Funding and Library Resource Management in Higher Education Universities in India

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Abstract - **Libraries are regarded as vast repositories of information that have accumulated from academic works throughout time. These preserves contain intellectual information and convey it to future generations. This study discusses the current portrayal of government and private efforts in higher education and the involvement of libraries in advancing the use of these initiatives for teaching, research, and extension activities in Higher Educational Institutions (HEI). This research conducted a comparative analysis of libraries' financing and resource management in Indian HEI. The empirical investigation used a questionnaire-based research design. The research used a sample size of 100, selected by the purposeful sampling method. The questionnaire served as the primary tool for gathering data. The insights gained were analyzed using one-way Analysis of Variance (ANOVA). The examination showed that the noticed funding source significantly impacted various aspects of university libraries in India. This includes the distribution of knowledge resources, the preservation of library amenities, accessibility to human resources, and the provisioning of library amenities. These data suggest that librarians should consider other financing methods, if needed, to enhance their services. Additional endeavors should be undertaken to tackle the problems of the growth of human resources, acquisition of facilities, and their subsequent upkeep. Ultimately, it is crucial to include the university librarian in the strategic planning of HEI.**

Keywords: **Academic Libraries, Higher Education Institutions, Funding, Resource Management, ANOVA**

I. OVERVIEW OF ACADEMIC LIBRARIES IN HEI

The university library is a vital component of every academic institution, playing a crucial role in its overall success in attaining distinct objectives, expansion, and advancement. The academic staff plays a crucial role in every educational institution, particularly in HEI, where each faculty member's research talents are highly valued. Consequently, the study results of every staff member will be influenced by their distinct ideas. Libraries help achieve higher education's objectives by encouraging student enrollment and assisting students in securing jobs and placements (Oliveira, 2018).

The proliferation of higher education and the rapid growth of universities have generated apprehensions regarding the caliber and excellence of HEI, leading the Indian government to establish an institutional ranking system. This system, known as the National Institutional Ranking Framework (NIRF), is administered by the Ministry of Education, Government of India, and involves the annual ranking of Indian HEI. Typically, the rating of an HEI considers several factors and a higher rank is expected to indicate a greater level of health and potential throughout its different sub-institutions (INDIA RANKING 2023).

Academic libraries are leading in offering knowledge services to their societies, including students, lecturers, and scholars, to assist them in their educational, learning, and research requirements (Mehta & Wang, 2020). It has been pointed out how important academic libraries are for giving their users enough sources and things to meet their needs (Sumithra & Sakshi, 2024). HEI's academic libraries are often called their "central hubs" or "focal points" because they are where all academic activities happen. Because of this, it is important to give HEI libraries enough real funding to make their services more efficient and effective (Martzoukou, 2021).

Finance is paramount in delivering exceptional academic services to Indian higher education institutions (Rahmawan et al., 2023). The allocation of funds and sufficient financial resources to libraries in Indian HEI, including colleges, polytechnics, and other institutions of higher learning, can be regarded as the essential element that binds the infrastructure, collections, and personnel together, enabling the library to achieve its goal of promoting the overall objectives of the HEI (Ashiq et al., 2021). Although money and finance play a crucial role in the growth of academic libraries, several

obstacles impede the sufficient availability of funds to these libraries.

Library financing refers to the provision of financial resources to grow and maintain the library. These resources are necessary to support library services, acquire items, and invest in the education and advancement of library staff (Baada et al., 2020). Funding can support university libraries' regeneration, upkeep, and sustainability, ensuring their sustenance and longevity. Nevertheless, the library is consistently a component of a broader university, and negotiations with its overseeing institution determine its financial resources (Yolvi et al., 2023). The parent organization is, therefore, the owner that assumes all accountability for its financial support. Academic libraries are funded via the budgets of the institutions they are affiliated with. Typically, these funds account for the immediate expenses (Arora, 2024). However, government departments often fund libraries, including the Ministry of Education, non-governmental organizations, charitable organizations, the Graduate Learning Fund, and individuals (Nengomasha & Shuumbili, 2022).

Preliminary findings suggest that libraries are experiencing a progressive decline in their trustworthiness and quality, leading to a strong reaction from educators, learners, and consumers (Danková et al., 2018). The decline in quality may be attributed to several things, including insufficient finance (Oleksandr et al., 2024). Students have ceased to utilize the libraries (Fleming-May & Mays, 2021). The contents in these libraries are considered obsolete, while internet connections are unreliable. If the university libraries get income from the sources mentioned above, what is the true issue?

It remains uncertain if the financial assistance provided to university libraries has any impact on the growth of the library in terms of resources, materials, and personnel. The primary objective of this research is to determine the extent to which different funding sources provided to academic libraries influence the long-term viability of library resources in India.

II. RELATED WORKS

The allocation of funds and the effective administration of library resources are vital for promoting academic and research endeavors in Indian HEI. Indian institutions have substantial obstacles in obtaining sufficient financing, which directly affects the quality and availability of library resources. Library funding is mainly government subsidies, individual contributions, and research money. Efficient administration of these monies is crucial to guarantee the procurement of current books, journals, and online resources.

The (Singh et al., 2021) evaluated several efforts undertaken by India's national and state governments and provided a comprehensive analysis of most of the appropriate schemes. Moreover, a questionnaire is undertaken to get feedback from students on online learning. Notwithstanding the concerns

identified in this study, the results indicate a satisfactory preference for online learning.

Artificial intelligence (AI) is a cutting-edge digital transformation (DT) technology the university library can employ to provide patrons with other educational offerings. AI can facilitate informed decision-making in retrieving and disseminating data for educational and research purposes. The study in (Okunlaya et al., 2022) introduces a novel theoretical structure that utilizes AI technology with Library Services Innovative Conceptual Framework (AI-LSICF) to offer enhanced library services and facilitate digital evolution. It will also motivate library and knowledge workers to embrace AI to enhance efficient service delivery.

Evaluation management systems are essential for recording evaluations that help establish a comprehensive understanding of the academic library's impact on learning for students. HEI strives to enroll the most exceptional individuals they can identify at their undergraduate and graduate levels. The qualities of the incoming student class significantly impact institutional status, reputation, graduation rates, alumni contributions, and other positive indications. According to the (Ruben et al., 2023) libraries are crucial in students' decision-making when selecting a university or institution. Academic libraries may help college admissions departments boost their enrolment numbers.

Most research on student completion and retention rates has focused on identifying the factors that contribute to students either staying in or leaving their educational programs, including personal attributes and institutional rules (Haisley, 2021). Since librarians often lack the power to influence learners' traits directly, they must cultivate institutional settings that foster retention of learners and graduation. To achieve this goal, librarians can integrate library amenities and assets into impactful educational practices and adopt proactive tactics for identifying and assisting children experiencing academic inadequacies.

Libraries help students enhance their ability to complete internships, find work placements, generate income, get admission to graduate/professional institutions and learn valuable skills that are in demand in the job market. Several institutions prioritize learners and their employment opportunities after graduation and often facilitate on-campus interviews with corporations. Librarians may aid students in preparation for these interviews by providing resources to campus career guidance divisions and directly to learners, such as information about firms and market research. Libraries use Grade Point Averages (GPAs) and professional or academic examination results to improve student performance (Carroll & Mallon, 2021). To demonstrate this influence, librarians can investigate the connections between students' contacts with the library and their GPA. Additionally, they may audit important professional or educational assessments to identify any connections between library services or resources and particular test questions.

Indian university libraries are progressively embracing digital technology and electronic resources to cater to the changing requirements of students and scholars. Nevertheless, the discrepancy in financing between renowned institutions and emerging or smaller colleges often leads to inequitable access to high-quality resources. To close this disparity and improve the entire learning experience, engaging in strategic preparation, allocating resources efficiently, and consistently allocating to technological infrastructure is essential.

III.PROBLEM STATEMENT

A robust library with knowledge resources and services is essential for any academic institution to accomplish its instructional objectives. HEI can only obtain and offer These resources and amenities with sufficient financing and financial support. However, it has been noted that there is a mismatch in the financing and financial structure of state and central universities, polytechnics, and colleges of education. The unequal allocation of funds among different HEI might create obstacles for their libraries, impeding the effective delivery of information and library services. This research aims to analyze and contrast the financing and financial aspects of libraries in state and central universities, polytechnic institutions, and colleges of education in India.

IV.OBJECTIVES

This research aimed to examine the impact of financing on library resources in Indian university libraries. The research had the following objectives:

1. To ascertain the impact of government funding on the availability of library materials in HEI libraries in India.
2. To analyze the impact of domestically produced funds generated by the library on the resources available in Indian HEI libraries.

V. RESEARCH METHODOLOGY

A poll called the "Funding and Library Resources in Universities Library Questionnaire" was used to get information. There were two parts to the survey: A and B. Section A of the poll is about the general information of the people who filled it out. Section B, on the other hand, has been used to look at the funding and library tools. An experiment was done to see how well the study's tool tracked the variables it was supposed to. A hundred people from outside the target group were randomly chosen for this test. The generated data were examined using ANOVA to determine how similar they were within themselves.

The primary outcome variable of the research was the condition of library resources in HEI libraries. The main dependent factor consisted of four variables: data resources, workforce, library amenities, and service availability. These characteristics were assessed using a four-point evaluation scale consisting of seven questionnaire questions. According to the four-point magnitude, respondents might get a minimum score of 4 and a maximum score of 24. The statistically descriptive results are shown in Fig. 1 with a sample size 95.
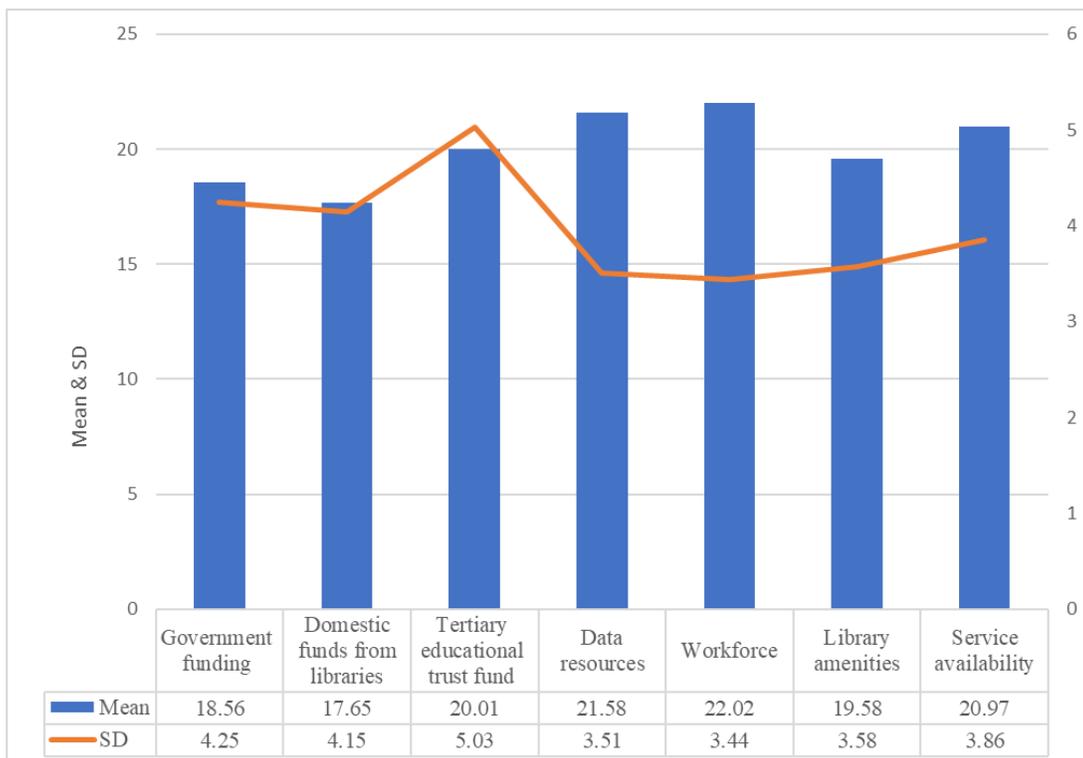

	Government funding	Domestic funds from libraries	Tertiary educational trust fund	Data resources	Workforce	Library amenities	Service availability
Mean	18.56	17.65	20.01	21.58	22.02	19.58	20.97
SD	4.25	4.15	5.03	3.51	3.44	3.58	3.86

Fig. 1 Statistically Descriptive Results for all Factors Included in the Study

VI. RESULTS

H1: The presence of government funding does not have a substantial impact on the availability of library amenities in HEI libraries in India.

The H1 examines the impact of government funding on library resources in HEI libraries. The independent factor is categorized into significantly subsidized, fairly subsidized, and poorly subsidized subventions. The dependent factor encompasses data resources, workforce, library amenities, and service availability. The categorization of the government subsidy for HEI libraries was determined by calculating the average ratings obtained from the survey on financing for university libraries. Participants who obtained scores above the average were categorized as "significantly subsidized," whereas those who performed below the average were categorized as "poorly subsidized." Participants whose scores were around the average were categorized as "fairly subsidized." The hypothesis was tested using the One-Way ANOVA statistical approach. Table I and Fig. 2 depict the findings from the analysis.

TABLE I STATISTICALLY DESCRIPTIVE RESULTS FOR H1

Factors	Funding level	Sample size	Mean	SD
Data resources	poorly subsidized	24	19.25	4.25
	fairly subsidized	42	21.57	3.78
	significantly subsidized	34	23.97	1.36
	Total	100	21.58	3.51
Workforce	poorly subsidized	24	19.87	4.98
	fairly subsidized	42	22.03	3.02
	significantly subsidized	34	23.09	2.16
	Total	100	22.02	3.44
Library amenities	poorly subsidized	24	17.89	4.02
	fairly subsidized	42	18.13	3.87
	significantly subsidized	34	21.54	2.19
	Total	100	19.58	3.58
Service availability	poorly subsidized	24	19.67	4.52
	fairly subsidized	42	21.09	3.56
	significantly subsidized	34	23.17	3.01
	Total	100	20.97	3.86

Table 1 examines several factors that impact the management of library resources at HEI, classified according to the funding level. The mean values for data resources show a rise from weakly subsidized (19.25) to highly subsidized (23.97), suggesting a positive correlation between greater funding levels and improved availability of data resources. The workforce component exhibits the same pattern, with average values increasing from 19.87 in HEI with little subsidies to 23.09 in HEI with substantial subsidies, indicating that enhanced financing enhances the quality of the workforce. Concerning the amenities provided by libraries, the average values rise from 17.89 to 21.54 as the amount of financing increases, suggesting that well-funded institutions provide superior amenities. Finally, regarding Service availability, the average values rise from 19.67 for institutions with low subsidy levels to 23.17 for institutions with substantial subsidy levels, indicating that more financing improves service availability. The standard deviations (SD) remain stable across all parameters, indicating a continuous improvement with more financing.
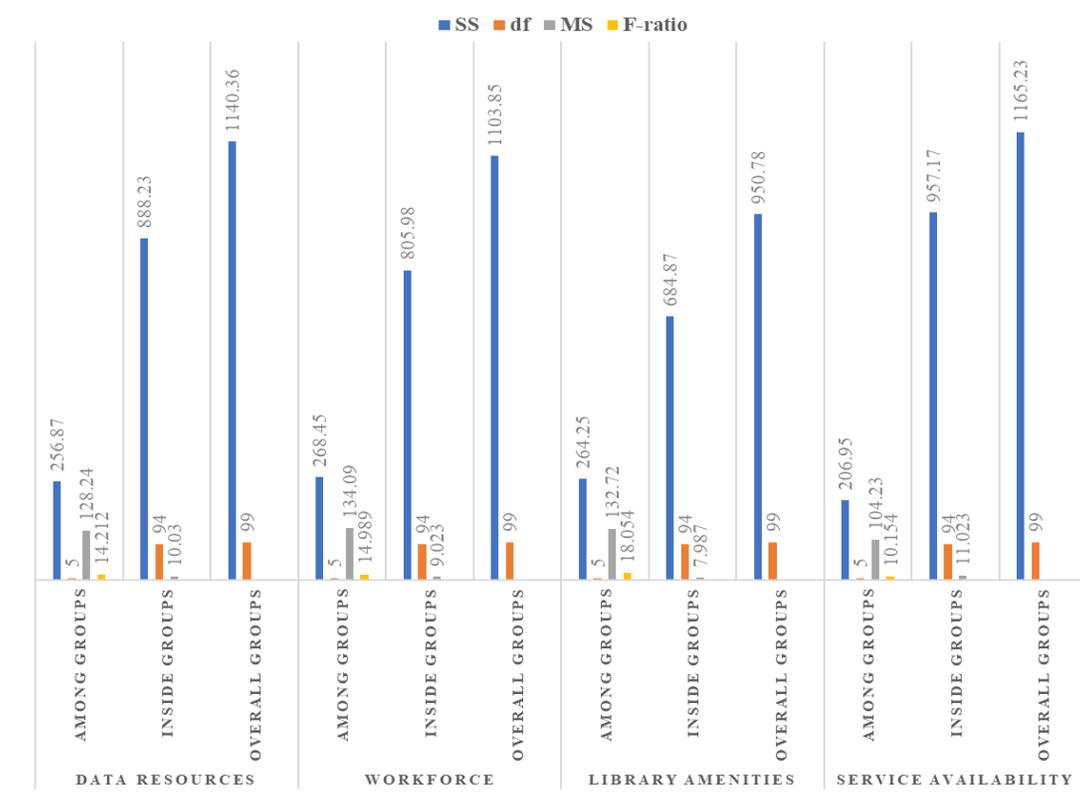
Fig. 2 One-way ANOVA results for H1

The Source Table is a highly recommended starting point for computations for a One-Way ANOVA. The Source Table has Sums of Squares (SS), degrees of freedom (df), Mean Squares (MS), and an F ratio. A One-Way ANOVA involves the calculation of variance for three different groups: Among Groups, Inside Groups, and Overall Groups. Fig. 2 displays the one-way ANOVA for four categories: data resources, workforce, library facilities, and service availability. These factors were assessed at various funding levels. The ANOVA findings demonstrate substantial differences across the groups for each component, as seen by the F-ratios. The F-ratio of 14.212 indicates a significant difference in the availability of data resources across various funding levels, implying considerable variance.

Similarly, the F-ratios for workforce and library amenities are 14.989 and 18.054, respectively, indicating significant changes in these parameters depending on the financing amounts. The service availability also exhibits a significant F-ratio of 10.154. These findings suggest that the amount of financing substantially influences the accessibility and quality of data resources, workforce, library facilities, and service availability in Indian HEI.

The findings indicate that government funding has an insignificant impact on the availability of library materials in university libraries in India. The finding also shows that government funding affects data resources, workforce, library amenities, and service availability.

H2: The domestic funds from libraries have a negligible impact on the resources available in libraries at HEI in India.

Table II provides a detailed analysis of the mean and standard deviation (SD) of four key factors (data resources, workforce, library amenities, and service availability) across three levels of funding (poorly subsidized, fairly subsidized, and significantly subsidized) in HEI.

TABLE II STATISTICALLY DESCRIPTIVE RESULTS FOR H2

Factors	Funding level	Sample size	Mean	SD
Data resources	poorly subsidized	24	19.19	4.28
	fairly subsidized	34	21.29	3.74
	significantly subsidized	42	23.31	1.31
	Total	100	21.58	3.51
Workforce	poorly subsidized	24	19.36	4.58
	fairly subsidized	34	22.15	3.45
	significantly subsidized	42	23.12	2.22
	Total	100	22.02	3.44
Library amenities	poorly subsidized	24	17.90	4.14
	fairly subsidized	34	18.61	3.03
	significantly subsidized	42	21.12	2.98
	Total	100	19.58	3.58
Service availability	poorly subsidized	24	19.89	4.87
	fairly subsidized	34	21.14	3.96
	significantly subsidized	42	23.12	3.12
	Total	100	20.97	3.86

The data resources exhibit a positive correlation between funding levels and mean values, increasing from 19.19 (poorly subsidized) to 23.31 (substantially subsidized). This suggests that more financing leads to improved availability of resources. Similarly, the mean values of the workforce exhibit the same pattern, whereby heavily funded institutions have a higher mean of 23.12, in contrast to weakly subsidized ones with a mean of 19.36. The library facilities also demonstrate enhanced conditions due to increased financing, as shown by the rise in mean values from 17.90 to 21.12. The availability of the service has a consistent trend, where the average values rise from 19.89 to 23.12 as the financing increases. Each category's aggregate averages and SD indicate a positive correlation between increased financing and improved resource availability and quality in these crucial domains within HEI.
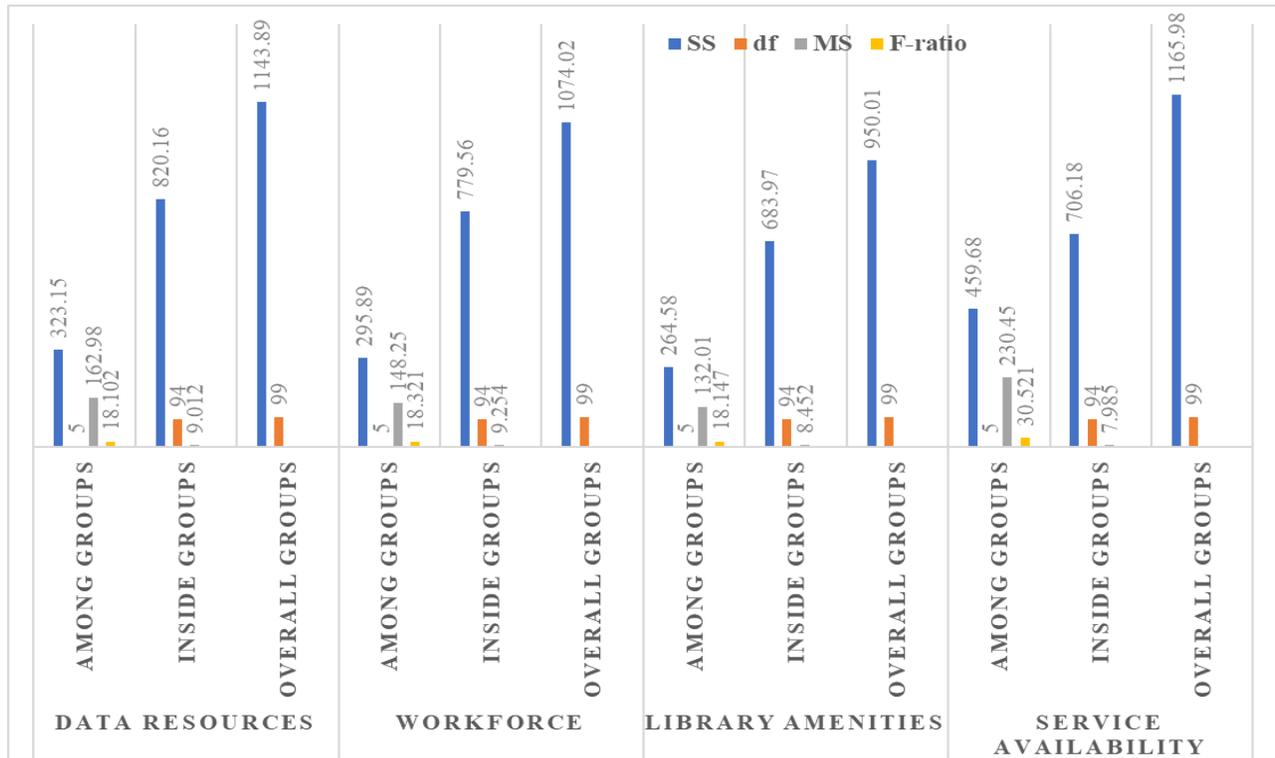

Fig. 3 One-way ANOVA Results for H2

Fig. 3, titled "One-way ANOVA results for H2," displays the analysis of variance for four factors: data resources, workforce, library facilities, and service availability in HEI. The F-ratios for data resources (18.102), workforce (18.321), library amenities (18.147), and service availability (30.521) are considerably elevated, suggesting notable variations across the groups in each component. The ANOVA reveals that the SS for both the between-group and within-group factors, together with the corresponding "df" and "MS," clearly indicates that the change in funding levels considerably influences the availability and quality of these resources. This implies that increased financing is linked to enhanced data resources, more effective personnel management, upgraded library facilities, and greater service availability. These factors are essential for the operational effectiveness of HEI. Thus, the domestic funds from libraries have a negligible impact on the resources available in libraries at HEI in India.

VII. CONCLUSION

Academic works have amassed massive amounts of knowledge throughout the years, and libraries are sometimes seen as enormous reservoirs of this data. These archives store knowledge and pass it on to the next generation. The present state of public and private initiatives in higher education, as well as the role of libraries in promoting their use for pedagogy, research, and extension work in HEIs, are examined in this paper. This study compared libraries' funding and resource management practices in Indian higher education institutions. A study strategy based on questionnaires was used in the empirical inquiry. A total of one hundred participants were chosen for the study using the intentional sampling technique. The main instrument for collecting information was the questionnaire. Analyzed via one-way ANOVA were the insights obtained. According to the results, the identified funding source had a major effect on several facets of Indian university libraries. The supply of library facilities, maintenance of library amenities, accessibility to human resources, and dissemination of knowledge resources are all part of this. Based on these numbers, librarians should consider additional ways to pay for their services if necessary. There has to be more effort to deal with the issues of expanding human resources, purchasing facilities, and maintaining them.

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