this study, the practical problem is customer retention in a fitness service. The theoretical lens is SERVQUAL, which decomposes perceived service quality into five dimensions. The dependent construct is overall satisfaction, a proximal driver of loyalty intentions.

We propose that each SERVQUAL dimension positively influences satisfaction because higher perceived service quality reduces customer effort and uncertainty, improves perceived value, and confirms expectations (Andrian; Hadita; M.Fadhli Nursal; Jumawan, 2022). Accordingly, the conceptual model (Figure 1) specifies five direct paths:

- H1: Tangibles positively affect overall satisfaction.
- H2: Reliability positively affects overall satisfaction.
- H3: Responsiveness positively affects overall satisfaction.
- H4: Empathy positively affects overall satisfaction.
- H5: Assurance positively affects overall satisfaction.

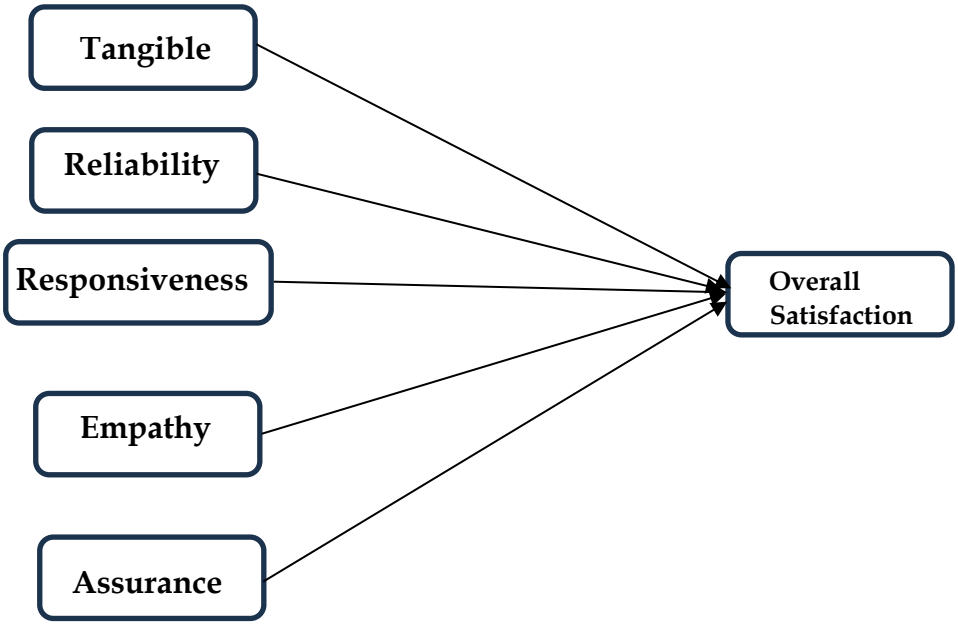

Figure 1. Conceptual Framework
(SERVQUAL Dimensions → Overall Satisfaction)

Figure 1 presents the conceptual framework grounded in SERVQUAL. The arrows represent hypothesized direct effects from each service-quality dimension to overall satisfaction. The framework translates a practical managerial problem (retaining members through better experiences) into a testable model that can guide prioritization of service improvements.

METHODOLOGY

Research Design and Sample

A quantitative, cross-sectional survey was employed. The dataset consists of 60 respondents who are customers of a fitness center located in Greater Jakarta, Indonesia. Respondents reported their domicile and rated service quality and satisfaction items on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

Measures

Service quality was operationalized using SERVQUAL dimensions with multiple items per construct: tangibles (3 items), reliability (3 items), responsiveness (2 items), empathy (3 items), and assurance (2 items). Overall satisfaction was measured with 7 items. Composite scores were computed as the mean of their items.

Data Analysis

We computed descriptive statistics, Cronbach's alpha for internal consistency (Cronbach, 1951), bivariate correlations, and multiple linear regression to estimate the unique contribution of each SERVQUAL dimension to satisfaction. Multicollinearity was assessed using variance inflation factors (VIF), with values below 5 indicating acceptable levels (Hair Jr., J.F., Black, W.C., Babin, B.J. and Anderson, 2009).

Instrument Development and Data Collection Procedure

The questionnaire items were adapted from established SERVQUAL-based measures to fit the fitness service context. Items were worded to capture respondents' perceptions of the gym's facilities and service delivery. The survey was administered to active customers. Participation was voluntary and anonymous, and responses were analyzed in aggregate to protect confidentiality.

Data Preparation and Composite Scoring

Item responses were screened for completeness and plausibility. For each construct, a composite score was computed by averaging its items, which preserves the original 1–5 scale and improves measurement stability. Higher values indicate more favorable perceptions.

Validity and Model Assumptions

Internal consistency reliability was evaluated using Cronbach's alpha, with values around 0.70 often considered acceptable for established measures, while slightly lower values may be tolerable for exploratory research or short scales. The regression analysis assumes linearity, independence of errors, homoscedasticity, and approximately normal residuals. Multicollinearity was assessed using variance inflation factors (VIF) to ensure predictors did not excessively overlap, enabling interpretation of unique effects.

Analytical Model

The empirical model estimates overall satisfaction as a function of the five SERVQUAL dimensions:

$$\text{Satisfaction} = \beta 0 + \beta 1(\text{Tangibles}) + \beta 2(\text{Reliability}) + \beta 3(\text{Responsiveness}) + \beta 4(\text{Empathy}) + \beta 5(\text{Assurance}) + \varepsilon.$$

All coefficients (β1–β5) are expected to be positive under the proposed hypotheses.

RESEARCH RESULTS

Table 1. Descriptive Statistics and Internal Consistency Reliability

Construct	Items	Cronbach's α	Mean	SD
Tangibles	3	0.78	4.19	0.73
Reliability	3	0.71	4.16	0.70
Responsiveness	2	0.59	4.11	0.77
Empathy	3	0.79	4.30	0.74
Assurance	2	0.69	4.19	0.75
Satisfaction	7	0.71	4.16	0.52

Table 1 reports internal consistency (Cronbach's α), central tendency (mean), and dispersion (standard deviation) for each composite construct. Means above 4.0 indicate generally favorable perceptions among respondents. Cronbach's α values close to or above 0.70 suggest acceptable reliability for research purposes; the responsiveness scale (α = 0.59) should be interpreted cautiously because it contains only two items, which can reduce alpha even when items correlate.

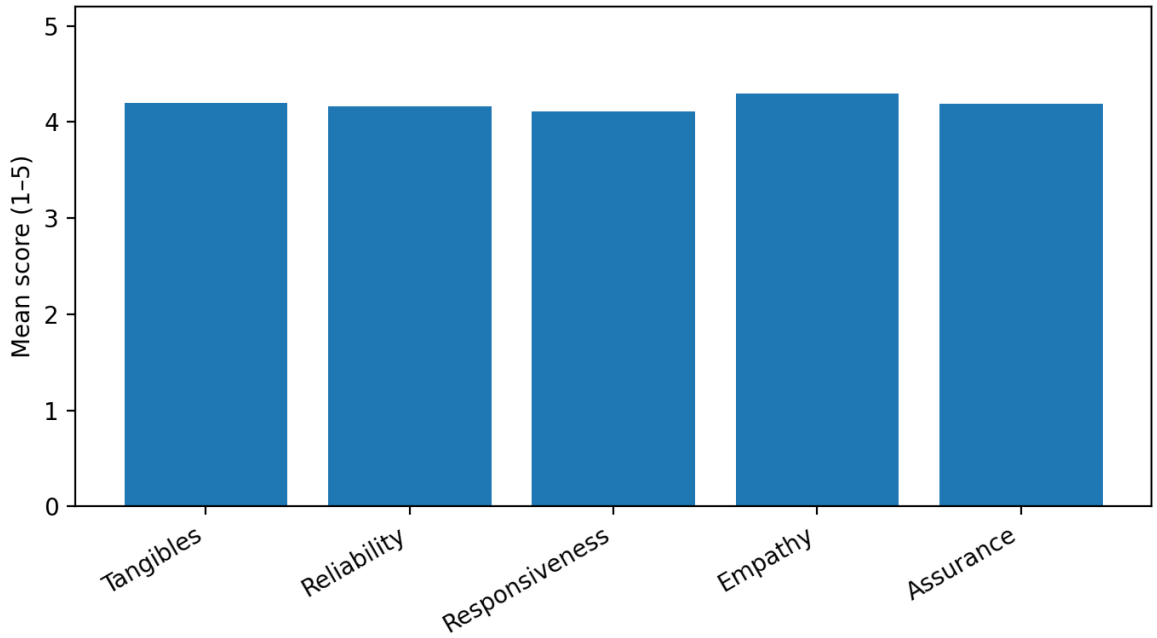

Figure 2. Mean Perceived Service Quality by Dimension (1–5 Scale)

Figure 2 visualizes the construct means on the original 1–5 response scale. This chart is useful for managers as a diagnostic tool to identify comparatively weaker dimensions. While empathy and assurance are highest in this sample, dimensions with lower averages can be targeted for operational interventions.

Table 2. Pearson Correlation Matrix Among Constructs

Construct	Tangibles	Reliability	Responsiveness	Empathy	Assurance	Satisfaction
Tangibles	1.00	0.67	0.72	0.75	0.03	0.75
Reliability	0.67	1.00	0.58	0.69	-0.18	0.63
Responsiveness	0.72	0.58	1.00	0.70	-0.11	0.69
Empathy	0.75	0.69	0.70	1.00	-0.09	0.77
Assurance	0.03	-0.18	-0.11	-0.09	1.00	0.32
Satisfaction	0.75	0.63	0.69	0.77	0.32	1.00

Table 2 presents Pearson correlations among constructs. Correlations indicate the strength and direction of bivariate associations, but they do not isolate unique effects. Therefore, Table 3 complements Table 2 by estimating the unique contribution of each dimension to satisfaction while controlling for the others.

Table 3. Multiple Regression Predicting Overall Satisfaction

Predictor	B	SE	t	p
Tangibles	0.102	0.072	1.43	0.160
Reliability	0.144	0.063	2.29	0.026
Responsiveness	0.166	0.059	2.81	0.007
Empathy	0.270	0.068	3.94	<0.001
Assurance	0.284	0.041	6.88	<0.001

Model fit: $R^2 = 0.827$, adjusted $R^2 = 0.811$, $F(5, 54) = 51.48$, $p < 0.001$. Multicollinearity diagnostics were acceptable (VIF range: 1.11–3.17).

Table 3 reports unstandardized coefficients (B), standard errors (SE), t-values, and p-values. A coefficient B represents the expected change in satisfaction for a one-unit increase in the predictor (on a 1–5 scale), holding other predictors constant. Significant predictors ($p < 0.05$) indicate robust unique drivers of satisfaction in this sample. The high R^2 indicates that the set of service-quality dimensions collectively explains a large share of satisfaction variance.

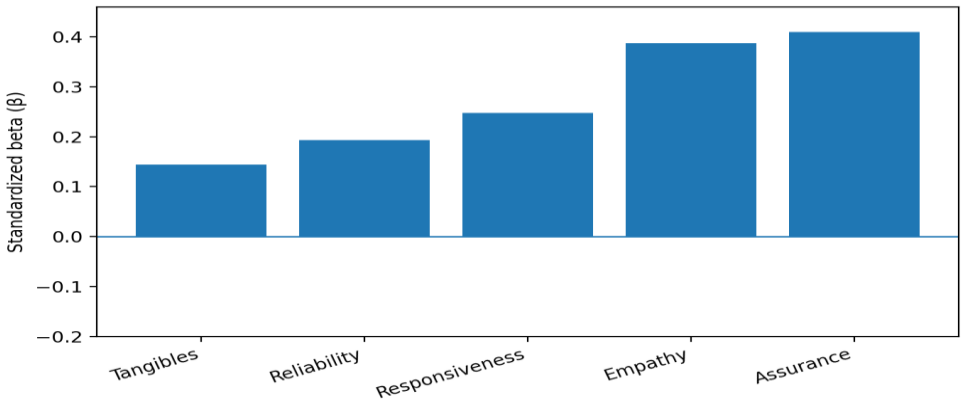

Figure 3. Standardized Regression Coefficients for Service Quality Dimensions

Figure 3 shows standardized coefficients (beta weights), allowing direct comparison of relative effect sizes. Assurance and empathy display the largest standardized effects, indicating that trust, competence, and individualized attention are the most influential levers for improving satisfaction in this context.

DISCUSSION

The results provide strong support for the role of perceived service quality in shaping customer satisfaction in fitness services. Four dimensions—reliability, responsiveness, empathy, and assurance—exhibit statistically significant positive effects. The largest standardized effects are observed for assurance and empathy, suggesting that customers prioritize trust, competence, and individualized attention in the gym setting.

Tangibles show a positive but non-significant relationship after controlling for other dimensions. This pattern is consistent with the notion that physical cues may be necessary for service delivery but insufficient for differentiation when competitors offer similar facilities. Managers therefore should complement facility investments with consistent service execution and relationship-building behaviors.

Operationally, assurance can be strengthened through staff training, certification, safety protocols, and clear communication to build confidence. Empathy may be improved by personalization (e.g., onboarding assessments, tailored exercise guidance), attentive listening, and proactive follow-ups. Reliability and responsiveness require disciplined processes such as scheduling accuracy, prompt issue resolution, and quick assistance on the gym floor.

CONCLUSIONS AND RECOMMENDATIONS

This study examined how perceived service quality relates to overall customer satisfaction in a fitness service setting in Greater Jakarta using the SERVQUAL framework. The empirical results indicate that service quality is a powerful explanatory factor for satisfaction ($R^2 = 0.83$). Among the five dimensions, assurance and empathy exhibit the strongest unique effects, followed by responsiveness and reliability. Tangibles, while positively associated with satisfaction in bivariate analysis, do not remain statistically significant after controlling for the other dimensions. Overall, the findings suggest that customers' satisfaction is driven primarily by human-centered elements of service delivery—trust, competence, and individualized attention—rather than physical cues alone.

The findings translate into several practical priorities for managers of fitness centers:

1. Strengthen assurance through competence and safety. Managers should invest in systematic training, certification, and clear service standards so staff can guide members confidently and safely. Visible professionalism and consistent communication can reduce perceived risk and enhance trust.
2. Operationalize empathy through personalization. Implement on boarding assessments, individualized goal setting, and periodic follow-ups. Encourage staff to listen actively and provide tailored advice, which increases perceived relational value.

3. Improve responsiveness via staffing and service recovery. Define response-time expectations on the gym floor and create a simple complaint-handling process (acknowledge–resolve–follow up). Quick assistance and rapid issue resolution can directly elevate satisfaction.
4. Protect reliability with disciplined processes. Ensure accuracy in billing, schedule adherence, and equipment maintenance. Preventive maintenance and checklists can reduce service failures that erode satisfaction.
5. Manage tangibles as hygiene factors. Maintain adequate facility quality and cleanliness, but treat facility upgrades as complementary to—rather than substitutes for—frontline service capabilities.

FUTURE RESEARCH AND LIMITATION

Several limitations should be considered. First, the study focuses on a single organization with a modest sample size (n = 60), which may limit generalizability. Second, the cross-sectional design captures perceptions at one point in time and cannot confirm causality. Third, all measures are self-reported, which may introduce common-method bias. Fourth, the responsiveness construct shows relatively lower internal consistency ($\alpha = 0.59$), likely due to the short two-item scale.

Future research can (i) replicate the study across multiple gyms and cities, (ii) include objective outcomes such as membership renewal, churn, and attendance, (iii) test mediators (e.g., trust, perceived value) and moderators (e.g., membership tenure, service tier), and (iv) apply confirmatory factor analysis or structural equation modeling for more rigorous measurement validation.

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