Tracing the flow of Shodh from the Valley of Himalayas: Shodhganga in Context

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Abstract

Shodhganga is an important initiative of the INFLIBNET Centre to showcase the research content of the Indian Subcontinent. The study aims to analyse the research contribution of Kashmir Valley to Shodhganga. The study finds out the domination of UoK, followed by CUK, NIT, and IUST, with increasing contributions over the past few years. A good research output is from science, engineering and management/business subjects across all the universities.

Keywords: Bibliometric Analysis, Electronic Theses and Dissertations (ETD), Institutional Repositories, Open Access, Research Output, Theses

1. Introduction and Background

A thesis or dissertation is a "research monograph" produced on completion of a master's or doctorate programme that results in an award of a degree (**Wallace, 2016**). Thesis and dissertations (T&D) represent an essential source that showcases knowledge and research trends in a particular study area. However, Thesis and Dissertations have usually remained unexplored and unnoticed, which often leads to duplication of research. Information technology has leveraged the utility and visibility of ETDs and has improved the organization of research output. The ETD has opened new doors of access to the untapped source of knowledge with enhanced accessibility, ubiquitous availability, and additional digital infrastructure for preservation. This has also led educational organizations to upload and preserve their research content, including thesis and dissertations in the institutional repositories for the broader availability of a global audience. The INFLIBNET centre at the national level took up one such initiative, known as "Shodhganga".

To make the Shodhganga a successful venture, the University Grants Commission mandates universities to deposit the electronic form of theses and dissertations on completion of the research degrees by the researchers on Shodhganga. It aims to make the research available to the global academic audience without any barrier except access to the internet connection, with the advantage of avoiding duplication of research.

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The repository has more than 46,0000 full-text theses contributed by 718 universities and thus provides a meaningful way to analyse the research contributions across states and subjects.

2. Review of Literature

Vijayakumar and Murthy (2001), in their study, enlightened the requirement of the repository in the Indian context to archive ETDs and the role played by the INFLIBNET Centre in creating it. **Sivakumaren (2015)** studied the ETDs archived in the Shodhganga of INFLIBNET. The study reported the deposition of more than 32000 ETDs under various subjects by 201 Universities. Also, Jawaharlal Nehru University (JNU), Anna University (AU) and Mahatma Gandhi University (MGU) are the top three contributing institutions. **Panda (2016)** also reports the JNU, AU, and MGU domination. The study also reveals that the number of theses on Shodhganga is continuously increasing. Further, the author recommends that universities not affiliated with UGC including private ones, such as IITs, NITs and IISERs must also upload their thesis on the Shodhganga. Similarly, **Esh (2015)** reported that only five out of 22 West Bengal universities contribute to Shodhganga.

However, **Jeyapragash et al. (2016)** observed the deposition of 55390 theses by 239 universities across various disciplines on Shodhganga. **Gogoi (2018)** performed a bibliometric analysis of theses hosted on Shodhganga about the Library and Information Science (LIS) during 2013-2017. The results indicate that research on surveys, use, and library users has remained the focus of studies. In contrast, a few studies have studied Library regulations, finance, databases, and indexing. Similarly, **Dhiman (2011)** found "bibliometrics" and "library management" as the focal areas in the LIS research (ETDs).

Sinha and Purkayastha (2018) analysed the familiarity and utility of ETDs with particular reference to Shodhganga among the library users of Assam University. **Tonta (2008)** analysed the status and growth of Institutional Repositories (IR) in Europe and Turkey. The study suggested improving the growth of IRs and faculty awareness towards the Open Access (OA). Also, a need to organize the content of IR's according to established standards to improve the Turkish researcher's research visibility. **Gupta and Gupta (2014)** point out that most universities and higher education institutions in India need to play more roles in creating ETD facilities for the researchers, which is highly important to avoid the repetition of research results and ensure optimal utilization of public money. **Sheeja (2011)** evaluated the expansion of ETDs in the Indian context and concluded that they are making institutional knowledge available to a large audience, and accordingly, improving its use. **Singh (2019)** observed that until December 2018, the number of ETDs submitted to Shodhganga has increased to 210548 and referred to Shodhganga as a "lifeline for researchers to carry out future research work".

3. Objectives

The study aims to:

❖ Rank the universities of Kashmir w.r.t contribution of ETDs to Shodhganga,

❖ Analyse the department-wise contribution across universities,

❖ Explore the highly researched areas in the thesis and dissertations of the Kashmir valley, and

❖ Study year-wise trends in the growth of ETDs.

4. Methodology

The data were retrieved from the "Shodhganga website" in May 2023 for the four universities, in Kashmir. These include the University of Kashmir (UoK), the Islamic University of Science and Technology (IUST), the Central University of Kashmir (CUK) and the National Institute of Technology (NIT). The requisite details, such as the name of the PhD thesis, department name, year of contribution, etc., for each university, were recorded in MS Excel for further analysis. The keywords present in the titles of the PhD thesis were exported into the bibliometric software "Vosviewer" for keyword analysis and identification of research themes.

5. Data Analysis

5.1 University-wise Contribution to Shodhganga

The University of Kashmir leads with 1671 ETDs, followed by CUK and NIT with 208 and 136 ETDs respectively. Islamic University of Science and Technology is at fourth rank with 37 ETDs as represented in Table 1.

Table 1: University-wise contribution

Name of the University	Number of ETDs	Rank
University of Kashmir	1671	1
Central University of Kashmir	208	2
National Institute of Technology	136	3
Islamic University of Science and Technology	37	4

5.2 Departmental Contribution Across Universities

At the University of Kashmir, the Department of Botany and the Department of Zoology are the top two contributing departments, with 146 and 129 ETDs, respectively. The Department of Management Studies (48) and the School of Education (46) are leading contributors from the Central University of Kashmir. At the same time, the School of Engineering (118) and the Department of Physics (10) are the leading departments in the National Institute of Technology. However, in the Islamic University of Science and Technology, an engineering-oriented institution, the Department of Business Studies and the Department of Islamic Studies lead with 15 and 11 ETDs, respectively as presented in Table 2.
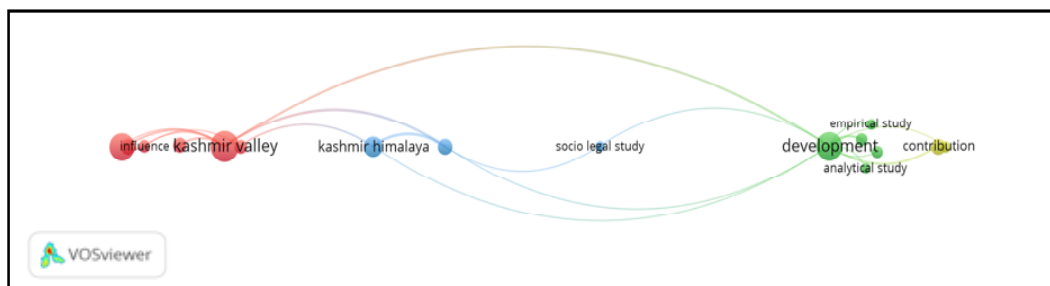
Table 2: Departmental Contribution across Universities

University of Kashmir (No. of ETDs, %)	Central University of Kashmir (No. of ETDs, %)	National Institute of Technology (No. of ETDs, %)	Islamic University of Science and Technology (No. of ETDs, %)
Department of Botany (146, 8.7)	Department of Management Studies (48, 23)	Faculty of Engineering (118, 86.8)	Department of Business Studies (15, 40.5)
Department of Zoology (129, 7.7)	School of Education (46, 22.1)	Department of Physics (10, 7.3)	Department of Islamic Studies (11, 29.7)
Centre of Central Asian Studies (93, 5.6)	Department of Urdu (28, 13.5)	Department of Chemistry (8, 5.9)	Department of Arabic Language and Literature (4, 10.8)
Department of Hindi (83, 5)	Department of Economics (22, 10.6)	------------	Department of Electronics & Communication Engineering (2, 5.4)
Department of Education (82, 4.9)	Department of English (17, 8.2)	------------	Department of English Language and Literature (2, 5.4)
------------	Department of Mathematics (17, 8.2)	------------	Department of Food Technology (2, 5.4)

5.3 Identification of Research Themes across Indian ETDs

The themes prevalent in the ETDs were identified using Vosviewer and shown in Figure 1. The key research areas around which ETDs of the Kashmir valley revolve include Kashmir valley (89), development (81), comparative study (72), Kashmir Himalaya (41), medicinal plant (25), sociological study (21), ecology (20), polynomial (18), synthesis (16), and Islam (15), indicating the predominance of relevant local themes.

Figure 1: Title Keyword network of ETDs

6. Results

Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAST), Kashmir, and Cluster University, Srinagar are not members of the Shodhganga. The UoK leads with 1671 ETDs, followed by CUK and NIT with 208 and 136 ETDs, respectively, while the IUST shares 4th Rank with 37 ETDs. Among the departments, the Department of Botany (146, 8.7%) and Faculty of Engineering (118, 86.8%) from UoK and NIT contribute the highest number of ETDs to Shodhganga. However, for CUK and IUST, the Department of Business/Management Studies is leading with 48 (23.1%) and 15 (40.5%) ETDs, respectively. The predominant keywords that frequently occur in the titles of the thesis reflecting the highly researched themes include Kashmir valley (89), development (81), comparative study (72), Kashmir Himalaya (41), medicinal plant (25), sociological study (21), ecology (20), polynomial (18), synthesis (16), and Islam (15). The study also reveals that all universities show a positive trend regarding the contribution of ETDs over the past few years, with most of the thesis deposited in the repository completed and indexed in 2020-2023.

7. Conclusion

The current research focuses on the contribution of the universities of Kashmir to Shodhganga. ETDs improve the research profile of an institution and help in securing a better international ranking; therefore, it is essential to study the growth and role of ETDs in the research schema of a university **(Ahmed et al., 2014).** The study reveals the leading role of the UoK, which is considered one of the largest and oldest universities in the UT of J&K. However, other universities are also making a way with much more to contribute. Also, the contribution of the science, engineering, and business departments is worth noting, with the suggestion that other departments also need to ameliorate their research endeavours. It is evident that research output shows promising growth, suggesting the need for awareness about the repository so that more institutions can become a part of this excellent source of knowledge.

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