

Uncovering Errors in References: An Analysis of Library and Information Science Theses in India

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ABSTRACT

This study aimed to investigate the accuracy of references in Library and Information Science theses from Indian universities. Results indicate that there were a total of 1750 errors found in 914 references, with format errors being the most prevalent at 68.2% of all errors, followed by major errors at 22.2% and minor errors at 9.7%. The study focused on theses that used the APA referencing standard. The findings suggest that there is a need for authors to pay more attention to the format of their references, as referencing standards are crucial for maintaining uniformity and consistency in academic writing. The high number of format errors indicates that authors should be better trained on referencing standards to produce high-quality papers that conform to the expectations of academic journals and readers.

KEYWORDS: Reference accuracy, Library and Information Science theses, Referencing consistency, Inaccuracies in references, Academic writing.

INTRODUCTION

The accuracy and consistency of references in academic writing are critical for ensuring the credibility and integrity of research. In the field of Library and Information Science (LIS), theses play a crucial role in establishing new knowledge and understanding of the discipline. However, the quality of references in these theses can have a significant impact on their overall credibility.

While referencing styles and standards exist to guide authors in the proper formatting and citation of sources, it is not uncommon for errors to occur. These errors can take many forms, including major errors such as the omission of author or editor names, titles, and journal names, as well as minor errors such as spelling mistakes, incomplete titles, and changes in wording. Additionally, format errors, such as incorrect capitalization or punctuation, can also affect the accuracy and consistency of references.

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This study aims to investigate the reference accuracy and consistency in LIS theses from Indian universities. The study examines the types of inaccuracies that occur in references, including major, minor, and format errors, and evaluates the overall prevalence of these errors. The study also examines the referencing consistency in the theses, by analyzing the standard used and comparing it with the actual format.

The results of this study will be of interest to LIS educators, researchers, and practitioners, as well as those in related fields who are concerned with the quality and reliability of academic writing. The findings of this study can provide insight into the current state of referencing practices in LIS theses and identify areas for improvement. Additionally, the study can be used as a benchmark for LIS educators to evaluate and improve their teaching methods, and for LIS researchers to improve the quality of their references. Furthermore, the study will be useful for the library and information science community to be aware of the referencing accuracy and consistency in their theses and hence improve the quality of their research.

REVIEW OF LITERATURE

References are an integral part of a scientific article. In the references, as in other parts of an article, the importance of accuracy should not be underestimated. Accurate references help the reader to learn about a new field, and such a reader uses the reference list to approach the background literature (McLellan, Case & Barnett, 1992). References provide a method of evaluating the article assist in assessing an author's credibility (Foreman & Kirchhoff, 1987).

All of these purposes are only served if the citations are accurate. Many articles have revealed that this is frequently not the case. (Doms, 1989; Davies, 2012; Lee & Lee, 1999; Sutherland et al., 2000) examined citation accuracy in journals, key aspects of their investigations are journal title, authors, article title, publication year, volume number, issue number and page number. (Harinarayana, Chikkamanju, & Vasantha Raju, 2011; Harinarayana & Manjunatha, 2016) examined the accuracy of citations in theses for multiple sources, such as journal article, books, conference proceedings, theses/dissertation, reports, newspaper and website. Both the studies found that 77.24% references and 54.91 references were incorrect, and also suggested for conducting training programs for new research scholars so that they can follow a single citation standard to maintain the reference accuracy.

METHODOLOGY

The study examined reference accuracy in Library and Information Science theses from eight Indian universities in the western region, including Bharati Vidyapeeth Deemed University, Hemchandracharya North Gujarat University, Krantiguru Shyamji Krishna Verma Kachchh University, Maharaja Sayajirao University of Barod, Rai University, Sant Gadge Baba Amravati University, Sardar Patel University and Saurashtra University. A total of eight theses were randomly selected and downloaded from the Shodhganga repository. The accuracy of the references were verified by comparing them with the original sources available online. In order to ensure consistency in the comparisons, only theses that cited in the APA format were selected. A total of 1124 references were found in the eight theses, out of which 914 (81.32%) were verified, while the remaining 210 (18.68%) were not verifiable as they were not available online. The errors were classified into three groups: major errors, minor errors and format errors. Major errors included the omission of elements such as the author, title, journal title or book title. Minor errors included spelling errors and the omission of letters in words. Format errors were references that did not follow the standard or style that had been declared or taken for the references.

Table 1: No. of References

No. of Theses	Verified References	Unverifiable References	Total No. of References
Bharati Vidyapeeth Deemed University	188 (79.66%)	48 (20.33%)	236
Hemchandracharya North Gujarat University	71 (81.61%)	16 (18.39%)	87
Krantiguru Shyamji Krishna Verma Kachchh University	116 (90.63%)	12 (9.37%)	128
Maharaja Sayajirao University of Baroda	115 (90.55%)	12 (9.45%)	127
Rai University	150 (81.52%)	34 (18.48%)	184
Sant Gadge Baba Amravati University	84 (88.42%)	11(11.58%)	95
Sardar Patel University	98 (64.47%)	54 (35.53%)	152
Saurashtra University	92 (80%)	23 (20%)	115
Total	914 (81.32%)	210 (18.68%)	1124

The references from the eight theses were collected and analyzed. The average number of references found in the theses was 140, with a range of 149 (from a minimum of 87 to a maximum of 236). The collected references were categorized into verified and unverifiable references. Out of 1124 references, 81.32% were examined for further analysis, while the remaining 18.68% were ignored as they could not be ascertained for their accuracy due to the lack of complete details online. Thesis 7 had the lowest number of references that could be found online.

Table 2 : Categories of References

No. of Theses	No. of References (Verified)	Correct References	Incorrect References
Bharati Vidyapeeth Deemed University	188	33 (17.55%)	155 (82.45%)
Hemchandracharya North Gujarat University	71	18 (25.35%)	53 (74.65%)
Krantiguru Shyamji Krishna Verma Kachchh University	116	56 (48.28%)	60 (51.72%)
Maharaja Sayajirao University of Baroda	115	71 (61.74%)	44 (38.26%)
Rai University	150	07 (4.66%)	143 (95.33%)
Sant Gadge Baba Amravati University	84	04 (4.76 %)	80 (95.24%)
Sardar Patel University	98	00 (00%)	98 (100%)
Saurashtra University	92	03 (3.26%)	89 (96.74%)
Total	914	192 (21.01%)	722 (78.99%)

All theses except for Thesis 4 were found to have error rates less than 60%. It is shocking to note that four theses had accuracy rates of less than 10%. Thesis 7 was the worst performer, with all of its references found to be erroneous. Thesis 4 had the highest accuracy rate at 61.74%, which is also not a satisfactory performance for a

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scholarly publication. Out of the total 914 references examined in this study, only 21.01% were correct, while 78.99% were erroneous.

Table 3: Number of Errors

No. of Theses	Incorrect References	Number of Errors	Average No. of Errors	Percentage
Bharati Vidyapeeth Deemed University	155	86	0.55	4.91%
Hemchandracharya North Gujarat University	53	128	2.41	7.31%
Krantiguru Shyamji Krishna Verma Kachchh University	60	91	1.51	5.2%
Maharaja Sayajirao University of Baroda	44	67	1.52	3.83%
Rai University	143	248	1.73	14.17%
Sant Gadge Baba Amravati University	80	169	2.11	9.66%
Sardar Patel University	98	690	7.04	39.42%
Saurashtra University	89	271	3.04	15.48%
Total	722	1750	2.42	100%

When looking at Table 3, the total for all eight universities combined, the data shows that there were a total of 722 theses, with 1750 errors, resulting in an average of 2.42 errors per thesis and a percentage of errors at 100%. It is clear from this data that Sardar Patel University had the highest percentage of errors, while Bharati Vidyapeeth Deemed University had the lowest percentage of errors. Overall, the data suggests that there is room for improvement in terms of the accuracy of references in theses at these universities.

Table 4 Source Wise Errors

Type of Sources	Number of Correct References	Incorrect References	Total Number of errors
Journal Article	492	103	389
Book	163	41	122
Book Chapter	14	00	14
Conference paper	71	9	62
Thesis	15	2	13
Website	159	37	122
Total	914	192	722

Table 4 presents data on the number of references, correct references, incorrect references, and total number of errors for different types of sources used in a research project. The data shows that journal articles were the most commonly used source, with 492 references, followed by websites with 159 references, books with 163 references, conference papers with 71 references, and theses with 15 references.

The data also shows that the total number of errors for journal articles was 945, followed by books with 371, websites with 148, conference papers with 237, and theses with 30. Overall, it is clear from this data that journal articles were the most frequently used source, but also had the highest number of errors. This suggests that while journal articles may be a reliable source of information, it is important to carefully check and verify the references used from these sources.

Additionally, it can be inferred that the use of conference papers and theses as sources of references are relatively low, and the references used from these sources are more prone to errors. This highlights the importance of verifying the references from these sources too.

In conclusion, this data emphasizes the importance of carefully checking and verifying references in research projects, regardless of the type of source used. It also highlights the need for researchers to be mindful of the type of source they are using and the potential for errors in those sources.

Table 5 Errors in Document Type - Journals

Name of University	Total References	Incorrect References	Major Errors	Minor Errors	Format Errors	Total Errors
Bharati Vidyapeeth Deemed University	99	99	10 (50%)	07 (35%)	03 (15%)	20
Hemchandracharya North Gujarat University	42	36	08 (8.33%)	13 (13.54%)	75 (78.12%)	96
Krantiguru Shyamji Krishna Verma Kachchh University	69	39	36 (55.38%)	17 (26.15%)	12 (18.46%)	65
Maharaja Sayajirao University of Baroda	100	39	26 (41.27%)	29 (46.03%)	08 (12.69%)	63
Rai University	74	69	19 (12.34%)	09 (5.844%)	126 (81.82%)	154
Sant Gadge Baba Amravati University	8	07	05 (31.25%)	02 (12.5%)	09 (56.25%)	16
Sardar Patel University	36	36	21 (6.31%)	10 (3.00%)	302 (90.69%)	333
Saurashtra University	64	64	29 (14.65%)	10 (5.05%)	159 (80.30%)	198
Total	492	389	154 (16.29%)	97 (10.26%)	694 (73.44%)	945

Table 5 presents data on the types of errors found in journal articles, specifically major, minor, and format errors. The data shows that format errors were the most prevalent, accounting for 73.44% (694 out of 945) of the total errors.

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Major errors in journal articles include omissions of important information, such as the author's name, title, journal name, volume, and issue. Examples of these errors include the omission of author names in a reference or the omission of the journal name. Minor errors in journal articles include spelling mistakes, omissions of initial letters, omissions of words, or additions of words.

Format errors in journal articles include errors in punctuation and capitalization, as well as errors in formatting according to specific citation styles. Examples of these errors include using "and" instead of "&" in references, not reversing the author's name, capitalizing the first letter of each word in the title, and not italicizing the journal title. Additionally, the data shows that there were 118 errors in which the author's name was not reversed and the forename was not made as initials, which is a violation of APA style.

Overall, this data highlights the importance of carefully checking and verifying references in journal articles, as errors in references can lead to inaccuracies in the research. It also emphasizes the need for researchers to be familiar with the specific citation style they are using and to follow the formatting guidelines accurately.

Table 6 Errors in Document Type - Books

Name of University	Total References	Incorrect References	Major Errors	Minor Errors	Format Errors	Total Errors
Bharati Vidyapeeth Deemed University	23	23	02 (7.41%)	02 (7.41%)	23 (85.18%)	27
Hemchandracharya North Gujarat University	21	15	00 (00%)	03 (11.11%)	24 (88.88%)	27
Krantiguru Shyamji Krishna Verma Kachchh University	40	17	11 (57.89%)	08 (42.10%)	00 (00%)	19
Maharaja Sayajirao University of Baroda	13	03	01 (50%)	01 (50%)	00 (00%)	2
Rai University	15	15	03 (13.63%)	01 (4.54%)	18 (81.81%)	22
Sant Gadge Baba Amravati University	08	06	12 (50%)	01 (4.16%)	11 (45.83%)	24
Sardar Patel University	39	39	14 (5.76%)	07 (2.88%)	222 (91.35%)	243
Saurashtra University	04	04	01 (14.28%)	01 (14.28%)	05 (71.43%)	7
Total	163	122	44 (11.85%)	24 (6.47%)	303 (81.67%)	371

When looking at the types of errors from Table 6, major errors were found in 44 references (11.85% of total errors), minor errors were found in 24 references (6.47% of total errors), and format errors were found in 303 references (81.67% of total errors). It can be inferred that format errors are the most common type of errors across all the universities.

Additionally, the data indicates that the proportion of major errors in total errors varies from university to university. For example, Krantiguru Shyamji Krishna Verma Kachchh University has the highest proportion of major errors at 57.89% while Maharaja Sayajirao University of Baroda has no format errors. Similarly, the proportion of minor errors varies across universities, with Sant Gadge Baba Amravati University having the highest proportion of minor errors at 4.16%.

Sardar Patel University has the highest proportion of format errors at 91.35%. This suggests that this university should focus on checking the format of their references.

In conclusion, the data suggests that there is a need for universities to focus on checking and verifying references in research projects. The data also highlights the importance of being aware of the different types of errors that can occur in references, and to take steps to prevent them.

Table 7 Errors in Document Type – Book Chapters

Name of University	Total References	Incorrect References	Major Errors	Minor Errors	Format Errors	Total Errors
Bharati Vidyapeeth Deemed University	10	10	00 (00%)	00 (00%)	10 (100%)	10
Hemchandracharya North Gujarat University	01	01	02 (50%)	00 (00%)	02 (50%)	04
Krantiguru Shyamji Krishna Verma Kachchh University	00	00	00 (00%)	00 (00%)	00 (00%)	00
Maharaja Sayajirao University of Baroda	01	01	00 (00%)	01 (100%)	00 (00%)	01
Rai University	02	02	00 (00%)	02 (50%)	02 (50%)	04
Sant Gadge Baba Amravati University	00	00	00 (00%)	00 (00%)	00 (00%)	00
Sardar Patel University	00	00	00 (00%)	00 (00%)	00 (00%)	00
Saurashtra University	00	00	00 (00%)	00 (00%)	00 (00%)	00
Total	14	14	02 (10.52%)	03 (15.78%)	14 (73.68%)	19

Table 7 data indicates that all the universities had a total of 14 incorrect references, with 73.68% of those references being format errors, 15.78% being minor errors, and 10.52% being major errors.

While the data suggests that the majority of errors are format errors, it is important to note that the sample size is small, which limits the ability to draw robust conclusions. Additionally, it is worth noting that Hemchandracharya North Gujarat University, Rai University and Maharaja Sayajirao University of Baroda have only one incorrect reference, which is not a representative sample to draw conclusions.

Furthermore, it is worth noting that four universities, Krantiguru Shyamji Krishna Verma Kachchh University, Sant Gadge Baba Amravati University, Sardar Patel University and Saurashtra University, have no incorrect references at all. This could suggest that these universities have a strong focus on accurate referencing or that the sample size is too small to draw any conclusions.

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Table 8 Errors in Document Type – Conference Papers

Name of University	Total References	Incorrect References	Major Errors	Minor Errors	Format Errors	Total Errors
Bharati Vidyapeeth Deemed University	03	03	00 (00%)	00 (00%)	06 (100%)	06
Hemchandracharya North Gujarat University	05	01	01 (100%)	00 (00%)	00 (00%)	01
Krantiguru Shyamji Krishna Verma Kachchh University	05	03	01(20%)	03 (60%)	01(20%)	05
Maharaja Sayajirao University of Baroda	01	01	00 (00%)	01 (100%)	00 (00%)	01
Rai University	19	17	12 (29.27%)	05 (12.19%)	24 (58.53%)	41
Sant Gadge Baba Amravati University	10	10	14 (40%)	03 (8.57%)	18 (51.43%)	35
Sardar Patel University	12	12	07 (7.77%)	17 (18.88%)	66 (73.33%)	90
Saurashtra University	16	15	09 (15.52%)	12 (20.69%)	37 (63.79%)	58
Total	71	62	44 (18.56%)	41 (17.29%)	152 (64.13%)	237

It is clear from the data from Table 8 that all of the universities have a high proportion of format errors in their incorrect references, with format errors accounting for over 60% of all errors. Additionally, the table indicates that all the universities have a high proportion of incorrect references in total references.

The data also shows that the proportion of major errors in total errors varies from university to university, with Rai University having the highest proportion at 29.27%. Similarly, the proportion of minor errors varies across universities, with Sardar Patel University having the highest proportion at 18.88%.

In conclusion, while the data suggests that format errors are the most common type of error in references, the sample size is too small to draw robust conclusions. It would be useful to conduct further research with a larger sample size to get a more accurate picture of referencing errors in these universities. Additionally, it would be beneficial to understand the context of these errors to identify the underlying causes of these errors.

Table 9: Errors in Document Type – Theses

Name of University	Total References	Incorrect References	Major Errors	Minor Errors	Format Errors	Total Errors
Bharati Vidyapeeth Deemed University	01	01	00 (00%)	00 (00%)	02 (100%)	02
Hemchandracharya North Gujarat University	02	00	00 (00%)	00 (00%)	00 (00%)	00
Krantiguru Shyamji Krishna Verma Kachchh University	01	01	00 (00%)	00 (00%)	01 (100%)	01
Maharaja Sayajirao University of Baroda	00	00	00 (00%)	00 (00%)	00 (00%)	00

Rai University	07	07	00 (00%)	00 (00%)	10 (100%)	10
Sant Gadge Baba Amravati University	01	01	00 (00%)	00 (00%)	01 (100%)	01
Sardar Patel University	02	02	01 (7.69%)	01 (7.69%)	11 (84.61%)	13
Saurashtra University	01	01	02 (66.66%)	00 (00%)	01 (33.33%)	03
Total	15	13	03 (10%)	01 (3.33%)	26 (86.66%)	30

Table 9 presents data on the total references, incorrect references, major errors, minor errors, format errors, and total errors for six different universities. The data shows that all of the universities have a high proportion of format errors in their incorrect references, with format errors accounting for over 80% of all errors in most of the universities. Additionally, it is clear that the number of incorrect references is relatively low in comparison to the total number of references.

While the data suggests that format errors are the most common type of error in references, the sample size is too small to draw robust conclusions. It would be useful to conduct further research with a larger sample size to get a more accurate picture of referencing errors in these universities. Additionally, it would be beneficial to understand the context of these errors to identify the underlying causes of these errors.

Table 10 : Errors in Document Type – Websites

Name of University	Total References	Incorrect References	Major Errors	Minor Errors	Format Errors	Total Errors
Bharati Vidyapeeth Deemed University	52	19	17 (80.95%)	00 (00%)	04 (19.05%)	21
Hemchandracharya North Gujarat University	00	00	00 (00%)	00 (00%)	00 (00%)	00
Krantiguru Shyamji Krishna Verma Kachchh University	01	01	00 (00%)	01 (100%)	00 (00%)	01
Maharaja Sayajirao University of Baroda	00	00	00 (00%)	00 (00%)	00 (00%)	00
Rai University	33	33	17 (100%)	00 (00%)	00 (00%)	17
Sant Gadge Baba Amravati University	57	56	91 (97.85%)	02 (2.15%)	00 (00%)	93
Sardar Patel University	09	09	11 (100%)	00 (00%)	00 (00%)	11
Saurashtra University	07	05	05 (100%)	00 (00%)	00 (00%)	05
Total	159	123	141 (95.27%)	03 (2.03%)	04 (2.70%)	148

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The data in Table 10 shows that the majority of errors are major errors, accounting for 95.27% of all errors. Additionally, it is clear that the number of incorrect references is relatively high in comparison to the total number of references, specifically in Bharati Vidyapeeth Deemed University, Rai University, Sant Gadge Baba Amravati University, Sardar Patel University and Saurashtra University.

When looking at the types of errors, it is worth noting that the proportion of major errors in total errors varies greatly among the universities. For example, Bharati Vidyapeeth Deemed University and Krantiguru Shyamji Krishna Verma Kachchh University have the lowest proportion of major errors at 80.95% and 100% respectively, while Sant Gadge Baba Amravati University has the highest proportion of major errors at 97.85%. Furthermore, the proportion of minor errors is very low, at 2.03%. Format errors are also very low at 2.7%

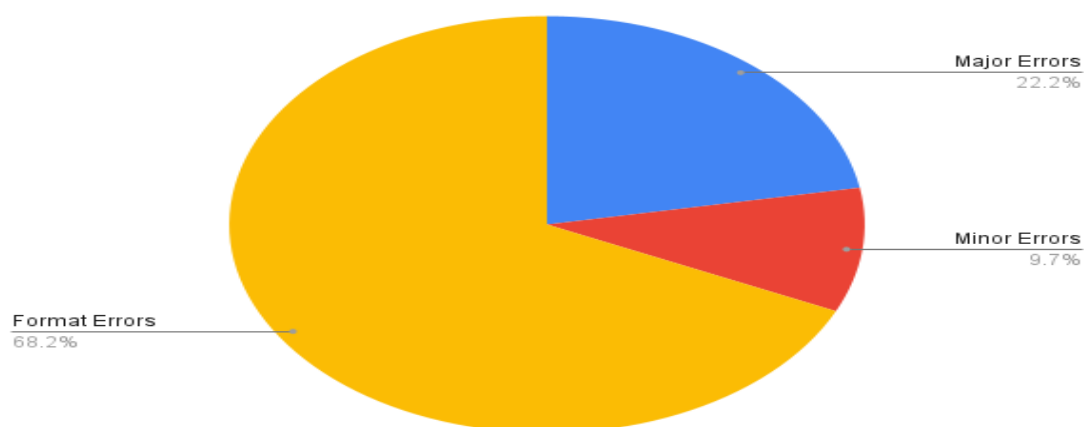
It is also worth noting that the sample size is small, which limits the ability to draw robust conclusions. Additionally, the data doesn't provide any information about the context of these errors, which could be useful in understanding the underlying causes of these errors.

DISCUSSION AND CONCLUSION

The present study aimed to investigate the accuracy of references in Library and Information Science theses from Indian universities. The results indicate that there were a total of 1750 errors found in 914 references. The majority of these errors were format errors, accounting for 68.2% of all errors, followed by major errors at 22.2% and minor errors at 9.7%. The study focused on theses that used the APA referencing standard, and as such, format errors were examined in accordance with this standard.

It is surprising that despite the use of a standard for referencing, errors, particularly format errors, were still prevalent. Adhering to referencing standards is crucial for maintaining uniformity and consistency in academic writing. The standards provide guidelines for capitalization, punctuation, and ordering of information in references. The results of this study suggest that there is a need for authors to pay more attention to the format of their references. Adhering to referencing standards is essential for academic authors, as it ensures that their work is clear, consistent, and accurate. The high number of format errors indicates that authors should be better trained on referencing standards, so that they can produce high-quality papers that conform to the expectations of academic journals and readers.

Figure 1: Types of Errors



The study found that major errors in references often include omissions of important information such as the author or editor's name, title, journal or publisher name, volume, issue, and pagination. Additionally, minor errors were identified as omissions of initials, spelling mistakes, incomplete titles, omissions of subtitles, and changes to words. Format errors were also prevalent, including reversing the order of author names, failing to convert initials to surnames, using the word "and" instead of the ampersand symbol, and capitalizing titles incorrectly.

It is important to note that every source has specific elements that must be included in the reference list, with the author's name being the first element. When these elements are not cited correctly, it can make it difficult or impossible to find primary materials. Additionally, citing references without first accessing and reading the full text can lead to more errors. This highlights the importance of accurate and complete referencing in the field of Library and Information Science, and the need for awareness and training in referencing and referencing styles such as APA and MLA.

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