

## PUBLICATION TRENDS IN RESEARCH ON DIGITAL DISASTER MANAGEMENT IN LIBRARIES: A BIBLIOMETRIC STUDY BASED ON GOOGLE SCHOLAR

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### Abstract

Bibliometric analysis is a type of analysis technique that includes the procedure of collecting, calculating, analyzing, and interpreting various types of literature. The objectives of this study were to identify the most relevant keywords when analyzing the papers' title and abstract content, to examine the annual publication of papers, to study the authorship pattern of papers, to discuss which countries produce the largest number of publications on digital disaster management in libraries, to identify citations received by the papers published. The research data from 2010 to 2022 was retrieved from the Google Scholar database using the "Publish or Perish" software program. 95 articles related to digital disaster management in the library were selected for data analysis. The keywords "Digital Disaster," "Disaster Management," and "Library" were used to select the most related articles. VOSviewer software and the Excel package were used to analyze and visualize the data in the study. The results show that the most relevant terms were disaster management (43), library (31), study (16), and digital disaster (16). The most articles were published in 2022, with a total of 16 (16.88%). Scholars working in this area collaborate to a greater extent. 52 papers (54.74%) have multiple authors, whereas 43 papers (45.26%) have only one author. The USA topped the list with the most articles 20 (21.05%). India was second with 12 (12.63%) articles and Indonesia was third with 11 (11.60%) articles. The most cited paper is Digital Disaster Management in Libraries in India, which recorded 29 citations during the study period. The digital disaster preparedness in libraries research topic is very valuable to future studies.

**Keywords:** Bibliometric Analysis, Digital Disaster, Disaster Management, Libraries, VOSviewer

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## **Introduction**

Libraries are hybrid and fully automated in the 21st century. The library consists of a wide array of physical materials, most also contain collections of digital materials that are growing exponentially (Elder, 2015). A disaster is an unexpected occurrence that disrupts regular life and has a detrimental influence on people's lives, property, and the environment (Matthews & Eden, 1996). There are three types of disasters: natural disasters, man-made disasters, and hybrid disasters. Digital disasters refer to a wide range of disastrous events or incidents that primarily affect digital information, technology systems, and online infrastructure (Lokmic-Tomkins et al., 2023). These disasters can result in data loss, system downtime, security breaches, and other adverse consequences. Digital disasters can occur in parallel with natural or man-made disasters or can happen of their own accord. Therefore, disaster management is essential for libraries, organizations, and institutes.

The four stages of disaster management- risk reduction, preparedness, response, and recovery illustrate how information technologies can be used in each phase. Institutions consider information record, information interchange, and information processing to be the three fundamental tasks of information systems when focusing on how information technologies are applied. Preventing and mitigating digital disasters involves strategies like regular data backups, implementing robust cyber security measures, disaster recovery planning, and monitoring for potential threats. Organizations and individuals should take steps to protect their digital assets from these various types of disasters to minimize the impact and recover as quickly as possible when they occur. Therefore, digital disasters in library literature are critical to scholarly works.

Bibliometric analysis is a quantitative method used in the field of library and information science, as well as in various other academic and research disciplines, to evaluate and analyze the scholarly impact and patterns of publication and citation of scientific literature (Gunarathna et al., 2023). It involves the statistical analysis of publications, citations, and other bibliographic data to gain insights into the research productivity and influence of authors, journals, institutions, and fields of study. Bibliometric analysis is valuable for assessing the impact and productivity of researchers, evaluating the quality and influence of academic journals, and identifying emerging trends in research (Dede & Ozdemir, 2022).

Researchers, institutions, and funding agencies use bibliometric analysis to make informed decisions about research funding, promotion, and collaboration. The bibliometric studies used bibliometric databases and various bibliometric analysis tools and software. A bibliometric analysis of digital disasters in libraries is essential research that evaluates the impact of scholarly literature and networks of authors and journals in a specific field. This study is very important to identify the bibliometric pattern of digital disaster management in libraries.

## **Literature Review**

A disaster is an incident that causes widespread destruction and distress (Diamond, 2006). The United Nations Office for Disaster Risk Reduction (UNISDR) considers disasters as “a serious disruption of the functioning of a community or a society involving widespread human, material, economic, or environmental losses and impacts that exceeds the ability of the affected community or society to cope using its own resources” (UNISDR, 2009).

A digital disaster can be defined as a loss of digital data that stops the functioning of businesses. Corruption of the data, hardware, and software required for critical business operations is considered a digital disaster (Sax et al., 2016). Information technology disasters in libraries could be due to any

fluctuation in power supply, power outage, software or hardware malfunctions, computer viruses, data hacking, human errors like spilling of liquids, improper computer shutdown, and accidental deletion of data (Kundu, 2004). Disaster in digital libraries implies any incident that may cause a threat or damage to digital documents in the library's holdings. Disaster management activities for digital information resources arise from real and imagined threats (Ifijeh et al., 2016; Cervone, 2006). The causes of disasters in digital libraries can be attributed to various factors. According to Watson and Jones (2013) these can be broadly categorized into four groups: physical threats, technological threats, human threats, and institutional threats.

Moreover, other types of disasters such as fire, flood, vandalism, etc., could also damage the Information Technology (IT) infrastructure, resources and services. Disasters could be linked to physical, environmental and technological factors such as explosions, loss of power, internet failure, floods, etc. The impact of digital transformation on national disaster management is profound, paradoxical, multi-directional, and driven by a multitude of driving forces.

The applications and proliferation of Information and Communication Technology (ICT), as well as the increases in digital transactions and communications in libraries, have created new opportunities and greater access to information resources for library users. ICTs have opened new windows which have resulted in the emergence of digital libraries (Ifijeh et al., 2016).

The status of preservation of digital resources and disaster recovery measures taken by libraries in China were studied (Zaveri, 2015). Findings indicated that physical deterioration of data led to non-renewable data loss, the inability to read the data due to obsolete storage media, weak data backup management system, shortage of relevant knowledge on preserving digital information resources and failure to migrate the outdated data in time (Zaveri, 2015). There is a growing realization that current and future access to digital resources is threatened by technology obsolescence, the fragility of digital media, and digital disasters (McGovern, 2009). Given the dynamic nature of information technologies and the obsolescence issues associated with them, it is important to put in place digital preservation strategies to ensure that digital resources are preserved and remain accessible and usable over time.

Ross (2012) affirmed the effective role of digital disasters and libraries in ensuring the long-term viability of digital libraries at the center of the global information society. The researcher pointed out that the materials preserved in digital libraries will remain sustainable and real and can be accessed over time if they do not encounter problems in preservation and storage due to the complexity and diversity of types, shapes and sizes of electronic resources. The absence of policies and procedures for preservation within libraries might pose a challenge as well. It was established that it is important to preserve the information structure and the context of creation and use of information sources, in addition to paying attention to the infrastructure of libraries, policies, management, organizational, political and economic mechanisms necessary to enable access to digital content and preservation (Ross, 2012).

Digital resources require well-planned, well-managed, and sustained strategies over there. (Yale University Library, 2011). Though there is awareness among librarians about the importance of protecting digital data, due to lack of knowledge, poor infrastructure, and the absence of a digital data protection plan, digital data is in danger and may get damaged or destroyed in libraries if no action is taken (Zaveri, 2015).

Librarians must be sensitized to the issues relating to data protection and recovery from disaster. Libraries need to develop digital data protection policies. All libraries should prepare a disaster management plan to cover all types of disasters. A section should be devoted to digital disasters.

Shaikh (2019) noted that the applications and proliferation of ICT, as well as the increases in digital transactions and communications in libraries, have created new opportunities and greater access to information resources for library users. ICT has opened new windows which have resulted in the emergence of digital libraries. The concept of 'digital library examines the causes, effects, prevention and control of disasters in digital libraries. It also covered some salient issues relating to disaster management in developing countries. Thus, the digital divide and lack of a national ICT policy framework were identified as critical issues that must be resolved in developing countries if disasters must be prevented and managed correctly in digital libraries (Ifijeh et al., 2016).

Digital libraries will continually be faced with threats of disaster; while it may be possible to prevent some disasters, their occurrence cannot be totally ruled out because both humans and machines that operate the systems are prone to weaknesses, errors, and aberrations. With policies put in place, more funds made available and judiciously used, and the employment of qualified personnel and visionary leadership, the occurrence of disasters in digital libraries could become minimal in developing countries (Ifijeh et al., 2016). The bibliometric study on digital disasters in libraries should be available in the literature. Therefore, bibliometric analysis is a very important tool to discover the subject areas.

Bibliometric analysis covers a wide range of research, including identifying co-occurrences, keyword mapping, citation analysis, author's analysis, and analysis of countries for their impacts on the subject field (Donthu et al., 2021). It helps us understand the specific subject's evolution while illuminating new directions in that field. Researchers employ bibliometric analysis for many purposes, including identifying new trends in the performance of articles and journals, examining collaboration patterns and research components, and investigating the intellectual framework of a particular field within the body of existing literature. Quantitative analysis of written publications has been provided through the application of bibliometric approaches (Ellegaard & Wallin, 2015). The bibliometric studies used bibliometric databases such as Scopus, Web of Science, PubMed, Science Direct, Google Scholar, and etc.

The largest and most useful database for looking up scientific articles is Google Scholar, which can be used for free. A portion of the broader Google search index, Google Scholar, includes certain Web pages that are considered "scholarly" in addition to full-text journal articles, technical reports, preprints, theses, books, and other resources. It seems to be more prevalent in the social sciences than in the sciences, especially medicine (Cecchino, 2010). Searching on Google Scholar is quick and simple. Depending on the keywords searched, it returns document or page matches. The bibliometric studies used various bibliometric analysis tools and software such as Publish or Perish, VOSviewer, Biblioshiny, R-Package, Excel, and etc.

Publish or Perish (PoP) software can be downloaded for free from the internet at <http://www.harzing.com/pop.htm> (Barrett, 2011). PoP can assist with a quick review of the literature to find the most cited papers and/or scholars in related subject areas. It can be used to identify whether any research has been done in a subject area at all or to evaluate the research in the literature on the actual topic over time (Barrett, 2011). Google Scholar offers per-citation counts from its corpus and allows users to browse all citing publications on their own. The PoP results can be saved as text files for onward evaluation or copied into Windows programs like Excel, RIS, EndNote, and RefWorks.

VOSviewer is used to make maps from network data and to see and explore those maps. The following is a summary of the VOSviewer's features. Creating maps based on network data (Van Eck & Waltman, 2023). A map can be created based on an already available network, but it is also possible to first

construct a network (Van Eck & Waltman, 2023). Networks of scientific publications, journals, researchers, research organizations, nations, keywords, or concepts can be created using the VOSviewer. Co-authorship, co-occurrence, citation, bibliographic coupling, and co-citation connections are some of the ways that items in these networks are connected (Van Eck & Waltman, 2023). Bibliographic database files (such as those from Web of Science, Scopus, Dimensions, Lens, and PubMed) and reference management files (such as those from RIS, EndNote, and RefWorks) can be supplied as input to build a network in the VOSviewer (Van Eck & Waltman, 2023).

Examining and visualizing maps. Three different map views are available with the VOSviewer: the network, overlay, and density visualizations (Van Eck & Waltman, 2023). Working with huge maps that include hundreds of elements requires the ability to study a map in full detail, which is made possible by the zooming and scrolling feature (Van Eck & Waltman, 2023). The VOSviewer is designed mainly for bibliometric network analysis, but it may also be used for creating, visualizing, and exploring maps based on any kind of network data (Van Eck & Waltman, 2023). Previous studies have used bibliometric method to establish intellectual structures of research subjects in varied areas. There were no literature sources based on scientific evidence on bibliometric analysis of digital disaster management in libraries found on Google Scholar study. This article aims to look at research gaps with a bibliometric analysis of the literature on the topic of digital disaster management in library research. This study can also be used to understand the structure of a field of science digital disaster management in library research or how research develops on certain topics.

### **Objectives of the study**

- To analyze the most relevant keywords when analyzing the papers' title and abstract content.
- To examine the annual publication of papers.
- To study authorship pattern of papers.
- To examine which countries produce the largest number of publications on digital disaster management in libraries.
- To identify citations received by the published papers.

### **Methodology**

This study employed a descriptive quantitative approach with bibliometric data analysis. The research data are scientific articles with the topic of digital disaster management in libraries. The Google Scholar database was used to gather research data via the Publish or Perish software application.

The sample of this research is scientific publications about digital disaster management in libraries that Google Scholar has indexed between 2010 and 2022. The date of data collecting was October 25, 2023. Data was gathered using the keywords "Digital Disaster," "Disaster Management," and "Library." A total of 95 articles that related to digital library disasters and disaster management in libraries literature were selected for data analysis. The sample consists of scholarly papers on digital disaster management found in books, proceedings, journals, and other publications that Google Scholar has indexed.

The search is limited to papers published between 2010 and 2022, and the number of search results is limited to 1000. The articles were written in English. This research considered digital disasters only. The study data was analyzed and visualized using the Excel package and the VOSviewer. The results are presented in tables, graphs, and figures.

Figure 1 shows the data filtering procedure through the Publish or Perish software program. The PoP software is open-source software that can be freely downloaded via the internet. The PoP is one of the

excellent software for conducting bibliometric analysis on authors and journals (Barrett, 2011). Therefore, this study selected PoP software for downloading data.

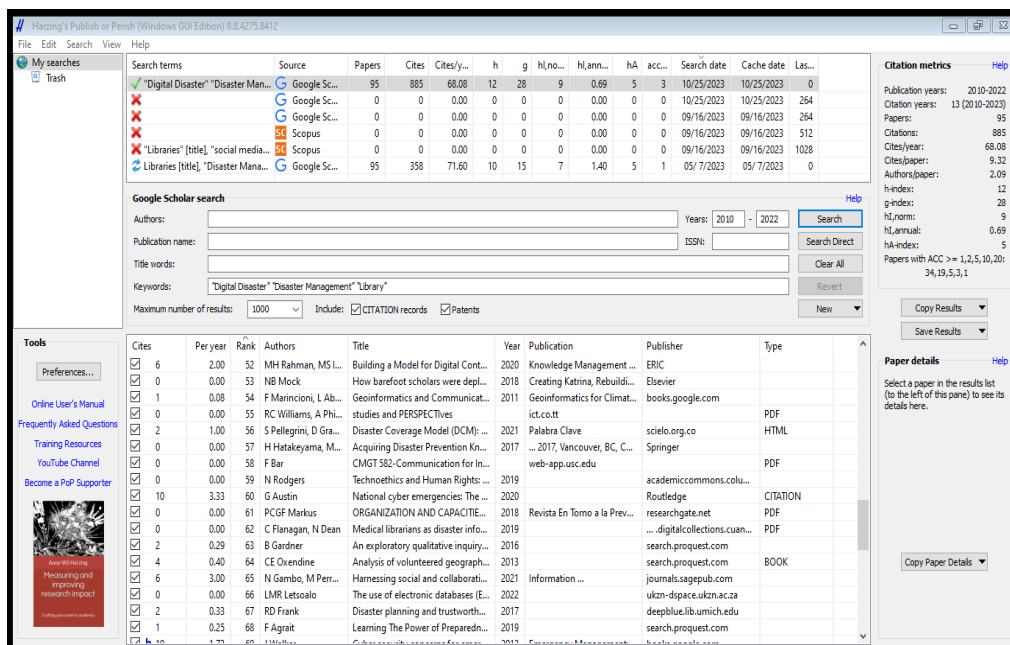


Figure 1. Data Filtering Procedure Through Publish or Perish Software Program.

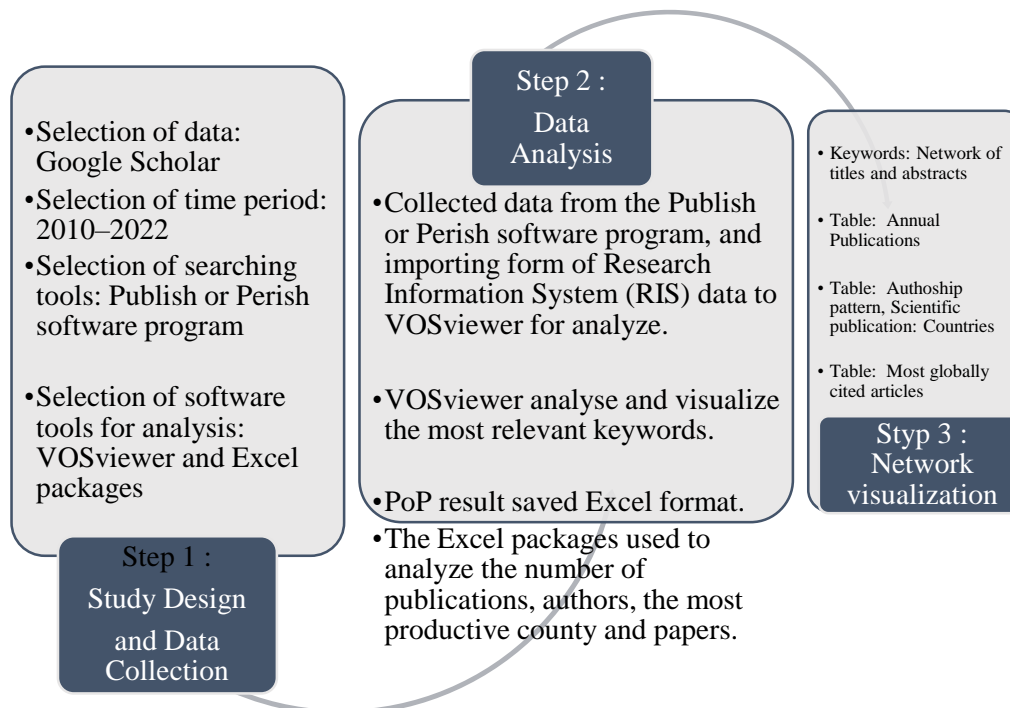


Figure 2. The Steps of Bibliometric Analysis

Figure 2 presents the step of the bibliometric analysis. The study initially examined the most relevant keywords when analyzing the paper title and abstract content. The Research Information System (RIS) format was collected from PoP software and imported into VOSviewer for analysis. Text analysis shows the occurrence of words visualized in word cloud map. Secondly, analyze the annual publication of papers, authorship patterns of papers, country production, and most cited articles. The PoP results were saved in Excel format and analyzed to derive the outcomes. The results are presented in tables, graphs, and figures.

**Results and Discussion**

Based on the results of the PoP software, this data was collected between 2010 and 2022 from the Google Scholar database. A total of 885 citations were received by 95 publications. Averaging 9.32 citations per article and 68.08 citations annually. h\_index 12 and g\_index 28 are publications available in the dataset. Table 1 shows the full outcomes of the metric data comparison.

**Table 1. Citation Metric**

Citation Metric	Data
Publication years	2010-2022
Citations years	13 (2010-2022)
Papers	95
Citations	885
Cites/year	68.08
Cites/paper	9.32
Authors/paper	2.09
h_index	12
g_index	28
hI_norm	9
hI_annual	0.69
Ha_index	5

1. Analyze the most relevant keywords when analyzing the papers' title and abstract content.

**Table 2. Verify Export Selected Keywords from the VOS Viewer.**

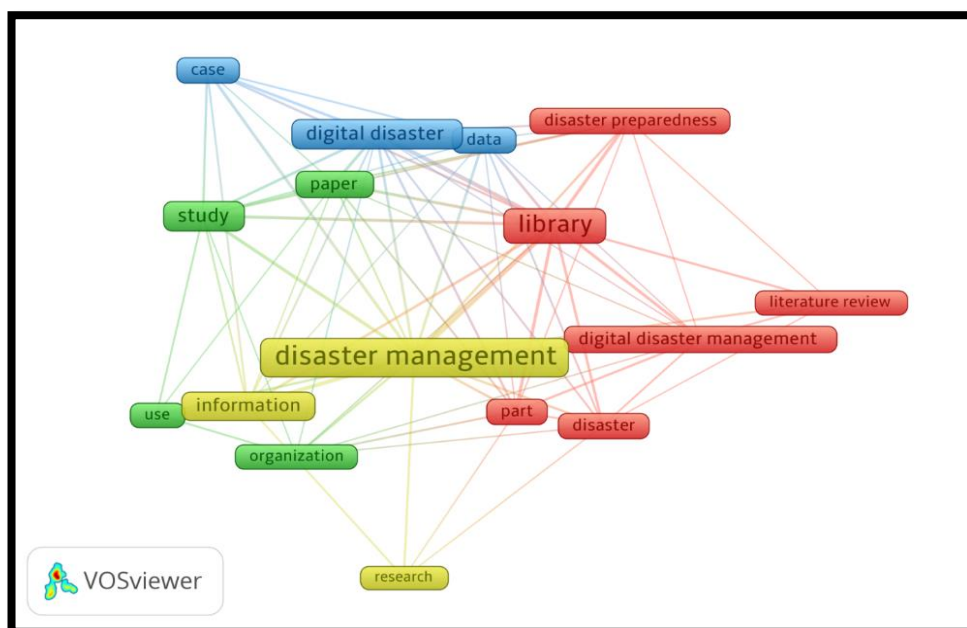
Id	Keyword	Occurrences	Relevance Score
1	case	7	0.8005
2	data	9	0.3344
3	digital disaster	16	0.4897
4	digital disaster management	12	0.8186
5	disaster	9	0.8341
6	disaster management	43	0.6675

7	disaster preparedness	8	0.5384
8	information	14	1.0235
9	library	31	0.5259
10	literature review	5	1.2585
11	organization	5	1.6346
12	paper	9	0.6062
13	part	9	0.761
14	research	6	2.548
15	study	16	0.5609
16	use	5	2.5982

The visualization of text-mining analysis involves extracting titles and abstracts from articles using the binary counting method in the VOSviewer, which results in 732 appropriate keywords. Minimum word limit: five times the set of title and abstract words. The result is sixteen keywords instances of verified exports. The selected sixteen keywords are shown in Table 2. According to the export data, the most common keywords are disaster management (Occurrences: 43), library (Occurrences: 31), study (Occurrences: 16), and digital disaster (Occurrences: 16). As well as the common keywords are information (Occurrences: 14), digital disaster management (Occurrences: 12), data (Occurrences: 9), disaster (Occurrences: 9), paper (Occurrences: 9), part (Occurrences: 9), disaster preparedness (Occurrences: 8), case (Occurrences: 7), research (Occurrences: 6), literature review (Occurrences: 5), organization (Occurrences: 5), and use (Occurrences: 5).

The results are sixteen keywords that are grouped into four clusters, as shown in Figure 3.

**Figure 3. Network Visualization of Digital Disaster Management in Library**





In Figure 3, keywords related to digital disaster management in library are grouped. There is a single primary keyword for each cluster. The cluster 1 is the library, which has six red keywords library (31), digital disaster management (12), disaster (9), disaster preparedness (8), part (9), and literature review (5). The cluster 2 is the study, which has four green keywords study (16), organization (5), paper (9), and use (5). The cluster 3 is the digital disaster which has three blue keywords digital disaster (16), data (9), and case (7). The cluster 4 is the disaster management, which has three yellow keywords disaster management (43), information (14) and research (6).

**Table 3. Keywords Representing each Clusters.**

No	Cluster	Element
1	Cluster 1 (Red)	Library (31), digital disaster management (12), disaster (9), disaster preparedness (8), part (9), and literature review (5)
2	Cluster 2 (Green)	Study (16), organization (5), paper (9), and use (5)
3	Cluster 3 (Blue)	digital disaster (16), data (9), and case (7)
4	Cluster 4 (Yellow)	disaster management (43), information (14) and research (6)

Table 3 shows that the largest cluster based on keywords is the red cluster with 6 keywords: library (31), digital disaster management (12), disaster (9), disaster preparedness (8), part (9), and literature review (5). The smallest cluster is blue with 3 keywords: digital disaster (16), data (9), and case (7). Fig. 4 shows the direct links between six keywords with library keywords. The keywords "library," "digital disaster management," "disaster," "disaster preparedness," "part," and "review" are most frequently used in connection with library. In Fig. 4, the keyword library is the most discussed keyword. Other keywords like "digital disaster management," "disaster," "disaster preparedness," "part," and "review" are less commonly discussed keywords.

**Figure 4. Network Visualization of Library Keyword**

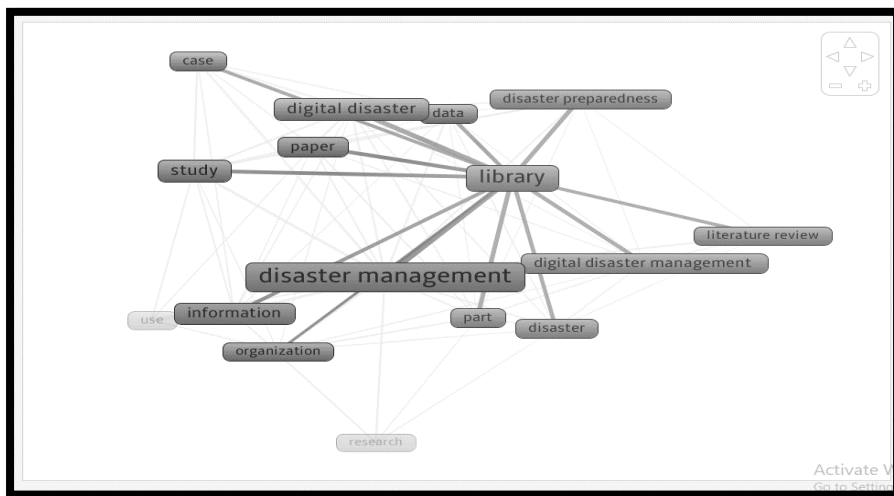


Fig. 5 shows the direct links between four keywords with study keyword. The keywords “study” "organization," "paper," and "use" are most frequently used in connection with study. In fig. 5, the word study is the most discussed keyword. Other keywords like "organization," "paper," and "use" are less discussed.

**Figure 5. Network Visualization of Study Keyword**

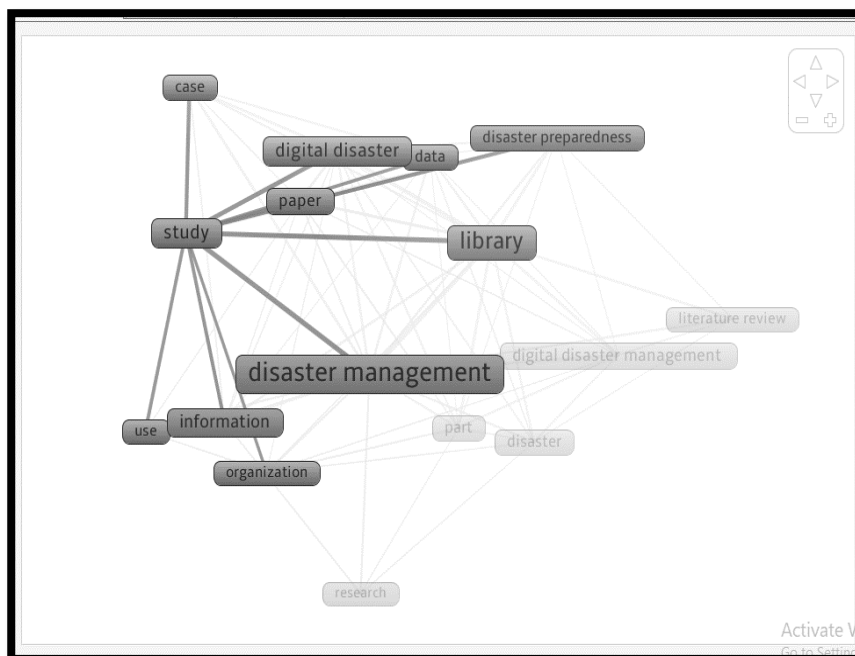


Fig. 6 shows the direct links between three keywords with digital disaster keyword. The keywords “digital disaster” "data" and "case" are most frequently used in connection with study. The keyword "digital disaster" is the most addressed as shown in Figure 6. There is less discussion of additional keywords like "data" and "case."

**Figure 6. Network Visualization of Digital Disaster Keyword**

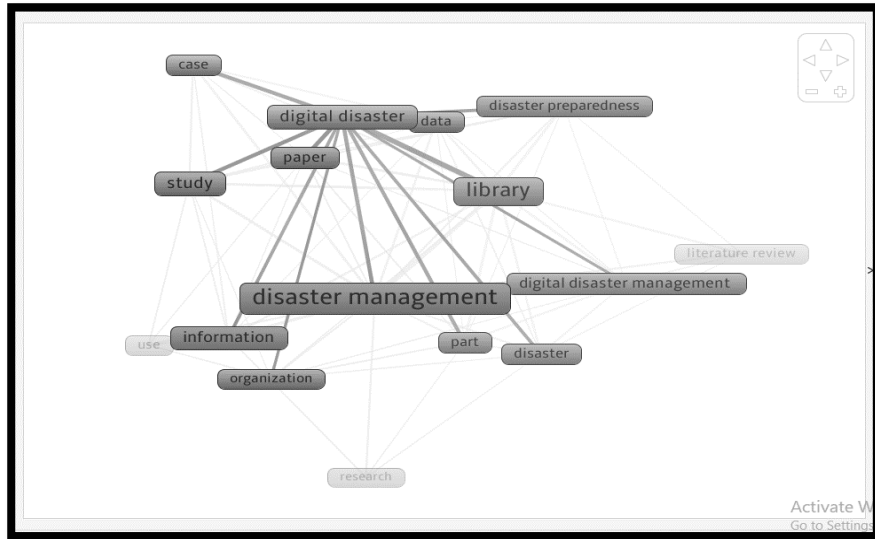


Fig. 7 shows the direct links between three keywords with disaster management keywords. The keywords “disaster management” "information" and "research" are most frequently used in connection with study. The keyword "disaster management" is the most discussed keyword in Fig. 7. The keywords "information" and "research" are less frequently discussed.

**Figure 7. Network Visualization of Disaster Management Keyword**

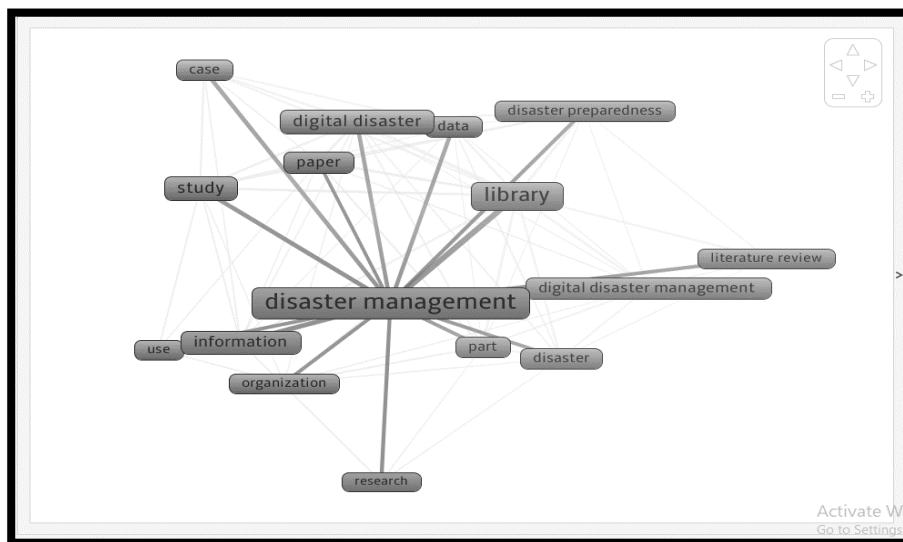


Fig. 8 shows text-mining analysis visualization based on the research title and abstract. The frequency with which these keywords are covered in the research title and abstract increases with the density of the keywords. The less dense a term is, the less probable it is to be mentioned in the research title and abstract (Subagja et al., 2022). To see research gaps in the research title and abstract, this visualization is crucial. The keywords "library," "study," "digital disaster," and "disaster management" have the highest density in Figure 8. Therefore, more studies cover “library,” "study," "digital disaster," and "disaster management" in digital disaster management in library subject areas. The densities of the other keywords are lower. Therefore, future studies should cover other subject areas.

**Figure 8. Visualization of Density in Digital Disaster Management in Library**



2. Examine the annual publication of papers.

**Table 4. Annual Publications From 2010 to 2022.**

Year	No. of Publications	Percentage
2010	2	2.10%
2011	3	3.15%
2012	2	2.10%
2013	4	4.21%
2014	2	2.10%
2015	9	9.47%
2016	7	7.37%
2017	8	8.42%
2018	10	10.52%
2019	9	9.47%
2020	11	11.58%
2021	12	12.63%
2022	16	16.88%

Table 4 shows the annual digital disaster management in libraries publications output of the Google Scholar. 95 publications were published during 2010 to 2022. The most articles were published in 2022, with a total of 16 (16.88%). The lowest number of articles were published in 2010, 2012, and 2014, and it counts 2 (2.10%).

3. Study authorship pattern of papers

**Table 5. Authorship Pattern**

Year	No. of Single Author Publications	No. of Two Authors Publications	No. of Three Authors Publications	More than Three Authors Publications
2010	1	1		
2011	1	1	1	
2012	2			
2013	2		1	1
2014		2		
2015	6	2	1	
2016	4	2		1
2017	6	1	1	
2018	5	3	1	1
2019	3	4	1	1
2020	5	3	1	2
2021	4	2	3	3
2022	4	3	3	6
Total	<b>43 (45.26%)</b>	<b>24 (25.26%)</b>	<b>13 (13.68%)</b>	<b>15 (15.80%)</b>
(Percentage)				

The authorship pattern of digital disaster management in libraries between 2010 and 2022 is presented in Table 5. The results of the analysis showed that scholars working in this area collaborate to a greater extent. 52 papers (54.74%) have multiple authors, whereas 43 papers (45.26%) have only one author.

4. Examine which countries produce the largest number of publications on digital disaster management in libraries.

**Table 6. County Wise Distribution of Publication**

Country	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total	%
USA			2	2	1	1	4	1	1	5		1	2	20	21.05
India		1				2		1	1		2	2	3	12	12.63
Indonesia		1						1	1	3	1	2	2	11	11.60
Australia.						1		1	2		1	1		6	6.31
Africa						2		1			1	1	1	6	6.31
China	1			1				1	2	1				6	6.31
Italy							1	1				1	1	4	4.21
Nigeria											2		1	3	3.15
Bangladesh						1					1		1	3	3.15
United Kingdom											1	2		3	3.15
Others	1	1		1	1	2	2	1	3	0	2	2	5	21	22.10

According to Table 6, majority of nations have contributed to studies and publications about digital disaster management in libraries. The USA topped the list with the most publications 20 (21.05%). India was second with 12 (12.63%) publications, and Indonesia was third with 11(11.60%) publications. Australia, Africa, and China published 6 (6.31%) publications. Italy published 4 (4.21%) publications. Nigeria, Bangladesh, and the United Kingdom published 3 (3.15%) publications. Finally, other countries published 21 (22.10%) publications during the 2010–2022 period.

5. Identify citations received by the published papers.

Table 7 shows the top 5 most cited articles. It was found that 3 of 5 top cited papers were published in 2018. The most cited paper is Digital disaster management in libraries in India which recorded 29 citations. Second paper was Managing disaster preparedness and response for hybrid collections in Australian national and state libraries which recorded 10 citations during the study period.

The present study discovered bibliometric trends in digital disaster management in libraries using bibliometric tools based on data collected from Google Scholar from 2010 to 2022. The most relevant keywords are disaster management, library, study, and digital disaster. According to the study, from 2010 to 2022, the number of publications on digital disaster management in libraries increased considerably. Collaboration among authors: 52 publications (54.74%) have several authors listed. It is very positive for researchers. The nation’s attention to digital disaster management in libraries. Most countries are interested in studies and publications about digital disaster management in libraries. The USA topped the list with almost 20 (21.05%) published papers. India was second with 12 (12.63%) publications, and Indonesia was third with 11 (11.60%) publications.

**Table 7. List of Top 5 Cited Articles**

Rank	Name of Article	Year of Publication	Name of the 1 <sup>st</sup> author	Affiliating country of the 1 <sup>st</sup> author	Citations received
1	Digital disaster management in libraries in India	2015	Parul Zaveri	India	29
2	Managing disaster preparedness and response for hybrid collections in Australian national and state libraries	2018	H Brown	Australia	10
3	Digital Disaster Preparedness of Indonesian Special Libraries	2018	Y.B. Rachman,	Indonesia	09
4	The State of Preparedness for Digital Curation and Preservation: A Case Study of a Developing Country Academic Library	2018	Phillip Ndhlovu	Zimbabwe	09
5	Librarians' perception of disaster preparedness as precursor for effective preservation and conservation of library resources in Nigerian university libraries	2020	PI Ilo	Nigeria	08

**Conclusions**

The most relevant keywords are disaster management (43), library (31), study (16), and digital disaster (16). The four keywords make it easy to locate correct and pertinent papers and publications in this field of study. The study recorded that publications gradually increased in digital disaster management in libraries from 2010 to 2022. Most of the articles (16) were published in 2022. Therefore, most articles can be found in 2022. Authorship collaboration 52 papers (54.74%) are published by multiple authors. More collaboration was shown in 2021

with papers 12 and 2022 with papers 16. The most publications in digital disaster management in libraries were published by the USA 20 (21.05%). The most cited paper is Digital Disaster Management in Libraries in India, which recorded 29 citations during the study period.

### Recommendations

The research topics on digital disaster management in libraries and digital disaster preparedness in libraries will be very valuable to future research. The study will move to bibliometric databases such as Scopus, Web of Science, PubMed, and Science Direct using various bibliometric analysis tools and software such as Publish or Perish, VOSviewer, Biblioshiny, R-Package, Excel, and etc.

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