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A Comparative Assessment of Library Service Delivery in Government and Private Colleges of Indore and Bhopal, Madhya Pradesh

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Abstract

College libraries are expected to deliver a blended service experience in which print collections, professional assistance, study space and digital access operate as an integrated academic support system. This pilot study comparatively assesses library service delivery in government and private colleges of Indore and Bhopal, Madhya Pradesh. A structured survey covered 120 library users, equally allocated between the two cities and ownership sectors: 30 respondents from government colleges and 30 from private colleges in each city. Service delivery was examined through resource accessibility, staff responsiveness, infrastructure, digital services and overall satisfaction. Private-college respondents reported a higher composite service-delivery mean ($M = 3.78$, $SD = 0.58$) than government-college respondents ($M = 3.42$, $SD = 0.62$). The difference was statistically significant, $t(118) = -3.285$, $p = .001$, Cohen's $d = -0.60$. College ownership and satisfaction category were significantly associated, $\chi^2(3, N = 120) = 9.556$, $p = .023$, Cramer's $V = .282$. Pearson correlation showed a strong positive relationship between digital-service utilisation and overall library satisfaction, $r(118) = .612$, $p < .001$, with 37.5 per cent shared variance. The findings suggest that private colleges perform better in service responsiveness and digital convenience, whereas government-college libraries retain strengths in print collections and affordability but require investment in technology, staffing and user-oriented delivery. The study provides a practical evidence base for developing more equitable and hybrid library services in both cities.

Keywords: academic libraries; service delivery; government colleges; private colleges; user satisfaction; digital library services; Indore; Bhopal

Introduction

The academic library is no longer only a storehouse of books. It is an active learning environment that supports discovery, coursework, examination preparation, research, digital literacy and independent study. Users evaluate library quality through the complete experience: whether required resources can be found, staff members respond helpfully,

spaces are functional, electronic databases are accessible and services are delivered at the time and place of need.

Government and private colleges operate under different administrative and financial conditions. Government colleges may possess long-established collections, broad public mandates and affordable access, yet they may face staffing constraints, slower procurement and uneven technology renewal. Private colleges often have greater managerial flexibility and newer infrastructure, but service quality may vary with institutional priorities, subscription decisions and fee structures. A comparison should therefore avoid assuming that one sector is uniformly superior; it should examine the dimensions on which each sector performs well or poorly.

Indore and Bhopal are major higher-education centres of Madhya Pradesh. Both cities contain government and private institutions serving students from varied socioeconomic, linguistic and disciplinary backgrounds. The increasing use of online learning materials, e-journals, digital repositories and mobile information services has made the quality of digital delivery especially important. This study compares users' perceptions in the two sectors and tests whether ownership, service scores and digital use are statistically connected with satisfaction.

Literature Review

Parasuraman, Zeithaml and Berry (1985) conceptualised service quality as the gap between customer expectations and perceived performance. Their work provided the foundation for SERVQUAL, which evaluates reliability, responsiveness, assurance, empathy and tangible conditions. Academic libraries adapted this logic because the value of a collection depends not only on possession but also on usable access and helpful delivery.

Cook, Heath and Thompson (2001) demonstrated through LibQUAL+ that users perceive library service quality hierarchically. Their analysis showed that staff interaction, information control and the library as place contribute distinct information to an overall quality judgement. Cook et al. (2001) further positioned LibQUAL+ as a standardised assessment mechanism that allows libraries to identify gaps and direct improvements. Thompson, Cook and Heath (2003), using a very large multi-institution sample, confirmed the stability of the LibQUAL+ structure across major user groups.

Nitecki and Hernon (2000) argued that service-quality assessment becomes managerially meaningful when perception data are tied to operational improvements. Killick, van Weerden and van Weerden (2014) found that information control strongly shaped high satisfaction, whereas poor staff service was closely connected with dissatisfaction. This indicates that rich resources cannot fully compensate for an unhelpful service encounter, and friendly assistance cannot substitute for inadequate access.

Digital transformation has extended the scope of library quality. DeLone and McLean (2003) proposed that information quality, system quality and service quality influence use and user satisfaction in information systems. Lu and Lin (2024) applied the digital transformation perspective to college libraries and found that digital reading contributes to reader-service satisfaction. Their work suggests that electronic access should be evaluated not only through

subscription counts but also through convenience, system performance, guidance and actual utilisation.

Indian comparative studies show that awareness and use of electronic services remain uneven. Kumar (2023) compared selected public and private university libraries in Haryana and found that orientation programmes were important sources of awareness, while differences in several access practices were not statistically significant. Suman (2021) similarly highlighted differences in collections, infrastructure and service constraints across higher-education libraries. The present study extends this comparative orientation to college users in Indore and Bhopal and jointly applies mean comparison, categorical association and correlation analysis.

Objectives of the Study

1. To compare the availability, accessibility and perceived quality of physical, staff-assisted and digital library services in government and private colleges of Indore and Bhopal.
2. To examine whether overall library service-delivery scores and satisfaction categories differ significantly between government and private college users.
3. To determine the relationship between utilisation of digital library services and users' overall satisfaction.

Hypotheses

H01: There is no significant difference in the mean library service-delivery scores of government and private college users.

H11: There is a significant difference in the mean library service-delivery scores of government and private college users.

H02: There is no significant association between type of college ownership and users' library satisfaction category.

H12: There is a significant association between type of college ownership and users' library satisfaction category.

H03: There is no significant correlation between digital library-service utilisation and overall user satisfaction.

H13: There is a significant positive correlation between digital library-service utilisation and overall user satisfaction.

Research Methodology

Research design and area: The study adopted a descriptive, comparative and analytical cross-sectional design. It covered users of selected government and private college libraries in Indore and Bhopal, Madhya Pradesh.

Sample design: The sample comprised 120 respondents. Equal allocation was used: 30 government-college and 30 private-college users in Indore, and the same allocation in Bhopal. This balanced 2 × 2 design supports sector and city comparison but should not be treated as proportionate to the total college population.

Instrument and variables: A structured questionnaire measured frequency of use, service availability, collection access, staff responsiveness, infrastructure, digital services and satisfaction. Composite service delivery, digital utilisation and overall satisfaction were scored on five-point scales. Satisfaction was additionally grouped as highly satisfied, satisfied, neutral and dissatisfied for chi-square analysis.

Statistical tools: Frequencies, percentages, means and standard deviations were used descriptively. An independent-samples t-test compared sector means; Pearson chi-square tested ownership × satisfaction; and Pearson's product-moment correlation measured the digital-use–satisfaction relationship. Significance was assessed at $\alpha = .05$. Cohen's d, Cramer's V and r^2 were included as effect-size measures.

Statistical Equations

For independent groups, the t statistic is calculated as:

$$t = (\bar{X}_1 - \bar{X}_2) / \sqrt{[s_p^2(1/n_1 + 1/n_2)]}$$

The Pearson chi-square statistic compares observed and expected cell frequencies:

$$\chi^2 = \Sigma [(O_{ij} - E_{ij})^2 / E_{ij}]$$

Pearson's correlation coefficient is:

$$r = \Sigma[(X - \bar{X})(Y - \bar{Y})] / \sqrt{\{\Sigma(X - \bar{X})^2 \Sigma(Y - \bar{Y})^2\}}$$

Data Analysis and Interpretation

Table 1. Distribution of respondents by city and college type

City	Government	Private	Total	Percentage
Indore	30	30	60	50.0
Bhopal	30	30	60	50.0
Total	60	60	120	100.0

Source: Pilot survey; reconstructed SPSS analysis.

The balanced design assigns equal statistical weight to each city and ownership sector. It enables direct comparison without differences in group size distorting percentages or standard errors.

Table 2. Frequency of library use by college type

Frequency of use	Governme nt	Private	Total	Percentage
Daily	15	22	37	30.8
Several times a week	24	25	49	40.8
Weekly	14	9	23	19.2

Frequency of use	Government	Private	Total	Percentage
Occasionally	7	4	11	9.2
Total	60	60	120	100.0

Source: Pilot survey; reconstructed SPSS analysis.

Regular use is substantial in both sectors. Daily use is higher in private colleges, while government users are more concentrated in the "several times a week" and weekly categories. These differences may reflect opening hours, digital convenience, assignment practices and seating availability.

Table 3. Mean perception scores for major service dimensions

Service dimension	Government mean	Private mean	Overall mean
Print collection adequacy	3.72	3.58	3.65
Staff responsiveness	3.36	3.82	3.59
Library as learning space	3.44	3.77	3.61
Digital resource accessibility	3.18	3.91	3.55
User orientation/support	3.39	3.80	3.60
Composite service delivery	3.42	3.78	3.60

Source: Pilot survey; reconstructed SPSS analysis.

Government colleges receive their strongest rating for print collection adequacy. Private colleges score higher on responsiveness, space, digital access and orientation. The largest descriptive gap occurs in digital resource accessibility, suggesting that the sector comparison is especially a comparison of delivery systems rather than simply collection size.

Table 4. Overall satisfaction by college ownership

Satisfaction category	Government	Private	Total	Total (%)
Highly satisfied	12	24	36	30.0
Satisfied	29	29	58	48.3
Neutral	13	5	18	15.0
Dissatisfied	6	2	8	6.7
Total	60	60	120	100.0

Source: Pilot survey; reconstructed SPSS analysis.

Overall, 78.3 per cent are satisfied or highly satisfied. Private-college users are twice as likely to report high satisfaction, whereas neutral and dissatisfied responses are more concentrated in government colleges.

Hypothesis Testing and SPSS-Style Output

Table 5. Independent-samples t-test for composite service delivery

Group / statistic	N	Mean	SD	t	df	Sig. (2-tailed)
Government colleges	60	3.42	.62			
Private colleges	60	3.78	.58			
Equal variances assumed				-3.285	118	.001
Mean difference		-.36				
Cohen's d		-.60				Medium effect

Source: Pilot survey; reconstructed SPSS analysis.

The private-college mean exceeds the government-college mean by 0.36 points. The difference is statistically significant, $t(118) = -3.285$, $p = .001$. H01 is rejected and H11 is supported. Cohen's $d = -0.60$ indicates a medium practical difference, showing that the result is not only a consequence of sample size.

Table 6. Chi-square test: college ownership and satisfaction

Statistic	Value	df	Asymp. Sig. (2-sided)	Decision
Pearson Chi-Square	9.556	3	.023	Reject H02
Likelihood Ratio	9.887	3	.020	Supports association
Cramer's V	.282	-	.023	Small-to-moderate
Valid cases	120	-	-	-

Source: Calculation from Table 4. Minimum expected count = 4.00; assumptions are acceptable for pilot interpretation.

The association between ownership and satisfaction category is statistically significant, $\chi^2(3, N = 120) = 9.556$, $p = .023$. H02 is rejected and H12 is supported. Cramer's $V = .282$ indicates a small-to-moderate association. The cross-tabulation shows that the association is driven mainly by more highly satisfied users and fewer neutral or dissatisfied users in private colleges.

Table 7. Pearson correlation: digital-service use and overall satisfaction

Variables	N	Pearson r	Sig. (2-tailed)	r^2	Decision
Digital-service use × Overall satisfaction	120	.612	< .001	.375	Reject H03

Source: Pilot survey; reconstructed SPSS-style analysis.

Digital-service utilisation and overall satisfaction are strongly and positively correlated, $r(118) = .612$, $p < .001$. H03 is rejected and H13 is supported. The coefficient of determination, $r^2 = .375$, indicates that the two variables share 37.5 per cent of their variance. Correlation does not establish causation: satisfied users may use digital services more often, effective services may improve satisfaction, or both may reflect a better-resourced library environment.

Major Findings

1. The sample was balanced across Indore, Bhopal, government colleges and private colleges, with 30 respondents in each cell.
2. More than seven in ten respondents used their college library daily or several times a week.
3. Government-college libraries received their strongest rating for print collection adequacy.
4. Private-college libraries scored higher in staff responsiveness, learning space, user orientation and particularly digital-resource accessibility.
5. Private-college users reported significantly higher composite service-delivery scores, $t(118) = -3.285$, $p = .001$, $d = -0.60$.
6. College ownership and satisfaction category were significantly associated, $\chi^2(3) = 9.556$, $p = .023$.
7. Digital-service utilisation had a strong positive relationship with satisfaction, $r = .612$, $p < .001$, sharing 37.5 per cent variance.
8. The central comparative gap concerns the speed, convenience and integration of service delivery rather than print holdings alone.

Suggestions

1. Government colleges should prioritise reliable internet, discovery tools, remote authentication and renewed subscriptions to relevant e-resources.
2. Private colleges should maintain digital strengths while ensuring durable print collections, archival continuity and affordable access.
3. Both sectors should conduct annual user-satisfaction and service-gap surveys based on LibQUAL+/SERVQUAL principles.

4. Orientation should move beyond a single induction session to short workshops on catalogues, databases, citation tools and research search strategies.
5. Staffing plans should ensure professional assistance during peak periods and create clear standards for responsiveness and query resolution.
6. Libraries should integrate print catalogues, repositories, e-journals and help services through a simple mobile-friendly discovery interface.
7. Government and private colleges in both cities should form consortia for resource sharing, inter-library loan and negotiated database subscriptions.
8. Future studies should use a larger institution-stratified sample and separately analyse students, teachers, researchers, disciplines and city effects.

Conclusion

The study demonstrates that government and private college libraries in Indore and Bhopal provide important but differently configured service experiences. Government colleges show comparative strength in print resources, whereas private colleges perform better on responsiveness, digital access and user-oriented convenience. All three hypothesis tests identify meaningful relationships: service-delivery means differ by sector, satisfaction patterns are associated with ownership, and digital use is strongly related to satisfaction. The results do not justify a simplistic public-versus-private ranking; instead, they identify complementary strengths and investment gaps. A future-ready college library should combine the depth and inclusiveness of a public academic collection with responsive staff, reliable technology and seamless hybrid access.

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