



Examining the Influence of Service Quality (SERVQUAL Model) on University Brand Loyalty among Students at Public Universities in Kunming, China

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Abstract

This study examines how service quality influences university brand loyalty among students at public universities in Kunming, China. To address gaps in research on non-elite institutions, data were collected from 393 students using a SERVQUAL-based survey. Five dimensions of service quality—reliability, responsiveness, assurance, empathy, and tangibles—were tested against cognitive, affective, and conative loyalty using PLS-SEM. Results showed that reliability, responsiveness, empathy, and tangibles significantly predicted loyalty, while the path from assurance to affective loyalty was not significant. Responsiveness, empathy, and reliability were the strongest predictors of cognitive and conative loyalty, highlighting the importance of timely support, personalized care, and consistent service delivery. Theoretically, the study validates SERVQUAL's applicability in Chinese higher education and clarifies how service quality dimensions shape different loyalty types. Practically, it suggests universities should prioritize responsiveness and empathy in faculty-student interactions while addressing weaker assurance-related affective engagement.

Keywords: Service Quality, University Brand Loyalty, SERVQUAL, China

Introduction

Universities increasingly recognize service quality as a critical driver of student loyalty, which enhances retention, reputation, and sustainability (Helgesen & Nasset, 2021; Hemsley-Brown et al., 2022). Loyal students persist, advocate for their institutions, and contribute as alumni, making the service quality–loyalty link vital in a competitive higher education environment (Rew et al., 2023). Yet, uncertainty remains about how specific service quality dimensions shape loyalty, especially in non-Western and developing contexts (Mourad & Benmamoun, 2022). Research on Chinese public universities outside major cities is limited, despite their role in educating most students.

Public universities in China enroll over 70% of students and operate under unique policy and cultural conditions. Institutions in cities such as Kunming face challenges of limited resources and high student–faculty ratios while balancing quality and access. Students’ perceptions of service quality are further influenced by government funding, job outcomes, and cultural expectations, making this context distinct from Western models.

This study quantitatively examines how reliability, responsiveness, assurance, empathy, and tangibles influence cognitive, affective, and conative loyalty among students in Kunming’s public universities. It aims to clarify which service dimensions most strongly predict loyalty and provide evidence-based insights to improve service delivery and student engagement.

Literature Review

1. Service Quality and SERVQUAL Model

Service quality in higher education refers to students’ perceptions of the effectiveness of academic and non-academic services shaping their overall experience (Gruber et al., 2010). It strongly influences satisfaction, retention, and institutional reputation (Sultan & Wong, 2013). The SERVQUAL model (Parasuraman, Zeithaml, & Berry, 1988) highlights five dimensions—tangibles, reliability, responsiveness, assurance, and empathy—that remain widely applied in higher education (Tan & Kek, 2004). Tangibles cover facilities and infrastructure; reliability reflects consistent delivery of promised services; responsiveness captures timely support; assurance relates to competence and professionalism; and empathy emphasizes personalized care and inclusivity. Together, these dimensions shape trust, belonging, and loyalty in university settings (Rew et al., 2023).

2. University Brand Loyalty (UBL)

Service quality in higher education reflects students’ perceptions of the value and effectiveness of academic and non-academic services shaping their experience (Gruber et al., 2010). It is a critical driver of satisfaction, retention, and institutional reputation (Sultan & Wong, 2013). The SERVQUAL model (Parasuraman, Zeithaml, & Berry, 1988) outlines five dimensions—reliability, responsiveness, assurance, empathy, and tangibles—widely used to evaluate teaching quality, resource provision, staff support, and the overall campus environment (Tan & Kek, 2004).

3. Gaps in the Literature and Justification

Despite extensive research, key gaps remain in understanding service quality and brand loyalty in higher education, particularly in non-Western contexts. Studies often focus on Western or elite institutions, neglecting public universities in underrepresented regions like Kunming, where limited resources, large student populations, and digital service demands shape perceptions. Existing work also treats service quality as a single construct, overlooking how SERVQUAL dimensions distinctly affect loyalty. By addressing these gaps, this study provides a detailed,

context-sensitive analysis of how service quality dimensions influence multi-dimensional brand loyalty in Chinese public universities, offering actionable insights for enhancing institutional competitiveness and sustainability. Based on the SERVQUAL model and brand loyalty theory, the following hypotheses are proposed (see Figure 1):

H1: Reliability will positively influence cognitive loyalty (H1a), affective loyalty (H1b), and conative loyalty (H1c).

H2: Responsiveness will positively influence cognitive loyalty (H2a), affective loyalty (H2b), and conative loyalty (H2c).

H3: Assurance will positively influence cognitive loyalty (H3a), affective loyalty (H3b), and conative loyalty (H3c).

H4: Empathy will positively influence cognitive loyalty (H4a), affective loyalty (H4b), and conative loyalty (H4c).

H5: Tangibles will positively influence cognitive loyalty (H5a), affective loyalty (H5b), and conative loyalty (H5c).

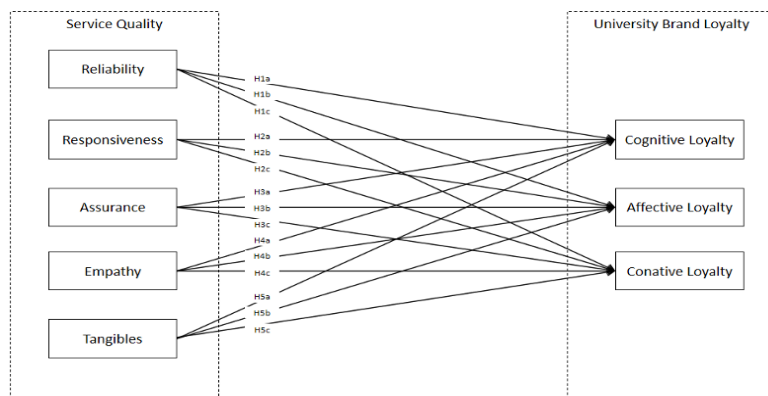


Figure 1 Conceptual Framework

Methodology

This study employed a quantitative survey-based design to examine how service quality influences university brand loyalty among students at public universities in Kunming, China. The research population included approximately 325,188 students across nine institutions, and a stratified purposive sampling strategy was used to ensure representation by university, academic level, and major. A minimum sample size of 393 was determined via G*Power, and 400 valid responses were ultimately collected from undergraduate students through both online and in-person surveys. The structured questionnaire, adapted from SERVQUAL and higher education-specific scales, measured five service quality dimensions—reliability, responsiveness, assurance, empathy, and tangibles—and three loyalty components: cognitive, affective, and conative.

All items used a 5-point Likert scale. Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS, assessing both measurement reliability (Cronbach's alpha, composite reliability, AVE, HTMT ratios) and structural relationships (path coefficients, R^2 , effect sizes, bootstrapping with 5,000 resamples). Content and construct validity were ensured through expert review and CFA, while reliability exceeded accepted thresholds, confirming the robustness of the study's design and findings.

Results

A total of 393 valid responses were collected through the online structured questionnaire. The participants were sampled from nine public universities in Kunming, Yunnan Province, based on proportional representation (see Table 1).

Table 1 Distribution of Survey Respondents by University Affiliation (n = 393)

University	Number of Respondents	Proportion
Yunnan University	69	17.56%
Kunming University of Science and Technology	65	16.54%
Yunnan Normal University	55	13.99%
Kunming Medical University	28	7.12%
Yunnan University of Traditional Chinese Medicine	19	4.83%
Southwest Forestry University	36	9.16%
Yunnan Agricultural University	39	9.92%
Yunnan Minzu University	41	10.43%
Yunnan University of Finance and Economics	41	10.43%
Total	393	100%

Among the 393 respondents, 43% were male and 57% female, with representation across all undergraduate years, most from Year 3 (28.8%) and Year 2 (28.2%). Regarding service quality, Assurance scored highest ($M = 3.37$, $SD = 0.99$), followed by Tangibility ($M = 3.32$) and Responsiveness ($M = 3.31$), while Reliability and Empathy were slightly lower ($M = 3.29$ each). For loyalty, Cognitive Loyalty achieved the highest mean ($M = 3.31$), followed by Conative ($M = 3.29$) and Affective Loyalty ($M = 3.28$, $SD = 1.08$), showing heterogeneity in emotional ties. Measurement model assessment confirmed reliability and validity: factor loadings exceeded 0.70, Cronbach's Alpha and Composite Reliability surpassed 0.70, and AVE values exceeded 0.50. Discriminant validity was established via HTMT (<0.90) and Fornell-Larcker criteria, while VIF values below 3.5 indicated no multicollinearity. Overall, the scales demonstrated robust psychometric properties for examining the relationship between service quality and brand loyalty.

Table 2 Results of Factor Loadings

Construct	Item	Loading
Assurance	ASS1	0.821
	ASS2	0.855
	ASS3	0.830
Empathy	EMP1	0.805
	EMP2	0.842
	EMP3	0.817
Reliability	REL1	0.810
	REL2	0.835
	REL3	0.822
Responsiveness	RES1	0.833
	RES2	0.850
	RES3	0.825
Tangibles	TAN1	0.815
	TAN2	0.840
	TAN3	0.828
Affective Loyalty	AFF1	0.800
	AFF2	0.835
	AFF3	0.810
Cognitive Loyalty	COG1	0.820
	COG2	0.845
	COG3	0.832

Table 3 Results of CA, CR and AVE

Construct	Cronbach's Alpha (CA)	Composite Reliability (CR)	Average Variance Extracted (AVE)
Assurance	0.887	0.920	0.794
Empathy	0.875	0.910	0.770
Reliability	0.868	0.905	0.760
Responsiveness	0.880	0.915	0.780
Tangibles	0.870	0.908	0.765
Affective Loyalty	0.850	0.895	0.740
Cognitive Loyalty	0.860	0.900	0.750
Conative Loyalty	0.855	0.898	0.745

The structural model confirmed significant positive relationships between most service quality dimensions and university brand loyalty. The only nonsignificant path was from assurance to affective loyalty ($\beta = 0.085$, $p = 0.099$). Responsiveness emerged as the strongest predictor, influencing affective ($\beta = 0.230$), cognitive ($\beta = 0.273$), and conative ($\beta = 0.210$) loyalty. Tangibility also showed consistent effects across all three components ($\beta = 0.195$ – 0.212), while reliability significantly shaped affective and cognitive loyalty, with a weaker impact on conative loyalty ($\beta = 0.098$). Empathy exerted significant, moderate effects on all loyalty types ($\beta = 0.153$ – 0.168). Assurance contributed to cognitive ($\beta = 0.222$) and conative ($\beta = 0.136$) loyalty, but not affective.

Bootstrapping with 5,000 resamples reinforced the robustness of the results, as all confidence intervals excluded zero except the assurance–affective path. Effect size analysis revealed responsiveness had medium effects on cognitive ($f^2 = 0.16$) and conative ($f^2 = 0.14$) loyalty, while other predictors demonstrated small but meaningful effects ($f^2 = 0.05$ – 0.10). R^2 values indicated moderate explanatory power: affective (0.384), conative (0.354), and cognitive (0.310). Model fit indices (SRMR = 0.044–0.058; NFI $\approx$ 0.81) supported adequacy, while Q^2 values confirmed predictive validity. Collectively, the results affirm that service quality dimensions are significant predictors of loyalty in Chinese public universities.

Discussion and Conclusion

This study confirms that university brand loyalty is multidimensional, shaped by service quality, rational trust, emotional bonds, and behavioral intention. Responsiveness, empathy, and assurance emerged as the strongest predictors, while reliability and tangibles served as baseline expectations. Responsiveness consistently influenced all loyalty dimensions, empathy drove affective loyalty, and assurance strengthened cognitive and conative loyalty. These findings highlight the differentiated effects of service quality in Chinese higher education. Table 4 shows the summary table of findings.

Table 4 Summary table of findings

SERVQUAL Dimension	Cognitive Loyalty	Affective Loyalty	Conative Loyalty	Interpretation
Responsiveness	Strong (+)	Moderate (+)	Strong (+)	Timely communication and support drive trust and behavioral commitment
Empathy	Moderate (+)	Strong (+)	Moderate (+)	Personal attention fosters emotional connection and long-term engagement
Assurance	Strong (+)	Not significant	Moderate (+)	Competence builds rational trust and continuation, but not emotions
Reliability	Moderate (+)	Moderate (+)	Weak (+)	Consistency prevents dissatisfaction, but less impactful for deeper loyalty
Tangibles	Moderate (+)	Moderate (+)	Moderate (+)	Facilities and resources matter, but mainly as baseline expectations

This study confirms the multidimensional nature of university brand loyalty and validates the SERVQUAL framework in Chinese higher education. Responsiveness, assurance, and empathy emerged as the strongest predictors, while reliability and tangibles served as baseline expectations. Universities should prioritize communication, efficiency, and supportive relationships, ensuring infrastructure is paired with responsive interaction. Limitations include the Kunming-only scope, self-reported cross-sectional data, and SERVQUAL focus, suggesting future research should consider longitudinal, comparative, and contextual factors.

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