

Comparative Study of Quality Management Practices and Library Service Effectiveness in State and Private Universities of Lucknow

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Abstract

The quality of library services has become a critical factor in supporting academic excellence in higher education institutions. In this context, Total Quality Management (TQM) has emerged as an effective managerial approach for enhancing service efficiency, user satisfaction, and overall organizational performance in academic libraries. The present study aimed to examine and compare the implementation of TQM practices and library service effectiveness in state and private university libraries in Lucknow. A descriptive and comparative research design was adopted for the study. Primary data were collected from 150 respondents, including students, research scholars, faculty members, and library professionals, using a structured questionnaire based on TQM principles and library service quality dimensions. Descriptive statistics and independent samples t-tests were employed to analyze the data.

The findings revealed significant differences between state and private university libraries in terms of TQM implementation and service quality dimensions such as user satisfaction, service efficiency, resource availability, and staff responsiveness. Private university libraries demonstrated a higher level of TQM adoption and superior service effectiveness compared to state university libraries. The results indicated that effective leadership commitment, continuous improvement practices, and user-focused service strategies played a crucial role in enhancing library performance. The study concludes that systematic implementation of TQM principles can substantially improve the quality of academic library services and recommends that state university libraries strengthen quality management practices to achieve higher service standards.

Keywords: Total Quality Management, Academic Libraries, Service Quality, University Libraries, User Satisfaction, Lucknow.

1. INTRODUCTION

In today's culture, when knowledge is important, university libraries are very important for helping with teaching, learning, and research. Because colleges and universities are growing so quickly and users are expecting more from libraries, they are no longer judged just on the size of their collections. Instead, they are judged on the quality, efficiency, and effectiveness of the services they provide. In this context, academic libraries must utilize systematic quality management methods to be relevant, user-friendly, and competitive.

Total Quality Management (TQM) is a broad management idea that focuses on making things better all the time, keeping customers (users) happy, getting workers involved, streamlining processes, and making decisions based on facts. Total Quality Management (TQM) in library and information services is all about improving service delivery, making users happier, making sure resources are used in the best way possible, and creating a culture of quality among library staff. Academic libraries around the world are using the ideas behind Total Quality Management (TQM) more and more to deal with problems like the changing technology, tight budgets, rising user expectations, and the need for accountability and performance measurement.

India's higher education system includes both public and private universities. Different rules and systems for running, paying for, and governing these two sorts of institutions. These structural differences often affect the quality management methods that each library chooses to adopt. Most of the time, public university libraries function within rules set by the government. This usually has the power to affect how decisions are made, how money is spent, and how people are managed. On the other side, private university libraries usually have greater freedom in how they run things, which lets them adopt new methods, cutting-edge technologies, and user-centered service models more swiftly. However, there is still not enough real-world data that compares the quality management methods and service effectiveness of these two types of university libraries.

Lucknow is a well-known educational center in the state of Uttar Pradesh. It is home to many public and private schools, as well as well-established library systems. These universities provide a diverse array of academic communities. A comparative study of quality management approaches in these libraries can provide important information about how TQM concepts are used in different institutions and how they affect the quality of library services. A strong grasp of these differences is necessary to find the best ways to do things, fix problems, and come up with plans to make library services better in all of higher education.

Consequently, the present research aims to provide a comparative analysis of quality management systems and the efficacy of library services in both public and private institutions in Lucknow. The objective of this study is to enhance the growing literature on quality -management in academic libraries by examining the implementation level of Total Quality Management (TQM) and comparing essential service quality parameters. These dimensions encompass user satisfaction, service efficiency, resource availability, and staff reactivity. The study also intends to give suggestions for how to use TQM to make libraries work better.

1.1.Objectives of the study

- To examine the extent of implementation of Total Quality Management (TQM) practices in the libraries of state universities and private universities in Lucknow.
- To compare the quality dimensions of library services (such as user satisfaction, service efficiency, resource availability, and staff responsiveness) between state university libraries and private university libraries under the TQM framework.

1.2.Hypothesis

H1: There was a significant difference in the extent of implementation of Total Quality Management (TQM) practices between the libraries of state universities and private universities in Lucknow.

H2: There was a significant difference in the quality dimensions of library services, including user satisfaction, service efficiency, resource availability, and staff responsiveness, between state university libraries and private university libraries in Lucknow under the TQM framework.

2. LITERATURE REVIEW

In many different institutional and national settings, library systems and institutes of higher learning have maintained quality management and service efficiency as their top priorities. The effects of quality-related practices, the implementation of such policies, and the disparities between public and private institutions have all been the subject of a great deal of empirical and review-based study.

Iqbal et al. (2023) conducted a quantitative comparative study in Pakistani universities, both public and private, to identify the differences between perceived quality culture (QC) and service quality (SQ) and to examine the effect of QC on these two variables. Administrative and quality managers were surveyed both in-person and online. Once the surveys were completed, SPSS and PLS-SEM were used to evaluate the responses. Public universities scored higher on both sets of variables pertaining to perceived quality control and quality assurance, indicating a significant difference between public and private institutions. The correlation between quality control and student quality was shown to be stronger at private

universities. The study's conclusions state that strengthening a company's quality culture is critical to raising service standards and increasing productivity. The study also added to the body of knowledge by evaluating service quality from the viewpoints of internal and external customers and by suggesting quality culture as a predictor of service quality.

The information assets of a company should be located, assessed, recorded, retrieved, and distributed according to **Galgotia and Lakshmi's (2022)** comprehensive KM strategy. The assets in question encompassed resources such as databases, records, procedures, regulations, and the innate expertise and experience of staff members. Through a comparative analysis of public and private universities in India and elsewhere, they found that KM was a useful tool for overcoming institutional obstacles, inspiring research, and promoting teamwork and new ideas in academia.

Kumar (2022) evaluated two popular models, SERVQUAL and LibQUAL, and looked at other instruments made to gauge the quality of library services. Findings from the study's parameter analysis demonstrated the usefulness of both models for gauging library patrons' impressions and expectations of such services. In order to guarantee customer pleasure and improve overall library performance, the findings highlighted the significance of systematic service quality assessment.

In general, the reviewed literature indicated that knowledge management, total quality management (TQM), and quality culture were some of the quality management approaches that significantly affected service quality, organizational effectiveness, and customer satisfaction in institutions like libraries and universities. There were differences in the implementation and results of quality management strategies between public and private institutions, according to studies that compared the two. Academic libraries in Indian institutions, especially those located in urban areas, have been the subject of scant empirical research. This study set out to fill that void by comparing the Total Quality Management (TQM) practices and service efficacy of public and private university libraries in Lucknow.

3. RESEARCH METHODOLOGY

3.1. Research Design

This descriptive-qualitative study aimed to compare and contrast the quality management strategies and library service efficacy of public and private university libraries in Lucknow. When compared to the comparative method, the descriptive design allowed for a systematic evaluation of the extent to which Total Quality Management (TQM) was implemented, which was useful for identifying differences in service quality dimensions between the two types of universities.

3.2. Area of the Study

The capital of Uttar Pradesh, the city of Lucknow, was the site of the study. The area's abundance of highly regarded public and private universities, each with its own collection of books and academic libraries that can serve a diverse student body, led to their selection as the site.

3.3.Population of the Study

The participants in the study were registered library users from a variety of academic backgrounds at a few different public and private universities in Lucknow. This included faculty members, library science majors and minors, research assistants, and undergraduates. Research took place in Lucknow.

Table 1: Distribution of Respondents by Type of University

Type of University	Number of Respondents	Percentage (%)
State Universities	75	50.0
Private Universities	75	50.0
Total	150	100

Both public and private universities contributed an equal number of respondents to the sample. Because of this fair distribution, we were able to compare the two kinds of university libraries' quality management techniques and the efficacy of their services without prejudice.

3.4.Sample Size and Sampling Technique

A total of 150 participants were selected to participate in the research. All of the participating colleges and universities, both public and private, were selected using a purposive sampling technique. After then, in order to ensure a balanced representation, we used a technique called stratified random sampling to choose responders from different user categories. The final sample of respondents, which amounted to 150 people, included participants from both public and private university libraries.

3.5.Sources of Data

The study made use of both primary and secondary resources. A standardized questionnaire was distributed to both library staff and patrons in order to gather the main data. Library records pertaining to Total Quality Management and library service quality, as well as books, peer-reviewed journals,

research articles, conference proceedings, university reports, and policy documents were among the secondary sources consulted.

3.6. Research Instrument

Library service quality factors and well-known TQM ideas formed the basis of a structured questionnaire. In this context, "aspects" refer to things like staff reaction, resource availability, user satisfaction, and service efficiency. There were five-point Likert scales on the questionnaire, with responses ranging from "Strongly Disagree" to "Strongly Agree," for the closed-ended items. The instrument was pilot tested, reviewed by professionals in the field, and revised before its first administration.

3.7. Data Collection Procedure

Data was obtained after obtaining previous authorization from the appropriate university and library authorities. People who were selected to take part in the survey had the option to use either paper or digital versions of the survey. After the given time for responses had passed, the completed questionnaires were collected, verified, and made ready for analysis.

3.8. Tools and Techniques of Data Analysis

After data collection, it was coded and analyzed using appropriate statistical procedures. The effectiveness of library services and the amount to which Total Quality Management (TQM) was implemented were assessed using descriptive statistics like mean, standard deviation, percentage, and frequency. Using inferential statistical approaches like the independent samples t-test, we compared the various components of service quality between public and private university libraries. The audience was presented with the analyzed data through the use of tables and visual representations.

3.9. Ethical Considerations

The utmost ethical standards were adhered to throughout the entire research process. Not only was participation totally optional, but participants were also informed about the research's goals. Every participant's identity and response was kept secret, and the data collected was used only for academic and research projects.

4. DATA ANALYSIS AND INTREPRETATION

The data analysis and interpretation stage of this study was crucial because it allowed for a thorough examination of the information collected from 150 respondents associated with public and private university libraries in Lucknow. This section aimed to analyze the responses in relation to the stated

objectives and draw significant conclusions about the effectiveness of library services and the adoption of Total Quality Management (TQM) principles.

Data was collected and then subjected to appropriate statistical methods for coding, tabulating, and analyzing. Descriptive statistics including frequency, percentage, mean, and standard deviation were used to analyze the amount of Total Quality Management (TQM) implementation and service quality features. We can learn more about the respondents' demographics from these numbers. To compare and evaluate the assumptions, we used a variety of inferential statistical approaches, the most prominent of which was the independent samples t-test, to survey patrons of public and private university libraries.

Table 2: Demographic Profile of Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	82	54.7
	Female	68	45.3
Age Group	Below 25 years	60	40.0
	25–35 years	55	36.7
	Above 35 years	35	23.3
User Category	Students	90	60.0
	Research Scholars	35	23.3
	Faculty Members	25	16.7

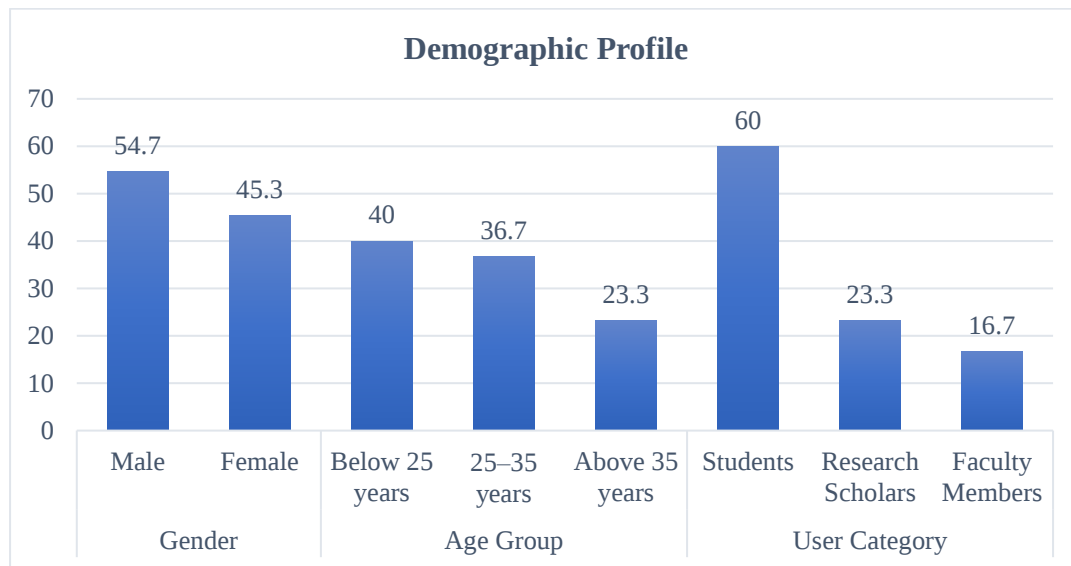


Figure 1: Graphical Presentation of Demographic Respondents

Table 2 shows the demographic information of the 150 people who took part in the study. In terms of the breakdown by gender in the sample, men accounted for 54.7% of the total and women for 45.3%. So, it seems like the sample included about the right number of men and women. There was a total of 36.7% of respondents who were in the 25–35 age bracket, making them the second largest demographic. Respondents younger than 25 years old made up the biggest age group, with 40.0% of the total. Individuals older than 35 made up 23.3% of the total sample. Based on the age distribution of the participants, it appears that the majority were college students who were heavy users of the library's resources. Sixty percent of the people who took the survey were students, making them the most numerous user category. The second largest group was faculty members (16.7%), followed by research scholars (23.3%). Not only does this distribution reflect the demographics of university library patrons, but it also guarantees that the findings are mostly reflective of the viewpoints of heavy library users.

Table 3: Mean Scores of TQM Implementation Practices

TQM Dimension	State Universities Mean ± SD	Private Universities Mean ± SD
Leadership commitment	3.21 ± 0.62	3.85 ± 0.58
Continuous improvement	3.18 ± 0.65	3.90 ± 0.55
User focus	3.35 ± 0.60	4.02 ± 0.52
Staff involvement	3.10 ± 0.68	3.78 ± 0.61

Process management	3.05 ± 0.70	3.88 ± 0.57
Overall TQM score	3.18 ± 0.65	3.89 ± 0.57

Table 3 reveals that the average results of various Total Quality Management (TQM) implementation strategies in public and private university libraries. The research showed that when comparing private and public university libraries, the former consistently scored better on all TQM parameters. This held true in every respect. A mean score of 3.85 for private institutions and a mean score of 3.21 for public universities was observed in relation to the feature of leadership commitment. Findings in the domains of process management, staff engagement, continuous improvement, and user emphasis were consistent. There was a continuous pattern of higher total quality management adoption in private university libraries. This trend was further corroborated by the fact that private universities had a higher mean value (3.89) than public institutions (3.18). Private colleges and universities also had better total TQM scores. These numbers suggest that private university libraries have taken a more proactive approach to implementing TQM. This could be because there is more leeway for administrators to make decisions, resources are better distributed, and service quality and user satisfaction are given more priority.

Table 4: Comparison of TQM Implementation between State and Private University Libraries

Variable	Mean (State)	Mean (Private)	t-value	p-value	Result
Overall TQM implementation	3.18	3.89	5.74	0.001	Significant

Table 4 shows the results of an independent samples t-test that compared the overall Total Quality Management (TQM) implementation of public and private university libraries. When comparing public and private university libraries, the average score for Total Quality Management (TQM) adoption was 3.18 for state libraries and 3.89 for private university libraries. At the 5% level of significance, the found t-value of 5.74 and p-value of 0.001 indicate that there was a statistically significant difference between the two groups. The results suggest that private university libraries' TQM initiatives were more fruitful than state university libraries'. Because of this, we may say that the two kinds of university libraries' TQM implementations were significantly different, rejecting the null hypothesis.

Table 5: Mean Scores of Library Service Quality Dimensions

Service Quality Dimension	State Universities Mean ± SD	Private Universities Mean ± SD
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User satisfaction	3.30 ± 0.64	4.05 ± 0.56
Service efficiency	3.12 ± 0.66	3.95 ± 0.54
Resource availability	3.45 ± 0.60	4.10 ± 0.50
Staff responsiveness	3.25 ± 0.63	4.00 ± 0.55
Overall service quality	3.28 ± 0.63	4.03 ± 0.54

Table 5 shows the average results for different categories of library service quality in university libraries that charge for their services and those that do not. The results showed that private university libraries had higher mean ratings across all service quality indicators compared to state university libraries. When comparing the levels of satisfaction expressed by consumers, private institutions had a significantly higher mean score of 4.05 compared to public universities' 3.30. Similar trends in service efficiency, resource availability, and staff responsiveness were observed in private university libraries, suggesting that these libraries offer better service delivery than their public university counterparts. The overall mean score for service quality shows that public universities got a 3.28 while private institutions got a 4.03. This further illustrates the discrepancy. These results suggest that private university libraries were thought to be better at delivering TQM-compliant quality services.

Table 6: Comparison of Library Service Quality Dimensions

Dimension	Mean (State)	Mean (Private)	t-value	p-value	Result
User satisfaction	3.30	4.05	6.12	0.001	Significant
Service efficiency	3.12	3.95	5.46	0.001	Significant
Resource availability	3.45	4.10	5.88	0.001	Significant
Staff responsiveness	3.25	4.00	5.67	0.001	Significant

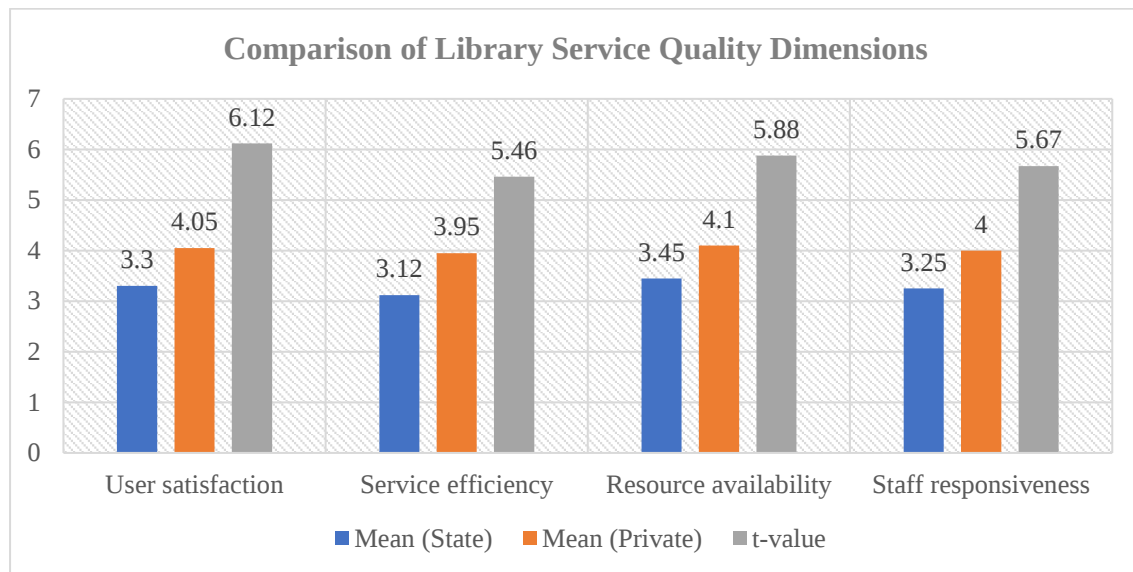


Figure 2: Graphical presentation of Library Service Quality Dimensions

Table 6 displays the results of independent samples t-tests. When looking at user enjoyment, service efficiency, resource availability, and staff responsiveness, p-values of 0.001 show that there are statistically significant variances across all dimensions. The fact that private university libraries fared higher on average across the board is indicative of how well they serve their users' needs and expectations. The statistically significant t-values prove that these differences did not occur by accident. When looking at service quality parameters within the framework of Total Quality Management, it is reasonable to conclude that private university libraries outperformed state university libraries.

Table 7: Hypothesis Testing Summary

Hypothesis	Statistical Test	p-value	Decision
H ₀₁ : No significant difference in TQM implementation	Independent t-test	0.001	Rejected
H ₀₂ : No significant difference in service quality dimensions	Independent t-test	0.001	Rejected

Table 7 see the study's summary of the results from testing the hypothesis. The initial null hypothesis, which suggested that state and private university libraries did not differ significantly in their levels of TQM implementation, was rejected with a p-value of 0.001. The reason behind this was because the level of importance was not considered significant. In a similar vein, we also rejected the second null hypothesis, which held that the two categories of colleges did not differ significantly along the variables of library service quality. These results clearly show that there were significant differences between the

private university libraries and the state university libraries with respect to both the TQM implementation and service quality elements. The results provide strong empirical backing for the study's aims and validate the comparative approach used in the research.

5. CONCLUSION AND FUTURE SCOPE

The present study set out to compare and evaluate the Total Quality Management (TQM) practices and results achieved by public and private university libraries in Lucknow with regard to the effectiveness of library services. The research offered factual proof of how quality management approaches affect library service performance and patron happiness in different types of institutional contexts. Data collected from 150 participants formed the basis of the study. According to the study's results, private university libraries used TQM techniques more extensively than libraries affiliated with public universities. There were noticeable differences in key areas of total quality management (TQM), including commitment from leadership, emphasis on users, staff involvement, process management, and continuous improvement. Thus far, private university libraries have shown greater initiative in implementing systematic quality management systems. This might be because they prioritize service quality more highly, have more leeway in their administrative decisions, and have better control over the distribution of their resources. In a similar vein to the prior example, when comparing private and state university libraries, we found that private university libraries had higher levels of customer satisfaction, service efficiency, resource availability, and staff response. Based on the statistically significant variations seen across all service quality categories, it seems that the overall performance and perceived effectiveness of library services are positively impacted by the successful application of TQM methodologies. Both of the null hypotheses were shown to be untrue, which further supports the idea that the kind of institution has a significant role in deciding how university libraries handle quality management and the results of their services.

The study concludes that university libraries should prioritize Total Quality Management as a strategy to improve the efficiency and quality of their services. In order to enhance service delivery, it is clear that there has to be more managerial buy-in, strict quality planning, and ongoing improvement initiatives. This is so even though public university libraries serve a huge user population and offer excellent core resources. The study found that state university libraries can catch up to private university libraries if they boost leadership support, train their personnel, adopt service models focused on users, and conduct quality assessments regularly. The survey was limited to a sample size of 150 respondents and selected public and private universities in Lucknow with an eye toward future scope expansion. With more investigation, it might be feasible to expand the study's scope to incorporate comparisons on a national

level, in addition to those with other cities and states. To gain a better grasp of the viewpoints of managers and the expectations of users, future studies could use qualitative research approaches like focus groups and interviews. Conducting longitudinal studies that examine the long-term effects of TQM implementation on library performance and creativity would be a valuable contribution to the area. Further research might look at how academic libraries might enhance service quality and user engagement by combining TQM methods with digital transformation, knowledge management, and new technology.

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