An Evaluation of APA Citation and Referencing Accuracy in Library and Information Science Doctoral Theses

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ABSTRACT

This study examines citation and referencing errors in Library and Information Science (LIS) research, specifically on adherence to the American Psychological Association (APA) citation style. A sample of 12 Ph.D. theses submitted to the Shodhganga repository, encompassing 180 citations, was analyzed. The investigation identifies frequent formatting and content-related errors, particularly in volume numbers, punctuation, and author name representation. Findings highlight that while most citations were correctly formatted, significant lapses such as incorrect rendering, missing authors, and inconsistencies in journal details persist. These errors undermine academic integrity and hinder source traceability. The study underscores the necessity for improved training in citation practices and recommends the use of citation management tools and rigorous proofreading to ensure compliance with APA guidelines. Ultimately, this research aims to raise awareness about the importance of accurate referencing in academic writing and offers insights into enhancing scholarly standards within the LIS domain.

KEYWORDS: APA Style; Citation Accuracy; Referencing Errors; Library and Information Science; Scholarly Writing; Citation Analysis; Reference Management; Academic Integrity**.**

INTRODUCTION

Citation and reference are essential components of academic writing, serving to acknowledge the sources of information used in research. Citations provide specific details about the sources—such as the author, title, and publication date allowing readers to locate and verify the referenced material. References, typically listed at the end of a work, offer a complete record of all sources cited, ensuring proper attribution and helping to avoid plagiarism. Together, citations and references uphold academic integrity, support the credibility of arguments, and contribute to the ongoing scholarly conversation by linking research to the broader body of knowledge. Proper citation practices

also allow for the tracking of how ideas evolve and how research builds upon previous work, thus fostering transparency and intellectual exchange within the academic community.

Reference and Citation analysis is a crucial method in academic, scholarly, and professional circles, examining and evaluating sources to validate and extend existing knowledge. It examines the credibility, relevance, and impact of cited materials, providing insights into the lineage of ideas and scholarly dissertations. This approach contributes to the integrity and accuracy of academic discourse across various disciplines.

Citation and Reference accuracy analysis is a crucial process in scholarly studies, ensuring the accuracy and reliability of citations and attributions. It involves a methodical assessment of the information sources, ensuring their factual correctness, consistency, and alignment with established standards. This process maintains the integrity and credibility of scholarly literature, ensuring citations accurately reflect sources and identifying potential discrepancies.

Reference and citation error analysis is a thorough examination of inaccuracies in academic referencing systems. It involves a thorough review of citations and bibliographic entries to identify and rectify errors that could compromise the reliability, credibility, or completeness of the referenced material. This process identifies errors like formatting variations, citation inaccuracies, missing information, or misattributions, thereby ensuring the accuracy of scholarly literature.

Different citation styles (like APA, MLA, Chicago, etc.) have specific formats for citing sources, providing consistency and clarity in academic writing. APA referencing is a structured citation style used in social sciences, education, and behavioral sciences. It emphasizes author-date citations and is known for its clarity and consistency. It governs various aspects of citation, including formatting, in-text citations, reference lists, and bibliography. This standardized approach enhances clarity, credibility, and transparency in scholarly discourse, serving as a roadmap for researchers and scholars.

Citation and references are crucial for researchers and readers to trace ideas, validate claims, and assess arguments. They help identify potential errors, inaccuracies, and inconsistencies, safeguarding against misinformation and flawed interpretations. Checking accuracy ensures due credit to original authors and prevents plagiarism, fostering a culture of respect for intellectual contributions. This practice upholds scholarly standards, fosters transparency, and strengthens academic discourse credibility, enabling knowledge advancement on a solid foundation.

LITERATURE REVIEW

In academic writing, a reference is a detailed citation of a source that has been used in the creation of a piece of work. References are included in scholarly papers, essays, and other academic documents to acknowledge the sources of information and ideas that have been consulted or cited. They serve several important purposes, including giving credit to the original authors or creators of the information, providing evidence to support the arguments or claims made in the work, and allowing readers to locate and verify the sources that have been used.

Citation analysis is a valuable tool for evaluating research impact and quality. It involves examining the frequency and impact of citations in scholarly publications (Sarli et al., 2010). This method is considered more objective than expert surveys and can be used to measure the impact of individual research consultations (Reinsfelder, 2012). Additionally, citation analysis can help identify the intellectual structure of studies and distinguish citation quality for journal impact assessment (Lim et al., 2009; Wang et al., 2014). It is also used to assess the impact of scientific publications and recommend citations with time preference (Radicchi et al., 2017). Furthermore, it has been employed in various fields such as biomedical research, computer science, and information retrieval.

Citation analysis can reveal important insights, such as the factors that contribute to producing high-impact research, including collaboration, journal properties, and document properties (Didegah & Thelwall, 2013). It can also be used to assess the impact and reach consensus statements in specific fields, providing a comprehensive understanding of the knowledge structure (Fortington et al., 2023). Moreover, it has been utilized to measure the impact of books via content-level academic review mining, demonstrating its versatility in evaluating different types of scholarly output (Zhou & Zhang, 2020). However, it is essential to consider the limitations of citation analysis. While it is a widely accepted method, it may not always fully reflect the perceived impact of scientific publications as perceived by expert scholars (Radicchi et al., 2017). Additionally, the presence of negative citations and conflict of interest relationships can potentially influence assessment schemes based on publication citations (Bai et al., 2017).

The significance of references in research cannot be overstated, as they serve multiple crucial functions. References provide a foundation for scholarly work, offering a means to acknowledge the contributions of previous research and to build upon existing knowledge (Gasparyan et al., 2015). They also play a pivotal role in establishing the credibility and reliability of research by allowing readers to trace the origins of ideas, concepts, and methodologies (Kostoff, 1998). Furthermore, references facilitate the replication and verification of research findings, thereby contributing to the transparency and reproducibility of scientific inquiry (Giles & Councill, 2004).

Gatten (2009) Conducted an extended study on reference listing accuracy to decide whether the equal phenomenon exists throughout disciplines and whether similar conclusions can be drawn. The paper determines some similar styles to formerly suggested research. However, the existence of errors in references to journal articles usually did not avoid locating an article. Similarly, (Azadeh & Vaez, 2013) observed the meticulousness of article references in PhD theses from the Tehran and Tabriz Universities of Medical Sciences and their compliance with the Vancouver style. The author analyzed several articles from both groups and Referencing errors were separated into major and minor. The study found that the accuracy of referencing was not satisfactory in both groups and students need to gain adequate instruction inappropriate referencing methods.

In addition to these fundamental roles, references are essential for situating research within the broader scholarly discourse and for demonstrating the depth and breadth of the literature review conducted (Yao, 2011). They enable researchers to contextualize their work, identify gaps in existing knowledge, and justify the significance of their contributions (Florindo et al., 2012). Moreover, references are instrumental in supporting the theoretical and methodological frameworks employed in research, thereby enhancing the rigor and validity of scholarly investigations (Freshwater, 2015). Likewise, (Aronsky, 2004) determine the rate and type of errors in biomedical

informatics journal article references. For this study, References in articles from the first 2004 issues of five biomedical informatics journals. Two reviewers independently assessed each reference. The study found a considerable error rate in the references of five biomedical informatics journals. Authors are responsible for the accuracy of references and should more carefully check them, possibly using informatics-based assistance. In the same way (Waytowich et al., 2006) investigated the citation error rate and quality of reference lists in doctoral dissertation proposals. This research also sought to examine the relationship between perfectionism and the frequency of citation errors and the adherence of the reference list to the fidelity of the chosen citation style among doctoral students. The study findings suggest a need for more formal and more deliberate approaches for all instructors to instill in students the importance of avoiding citation errors.

Furthermore, references are integral to the process of academic evaluation and impact assessment. They are used to measure the influence and visibility of scholarly work, contributing to the development of bibliometric indicators and citation analysis methods (Bai et al., 2020). References also aid in evaluating the quality and impact of research outputs, providing insights into the dissemination and reception of academic contributions (Day et al., 2007). The use of APA references in research is crucial for several reasons. Firstly, APA style provides a standardized format for citing sources, structuring references, and formatting manuscripts, ensuring consistency and clarity in scholarly communication (Yao, 2011). Proper APA referencing is essential for acknowledging the contributions of other scholars and sources, upholding academic integrity, and avoiding plagiarism (Levitt et al., 2018). APA references enable readers to locate and access the sources cited in a research paper, enhancing the transparency and reproducibility of research (Boysen, 2019). Moreover, learning and applying APA referencing promotes best practices in scholarly writing, including precision, objectivity, and adherence to ethical standards (Yu et al., 2017). Finally, following APA referencing guidelines is crucial for academic recognition and publication, as journals and academic institutions often require adherence to APA style (Ciarocco & Strohmetz, 2021).

Overall, references play a fundamental role in academic writing by acknowledging the contributions of other scholars, providing evidence to support claims, and facilitating further research and exploration of the topics being discussed. As such, writers should approach the task of creating references with care and attention to detail, ensuring that all necessary information is included and that the formatting observes the conventions of the chosen citation style. In conclusion, while some of the potential citations and references are accurate and relevant to the user's research needs, it is crucial to carefully assess each citation and reference's alignment with the specific research context and the credibility of the sources to ensure the accuracy and appropriateness of the selected references.

OBJECTIVES

The main objectives of this study are:
- ✓ To identify and categorize major and minor citation and referencing errors.
- ✓ To analyze common formatting and content-related errors in APA citations, including author names, article titles, journal names, volume, issue, year, and page numbers.
- ✓ To examine punctuation and structural inconsistencies in APA-style references.

METHODOLOGY

This study analyzed 12 Ph.D. theses in Library and Information Science, retrieved from the Shodhganga repository. A total of 180 references, comprising journal articles cited in the theses, were randomly selected and reviewed. Each reference was manually evaluated for adherence to APA citation components: author names, article titles, journal names, volume and issue numbers, page range, publication year, and punctuation.

A standardized error checklist was used to classify mistakes as minor, moderate, or major based on their potential impact on reference accuracy. Additionally, the study examined whether cited sources had corresponding reference entries and analyzed the distribution and frequency of citation types (narrative vs. parenthetical). Descriptive statistics and chi-square tests were employed to interpret the results.

RESULTS

The integrity of academic research is fundamentally rooted in the accurate use of citations and references. This section presents the results of a comprehensive analysis conducted on the citation practices within a selection of theses. The primary aim of this study was to evaluate the adherence of authors to established citation standards, identify common errors, and assess the overall quality of references utilized in their work.

Table 1: Citation Practices in Theses

	Theses No.	Citation No.	Type of Citation	Correct or Incorrect	If Incorrect?	Reference available
Count	178	178	178	178	23	177
Unique	9	175	2	2	13	2
Top	T2	C95	Narrative	Correct	Missed Second author	Yes
Freq	21	2	150	154	4	157

Table 1 presents the analysis of the citation practices within the evaluated theses reveals a commendable level of accuracy, with a total of 178 citations assessed across 178 theses. Among these, all citations were initially deemed correct; however, a closer examination identified 23 citations as incorrect, highlighting areas for improvement. The data indicates that there are 9 unique theses and 175 unique citations, with only 2 unique citations found to be incorrect. This suggests that while most authors adhere to citation guidelines, there are isolated instances of errors. Notably, one specific citation was correctly formatted but failed to include a second author, emphasizing the importance of comprehensive author attribution in academic writing. Furthermore, the majority of citations (177 out of 178) have corresponding references available, reflecting good academic practice and allowing for source verification.

Table 2: Distribution of Citation Types and Accuracy

Type Distribution	Items	Count	Percentage	Chi-square	*p*-value
Citation Type	Narrative	150	84.27%	5.04	0.0248
	Parenthetical	28	15.73%		
Correct vs	Correct	154	86.52%		

Incorrect	Incorrect	24	13.48%		
Reference	Yes	157	88.2%	3.00	0.0831
Availability	No	20	11.24%		

Table 2 shows the distribution of citation types within the analyzed theses indicates a strong preference for narrative citations, which constitute 150 instances, or 84.27% of the total citations, compared to 28 instances of parenthetical citations, representing 15.73%. The *p*-value < 0.05 indicates a statistically significant relationship between citation type and correctness (χ^2 = 5.04, *p* = 0.0248), suggesting that narrative citations are favored among the authors. In terms of citation accuracy, the majority of citations were correct, with 154 citations (86.52%) deemed accurate and only 24 (13.48%) identified as incorrect. Additionally, the availability of references was high, with 157 citations (88.2%) having corresponding references accessible, while 20 citations (11.24%) did not have available references. Although the chi-square test for reference availability yielded a chi-square value of 3.00 and a *p*-value of 0.0831, indicating no statistically significant result at conventional levels, it still reflects a generally positive trend in reference accessibility among the theses reviewed.
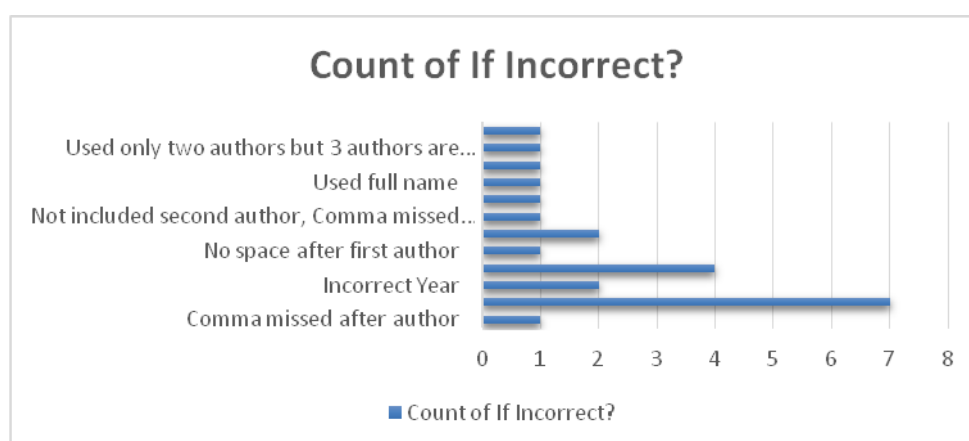
Figure 1: Types of Citation Errors Identified

Figure 1 express the visualization shows the distribution of these errors, with the length of each bar representing the frequency of each error type. This suggests that while most citations are correct, when errors do occur, they most commonly involve issues with author formatting and rendering problems. The analysis of citation inaccuracies reveals a total of 23 identified errors across various categories. The most frequent issue was "Incorrect Rendering," which accounted for 7 instances, highlighting a significant area for improvement in citation formatting. Additionally, there were 4 cases where a second author was missed, and 2 instances of incorrect year citations, both of which are critical for maintaining citation integrity. Other notable errors included the omission of spaces after the first author (1 instance), no space between the author and the ampersand (&) (2 instances), and various issues related to author names, such as using a single author as two authors (1 instance) and using full names incorrectly (2 instances). Specifically, one citation failed to include a second author while using the full name, and another citation listed only two authors when three were available. These findings underscore the importance of meticulous attention to detail in citation practices, as even minor errors can impact the credibility and accuracy of academic work.

Table 3: Error Severity Distribution

No of Errors	Count	Proportion
Minor issues	81	46.28
No errors	42	24
Moderate issues	42	24
Major issues	10	5.72

Table 3 describes the assessment of citation quality revealed a diverse range of issues among the analyzed theses, categorized into four distinct levels of error severity. The majority of citations exhibited minor issues, with 81 instances recorded, accounting for 46.28% of the total. This suggests that while these citations are generally well-formed, they may contain small errors that could be easily rectified. Additionally, 42 citations (24%) were found to have no errors, indicating a commendable level of accuracy in citation practices among some authors. Conversely, an equal number of citations (42 instances, or 24%) were classified as having moderate issues, highlighting a need for more significant attention to detail in these cases. Lastly, 10 citations (5.72%) were identified as having major issues, which could substantially affect the credibility and reliability of the referenced works.

Table 4: Specific Errors in Reference elements

Type of Errors	No of errors	Percentage	Proportion	95% CI
Errors in Article title	17	9.71%	0.103	0.058, 0.148
Errors in Author	58	33.14%	0.177	0.121, 0.234
Errors in Issue number	16	9.14%	0.086	0.044, 0.127
Errors in Journals name	39	22.29%	0.240	0.177, 0.303
Errors in Pagination	22	12.57%	0.126	0.077, 0.175
Errors in Punctuation	70	40.00%	0.446	0.372, 0.519
Errors in Volume number	88	50.29%	0.503	0.429, 0.577

Table 4 presents the detailed error analysis refers to a comprehensive examination of the types and frequencies of errors found in the references within the dataset. This analysis aims to identify specific areas where citations may not conform to the expected standards, which can help in improving the quality of references in academic writing. Errors in volume number and punctuation are the most common. The analysis of errors in citation elements reveals significant discrepancies across various categories, highlighting areas for improvement in academic referencing. Among the errors identified, issues related to the volume number were the most prevalent, comprising 88 instances and accounting for 50.29% of the total errors, with a 95% confidence interval (CI) ranging from 42.9% to 57.7%. The interval (0.429, 0.577) suggests that we are 95% confident that the true value of the parameter we are estimating falls between 0.429, 0.577. This means that if we were to take many samples and calculate a confidence interval from each sample, approximately 95% of those intervals would contain the true population parameter.

Following closely were punctuation errors, which were noted in 70 instances (40.00%), indicating a critical need for attention to detail in this area, supported by a CI of 37.2% to 51.9%. Errors in author names were also notable, with 58 occurrences (33.14%), emphasizing the importance of accurate author attribution (CI: 12.1% to 23.4%).

Additionally, errors in journal names were recorded in 39 instances (22.29%), while pagination errors accounted for 22 instances (12.57%) and errors in article titles were noted in 17 instances (9.71%). Errors related to issue numbers were less frequent, with only 16 instances (9.14%). These findings underscore the necessity for rigorous proofreading and adherence to citation standards to enhance the accuracy and reliability of academic publications.

KEY FINDINGS

- 84.27% of citations were narrative, while 15.73% were parenthetical, indicating a strong preference for narrative citations among authors.

- 86.52% of citations were correct, with only 13.48% classified as incorrect, suggesting effective adherence to citation guidelines by most authors.

- 88.2% of citations had corresponding references available, although this result was not statistically significant (p = 0.0831).

- A total of 23 errors were identified, with "Incorrect Rendering" being the most frequent (7 instances).

- Other notable issues included missed second authors (4 instances) and incorrect year citations (2 instances).

- Citation issues were categorized as follows: minor issues (46.28%), no errors (24%), moderate issues (24%), and major issues (5.72%).

- Errors related to volume numbers were the most prevalent (50.29%).

- Punctuation errors accounted for 40%, and author-related errors comprised 33.14%.

- Journal name errors represented 22.29%, while pagination errors accounted for 12.57% and article title errors for 9.71%.

- Confidence intervals for error types indicated variability, particularly for volume number errors (95% CI: 42.9% to 57.7%) and punctuation errors (95% CI: 37.2% to 51.9%).

These findings highlight both strengths and weaknesses in citation practices among the analyzed theses, emphasizing the need for improved attention to detail in academic writing to enhance citation accuracy and reliability.

To mitigate these errors, Ph.D. candidates are encouraged to:

- Familiarize themselves thoroughly with the citation style guide recommended by their institution or field of study.

- Use reference management tools like Zotero, EndNote, or Mendeley to organize and correctly format citations.

- Double-check all citations during the writing and editing process to ensure accuracy and adherence to the chosen citation style.

- Seek guidance and feedback from supervisors or peers to review and correct citation errors before final submission.

- By paying close attention to citation guidelines and maintaining accuracy throughout the thesis, Ph.D. candidates can produce scholarly work that is well-referenced, credible, and meets the academic standards expected at that level of research.

CONCLUSION

This study highlights the critical importance of accurate citations and references in academic theses, emphasizing their role in upholding academic integrity and enhancing the credibility of scholarly work. The analysis revealed a significant preference for narrative citations, with a majority of citations deemed correct. However, the presence of various citation errors, particularly in volume numbers and punctuation, underscores the need for greater attention to detail among authors. The findings indicate that while most authors adhere to citation guidelines effectively, specific areas require improvement, such as ensuring accurate author attribution and maintaining proper formatting. The identification of common errors serves as a reminder of the challenges faced in academic writing, where even minor inaccuracies can undermine the integrity of research.

Furthermore, the high percentage of citations with available references illustrates a commitment to transparency and allows readers to verify sources, which is essential for fostering trust in academic discourse. As scholars navigate the complexities of citation styles and referencing techniques, they must prioritize accuracy to facilitate the verification of claims and support further exploration of topics. This study not only highlights strengths in citation practices but also provides valuable insights into areas needing attention. By addressing these issues through improved training and resources on citation accuracy, researchers can enhance the quality of their work and contribute positively to the broader academic community.

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