

## AN ASSESSMENT OF LIBRARY SERVICE QUALITY DETERMINANTS IN PUBLIC AND PRIVATE UNIVERSITIES OF PAKISTAN: A COMPARATIVE STUDY OF LIBRARIANS' PERCEPTIONS

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### Abstract

Whether institutional sector – public or private – shapes librarians' perceptions of the internal and external factors that determine library service quality (LSQ) is an underexplored question in library and information science (LIS) research. This study investigated whether statistically significant differences exist between librarians' perceptions of internal library factors (library staff attitude, physical environment, and library leadership) and external library factors (government funding and policies, users' demand, global trends, and library location) influencing LSQ across public and private sector university libraries in Khyber Pakhtunkhwa (KP) and Islamabad, Pakistan. Drawing on census survey data from 154 librarians across 47 HEC-recognized from public sector and private sector universities and degree awarding institutions – independent-samples t-tests were conducted using SPSS 23, after confirming normality and homogeneity of variance assumptions. Results revealed no statistically significant mean variations in librarians' perceptions of internal factors between public sector and private sector universities ( $t(45) = -.284, p = .778$ ), and nor in external factors ( $t(45) = -.639, p = .526$ ). These null findings indicate a convergence of professional perceptions across institutional types, suggesting that LSQ improvement strategies are likely to be equally effective across both sectors. The findings carry important implications for library policy, institutional planning, and LIS professional identity discourse in Pakistan.

### INTRODUCTION

University libraries in Pakistan operate within two distinct institutional contexts – public sector and private sector – each characterized by different funding mechanisms, regulatory frameworks, governance structures, and resource bases. Public sector universities are primarily

funded through federal and provincial government grants channeled through the Higher Education Commission (HEC), whereas private sector universities rely predominantly on tuition fees and self-generated revenue (Khan & Bhatti, 2016). These structural differences raise an important empirical question: do librarians

working in public and private sector university libraries perceive the internal and external factors shaping library service quality (LSQ) differently? Existing literature on sector-based differences in library service quality has largely focused on user-side perceptions, employing instruments such as SERVQUAL (Arshad & Ameen, 2010) and LibQUAL+ (Rehman, 2012). Rehman (2012) found that private university libraries in Pakistan generally met minimum user requirements while public sector libraries fell short in certain quality dimensions. From the supply side – that is, from the perspective of the librarians who manage and deliver services – sector-based comparative analyses remain scarce. Understanding whether librarians' professional perceptions of quality determinants differ systematically by institutional sector is essential for designing targeted, sector-appropriate quality improvement interventions. This study addresses this gap by examining the moderating role of institutional sector in librarians' perceptions of seven LSQ determinants – three internal (library staff attitude, physical environment, library leadership)

and four external (government funding and policies, users' demand, global trends, library location) – in university libraries of KP and Islamabad, Pakistan. Two specific hypotheses guided the study:

**H1:** There is a significant variation in the perception of librarians about internal factors impacting perceived LSQ across public and private sector universities.

**H2:** There is a significant variation in the perception of librarians about external factors impacting perceived LSQ across public and private sector universities.

The null results of this study – confirming no significant sector-based perceptual differences – constitute a theoretically meaningful contribution, pointing to professional convergence across institutional types and informing sector-neutral library quality improvement policy. Figure 1 illustrates the conceptual framework positioning institutional sector as a moderating variable.

**Conceptual Framework: Institutional Sector as Moderating Variable**

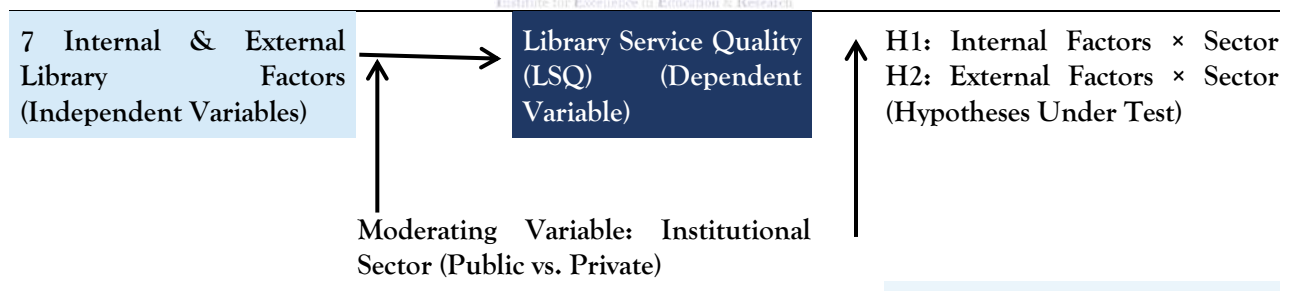


Figure 1. Conceptual framework showing institutional sector (public vs. private) as the moderating variable between library factors and LSQ.

**1. Literature Review**

*Public and Private Sector University Libraries in Pakistan*

Pakistan's university sector is bifurcated into public and private institutions, each governed by distinct regulatory and financial frameworks. As of December 2023, the HEC recognised 70 universities in KP and Islamabad: 44 in KP (33 public, 11 private) and 26 in Islamabad (17 public, 9 private), yielding a combined total of 50

public and 20 private sector institutions (HEC, 2023). Public sector universities receive government funding through the HEC allocation formula, which determines library budgets indirectly via institutional block grants (Khan & Bhatti, 2016). Private sector universities, by contrast, self-finance library operations through tuition revenue, creating differential resource availability.

Haider (2007) noted that despite chronic underfunding, public sector university libraries in Pakistan often possess comparatively stronger collections, more experienced professional staff, and better-organised services than their private counterparts – a legacy of longer institutional histories and government-supported infrastructure. However, private sector libraries have expanded rapidly since 2002, driven by competition for student enrolment and accreditation pressure, often investing in modern physical environments and digital resources (Said, 2006).

### *Sector-Based Differences in Library Service Quality*

The limited comparative evidence available on sector-based LSQ differences in Pakistan draws primarily from user-side assessments. Rehman (2012) applied LibQUAL+ across 22 Pakistani university libraries, finding that private sector libraries generally met minimum user expectations across all three dimensions, while public sector libraries fell short, particularly in Information Control. Arshad and Ameen (2010) similarly identified service quality gaps using SERVQUAL at Punjab University (public sector), with higher user expectations than perceptions across all five dimensions.

However, these studies measured user perceptions of service quality outcomes – not librarian perceptions of the internal and external factors producing those outcomes. The supply-side perspective – how librarians themselves perceive the organisational and environmental determinants of service quality – has not been examined through a sector-comparative lens in the Pakistani LIS literature. This study fills that methodological gap.

### *Professional Convergence and Institutional Context*

A convergence of professional perceptions across institutional sectors would suggest that librarians share a unified professional identity and

normative framework regardless of employer type. Professional identity theory in LIS holds that professional socialisation through shared education, certification standards, and professional association membership shapes a common occupational worldview (Gorman, 2000; Wenger, 1998). In Pakistan, all university librarians are subject to HEC accreditation standards and draw from a relatively homogeneous LIS educational system, which may produce convergent professional norms despite institutional differences (Ameen, 2006; Aslam, 2018).

Conversely, institutional context theory (DiMaggio & Powell, 1983) would predict that structural differences in funding, governance, and resource availability between public and private universities would produce divergent professional perceptions of what factors matter most for service quality. The empirical resolution of this theoretical tension – convergence versus divergence – constitutes the central analytical contribution of this study.

## 2. Method

### *Research Design and Participants*

This study employed a quantitative, non-experimental, cross-sectional survey design (Creswell, 2003). To determine the mean differences between respondents' demographic characteristics and the variables under study, the same survey method was applied in previous studies in the field of social sciences and library and information science (Bahader, 2023; Khan et al., 2024; Bahader et al., 2024; Bahader et al., 2026). A census survey was conducted targeting all 250 librarians employed in HEC-recognized university libraries across KP and Islamabad. Valid data were collected from 154 librarians across 47 universities, achieving a response rate of 61.6%. Of these, 116 (75.3%) were employed in public sector universities and 38 (24.7%) in private sector universities. Table 1 presents the demographic profile of the librarian respondents by institutional sector.

Table 1

**Demographic Profile of Librarian Respondents by Institutional Sector (N = 154)**

Variables	Public Sector	Private Sector	Total (%)
<i>Gender</i>			
Male	79 (68.1%)	27 (71.1%)	106 (68.8)
Female	37 (31.9%)	11 (28.9%)	48 (31.2)
<i>Academic Qualification</i>			
BS/MLS/MLIS	69 (59.5%)	23 (60.5%)	92 (59.7)
M.Phil	39 (33.6%)	12 (31.6%)	51 (33.1)
PhD	8 (6.9%)	2 (5.3%)	10 (6.5)
<i>Geographical Region</i>			
Khyber Pakhtunkhwa	80 (69.0%)	21 (55.3%)	101 (65.6)
Islamabad Capital Territory	36 (31.0%)	17 (44.7%)	52 (33.8)

*Instrument*

Data were collected using a validated 34-item, seven-factor questionnaire measuring librarian perceptions of internal and external library factors on a seven-point Likert scale (1 = Strongly Disagree; 7 = Strongly Agree). Internal factors comprised three constructs: Library Staff Attitude (LS, 5 items), Physical Environment (PE, 6 items), and Library Leadership (LL, 6 items). External factors comprised four constructs: Government Funding and Policies (GFP, 4 items), Users' Demand (UD, 5 items), Global Trends (GT, 4 items), and Library Location (LOC, 4 items).

For the purposes of this comparative study, a composite Internal Factors score (sum of LS, PE, and LL items) and a composite External Factors score (sum of GFP, UD, GT, and LOC items) were computed as dependent variables for the *t*-test analyses. The instrument was developed through a rigorous five-stage validation process – exploratory survey, Lawshe's CVR content validity, item-total correlation analysis, Exploratory Factor Analysis, and Confirmatory Factor Analysis – yielding Cronbach's alpha values ranging from .871 to .918 across all constructs (see companion paper for full development details).

*Analytical Strategy*

Prior to conducting the independent-samples *t*-tests, two statistical assumptions were verified. First, normality of the dependent variables within each group was tested using the Shapiro-Wilk test. Second, homogeneity of variance was assessed using Levene's Test for Equality of Variances. Both assumptions were met for both analyses. The independent-samples *t*-test was then applied to compare mean composite Internal Factors and External Factors scores between public and private sector university librarians, with  $\alpha = .05$  as the significance threshold (Pallant, 2011).

**3. Results***Descriptive Statistics by Institutional Sector*

Table 2 presents the descriptive statistics for internal and external factor composite scores by institutional sector. Private sector librarians reported marginally higher mean scores on both Internal Factors ( $M = 5.66$  vs.  $5.61$ ) and External Factors ( $M = 22.01$  vs.  $21.61$ ) relative to their public sector counterparts. However, the differences were negligible in magnitude. Figure 2 presents a visual comparison of mean scores between sectors.

**Table 2**  
**Descriptive Statistics for Internal and External Factors by Institutional Sector**

Variables	Public Sector		Private Sector		Mean Diff.	95% CI	Cohen's d
	Mean	SD	Mean	SD			
Internal Factors Score	5.61	0.50	5.66	0.60	-0.05	[-.31, .21]	.09
External Factors Score	21.61	1.88	22.01	1.95	-0.40	[-1.98, 1.18]	.21

Note: M = Mean. SD = Standard Deviation. Mean Diff. = Public minus Private. 95% CI = 95% Confidence Interval for the difference. Cohen's d = effect size. Public sector: n = 34 (sub-sample used in t-test); Private sector: n = 13 (sub-sample used in t-test). Full sample N = 154.

**Independent-Samples t-Test Results**

Table 3 presents the full results of the independent-samples t-tests for H9 and H10.

Both hypotheses were rejected at the .05 significance level.

**Figure 2**

Mean Score Comparison between Public and Private Sector Librarians

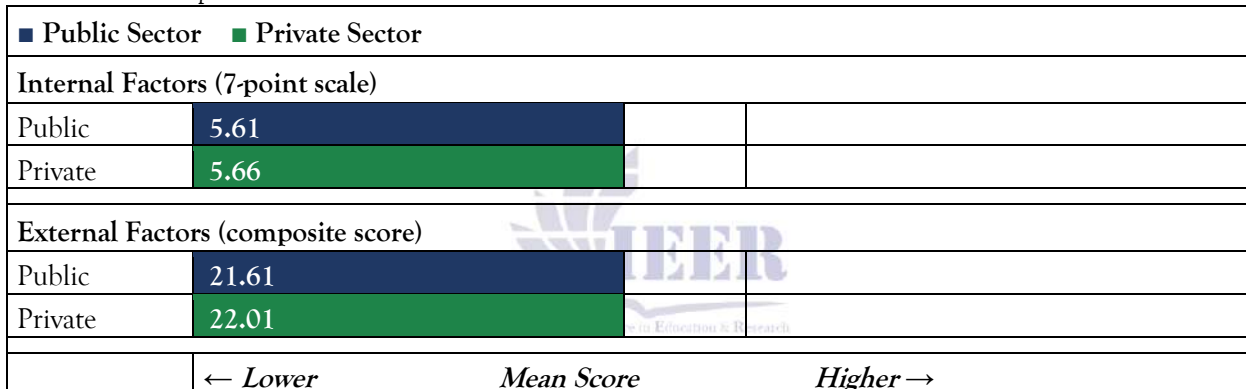


Figure 2. Bar chart comparison of mean internal and external factor scores between public and private sector university librarians. Differences are visually negligible.

**Table 3**  
**Independent-Samples t-test Results: Internal and External Factors by Institutional Sector**

Variable	df	t	p (2-tailed)	Levene's F	Levene's p	Result
H1 Internal Factors (LS + PE + LL)	45	-.284	.778	.000	.990	Not Supported
H2 External Factors (GFP + UD + GT + LOC)	45	-.639	.526	.121	.730	Not Supported

Note. df = degrees of freedom. t = t-statistic. p = two-tailed significance. Levene's F and p confirm homogeneity of variance assumptions were met for both analyses. Significance threshold  $\alpha = .05$ . Not Supported = null hypothesis of no difference cannot be rejected.

**H1: Internal Factors.** The t-test revealed no statistically significant difference in librarians' perceptions of internal factors influencing LSQ

between public sector (M = 5.61, SD = 0.50) and private sector universities (M = 5.66, SD = 0.60),  $t(45) = -.284$ ,  $p = .778$ . Levene's Test for

Equality of Variances was non-significant ( $F = .000, p = .990$ ), confirming equal variances. The effect size (Cohen's  $d = .09$ ) was negligible. H9 is therefore not supported.

**H2: External Factors.** Similarly, no statistically significant difference was found in librarians' perceptions of external factors between public ( $M$

$= 21.61, SD = 1.88$ ) and private sector universities ( $M = 22.01, SD = 1.95$ ),  $t(45) = -.639, p = .526$ . Levene's Test was non-significant ( $F = .121, p = .730$ ). The effect size (Cohen's  $d = .21$ ) was small. H10 is therefore not supported. Figure 3 summarises the hypothesis outcomes.

**Figure 3**  
Summary of Hypothesis Testing Outcomes for H9 and H10

Hypothesis	Statement	Statistical Test	Outcome
H1	Significant variation in librarian perceptions of INTERNAL factors across public vs. private sector universities	Independent Samples t-test	NOT SUPPORTED
H2	Significant variation in librarian perceptions of EXTERNAL factors across public vs. private sector universities	Independent Samples t-test	NOT SUPPORTED

**Figure 3. Hypothesis outcome summary showing both H9 and H10 were not supported – no significant sector-based differences found.**

**4. Discussion**

The null findings for both H9 and H10 – confirming no statistically significant difference in librarians' perceptions of internal or external LSQ determinants between public and private sector university libraries – are theoretically and practically significant. Rather than representing a failure to detect an effect, these results constitute a substantive finding: the convergence of professional perceptions across institutional types reveals something important about the nature of librarian identity and the homogenising influence of shared professional norms in Pakistan's LIS landscape.

From a professional identity perspective, the findings suggest that librarians in both public and private sector institutions share a largely unified normative framework for understanding what factors determine service quality. This is consistent with Gorman's (2000) argument that professional identity in librarianship transcends institutional affiliations, and with Wenger's (1998) communities of practice framework – suggesting that Pakistan's librarians constitute a coherent professional community with shared

values, practices, and perceptions. Pakistan's university librarians are trained through a relatively homogeneous LIS educational system, assessed by common HEC accreditation criteria, and exposed to the same professional literature and discourse (Ameen, 2006; Aslam, 2018). These shared formative influences likely produce convergent professional perceptions regardless of employer type.

The negligible effect sizes further reinforce the substantive equivalence of public and private sector librarian perceptions. Cohen's  $d = .09$  for internal factors and  $d = .21$  for external factors both fall well below the threshold for a small effect ( $d = .20-.50$ ; Cohen, 1988), confirming that any observed mean differences are practically inconsequential. The marginally higher mean scores for private sector librarians on both internal ( $M = 5.66$  vs.  $5.61$ ) and external factors ( $M = 22.01$  vs.  $21.61$ ) may reflect the comparatively newer, more resource-rich physical environments of some private sector institutions, but these differences did not translate into statistically or practically meaningful perceptual divergence.

From an institutional context perspective (DiMaggio & Powell, 1983), the null result challenges the expectation that structural differences in funding, governance, and resource availability between public and private universities would produce divergent librarian perceptions. It suggests that isomorphic pressures – including HEC accreditation requirements, shared professional norms, and the national LIS curriculum – may be sufficiently powerful to override the institutional structural differences between public and private sectors in shaping librarian perceptions. This finding has implications beyond Pakistan: in other developing countries where professional education and regulatory frameworks are nationally standardised, similar cross-sector convergence in library professional perceptions may be expected.

The practical implication of these null findings is perhaps their most compelling contribution. Library quality improvement initiatives – whether focused on staff development, physical environment upgrading, leadership training, or advocacy for government funding – are not required to be differentiated by institutional sector. A unified, sector-neutral approach to LSQ enhancement is both empirically justified and operationally efficient. Policymakers and library administrators can apply the same evidence-based quality improvement frameworks across both public and private institutions, without requiring separate sector-specific programmes.

## 5. Conclusions

This study investigated whether librarians' perceptions of internal and external LSQ determinants differ significantly between public and private sector university libraries in KP and Islamabad, Pakistan. Independent-samples t-tests applied to data from 154 librarians confirmed no statistically significant sector-based differences in perceptions of either internal factors (H9 not supported;  $t(45) = -.284$ ,  $p = .778$ ) or external factors (H10 not supported;  $t(45) = -.639$ ,  $p = .526$ ). Effect sizes were negligible to small ( $d = .09$  and  $.21$  respectively).

These null findings constitute a meaningful theoretical contribution – demonstrating professional perceptual convergence across institutional types – and carry direct practical implications for library quality improvement policy. LSQ enhancement strategies in Pakistan's KP and Islamabad university library sector do not require sector-specific customisation; unified, evidence-based quality frameworks can be applied equally across public and private institutions.

Several limitations warrant acknowledgment. First, the sub-sample sizes used in the t-test (public:  $n = 34$ ; private:  $n = 13$ ) were relatively small; replication with larger samples is recommended to confirm statistical power. Second, the study is geographically limited to KP and Islamabad; extension to other Pakistani provinces would strengthen generalisability. Third, perceptual convergence does not imply equivalence of objective service quality conditions; future research should triangulate librarian perceptions with user satisfaction data and objective library audit indicators across sectors. Mixed-methods studies incorporating qualitative accounts from librarians about their sector-specific challenges would further enrich understanding.

## REFERENCES

- Ameen, K. (2006). Issues of library and information science education in Pakistan. *Education for Information*, 24(2-3), 201-209. <https://doi.org/10.3233/EFI-2006-242-311>
- Arshad, A., & Ameen, K. (2010). Service quality of the University of the Punjab's libraries: An exploration of users' perceptions. *Performance Measurement and Metrics*, 11(3), 313-325. <https://doi.org/10.1108/14678041011098578>
- Aslam, M. (2018). Library leadership development in Pakistan. *Pakistan Library Bulletin*.

- Baballahavaeji, F., & Farhadpoor, M. R. (2012). Academic libraries' external environment and environmental scanning by managers of central libraries of Islamic Azad Universities of Iran. *Library Philosophy and Practice* (e-journal), 730. <https://digitalcommons.unl.edu/libphilprac/730>
- Babbie, E., & Mouton, J. (2001). *The practice of social research*. Oxford University Press.
- Bahader, M. (2023). Analysis of the relationship of CRM-based library services with head librarians' personal and academic variables: a survey of university libraries in Pakistan. *Library Management*, 44(8-9), 546-565. <https://doi.org/10.1108/LM-12-2022-0128>
- Bahader, M., Jan, R., Bibi, H., & Jan, S. U. (2026). Artificial Intelligence Adoption in Higher Education of Pakistan: Awareness, Perceptions, Use, and Challenges among University Teachers in Khyber Pakhtunkhwa. *Journal of Media Horizons*, 7(5), 71-84. DOI: <https://doi.org/10.5281/zenodo.20051298>
- Bahader, M., Jan, R., Khalil, I. A., Khan, A., & Bibi, H. (2025). Digitization Policy Implementation in University Libraries of Punjab, Pakistan: An Evaluation of Progress and Challenges. *Pakistan Journal of Social Science Review*, 4(4), 366-383. <https://pjsr.com.pk/index.php/Journal/issue/archive>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Creswell, J. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147-160. <https://doi.org/10.2307/2095101>
- Gorman, M. (2000). *Our enduring values: Librarianship in the 21st century*. American Library Association.
- Haider, S. J. (2007). Changing situation of Pakistani libraries and the information profession. *Library Review*, 56(6), 552-561. <https://doi.org/10.1108/00242530710757962>
- HEC. (2023). List of HEC recognised universities and degree awarding institutions. Higher Education Commission Pakistan. <https://www.hec.gov.pk>
- Khan, G., & Bhatti, R. (2016). The impact of Higher Education Commission of Pakistan's funding on the collection development budgets of university libraries. *The Bottom Line*, 29(1), 12-24. <https://doi.org/10.1108/BL-06-2015-0008>
- Khan, M. I., Jan, R., Hussain, M., & Bahadar, M. (2024). Perception, competencies, and potential challenges towards big data management among the university libraries of Khyber Pakhtunkhwa. *Journal of Regional Studies Review*, 3(1), 21-28. DOI: [10.62843/jrsr/2024.3a023](https://doi.org/10.62843/jrsr/2024.3a023)
- Lawshe, C. H. (1975). A quantitative approach to content validity. *Personnel Psychology*, 28, 563-575. <https://doi.org/10.1111/j.1744-6570.1975.tb01393.x>
- Ogunjimi, T. T., Bello, M. A., & Olaniyi, O. O. (2018). Institutional budget and impact of internally generated revenue on funding of academic library in a developing economy. *Library Philosophy and Practice* (e-journal), 1709. <https://digitalcommons.unl.edu/libphilprac/1709>
- Pallant, J. (2011). *SPSS survival manual: A step by step guide to data analysis using SPSS* (4th ed.). Allen & Unwin.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49(4), 41-50. <https://doi.org/10.1177/002224298504900403>

- Rehman, S. U. (2012). Measuring service quality in public and private sector university libraries of Pakistan. *Pakistan Journal of Information Management and Libraries*, 13(1).
- Said, Z. (2006). The HEC digital library programme: Implications for university libraries in Pakistan. *The Electronic Library*, 24(5), 649-658. <https://doi.org/10.1108/02640470610707484>
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511803932>
- Zeithaml, V. A., Parasuraman, A., & Berry, L. L. (1990). *Delivering quality service: Balancing customer perceptions and expectations*. Free Press.

