



Academic Libraries and Building Digital Humanities Community: Evolving Digital Collaborations

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Abstract

This paper describes about higher education, specifically the university environment, where the research has seen a lot of changes and vital roles played by digital technology. The term "digital humanities" became a widespread academic movement in the last decade. Librarians have been identifying common platforms for both sides to engage with and recognizing the diverse nature of digital humanities. This paper examines how academic libraries could promote research in the digital humanities by employing their current values and capabilities to support preservation, accessibility, and physical and digital spaces for scholars and communities. The growing interest in digital humanities has intrigued academic libraries. Although the initial stages of incorporating digital humanities into library roles may have been fraught with difficulties and skepticism, gradual planning has established numerous library roles. The literature has provided numerous



insightful insights when researching academic libraries and digital societies in India. The shift from humanities computing to digital humanities could be repackaged to accommodate the expanded scope.

Keywords: Academic Libraries, Digital Humanities, Collaboration, India, Scoping Review, Web of Science

Understanding the Digital Humanities

Across the higher education especially in university environment the research pursuance has observed various changes and significant roles of digital technology. Indeed, various examples later displayed in this study have made it evident that digital technologies are mediating the research. This mediation has endeavored to alter and impact research in the contexts of epistemologies and ontologies (Moretti, 2000). The technological developments are variable which depend upon the differences of various disciplines and research agendas. The reliance on digital technology has been associated with the research activity. From the conventional access to library collections, the users have found way through digital catalogues (OPACs) making them the smart digital scholar in the modern university. Use of popular Google searches and scanning deep into bibliographic databases has emerged as crucial capacities in digital environment.

Aim, Method and Scope of the study:

Present study has been designed around the rigorous observations from literature to

- a. express developments in the digital humanities (DH) and academic libraries alliance as well as;
- b. growth of literature to explore the various areas of concern and proliferation in digital humanities and academic libraries technological synchronism

Method: scoping review method has been used to conduct the study.

The study is based upon Scoping review with the aims to identify nature and extent of research evidence (usually including ongoing research). A scoping review is a relatively new approach to evidence synthesis and differs from systematic reviews in its purpose and aims.



According to Arksey and O'Malley's, framework for scoping reviews have been followed in the present study to provide framework as following:

- Step 1: Identification of the research question: to understand the various concepts and stages of DH and academic libraries.
- Step 2: Identification of relevant studies: by formulating the search strategy and the literature has been searched in the web of science core database in a substantive and scholarly information.
- Step 3: Study selection process: it has included the literature which is very recent in nature i.e. published in last three years i.e. 2020- 2023 during the process of gathering and reviewing information.
- Step 4: Charting the data: to present data, data extraction and charting is done in MS Excel program.
- Step 5: Collate, summarize, and report the results: to analyze data and present the results.
- Optional Step 6: Consultation exercise: to frame the findings.

To explore the developments in the DH and academic libraries partnership in various contexts, Google Scholar search engine has been used. Google Scholar data and studies searched during 25th February 2023 to 7th March 2023. The literature collected though Google Scholar has been organized to measure the conceptual developments. The keywords/ phrases to explore the Google Scholar database are framed as following:

1. Digital Humanities and Libraries
2. Digital Humanities in 2020
3. Digital humanities and Academic Libraries
4. Digital Humanities and Information Professionals
5. Digital Humanities and Digital Libraries
6. Digital Humanities and Academic Libraries in India

For another objective of framing the DH and academic libraries contemporaneousness and gradual concurrency, Web of science core database has been used during first week of March 2023. The searches have been made with the following phrases:

- a. Digital Humanities and Academic Libraries
- b. Digital Humanities and Digital Libraries



- c. Digital Humanities and Digital Libraries during last five years
- d. Digital Humanities and library professionals during last five years

Developments in Digital Humanities

With the beginning of last decade, the concept of digital humanities has emerged as the pervasive academic movement. Various works from the literature have introduced this phenomenon at the levels of meanings and understandings (Liu, 2013). Whereas there have been challenges and debates into the arena of digital humanities. The landscapes of digital humanities are vast and imbibing many areas of digital technologies into the concepts of humanities. The faculty members and scholars have been intrigued (Berry, 2012; Gold, 2012) by the convalescence of digital humanities.

Digital Humanities and Libraries

A vast amount of thought processing has been paid on the connection observed between academic libraries and digital humanities. Librarians have been discerning the diverse nature of digital humanities and identification of common platforms of both sides to engage. The current aspects of digital humanities have been instrumental in creating an informatics model combining academic libraries and digital humanities. Such parallel developments and efforts endeavors to facilitate digital humanities in the contexts of user-centered paradigm of library services. The studies have been observed to reflect developments in the perspectives of conceptual model, whereas the challenges are viauslised by subject librarians (Sula, 2013; Hartsell-Gundy, Braunstein, Golomb, & Langan, 2015). These kinds of situations have permitted the debate between knowledge concepts and digital ages. Certainly permeating the growth and applications of devising digital humanities tools (Gibbs, & Owens, 2012; Berry, & Fagerjord, 2017).

Digital Humanities in 2020

Whereas the entire world was encompassed in Covid- 19 pandemic and suffering from the issues of survivals; the application of technology supported the flourishing of digital humanities. The DH growth and usage in 2020 year can be grouped into few specific types.



1. *Semantic approaches*: The patterns of data publishing, visual analysis and discovery in humanities are supported by digital technologies during the year 2020 (Hyvönen, 2020; Münster, & Terras, 2020). The semantic nature of information has a significant place in digital humanities. The use of semantic web and ‘Sampo’ model (Hyvönen, 2020) are few crucial examples to sustain the digital humanities.
2. *Global yet local approaches*: The technology has situated this humanities concept into digital hands where solutions are created for research purposes keeping regional and local aspects in mind. Whereas technological improvements are available worldwide, the researchers often require specific focus on social entities. Experiences from around the globe share a similar story. Whether it is crowd funding or historical perspectives in digital humanities, such facets (Pratono, Prima, Sinaga, Permatasari, Ariani, & Han, 2020; Toscano, Rabadán, Ros, & González-Blanco, 2020) reflect an enthusiastic reach towards intelligent approach. Learning foreign languages has become smart choice among humanities researchers as found (Guseva, Koroleva, Kruchinina, Marinina, & Oladyshkina, 2020). in a study. The examples show interdisciplinary approaches in digital humanities when ‘WebGIS’ is associated with digital humanities (Yan, Dean, Feng, Hue, Koh, Kong, & Xue, 2020). The progress is equally found in European sector as well as in Southeast Asia.
3. *Technological innovation approach*: How technology is supporting in intricate methods are found through pattern recognitions in digital humanities. Techniques such as being ensemble as data-driven, diverse visualizations and aligning images are quite useful. Apart from the textual descriptions, linguistic linked data has been instrumental in proliferating the impact of digital humanities. The year of pandemic has witnessed much research into the digital humanities. The saying that need is mother of invention has come true in sense while entire world faced lock-downs and libraries provided online services; digital humanities also paved way for continuous academic indulgences. Highly digital technological concepts into humanities made the path accessible through the component based approach in the perspective of image related outcomes or textual inferences (Benito-Santos, & Sánchez, 2020; Cornia, Stefanini, Baraldi, Corsini, & Cucchiara, 2020). In it, humanities is a diverse and complex field of study and researches aspired, digital humanities has come forward with solutions. Libraries have endeavored to provide



similar solutions as in digital humanities to humanities scholars by linking resources (Liu, 2020; Cimiano, Chiarcos, McCrae, Gracia, Cimiano, Chiarcos, & Gracia, 2020) and minimizing the technicalities of access to resources.

Digital Humanities and Academic Libraries

Academic libraries have been intrigued about the inclination towards digital humanities. Though early stages of digital humanities inclusion in library roles might be full of dilemma or doubts yet the gradual planning has come forward with many roles to be played by libraries. Few studies from the last two decades have pointed out the libraries thinking about collaborative approach (Kamada, 2010; Sula, 2013; Shirazi, 2014) towards digital humanities. The challenges for libraries were observed in the forms of developing a model or following the steady approach; setting roles or identification of targets; library staff trainings or service design may be few of them (Hartsell-Gundy, Braunstein, Golomb, & Langan, 2015). Finding new opportunities to connect with humanities users and creating library partnerships have been concerns of academic libraries. Such initiatives resulted into observations such as “convergence of digital humanities and digital libraries” (Zhang, Liu, & Mathews, 2015; Cassella, 2017). To find out the core of concurrent practices (White & Gilbert, 2016 Lucky, & Harkema, 2018), just a couple of years ago libraries identified inclusion of digital humanities into its planning as the community collaboration. The developments in academic libraries have been observed in the specific job creations as well as raising visibility (Kasten-Mutkus, Costello, & Chase, 2019; Zhang, Su, & Hubschman, 2021) in the contexts of digital humanities. Academic engagements compel libraries to define new roles and means to inculcate digital humanities.

Digital Humanities and Information Professionals

Role of library staff in imparting the digital humanities services is instrumental and the leadership is somehow more important in order to keep the show go on. Roles of librarians keep changing, manifesting and transforming due to digital disruptions. Be it digital humanities, the librarian may have a pinch of ‘digital humanist’ in the manifold responsibilities. Evolvement of librarians and library staff is common which is supportive in order to transit through traditional roles (Cunningham, 2010; Vandegrift, & Varner, 2013; Terras, 2015; Wong, 2016) as library manpower. What libraries can offer is depending upon the library staff.



Community practices, collaborations and concurrent milieu are few of the concerns for academic libraries and digital humanities. Certain roles include research collaborations as well as trainings. Text encoding is also a significant area for community facilitation and training (Green, 2014; Burns, 2016). Library staff can also be instrumental in promoting digital humanities content. The roles of subject librarian also come into picture which may take form of pedagogical role. The college and undergraduate libraries have specific places for such roles. Teaching and learning can be supported by pedagogical functions (Mourer, 2017; Rasmussen, Croxall, & Otis, 2017) of subject librarian in digital humanities contexts.

Digital Humanities and Digital Libraries

Association of digital libraries and digital humanities is well-embraced to nurture the research in humanities. Since the beginning of new millennium, use of digital libraries for digital humanities started in the shape of humanities computation. Yet the challenges were in picture, the collaborative approaches were the negotiators for digital libraries and digital humanities communities. The similarities and differences in technical architecture (Rydberg-Cox, 2005; Siemens, Cunningham, Duff, & Warwick, 2011) may provide the platform for smart digital humanities and libraries. Support, preparation and readiness are three significant components in context of academic libraries and digital humanities. Such components require continuous evaluation of program development and collaborations. The joint future of academic libraries and digital humanities is harnessing the current efforts at various libraries (Zhang, Liu, & Mathews, 2015; Wong, & Li, 2015; Robinson, Priego, & Bawden, 2015). The libraries-academic partnership has begun taken shape once the basic phases were over. Examples reflect the strategic collaborations and association with digital humanities in the form of digital humanities centers (Rosenblum, & Dwyer, 2016; Smiley, & Rodriguez, 2017) in university scenario.

Digital Humanities and Academic Libraries in India

Well, the literature has provided rich insights while exploring the digital humanities and academic libraries in India. The mixed results from Google Scholar have displayed observations from India and abroad (in Indian contexts). There have been discussions on supporting digital humanities and knowledge acquisition along with digital humanities workshops. Such efforts are



useful for effective organization of pedagogical contributions and building digital humanities community where the roles of libraries are also included. The role of academic libraries appeared by the means of digitization of library materials (Pandey, & Misra, 2014) for humanities scholars. Sustainable approaches, steps and contributions (Sacco, 2015; Risam, Snow, & Edwards, 2017; Joseph, Kaviarasu, Justin, & Menon, 2023) are need of the hour if academic digital libraries and digital humanities communities demand to collaborate. The aspects such as “social informatics and digital humanities practice” (Paul, Aithal, & Bhimali, 2017) have gained attention and paved way for interdisciplinary actions.

Many other examples include the developments taken place before covid-19 and after covid-19 to compare the changes and fast developments. There are few significant efforts regarding the digitization and imbibing literary culture in India (Bingenheimer, 2020; Cantwell, & Petersen, 2021; Burrows, & Falk, 2021; Zaidi, & Pue, 2022). Teaching and training of digital humanities for classroom usage have been very much in need after covid-19 scenario (Mukherjee, 2020; Dodd, & Kalra, 2020). Pedagogical practices and digital humanities in India have opened new possibilities. There have been efforts towards digital humanities publishing in India. Tremendous steps are related with developing infrastructure and research practices in India. Such aspects consider the value of pedagogical methods and social interactions (Menon & Shanmugapriya, 2020; Shanmugapriya & Menon, 2020; Fiormonte, Chaudhuri & Ricaurte, 2022) as well.

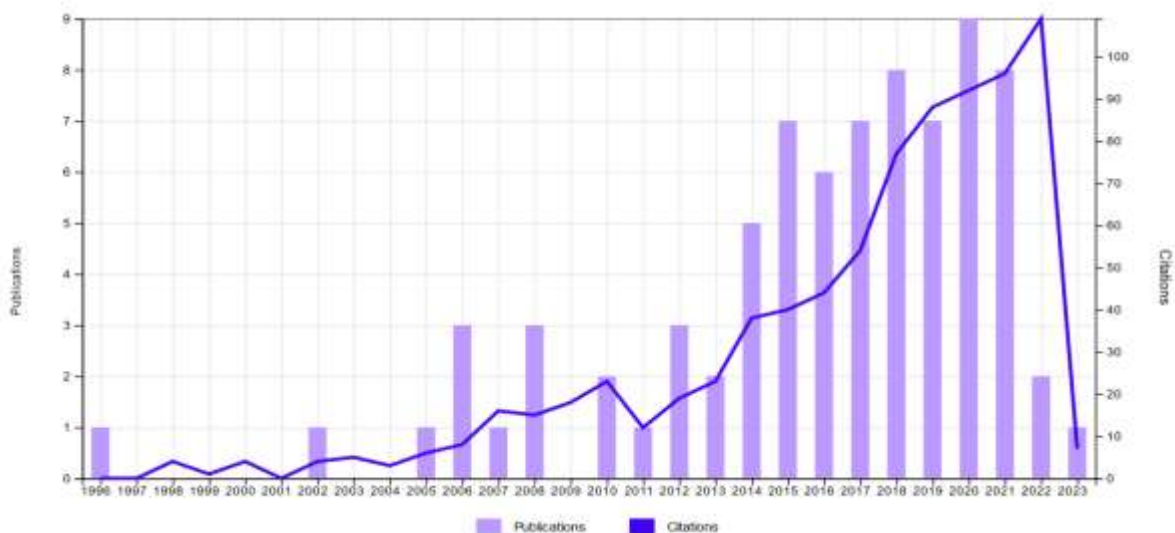
Digital Humanities in Academic Libraries in India

Out of superficial curiosity, the literature search reflected few repeated results such as emphasis on infrastructure, research practices, etc. few significant studies have reflected the latest trends (Shanmugapriya & Menon, 2020; Mukherjee, 2020; Kushwaha & Singh, 2020; Sinha, 2022) which are quite promising for future. The components such as texts, complex digital objects, visuals, etc., are significant while efforts are made towards ancient scripts. The technological advances are dancing around the present forms of digital humanities (Kushwaha & Singh, 2020, Sinha, 2022). Entire spectrum of digital humanities in the context of academic libraries weaves around librarian, faculty and scholarly collaborations. (Risam, Snow, & Edwards, 2017; Su, 2020; Zaidi, & Pue 2022) Digital humanities and academic libraries’ involvements are significant (Kulkarni, & Muthumari, 2021) for developing countries like India.



Digital Humanities and Academic Libraries

The literature search was made in WOS (Appendix -1) according to DH and academic libraries, the results have reflected the first ten studies related to DH and digital aspects. From the concepts and practices such as “cyber infrastructure for the digital humanities”; "Information visualization skills; Digital Humanities Online Guides; Digital Humanities Scholarly Commons; Team Research, humanities scholarship; and Strategies for Library Engagement (Rodriguez-Yunta, 2014; Chen, 2019; Zhao , Li, 2020); Huang, 2020; Auberry, 2016; Isuster, and Greene, 2020. The roles of academic libraries and digital humanities are interrelated. Responsibilities in the form of digital preservation services are a kind of technological developments. In fact, evaluation of digital competence of humanists and inclusion of other areas such as library GIS Services for Humanities are example of action research approach (Senseney, Koehl, and Nay, 2019; Narlock, Johnson and Vecchio, 2021, Nichols, Melo, and Dewland, 2017; Lu, Tang, 2021; Li, 2021, Kong, Fosmire, and Branch, 2020).





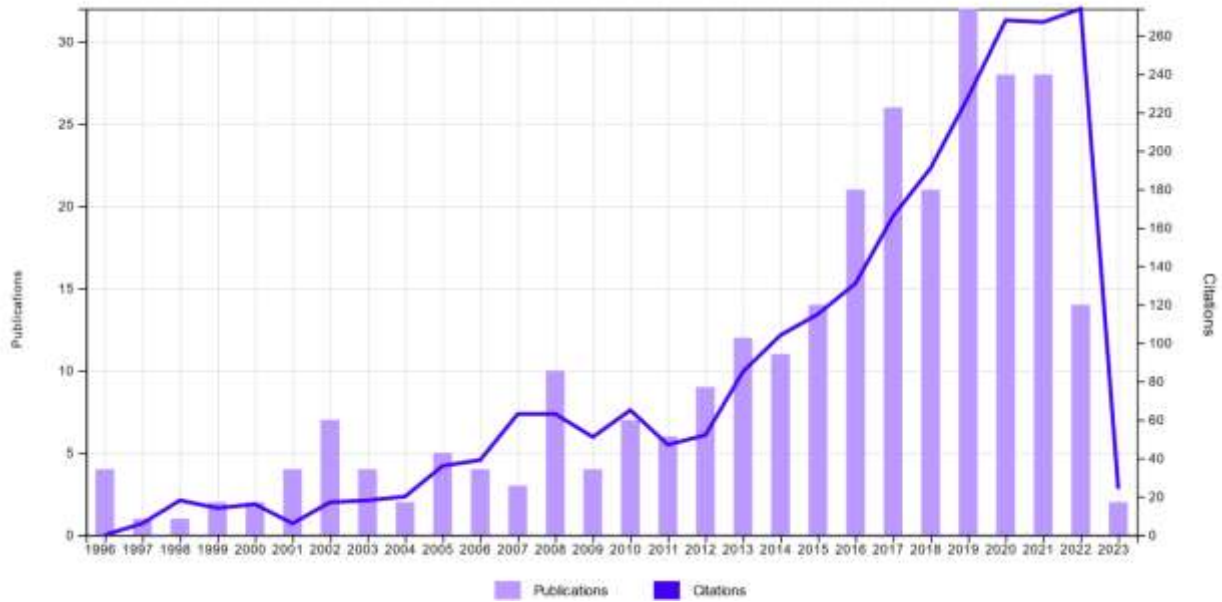
Digital Humanities and Digital Libraries

While search was conducted in the phrase (Appendix 1) “DH and digital libraries,” the first ten results show developments at intricate levels and complex behaviors in digital environment (Zhao, Li, 2020; Huang, Wong, 2016; Rodriguez-Yunta, 2014). Engagement of research scholars, contexts of digital humanities and preparedness of libraries and challenges (Paul, 2007; Batjargal, Kimura, and Maeda, 2010; Fenlon, Senseney, 2019; Swatscheno, 2019) are few of the areas which have been concern during last decade. Issues and facilities such as access to humanities digital libraries, federated search, and automatic metadata mapping have opened new discusses which are quite significant and pragmatic in digital contexts.

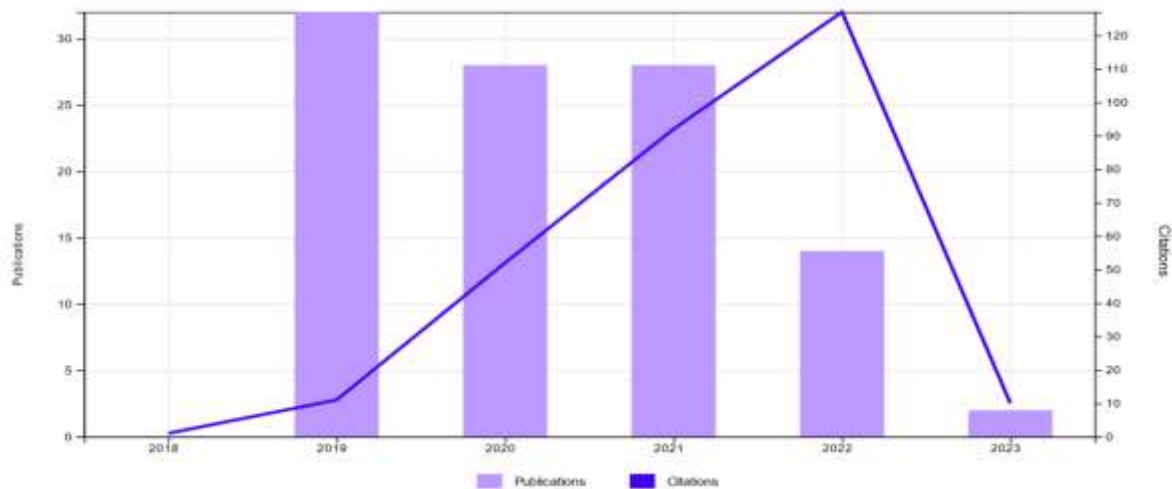
Academic librarian’s role is emerging crucial as skilled bridge between digital humanist and available micro resources. Visualizing information and content analysis are few of the skills required among digital humanities librarians (Wolfe, 2007; Chen, 2019). Various kinds of document architectures, their components and published materials are used among digital humanists, so the library staffs are supposed to train themselves and support digital humanities programs of libraries.

Digital libraries and digital humanities are facing challenges together as the literature reflected. Not only the availability of digital library and resources, but also the open datasets are there to augment the superspeciality of digital humanities (McCarl, 2015; Wittmann, Neatrou, 2019; Myntti, 2019).





Digital Humanities and Digital Libraries during Last Five Years





DH and DL association were observed in WOS (Appendix -2) during last five years. Digital humanities and libraries' preparations involve visualization of Cultural Heritage Collection Data. There are infrastructural requirements and challenges lies in future (Windhager, Federico, 2019; Mayr, 2019).

There are examples for transformation in humanities scholarship. From handwritten text recognition to semantic enrichment, are supporting digital humanities. Few other examples include "iMusic" where "session-sensitive clustered classical music recommender system" becomes functional by using "contextual representation learning" (Muehlberger, Seaward, 2019; Zagoris, 2019; Zeng, 2019; Roy, Biswas, and De, 2020; Chen, and Chang, 2019).

The digital library involvements focus on ancient book digital humanities research platform and subject indexing where the contrasts are established "between a local university repository and an international bibliographic service" (Golub, Tyrkko, 2020; Ahlstrom, 2020).

Few of the works have shown integrated interdisciplinary workflows (Chen, 2019; Tognoli, and Guimaraes, 2019; Oberbichler, Boros, 2022; Tolonen, 2022) which are useful for humanities scholars. Such contexts are significant for historical newspapers while the perspectives are drawn from computer specialists and librarians. Digital scientists and librarians come together to analyze the semantic technologies (Rico, Vila-Suero, 2019; Gomez-Perez, 2019) and their applications on bibliographic systems. To have user-oriented approach is a beginning step towards usage understanding of electronic resources by humanities scholars.

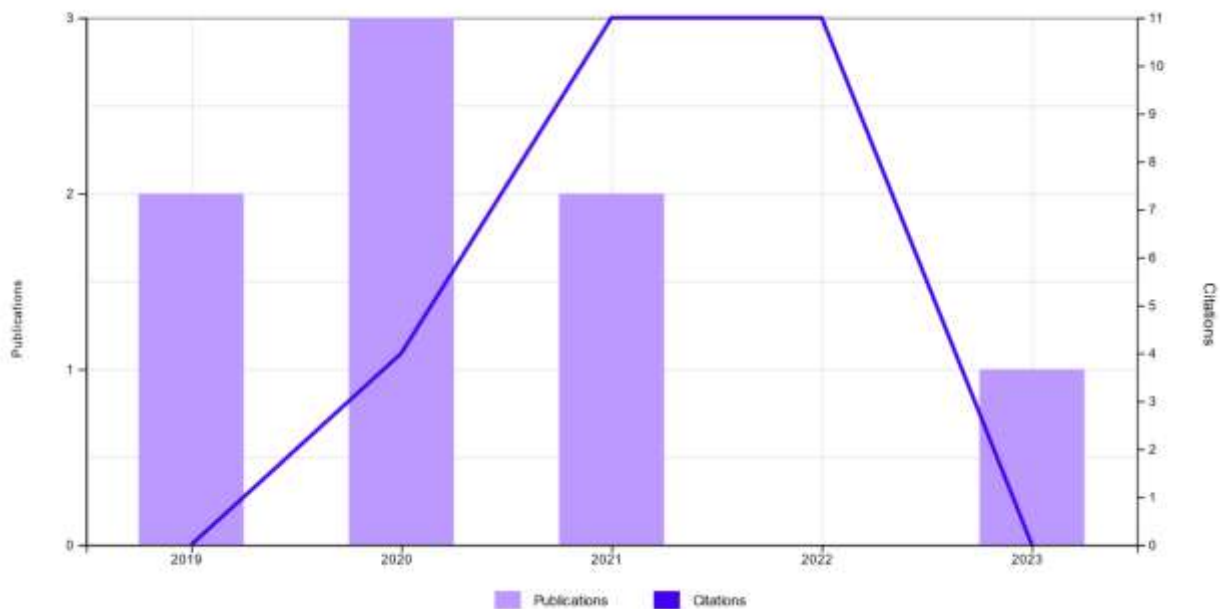
Digital Humanities and Library Professionals during Last Five Years

The roles of library professionals have been observed while the literature was searched with the phrase (Appendix- 2) "Digital humanities and library professionals" and the time frame in search strategy limiting to "last five years". Human roles and machine support can create balance in the digital humanities environment. Subject indexing, digital scholarship, bibliographic services and content analysis (Golub, Tyrkko, 2020 Ahlstrom, 2020; Zhou, Huang, and Zijlstra, 2019; Zhan, Su and Hubschman, 2021) are some of the aspects reflected in the resulted eight studies in WOS. Technical efforts are required from library professionals in tasks such as analog video digitizations, guiding framework for digital scholarship and establishing international standards for bibliographic services (Lischer-Katz, 2019). While retaining the past for future researches in digital humanities, library staff endeavors for archival digitization, digital repositories, digital



preservations and developing scholarly leadership (Ringel, 2021; Zhang, Su, and Hubschman, 2021; Narlock, Johnson and Vecchio, 2021).

Digital scholarship demands continuous attention from library professionals. The augmentation of digital humanities is possible once library staff transforms the library training programs and orientations into the specifically designed “Digital Editing Workshops” (McCarl and Hemmingway, 2023) which have been reported useful. Such efforts are steppingstones for building digital communities. Such tasks handling requires certain levels of skills developments in library professionals in meeting information requirements of humanities scholars in digital scenario.





Conclusion

The transition to digital humanities from humanities computing might be considered as repackaging with the expanded scope. Svensson (2016) focused upon the concepts such as Digital Humanities, and conceptual Cyber-infrastructure to frame the concept for wider understanding. The journey of Humanities Computing to Digital Humanities and varying scopes of such domains have been there to focus upon. Whereas Humanities Computing could be considered as methodological in approach; being text-based, the real motto wasn't to engage digitally. On the contrary, Digital Humanities is generally aligned with concepts and structure of traditional Humanities.

*The authors are thankful to Dr Parveen Babbar, Deputy Librarian, JNU for his expertise and valuable inputs throughout the study.

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Appendix-1

S.No.	Bibliographic Details	Remark
	Digital Humanities and Academic Libraries	Digital humanities and digital libraries
1.	Cyberinfrastructure for the digital humanities: an opportunity for technological development in academic libraries Rodriguez-Yunta, L. Sep-oct 2014 23 (5) , pp.453-+ 10.3145/epi.2014.sep.01 https://www.webofscience.com/wos/woscc/full-record/WOS:000486265700016 10.1108/LHT-01-2018-0012	Digital Humanities Scholarly Commons at Beijing Normal University Library Zhao, X; Li, SN; (...); Huang, HQ Sum 2020 Library Trends 69 (1) , pp.250-268
2.	Digital Humanities Scholarly Commons at Beijing Normal University Library Zhao, X; Li, SN; (...); Huang, HQ Sum 2020 Library Trends 69 (1) , pp.250-268	Digital Humanities: What Can Libraries Offer? Wong, SHR Oct 2016 Portal – Libraries and the Academy 16 (4) , pp.669-690
3.	Laying the Foundation: Digital Humanities in Academic Libraries Auberry, K Oct 1 2016 Library Journal 141 (16) , pp.93-93	Cyberinfrastructure for the digital humanities: an opportunity for technological development in academic libraries Rodriguez-Yunta, L Sep-oct 2014 Profesional De la Informacion 23 (5) , pp.453-+
4.	Survey of Digital Humanities Online Guides in Canadian Academic Research Libraries Isuster, MY and Greene, DR Oct 2020 Portal Libraries and Academy 20 (4) , pp.733-748	Digital libraries and the challenges of digital humanities Paul, J 2007 Program Electronic Library and Systems 41 (2) , pp.191-193
5.	Collaboration, Consultation, or Transaction: Modes of Team Research in Humanities Scholarship and Strategies for Library Engagement Senseney, M; Koehl, ED and Nay, L Sep 2019 College and Research Libraries 80 (6) , pp.787-804	Providing universal access to Japanese humanities digital libraries: an approach to federated searching system using automatic metadata mapping Batjargal, B; Kimura, F and Maeda, A Nov 2010 JOURNAL OF ZHEJIANG UNIVERSITY-SCIENCE C-COMPUTERS & ELECTRONICS 11 (11) , pp.837-843
6.	Digital preservation services at digital scholarship centers Narlock, M; Johnson, D and Vecchio, J May 2021 Feb 2021 (Early Access) Journal of Academic Librarianship	Humanities Scholars and Library-Based Digital Publishing: New Forms of Publication, New Audiences, New Publishing Roles Fenlon, K; Senseney, M; (...);



	47 (3)	Swatscheno, J Apr 1 2019 Journal of scholarly Publishing 50 (3) , pp.159-182
7.	Unifying Space and Service for Makers, Entrepreneurs, and Digital Scholars Nichols, J; Melo, M and Dewland, J Apr 2017 Portal -Libraries and The Academy 17 (2) , pp.363-374	Information visualization skills for academic librarians A content analysis of publications and online LibGuides in the digital humanities Chen, HM Sep 16 2019 Library Hi Tech 37 (3) , pp.591-603
8.	Research on the Evaluation of Digital Academic Competence of Chinese Humanists Lu, ZP; Tang, JH; (...); Li, H Sum 2020 Library Trends 69 (1) , pp.30-56	Digital libraries and the challenges of digital humanities Wolfe, JA 2007 LIBRARY COLLECTIONS ACQUISITIONS & TECHNICAL SERVICES 31 (2) , pp.116-117
9.	Developing Library GIS Services for Humanities and Social Science: An Action Research Approach Kong, NN; Fosmire, M and Branch, BD May 2017 College and Research Libraries 78 (4) , pp.413-427	From Digital Library to Open Datasets: Embracing a "Collections as Data" Framework Wittmann, R; Neatrou, A; (...); Myntti, J 2019 INFORMATION TECHNOLOGY AND LIBRARIES 38 (4) , pp.49-61
10.	Chen, H.M. (2019), "Information visualization skills for academic librarians: A content analysis of publications and online LibGuides in the digital humanities", <i>Library Hi Tech</i> , Vol. 37 No. 3, pp. 591-603. https://doi.org/10.1108/LHT-01-2018-0012	Editing the Eartha MM White Collection: An Experiment in Engaging Students in Archival Research and Editorial Practice McCarl, C Jul 2018 JOURNAL OF ACADEMIC LIBRARIANSHIP 44 (4) , pp.527-537

Appendix-2

S.No.	Bibliographic Detail	Remark
	DH and DL during last five years	Digital humanities and library professionals during last five years
1.	Visualization of Cultural Heritage Collection Data: State of the Art and Future Challenges Windhager, F; Federico, P; (...); Mayr, E Jun 2019 IEEE TRANSACTIONS ON VISUALIZATION AND COMPUTER GRAPHICS 25 (6) , pp.2311-2330	Subject indexing in humanities: a comparison between a local university repository and an international bibliographic service Golub, K; Tyrkko, J; (...); Ahlstrom, I Oct 5 2020 May 2020 (Early Access) JOURNAL OF DOCUMENTATION 76 (6) , pp.1193-1214
2.	Transforming scholarship in the archives through	Towards digital scholarship services in



	handwritten text recognition Transkribus as a case study Muehlberger, G; Seaward, L; (...); Zagoris, K Sep 9 2019 JOURNAL OF DOCUMENTATION 75 (5) , pp.954-976	China's university libraries: Establishing a guiding framework from literature Zhou, LH; Huang, RH and Zijlstra, T 2019 ELECTRONIC LIBRARY 37 (1) , pp.108-126
3.	Semantic enrichment for enhancing LAM data and supporting digital humanities Zeng, ML Jan-feb 2019 PROFESIONAL DE LA INFORMACION 28 (1)	A content analysis of job advertisements for digital humanities-related positions in academic libraries Zhang, Y; Su, FL and Hubschman, B Jan 2021 JOURNAL OF ACADEMIC LIBRARIANSHIP 47 (1)
4.	iMusic: a session-sensitive clustered classical music recommender system using contextual representation learning Roy, S; Biswas, M and De, D Sep 2020 Jun 2020 (Early Access) MULTIMEDIA TOOLS AND APPLICATIONS 79 (33-34) , pp.24119-24155	Reconsidering Technical Labor in Information Institutions: The Case of Analog Video Digitization Lischer-Katz, Z Fal 2019 Library Trends 68 (2) , pp.213-251
5.	A Chinese ancient book digital humanities research platform to support digital humanities research Chen, CM and Chang, C Apr 1 2019 ELECTRONIC LIBRARY 37 (2) , pp.314-336	Interfacing with the past: Archival digitization and the construction of digital depository Ringel, S Oct 2021 Dec 2020 (Early Access) CONVERGENCE-THE INTERNATIONAL JOURNAL OF RESEARCH INTO NEW MEDIA TECHNOLOGIES 27 (5) , pp.1308-1323, 6
6.	Subject indexing in humanities: a comparison between a local university repository and an international bibliographic service Golub, K; Tyrkko, J; (...); Ahlstrom, I Oct 5 2020 May 2020 (Early Access) JOURNAL OF DOCUMENTATION 76 (6) , pp.1193-1214	Digital preservation services at digital scholarship centers Narlock, M; Johnson, D and Vecchio, J May 2021 Feb 2021 (Early Access) JOURNAL OF ACADEMIC LIBRARIANSHIP 47 (3)
7.	Integrated interdisciplinary workflows for research on historical newspapers: Perspectives from humanities scholars, computer scientists, and librarians Oberbichler, S; Boros, E; (...); Tolonen, M Feb 2022 Aug 2021 (Early Access) JOURNAL OF THE ASSOCIATION FOR INFORMATION SCIENCE AND TECHNOLOGY 73 (2) , pp.225-239	Digital Editing Workshops for Building Campus Public History Communities and Developing Student Leaders McCarl, C and Hemmingway, L Feb 2023 PUBLIC HISTORIAN 45 (1) , pp.100-126
8.	Evaluating the impact of semantic technologies on bibliographic systems: A user-centred and comparative approach Rico, M; Vila-Suero, D; (...); Gomez-Perez, A Dec 2019 JOURNAL OF WEB SEMANTICS	Knowledge and Skills Requirements of National University of Lesotho Librarians in Meeting Information Needs of Humanities Undergraduate Students in the Digital Age



	59	Nkuebe, P and Raju, J Oct 2020 AFRICAN JOURNAL OF LIBRARY ARCHIVES AND INFORMATION SCIENCE 30 (2) , pp.197-219
9.	Exploring the use of electronic resources by humanities scholars during the research process Chen, SC Apr 1 2019 ELECTRONIC LIBRARY 37 (2) , pp.240-254	
10.	Provenance as a Knowledge Organization Principle Tognoli, N and Guimaraes, JAC 2019 of 3	