

Exploring the Role of Digital Archiving in Enhancing Research and Development Libraries in Tirunelveli District, Tamil Nadu

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How to cite this article: Sermarajan A.V. and Balasubramanian P. (2025). Exploring the Role of Digital Archiving in Enhancing Research and Development Libraries in Tirunelveli District, Tamil Nadu. *S.B. Journal of Library and Information Science*, 1(1), 58-66.

ABSTRACT

A general discussion of digital literacy is attempted and applied both in the case of digital libraries and archives in managing their digital collections before providing useful services from that collection. Some of the objectives of digital libraries that directly affect document management are collect, store and organize information in digital form and To Promote the delivery of economic and effective information. Analyzed the opinion of Faculty, Research Scholar, Technical Staff one hundred and fifty Questionnaires were distributed. Only 120 Respondents have responded to the request.

KEYWORDS: Digital Archives, Research, Development, Digital Libraries, Information.

1. INTRODUCTION

Digital archives are different from digital libraries in the sense that digital libraries are repositories that collect and provide access to digital information, but may or may not provide long-term storage and access to that information. There are two main reasons for creating and maintaining digital archives. To ensure that no valuable digital information is lost for future use. To verify digital archives will have critical mechanism for security breaches. In addition to raw data, digital archiving should preserve the means of interpreting data, understanding its nature, composition and architecture. Libraries with digitized materials can provide multiple copies to users at the same time in digital form, and one of the latest electronic copies will be available on the network for future generations.

2. REVIEW OF LITERATURE

The Perseus Digital Library and the Future of Libraries Crane (2023) explores the future trajectory of libraries in the context of digital archiving, using the Perseus Digital Library as a case study. The paper

Received on 12.07.2024/ Revised on 14.10.2024/ Accepted on 10.12.2024

Online First Published on Jan 10, 2025 at <https://bpaspublications.com/>

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emphasizes the importance of digitizing ancient texts and making them accessible to scholars globally. Crane argues that digital archives are not only preserving knowledge but also transforming libraries into dynamic platforms for interaction and engagement. The study calls for the continuous development of open-access digital repositories, which play a vital role in democratizing information.

Digital Transformation Readiness: Perspectives on Academia and Library Outcomes in Information Literacy Deja, Rak, and Bell (2021) examine how academic libraries are preparing for the digital transformation, particularly its impact on information literacy. The study highlights that digital transformation is key to ensuring that libraries meet the evolving needs of students and researchers in the 21st century. The authors identify the importance of digital tools in promoting information literacy and enabling students to navigate digital resources effectively. The study also discusses the challenges libraries face, such as limited resources and resistance to change, and offers strategies to overcome these barriers.

Digital Sources and Digital Archives: Historical Evidence in the Digital Age Owens and Padilla (2020) focus on how digital archives are used in historical research. They argue that digital archives serve as essential tools for preserving and accessing primary sources, which are often critical to historical analysis. The authors stress the evolving role of digital archives in providing interactive and accessible historical content and examine the technical and ethical considerations involved in preserving digital sources. This paper highlights the need for standardized metadata, preservation protocols, and long-term access strategies to ensure the value of digital archives.

Student Use of University Digital Collections: The Role of Technology and Educators (Shephard & Pookulangara, 2020) investigate how students interact with university digital collections and the role that technology and educators play in facilitating access. Their study shows that while students increasingly rely on digital collections for academic purposes, their ability to navigate these resources often depends on the availability of technology and the guidance of educators. The authors recommend that universities invest in user-friendly interfaces and provide training programs to help students effectively use digital collections for research.

Digital Preservation Practices in University Libraries: An Investigation of Institutional Repositories in Africa Anyaoku, Echedom, and Baro (2019) investigate digital preservation practices in university libraries across Africa, with a focus on institutional repositories. Their research reveals that while many African institutions have implemented digital archiving initiatives, they face challenges such as limited resources, inadequate infrastructure, and lack of technical expertise. The authors emphasize the need for local preservation strategies and collaborative efforts to ensure that digital archives remain accessible and sustainable in the long term.

The Role of Academic Libraries in the Digital Transformation of Universities Sandhu (2018) examines the role of academic libraries in supporting the digital transformation of universities. The study highlights the pivotal role libraries play in adapting to technological changes by upgrading infrastructure, adopting digital preservation tools, and supporting research and learning through digital access. Sandhu argues that academic libraries are no longer just custodians of physical materials but have evolved into key players in knowledge management within universities, helping to facilitate the integration of digital resources and collaborative research tools.

2.1 Key Themes in the Literature

From the reviewed studies, several recurring themes emerge regarding the use and impact of digital archiving in academic libraries:

- **Digital Transformation and Readiness:** Studies by Deja et al. (2021) and Sandhu (2018) underscore the need for libraries to be prepared for digital transformation. This includes modernizing their infrastructure, training staff, and aligning digital initiatives with broader academic goals.

- Educational Impact: Research by Shephard & Pookulangara (2020) and Deja et al. (2021) emphasizes that digital archives are not only repositories but also educational tools that help students develop information literacy skills and engage deeply with digital content.
- Digital Preservation: The issue of digital preservation is prominent in Owens & Padilla (2020) and Anyaoku et al. (2019), where the long-term accessibility of digital content is discussed. Strategies for metadata management, data integrity, and sustainable preservation practices are vital for ensuring that digital archives remain useful and accessible.
- Challenges in Digital Archiving: Despite the potential of digital archiving, challenges such as technical limitations, budget constraints, and staff training needs are acknowledged in several studies (Owens & Padilla, 2020; Anyaoku et al., 2019). Overcoming these barriers is critical for successful implementation.
- Role of Libraries in Facilitating Access: Academic libraries are increasingly seen as key facilitators of digital access to research materials, as highlighted in Crane (2023) and Sandhu (2018). Libraries are central to ensuring that scholars and students can access, share, and collaborate on digital resources.

3. OBJECTIVE OF THE STUDY

- To learn the Place from where digital archives resources are usually accessed
- To revise Time Span of using the Digital Archives and Place of accessing the Digital Archives
- To learning Frequency Level of using the Digital Archives and Place of accessing the Digital Archives
- To Study Respondents' Awareness of the Availability of Various Collections in the Digital Archives

4. NULL AND ALTERNATIVE HYPOTHESIS

- **H₀** There is no significant relationship between Frequency Level of using the Digital Archives and Place of accessing the Digital Archives to the respondents
- **H₁** There is relationship between Frequency Level of using the Digital Archives and Place of accessing the Digital Archives to the respondents.

5. METHODOLOGY AND SAMPLE

The Questionnaire was standardized on the actual data of collected opinions. The questionnaire was distributed personally and the objectives of the study to the prospective respondent were highlighted. Each respondent was given assurance about confidentiality of responses and their personal data.

6. ANALYSIS AND INTERPRETATION OF DATA

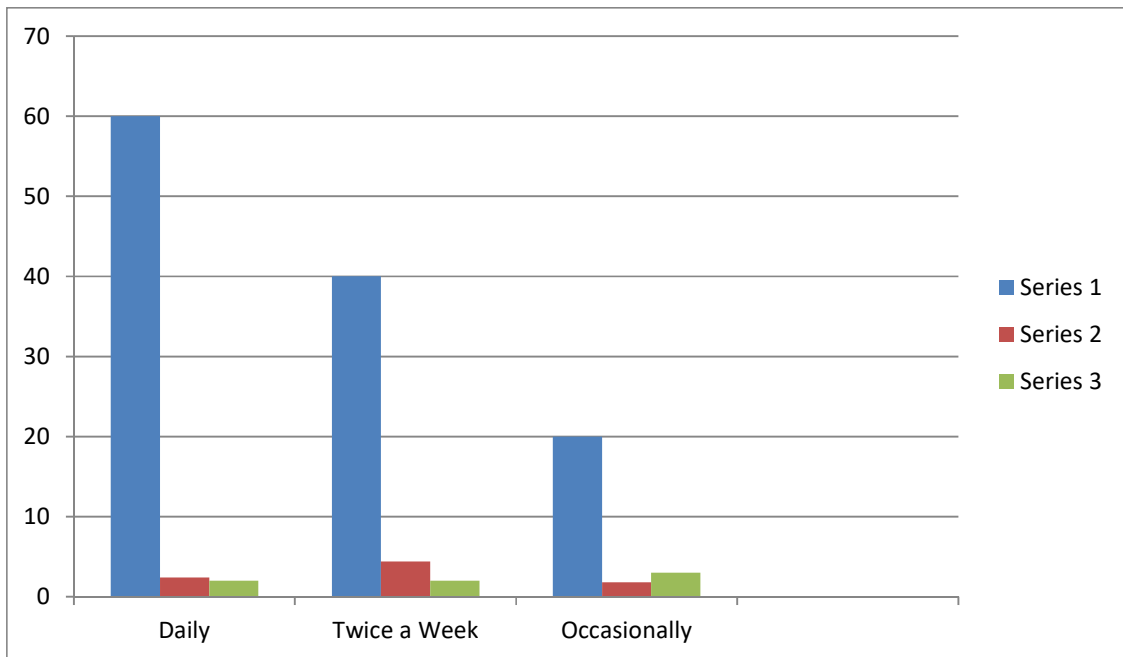
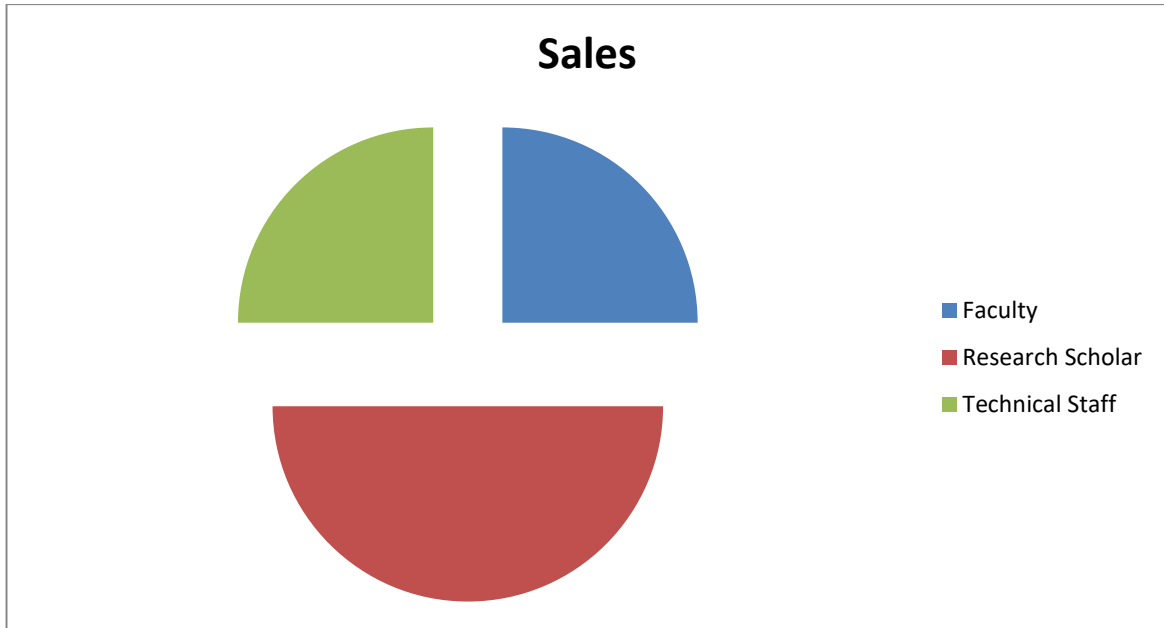
Table 1: Distribution of the respondents by their social demographic profile

Category	Sl. No.	Category	No. of Respondents	Percentage
	1	Faculty	30	25
	2	Research Scholar	60	50
	3	Technical Staff	30	25
		Total	120	100
Frequency level	Sl. No.	Frequency	No. of Respondents	Percentage
	1	Daily	60	50
	2	Twice a Week	40	33
	3	Occasionally	20	17
		Total	120	100

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	Sl. No.	Opinion	No. of Respondents	Percentage
Time Span of using the Digital Archives	1	Less than a year	65	54
	2	1 - 2 years	25	21
	3	2 - 3 years	15	12.5
	4	3 - 4 years	15	12.5
		Total	120	100

(Source: Primary data)



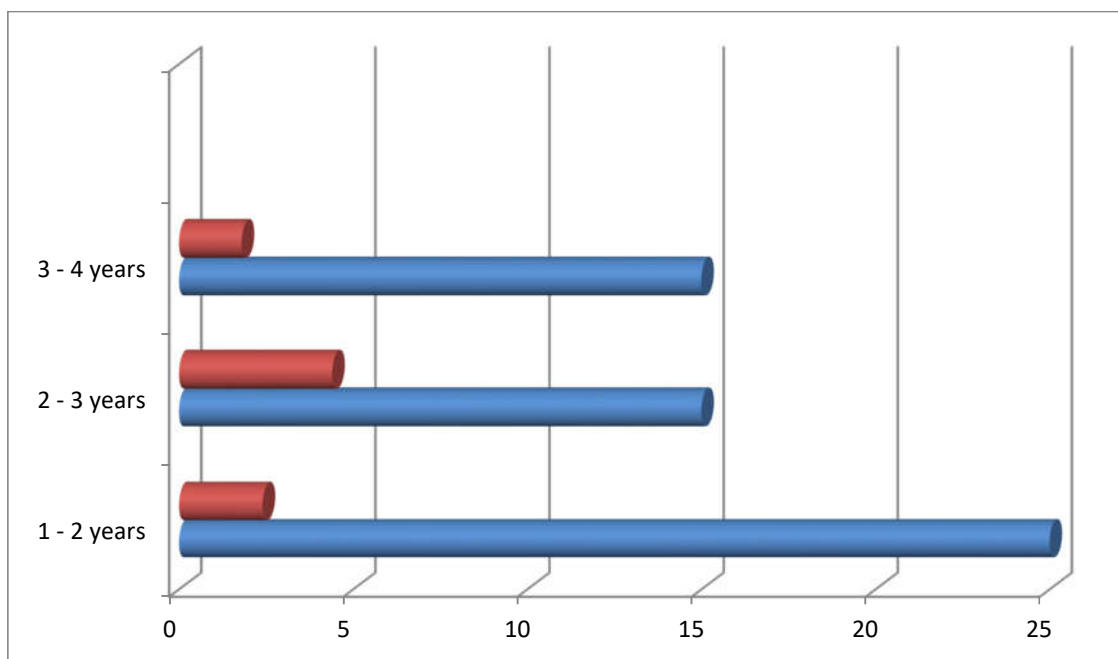


Figure 1-3: Distribution of the respondents by their social demographic profile Figure 1, 2 & 3

The table presents the social demographic profile of the respondents. It is noticed from the table that 60% of the respondents were research scholars and 30% of the respondents were faculty members. 25 % of the respondents were technical staff. It is noticed that 50% of the respondents were using the digital archives daily. Around 33% of the respondents were using the digital archives twice a week and 17% of the respondents were using the digital archives occasionally. It is clear that 12.5% of the respondents were using the digital archives for the past 3-4 years and 21% of the respondents were using the digital archives for about 1-2 years. Around 54% of the respondents were using the digital archives for less than a year. Only 12.5% of the respondents were using the digital archives for about 2-3 years.

Table 2: ANOVA between Gender and Place of accessing the Digital Archives

		Sum of Squares	df	Mean Square	F	Sig.
On local server	Between Groups	64.090	1	259.090	139.063	.000
	Within Groups	173.093	518	1.863		
	Total	306.183	519			
Departmental server	Between Groups	3.523	1	14.523	7.613	.005
	Within Groups	247.177	518	1.908		
	Total	250.700	519			
Cloud	Between Groups	16.523	1	16.523	9.163	.004
	Within Groups	986.177	518	1.896		
	Total	1002.700	519			
Institutional Repository	Between Groups	292.762	1	292.762	202.038	.000
	Within Groups	750.605	518	1.449		
	Total	1043.367	519			
Others	Between Groups	20.163	1	20.163	11.673	.001
	Within Groups	894.743	518	1.727		
	Total	914.906	519			

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The table presents the AVOVA between the gender of the respondents and their preferable place to access the digital archives. It is noticed that the p value is between 0.000 to 0.005 which is less than 0.05. It is preferable place to access the digital archives differed with the gender of the user.

Table 3: ANOVA between Age and Place of accessing the Digital Archives

		Sum of Squares	df	Mean Square	F	Sig.
On local server	Between Groups	144.608	4	36.152	17.246	.000
	Within Groups	1079.575	115	2.096		
	Total	1224.183	119			
Departmental server	Between Groups	158.332	4	39.583	24.143	.000
	Within Groups	844.368	115	1.640		
	Total	1002.700	119			
Cloud	Between Groups	98.507	4	24.627	11.220	.000
	Within Groups	1130.416	115	2.195		
	Total	1228.923	119			
Institutional Repository	Between Groups	374.378	4	93.595	72.051	.000
	Within Groups	668.989	115	1.299		
	Total	1043.367	119			
Others	Between Group	163.625	4	40.906	28.041	.000
	Within Groups	751.280	115	1.459		
	Total	914.905	119			

The table presents the AVOVA between the age of the respondents and their preferable place to access the digital archives. It is notice that the p value is 0.000 which is less than 0.05. It indicates that ANOVA summary is statistically significant with the p values. Thus, it is understood that preferable place to access the digital archives differ with the age of the user.

Table 4: ANOVA between Category and Place of accessing the Digital Archives

		Sum of Squares	df	Mean Square	F	Sig.
On local server	Between Groups	218.718	2	109.359	56.231	.000
	Within Groups	1005.465	117	1.945		
	Total	1224.183	119			
Departmental server	Between Groups	43.744	2	21.872	11.792	.000
	Within Groups	958.956	117	1.855		
	Total	1002.700	119			
Cloud	Between Groups	97.641	2	48.820	27.888	.000
	Within Groups	905.059	117	1.751		
	Total	1002.700	119			
Institutional Repository	Between Groups	71.043	2	35.521	18.887	.000
	Within Groups	972.325	117	1.881		
	Total	1043.367	119			
Other	Between Groups	74.077	2	37.039	22.774	.000
	Within Groups	840.828	117	1.626		
	Total	914.906	119			

The table presents the AVOVA between the category of the respondents and their preferable place to access the digital archives. It is noticed that the p value is 0.000 which is less than 0.05. It indicates that ANOVA summary is statistically significant with the p values. Thus, it is understood that preferable place to access the digital archives differed with the category of the user.

Table 5: Respondents' Awareness of the Availability of Various Collections in the Digital Archives

Sl. No.	Collections	Always	Often	Sometimes	Rarely	Never	Total	Mean	Std. Div	Rank
1	Rare Books	33.96	23.28	41.04	13.8	8.04	120	2.49	1.204	I
		28.3	19.4	34.2	11.5	6.7	100			
2	Research Publications	16.56	13.56	14.52	48	27.24	120	3.46	1.328	VI
		13.8	11.3	12.1	40	22.7	100			
3	Audio/ Video of Speeches/ Lectures	11.52	29.76	26.52	39.96	12.24	120	3.1	1.169	III
		9.6	24.8	22.1	33.3	10.2	100			
4	Photographs	7.44	23.52	22.56	49.56	16.8	120	3.38	1.131	V
		6.2	19.6	18.8	41.3	14	100			
5	In-house publications	18.48	22.56	11.52	44.28	23.04	120	3.26	1.371	IV
		15.4	18.8	9.6	36.9	19.2	100			
6	Newspaper Clippings	7.56	14.04	19.2	38.52	40.56	120	3.75	1.217	VIII
		6.3	11.7	16	32.1	33.8	100			
7	Government Reports/ Manuals/	40.44	8.04	12	23.76	35.76	120	3.05	1.675	II
		33.7	6.7	10	19.8	29.8	100			
8	Patents & Standards	22.8	6.96	14.76	11.28	64.2	120	3.72	1.591	VII
		19	5.8	12.3	9.4	53.5	100			

The table shows respondents' awareness of the availability of various collections in the digital archives. Based on the T test value, the awareness level of the respondents on the various digital archives was ranked as, Newspaper Clippings (3.1) was ranked eighth, Government Reports & Manuals (2.92) was ranked seventh, Photographs (2.55) was ranked sixth, research publications (2.52) was ranked fifth, Rare books (2.27) was ranked fourth, Audio, Video of Speeches & Lectures (2.04) was ranked third, In-house publications (1.91) was ranked second and Patents and Standards (1.76) was ranked first.

Table 6: ANOVA between Frequency Level of using the Digital Archives and Place of accessing the Digital Archives

		Sum Squares	df	Mean Square	F	Sig.
On local server	Between Groups	231.818	2	115.909	60.386	.000
	Within Groups	992.365	117	1.919		
	Total	1224.183	119			
Departmental server	Between Groups	97.641	2	48.820	27.888	.000
	Within Groups	905.059	117	1.751		
	Total	1002.700	119			
Cloud	Between Groups	161.587	2	80.793	39.135	.000

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	Within Groups	1067.336	117	2.064		
	Total	1228.923	119			
Institutional Repository	Between Groups	30.724	2	15.362	7.843	.000
	Within Groups	1012.643	117	1.959		
	Total	1043.367	119			
Others	Between Groups	74.077	2	37.039	22.774	.000
	Within Groups	840.828	117	1.626		
	Total	914.906	119			

The table presents the AVOVA between the frequency level of using the digital archives and their preferable place to access the digital archives. It is noticed that the p value is which is less than 0.05. It indicates that ANOVA summary is statistically significant with the predicated values. Hence the null hypothesis is rejected. Thus, it is understood that preferable place to access the digital archives differed with the frequency level of using the digital archives.

7. FINDINGS OF STUDY

It is understood from the study through proven hypotheses via ANOVA tests, the purposes of using the digital archives differed with the demographic profile of the users such as age, category of the user, frequency level and time span of using the digital archives. The study indicated that 49% of the respondents were aware of the photographs collections, 66% of the respondents were aware of the digital archives of in-house publications and 28.7% of the respondents were aware of the digital archival collections of newspaper clippings. I understood from the study through proven hypotheses via regression tests, the awareness level on various digital archives differed with the demographic profile of the users such as gender, age, category of the user, frequency level and time span of using the digital archives. I understood from the study through proven hypotheses via regression tests, the awareness level on various copyright or legal issues associated with the digital collection differed with the demographic profile of the users such as gender, age, category of the user, frequency level and time span of using the digital archives.

8. CONCLUSION

Digital Archives are more profitable compared to traditional storage. In order to create and maintain digital storage, a variety of basic principles must be followed. There are many technical, legal and policy challenges that need to be addressed in order to successfully implement digital preservation and physical document preservation. The developing countries are beginning to take an interest in digital conservation and preservation, but face many challenges along the way.

REFERENCES

- Crane, G. (2023). The Perseus Digital Library and the future of libraries. *International Journal on Digital Libraries*, 24(2), 117-128.
- Deja, M., Rak, D., & Bell, B. (2021). Digital transformation readiness: perspectives on academia and library outcomes in information literacy. *The Journal of Academic Librarianship*, 47(5), 102403.
- Kamposiori, C. (2017). The role of Research Libraries in the creation, archiving, curation, and preservation of tools for the Digital Humanities. *Research Libraries UK*, 1-38.
- Sandhu, G. (2018, February). The role of academic libraries in the digital transformation of the universities. In *2018 5th International Symposium on Emerging Trends and Technologies in Libraries and Information Services (ETTLIS)* (pp. 292-296). IEEE.
- Shuxin Ma (2020). Establishment of Digital Archives in Colleges and Universities to the Optimization of Resources, IOP Conf. Series: Materials Science and Engineering 750 (2020) 012057 IOP Publishing

- Owens, T., and Padilla, T. (2020). Digital sources and digital archives: historical evidence in the digital age. *Int J Digit Humanities*.
- Shephard, Arlesa and Pookulangara, Sanjukta (2020). Student use of university digital collections: the role of technology and educators, *Journal Museum Management and Curatorship*, 35(4), 392-408
- Anyaoaku, E. N., Echedom, A. U. N., & Baro, E. E. (2019). Digital preservation practices in university libraries: An investigation of institutional repositories in Africa. *Digital Library Perspectives*, 35(1), 41-64.
- Arnold, L., & van der Walt, T. (2019). Towards a Better Description of Genre Archives: A Case Study of Travel Archives. *Cataloging & Classification Quarterly*, 57(6), 369-392.
- Boot, P. (2019). Editing social media: the case of online book discussion. *International Journal of Digital Humanities*, 1-12. 62
