



Research Trends in Odia Language and Literature : a study of Shodhganga repository

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Abstract

Electronic Thesis and Dissertations (ETD) play a vital role in the progress of research heritage. Shodhganga is the archiving of Indian doctoral theses and dissertations, it helps in raising the standard and quality of research. This paper has examined the contribution of theses and dissertations in Odia language and literature. This research has been collected from 8 universities of Odisha a total of 1,126 theses data from Shodhganga during 1905-2023. The data carpentry tool Open Refine has been used for data refinement, universities h-index and i10 index fetched from Open Alex and the Gender API used for identification of gender scholars and supervisors. This research has found that following key results most productive university is Utkal University (contribution, 70.15%), and 1984 to 2003 is the most productive period. This study also found that the highest number of theses have been supervised by Ashutosh Pattanaik, affiliated with Utkal University. In gender ratio, 91.38% of the supervisors are male, followed by 60.57% of scholars who are male.

Keywords: Doctoral theses, Electronic thesis and dissertations, Odisha, Odia language and literature, Shodhganga

1. Background

The Government of India, in its eighth schedule of the constitution, has prioritised encouraging all Indian languages and identified six classical languages. Odia was declared a classical language in 2014 and is one of the oldest languages in the country. Hence, a lot of research has been done on this language overall in India. For research purposes in any university, a thesis is a significant and vital primary source of information. Still, now only the academic community has access to these resources in the country (Mir & Sevukan, 2021). The New Education Policy of India (NEP 2020) aims to establish research-intensive universities to boost the Gross Enrolment Ratio (GER) by

adjustments to practices and policies. For this, research conducted in Indian universities is made accessible through the open ETD repository Shodhganga, which is the project of INFLIBNET, Ahmedabad. It is an open-access tool for academics and researchers worldwide (Manoj Kumar & Joorel, 2022). The institutes and researchers have played a significant role in the development of the Indian higher education system (Kumar et al., 2023). ETDs rank among the most widely used and valuable open-access tools for academics and researchers worldwide. The repository can capture, index, store, disseminate and preserve ETDs submitted by the researchers. To get ETD in India there are four kinds of channels i.e. Shodhganga, NDL,



institutional repositories and OPAC of particular institutes' libraries (Kaur & Bhatt, 2022). There are 22 state universities and one central university in the state of Odisha. Of this, only seven state universities and the Central University of Odisha contributed Odia theses and dissertations in the Shodhganga. This study has analysed Odia theses and dissertations indexed in the Shodhganga by the universities of Odisha.

While going through the review of related studies, it was found that no studies on the coverage of Odia language theses in the Shodhganga. So, we are stimulated to explore the gender differential of Odia literature of only the researchers' supervisors who have submitted their doctoral dissertations in India. Shodhganga ('Shodh' means research in Hindi, and 'Ganga' is a large river in India) is a repository of doctoral theses and dissertations submitted to Indian Universities, and houses 4,57,121 (19-05-2023) theses and dissertations being contributed by 715 universities in India (Kumar et al., 2023). In this paper, we have tried to measure the gender differential ratio of PhD scholars and supervisors using Gender API. It gives a drone view and statistical touch of universities ranking in terms of h index, i10 index and contribution of theses. It also analyses the most frequently used keywords by the researcher.

2. Review of literature

Studies on Electronic theses and dissertations have been actively investigated in the last decade to better understand the academic integrity of PhD research output (Kumar et al., 2023). Some recent studies tried to measure the research outputs present in ETD and also to characterise them concerning time, discipline, university and state. Some studies focused on specific countries such as Sri Lanka and Bangladesh (Rahman & Perera, 2022), South Africa

(Bangani, 2018), Nigeria (Ezema & Ugwu, 2013), Zimbabwe (Chisita et al., 2020) and a few others on particular subjects (Gogoi, 2018; Mir & Sevukan, 2021; Hazarika & Sudhier; 2022 Suhalka, 2022). They studied different data sources.

Looking into this scenario, Kaur and Bhatt, (2022) have argued the duplication availability of ETDs, methods of searching, packaging and metadata across various channels. To gain a broader perspective on the phenomenon some scholars (Bangani, 2018; Gogoi, 2018; Rahman & Perera, 2022; Saikia & Das, 2014) have discussed the present status of ETD.

Some of the studies have disclosed connections between researchers, and supervisors in ETD, which focus on the direct academic status of universities and contribution theses and dissertations in Shodhganga. Researchers in India (Biswas, 2016; Chauhan, 2021; Esh, 2015; Jeyapragash et al., 2016; Chavan & Sawai, 2019; Esh & Ghosh, 2021; Katagi & Kumbar, 2022; Khode, 2021; Ramdas Lihitkar & Lihitkar, 2014; Roy & Ghosh, 2022) have explored availability, visibility, impact, trend derivative of year, language, university and to learn about the prominent supervisor and researchers. They have contributed significantly to the progress of their respective areas from different states. Biswas, (2016) has performed a ranking method for identifying the current problem and contribution of West Bengal's top ten universities.

Saikia and Das, (2014) have figured the comparative study of among universities of Assam in terms of the contribution of theses. Esh and Ghosh, (2021) presented India's Open DOAR status with special attention on statistical analysis using JASP software of ETD submitted to Shodhganga repository by Northeast university.



In addition, Mir and Sevukan, (2021) have focused on visibility, accessibility, and possible impact of Library and Information Science (LIS) Ph.D. theses in Shodhganga. They have analysed the contribution of theses from different states of India, the impact of e-theses on citation rate by gathering information from Google Scholar. They have found that Karisiddappa C. R., Sangam S. L. are the most productive supervisors and well-known personalities in the field of LIS in India. Gogoi, (2018) also explored a total of 548 Ph.D. theses in LIS domain of Indian Universities during the period 2013-2017. On the other hand, Suhalka, (2022) has studied Hindi literature availability in Shodhganga repository. He has viewed the contributions of central universities of India. Hazarika and Sudhier, (2022) have analysed the 445 doctoral research in Assamese language and literature uploaded in Shodhganga.

Given the above situation, there are no previous studies that analyse Odia literature submitted by universities of Odisha in Shodhganga in terms of gender differentiation of researcher and supervisor, designation, length of the theses and keyword analysis. This paper tries to bridge this gap and the present study carried out the contribution of Ph.D. research output of universities of Odisha submitted to Shodhganga.

3. Objectives

- i. To analyse the year wise research growth of the Odia language in Shodhganga
- ii. To find out the status of universities

of Odisha submitting ETDs in Odia language

- iii. To identify the MoU signed to Shodhganga in Odisha universities
- iv. To examine the most productive supervisors
- v. To find out gender differential of supervisors and scholars.

4. Methodology

The study was conducted by searching the theses in the Shodhganga submitted by the universities of Odisha. The data has been collected from the Shodhganga website up to April 2023. It was found that eight universities have contributed 1,151 Odia language and literature theses. Out of which, 20 are duplicates, and 5 are wrongly indexed on the website. By excluding these theses, finally, 1,126 theses were identified for the study. Metadata has been collected, classified, compared and further analysed against the objectives of the study. Data on year, research scholar, pagination, supervisors, designation and category were obtained from the metadata or title page of the theses. To identify the gender of research scholars and supervisors, this study used Gender API and the data carpentry tool Open Refine.

5. Analysis

The study aimed to examine the research trend of literature in the field of Odia submitted in the Shodhganga repository. It analyses 1,126 Odia language theses from 1905 to 2023 to find out the status and growth of the research output of the universities of Odisha.

**5.1 Contribution of theses in the Shodhganga****Table 1: Name of the universities and their contributions in the Shodhganga over the time of 1905-2023**

Sl No.	Name of the Universities	Year of Establishment	Sign MOU year	h-index	i10-Index	Contribution of Theses
1	Utkal University	1943	2016	84	863	790 (70.15%)
2	Sambalpur University	1967	2012	57	557	259 (23.00%)
3	Berhampur University	1967	2020	54	432	26 (2.30%)
4	Ravenshaw University	2006 (as a university)	2020	47	378	25 (2.22%)
5	Fakir Mohan University	1999	2020	33	154	14 (1.24%)
6	Central University of Odisha	2009	2015	18	39	10 (0.88%)
7	Gangadhar Meher University	2015 (as a university)	2021			1 (0.08%)
8	Rama Devi Women's University	2015 (as a university)	2021	19	38	1 (0.08%)
9	Total					1,126

Table 1 analyses the universities of Odisha in terms of year of establishment, h-index, i10 index, signing MoUs and contributing electronic theses to the Shodhganga repository. Open Alex has been used for retrieval of h-index and i10 index. The data highlights key metrics for each university and provides insights into their research and academic contributions. Utkal University is the earliest university in Odisha, established in 1943. Gangadhar Meher and Rama Devi Women's University both are youngest universities established in 2015. All 8 universities from Odisha signed MoU with Shodhganga and Ph.D. theses are uploaded or submitted to Shodhganga for institutional repository. Utkal University stands out with a significant h-index of 84 and i10 index of 863 indicating substantial research impact. It also

has the highest contribution of theses, accounting for 790 (70.15%) of the total. Sambalpur University follows closely with an h-index of 57, an i10 index of 557 and contributes 259 (23%) of theses. 26 (2.3%) theses have been submitted by Berhampur university to stand in the third position. However, Ravenshaw University and Gangadhar Meher University have submitted only one thesis to Shodhganga. The analysis highlights the varying levels of academic impact and research output among the universities in Odisha. Utkal University emerges as a prominent institution, demonstrating substantial research contributions with a high h and i10 index. Sambalpur University also exhibits commendable research activity.



5.2 Year wise growth of theses

Table 2: Yearly growth of theses contributed by universities of Odisha

Name of Universities	1903-1922	1923-1943	1944-1963	1964-1983	1984-2003	2004-2023	Total
Utkal University	1	0	1	38	473	277	790
Sambalpur University	0	0	0	8	119	132	259
Berhampur University	0	0	0	0	0	26	26
Ravenshaw University	0	0	0	0	0	25	25
Fakir Mohan University	0	0	0	0	0	14	14
Central University of Odisha	0	0	0	0	0	10	10
Gangadhar Meher University	0	0	0	0	0	1	1
Rama Devi Women's University	0	0	0	0	0	1	1
Total	1	0	1	46	592	486	1,126

To understand the actual growth of these and the dissertations in Odia language we analyse the 15-year interval contribution of theses. According to year-wise contributions of theses from universities of Odisha a greater number of theses contributed 473 to

Shodhganga from 1984 to 2003 from Utkal University, followed by Sambalpur University 119. Table 2 depicts year-wise information on universities of Odisha existing data in the Shodhganga.

5.3 Language-wise distribution

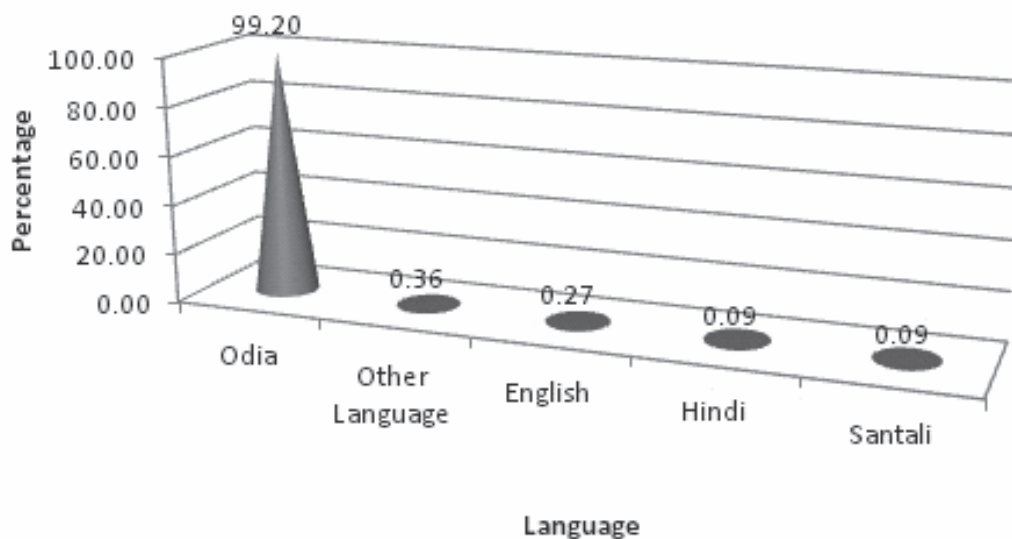


Figure1: Language-wise distribution



Figure 1 represents the language distribution of Odia theses. This study has revealed that most of the theses are in the Odia language 1,117 (99.20%) followed by 4 (0.36%) in other languages, 3(0.27%) in English and one each in Hindi and Santali languages.

5.4 Gender-wise contribution of research scholars and supervisors

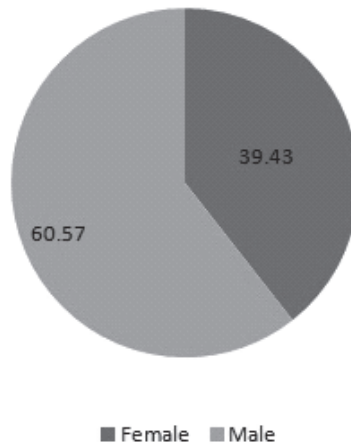


Figure 2: Gender-wise contribution of research scholars

Figure 2 represents the ratio of gender in context to Ph.D. theses submitted to Shodhganga. The data have been extracted with the assistance of Gender API to figure out the gender. Gender-wise analysis shows that, among 1,126 scholars, 682 (60.56%) are males, and 444 (39.43%) are females. If we deeply observesupervisors' gender ratio in figure 3, we have found that males are 91.38% (n=1,029) and females are only 6.57% (n=74).

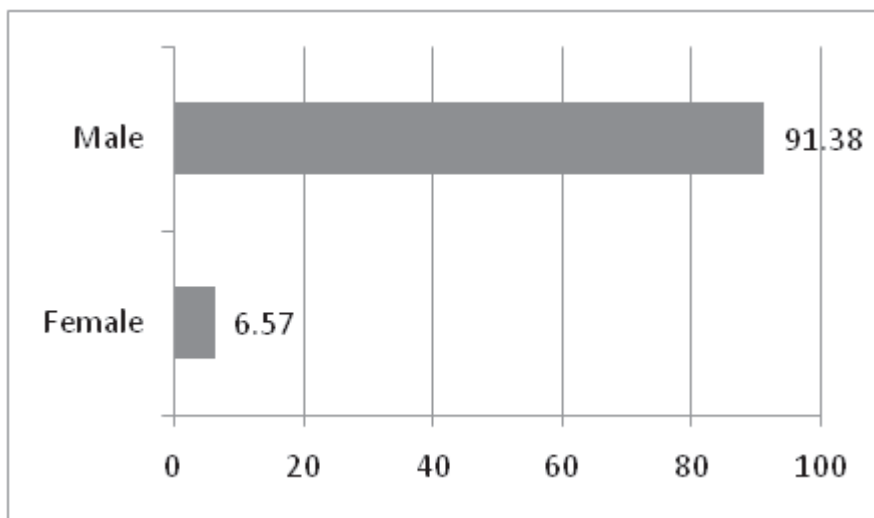


Figure 3: Gender-wise distribution of supervisor



5.5 Contribution of the top five supervisors from selected universities

Table 3: Contribution of the top five supervisors from selected universities

Sl No	Name of Supervisor/Guide	No. of Theses awarded under his/her supervision	Percentage
Utkal university			
1	Ashutosh Pattanaik	45	5.70%
2	Basudeva Sahu	27	3.42%
3	K C Sahoo	25	3.16%
4	Rangadhar Nayak	22	2.78%
5	Baishnab Charan Samal	21	2.66%
Sambalpur University			
1	Kumud Ranjan Panigrahi	23	8.88%
2	Bairagi Charan Jena	19	7.34%
3	Adikanda Sahoo	19	7.34%
4	Samar Mudali	18	6.95%
5	Brundabana Chandra Acharya	15	5.79%
Berhampur University			
1	Devi Prasanna Patnaik	6	23.08%
2	Sameer Bhoi	5	19.23%
3	Sadananda Naik	4	15.38%
4	Lambodar Panigrahi	3	11.54%
5	Debiprasad Satapathy	3	11.54%

Table 3 reveals that Ashutosh Pattanaik is the leading research guide under whose guidance 45 theses have been awarded from Utkal University, followed by Basudeva Sahu (27), K. C Sahoo (25), Rangadhar Nayak (22), Baishnab Charan Samal (21) respectively. From Sambalpur University,

Kumud Ranjan Panigrahi is the leading guide with 23 theses awarded under his supervision, followed by Bairagi Charan Jena and Adikanda Sahoo 19 each. Regarding Berhampur University, Devi Prasanna Patnaik is the leading guide with a score of 6 theses awarded under his supervision.

5.6 Length and categories of the theses

Table 4: Distribution of theses based on pages

Pages	No. of theses	Percentage
1-200	64	5.72%
201-400	708	63.27%
401-600	296	26.45%
601-800	43	3.84%
801-1000	8	0.71%
Total	1,119	100



Table 4 shows the distribution of the number of pages of theses uploaded to the Shodhganga repository. The highest 708 (63.27%) numbers of theses between 201-400 pages. Only 0.71% (n=8) of these pages

range between 801 to 1000 pages and 68.99% (n=772) of theses belong to 1-400 pages. Figure 4 shows that among 1,126 ETDs, 1091 were PhD theses (96.89%), 33 D.Litt. (2.93%) and two MA theses (0.17%).

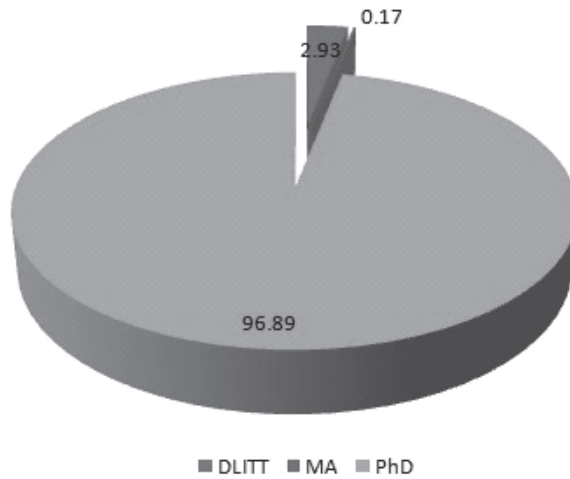


Figure 4:Category wise distribution of theses

5.7 Frequency of the keyword occurrence

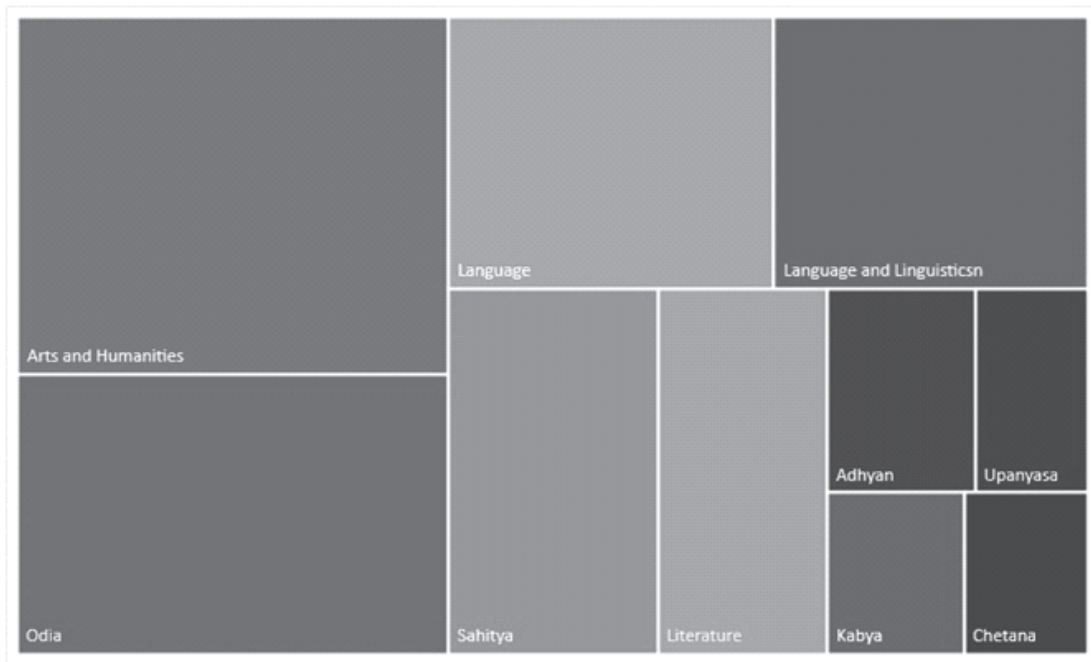


Figure 5: Frequency of the keyword occurrence



Figure 5 depicts the treemap of frequency of Odia theses keywords. The size of the rectangle and the inside the keywords represent the weight; the bigger the rectangle and words, the larger the weight. A total of 2,905 keywords were used in this study. Out of which the researchers mostly used keywords Arts and humanities, Odia, language, Language and Linguistics, Sahitya, Literature, Adhyan, Upanyasa, Kabya, Chetana. 'Arts and humanities' have been repeatedly used 154 (12.58%) times and occupied first rank. The word 'Odia' occupied second rank with frequently used 120 (9.80%) times, followed by language 88 (7.19%), Language and Linguistics 85 (6.94%), Sahitya 76 (6.21%), Literature 62 (5.07%), Adhyan 30 (2.45%), Upanyasa 23 (1.88%), Kabya 22 (1.80%), Chetana 20 (1.63%) respectively. The frequency of the top ten keywords is 55.56% of the total keywords.

6. Conclusion

There are currently 4,57,121 (19-05-2023) theses and dissertations contributed by 715 universities in India. The current paper presents the scenario of the universities of Odisha in Odia language and literature. Among the 8 universities, Utkal University is the oldest university with the highest number of faculties. It has predominated other 7 universities and taken place first position by contributing 70.15% highest number of theses. This study has analysed the gender ratio of scholars and supervisors in Odia language and found that 91.38% of the supervisors are male, followed by 60.57% of scholars are male. Keywords play a vital role in the retrieval of any scholarly communication and research area. This study also found that the top ten keywords occupied 55.6% of the total frequency. It also found no symmetry in the gender ratio as only 39.43 % of scholars and 6.57% of supervisors are female. However, many institutions of higher education and research in India, such as JNU,

Delhi university, etc. facilitated Ph.D. courses in Odia language and literature. So, the future goal is to consider these universities, which can be studied with other parameters, i.e., citation analysis and metadata analysis of Shodhganga. Some nationally important institutions have maintained their ETD repositories that are not present in Shodhganga currently. So it also can be considered for future thrust.

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