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DIGITAL CURATED COLLECTIONS, INVISIBLE USERS AND ARCHIVAL DISINTERMEDIATION

Abstract

Purpose: This paper aims to investigate evolution in communication between archivists and curators on one side and invisible and distant users on the other in the environment of archival disintermediation. The paper analyzes what archivists and curators, and their institutions are doing to minimize the effects of disintermediation that led toward new forms of communication and ultimately to re-intermediation on a more subtle and sophisticated level. Digital curation could be an essential link, and as such, it has a vital role in the long-term preservation and institutional dissemination of digital content.

Methodology: In the first part of the study, the author elaborates on the theoretical explanation of disintermediation and re-intermediation and the role of digital curation based on an extensive literature review. The second part analyzes users' experiences based on the questionnaire when researching happens outside the institutional locus and assistance of the reference archivist. This section examines how users organize themselves and their disintermediated research.

Finding: The papers show the significant problems users face while using digital collections. Are there easy or complex navigation issues, lack of transparency, clearness, access, comprehensive taxonomy, etc.? In the context of the current pandemic, the findings also show that "invisible" researchers soon became very visible because their focus is shifted from general inquiries to more specialized and professional cooperation, creating a new level of re-intermediation.

Conclusion: In the archival institution with the hybrid type of collections, it is essential to track the gradual transformation of researchers from classical primary sources assessment to digital. Their changing research strategies very frequently remain under the radar. This article is a modest attempt to examine digital curation's role in a disintermediated environment when archival mediation is reduced to a minimum or nonexistent. Besides, what are the benefits/consequences that disintermediation may cause for both researchers and curators/archivists?

Keywords: archival disintermediation, re-intermediation, digital curated collections, invisible users, users' habits

INTRODUCTION[1]

This paper aims to investigate evolution in communication between archivists and curators on one side and invisible and distant users on the other in the environment of archival disintermediation and re-intermediation. The paper analyzes what archivist and curators, and their institutions are doing to minimize the effects of disintermediation that led toward new forms of communication on a more subtle and sophisticated level.

The postmodernist turn had an essential effect on archivists who reassessed their role in archives and became increasingly self-reflective (Cook, 2011). Such an approach helped archivists gain more professional knowledge and new skills and knowledge from other domains such as IT, social analysis, anthropology, ethnology, languages, etc. All this made a precondition for change. Thus, archivists and curators encounter writing blogs, making podcasts, designing websites, deciding on added values of the curated collections, etc., reclaiming the area lost in the 'internet revolution' and disintermediation.

The change was profound: archivists and curators left institutional anonymity and invisibility and became tangible and visible with their names on the websites. They provide specific answers to research and share more comprehensive skills in searching, interpreting, and thinking, contributing very much to the rise of information literacy (Brabazon, 2014).

1. DISINTERMEDIATION AND 'INVISIBLE RESEARCHER'

Although the concept of disintermediation has been known to information specialists since automation began, the term reappeared in the mid-1990s. The technological theorists of communication shaped the term disintermediation. They found inspiration in branches of the industry when communicator invents a new medium or adapt an existing one to disintermediate some middleman (Katz, 1988). Information workers used the term to describe the diminishing role of the intermediary associated with the electronic information environment (Edwards et al., 1996). The notion of intermediation was reinterpreted by Joseph J. Esposito in 2011, in the economic context when he explained it as the changes in the 'value chain' (Esposito, 2011; Cooper, 2011). Disintermediation occurs when one link loses its original value in the chain and is bypassed, creating thus a new relationship among the remaining links of the 'value chain' (Jacobs, 2011b). Thus, in the context of libraries and modern technology, publishers directly linked to a reader offering their products, i.e., books, directly to the final users, avoiding mediation between the libraries and librarians. Librarians select books, influence the taste and opinion, and have purchasing power that is also important (Sutton, 1996; Brabazon, 2014). In a disintermediating environment, this vital link is now bypassed. In around 2010, disintermediation was associated with the term 'digital,' which also gained interest by cultural heritage institutions that faced similar challenges caused by modern technology (Edwards et al., 1996).

How did this relate to archives and their users? The notion of digital disintermediation in archives has been borrowed from the library context during rapid technological change that created similar effects on archivist-user relationships. Digital disintermediation relates to bypassing or reducing proximate interaction between 'invisible' researchers and archivists and establishing users' direct relation with archival digital materials. The disintermediated research presupposes those researchers who are on their own discovering digital archival materials and detecting answers to their online research ques-

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1   This paper was born from the presentation held online on November 29, 2021, organized by the 31st IIAS International Conference.

tions. When archivists cannot simultaneously measure or value the quality of their hit results. The principal characteristic of these users is that they research curated collections when archivists do not know if they use them properly, if they encounter difficulties, have doubts and concerns, trust the authenticity of data, ignore their content, or know how to cite them. The crucial question is if the users are aware of the 'value loss' when bypassing reference intelligence and if this 'missing' element can be replaced by the information provided on websites (Chart 11). Often, they rely on the "Google search" pattern that is applied on historical websites (Brabazon, 2006).

The disintermediated research of digital collections happens without direct mediation of an archivist/curator when users apply their skills and best practice experience (Chart 6). However, the researcher's communication with an archivist is crucial for orientation and navigation inside the digital collection and on the website, especially if they are not well structured and not easily navigable (Chart 3-5). Users strive first to gain knowledge of known digital materials and then those less known. Users pass several processes depending on their skills and understanding of archival language (terms and jargon). In praxis, archivists demonstrate their 'archival reference knowledge' essential to their unique competencies as a reliable information provider (Duff et al., 2013). In finding new materials, they rely on the website's curator, who holds valuable answers and a key for accessing digital content successfully (Chart 7).

How far away are researchers, especially historians, from archives and archivists, and if they find themselves in a "foreign country," as symbolically Terry Cook saw their ambivalent relationship (Cook, 2011)? Although such assertion seems exaggerated, it provoked interesting debates among archival theoreticians about their complex and symbiotic relationship (Force & Wiles, 2021; Poole, 2015; Rutner & Schonfeld, 2012). Cook's main argument was that "...archivists, have remained invisible in the construction of social memory, their role purely articulated and rarely appreciated, their self-image equally passive" (Cook, 2011, pp. 608). Archival 'turn' transformed the archival landscape conceptually, and disintermediation emerged as the significant consequence caused by technological and informational progress. Archivists and curators should be well informed about research trends and try to study and even adopt some of the thematic research questions and offer methodological solutions concerning the expectations driving this research. Gerald Ham argued in the mid-1980s that archivists need to think of their professional role much more broadly than simply managing physical artifacts (Ham, 1981; Lee & Tibbo, 2011).

Adjusting the curator's work following historians' needs could be one feasible option although with many open questions. In the case of historical collections, curators and historians could initiate an exciting dialog and embrace beneficial cooperation. Thus, the symbiotic and complex relationship between historians and archivists continues to evolve and develop as multidisciplinary collaboration around digital initiatives (Force & Wiles, 2021).

2. RE-INTERMEDIATION

The re-intermediation occurs when expert users such as archivists, curators, or librarians guide less-skilled and less-experienced users throughout the information architecture (Brabazon, 2014, pp. 194).

The first way to revert the impact of disintermediation is to change the environment that users again will seek expert information from archivists and curators (Jacobs, 2011a). New types of communication and interaction remained under the surface and within new modes of communication, although difficult to measure its effectiveness. The sec-

ond way toward re-intermediation is to create new archival services that correspond with the new users' needs. Those could be 'digitization on demand,' individual professional consultations, 'ask an archivist' web sections, sharing documents on 'cloud based' platforms, short 'welcome' and 'how to research' films, and others, targeting special needs of professional groups (Jacobs, 2011a). Archivists must take over intermediation between digitized PDF folders of archival materials on one end and online users on the other (Brabazon, 2014). There is a question of effectiveness how these new services affect users to initiate contacts with archivists in the long run. Unaware of the full potential of interaction with archivists, it seems that users are satisfied with disintermediated research and limited information flaw. It suggests that they prefer even reduced information within disintermediation from making 'visible' contacts with the archivist. Only highly professional users will seek direct contact with archivists. The third way to influence disintermediation and turn it into re-disintermediation is to digitize thematic collections that are important for the local community and local users. Miscellaneous collections of local importance could also be attractive to initiate archivist–user interaction. Finally, making archives and archival collections educational 'hubs' could return interest into the archives and curated representations. Some evidence suggests that institutions that select and acquire digital content and build digital services on top of those collections are – successful (Jacobs, 2011a). There is a misperception or possible confusion that criteria for successful disintermediated research is limited exclusively to access to digital materials and not necessarily to obtaining the correct information from the digital content. Access and digital preservation intrinsically connect in the digital world.

3. DIGITAL CURATION AND DIGITAL REPRESENTATIONS

Although the term "curation" was used in natural sciences and biology since the 1960s and '70s, in the 1980s and 1990s, the use of the phrase "data curation" emerged in archaeology and literature related to scientific data (Lee & Tibo, 2011; Dallas, 2015; Sesartic et al., 2016). The term "digital curation" was introduced in 2001, at the "Digital Curation: digital archives, libraries, and e-Science seminar" organized by the Digital Preservation Coalition and the British National Space Center in London (Beagrie, 2006; Vivarelli et al., 2013; Dallas, 2016; Feng & Richards, 2017). The term was used to transfer existing curatorial approaches in museums and libraries to digital collections and emphasize the necessity for digital curation changes compared to analog artifacts (Beagrie, 2006). Thus the "curation" was applied to the maintenance and publishing of databases. In contrast, "digital curation" was perceived in the context of added value, annotations, linkages, the management, and editorial intervention of the archival specialist (Dallas, 2016).

Thus, digital curation has been used interchangeably with terms such as digital preservation, digital archiving, digital stewardship, and data management to depict concepts of how digital data can be managed and preserved for the future (Jeonghyun, 2014). Yackel's definition focuses on preservation, emphasizing digital curation as an "umbrella concept that includes digital preservation, data curation, electronic records management, and digital assets management" (Yakel, 2007, pp. 335). Lee and Tibbo defined digital curation as "Digital curation are stewardship that provides reproducibility and re-use of authentic digital data and other digital assets." (Dallas, 2016, pp. 429). Digital curation strives to bridge research, practice, and training across institutions, disciplines, and different data formats (Poole, 2016).

Slowly the notion of "added value" started to develop as a "trusted body of information for current and future use, through active 'questioning' dynamic co-evolution and adequate representation of its epistemic/pragmatic content and context." (Dal-

las, 2016, pp. 429). The notion of "added value" was later incorporated in other similar definitions of digital curation. Digital Curation Center adopted a definition that "...involves maintaining, preserving, and adding value to digital research data through its lifecycle... curation enhances the long-term value of existing data by making it available for further high-quality research." (Dallas, 2016, pp. 430). Recent definitions have brought some alternative approaches and concepts. A. Sabharwal defines digital curation in the context of Digital Humanities (Sabharval, 2015; Sabharval, 2017). "Digital curation is an archiving activity to ensure the long-term preservation of research data and media content—a critical part of a collaboration between DH (Digital Humanities) and archives" (Sabharwal, 2017, pp. 243). He also asserts that Digital humanities (DH) represent an emerging conceptual and practical framework for digital curation. Theory, practice, collaboration, and digital content contribute to a rich foundation for new knowledge. This foundation has roots in the long-standing alliance between archives and the humanities, which has significantly changed over the past two decades." (Sabharwal, 2017, pp. 243). Sabharwal is consciously shifting the definition of digital curation closer toward Digital humanities as he sees its real purpose in the foundation of the new knowledge.

For Digital Humanities is not enough to digitize archival material and make it available online without trying to ask what the purpose of the digital curated collection is and what we want to achieve overall. Besides placing digital objects, i.e., collection, into the trusted digital repository and securing its usability, constant access, and trustworthiness, archivists should meet the need of users and try to answer their research questions by integrating distinct types of metadata sets into the processing. Archival curators can help draft research questions and prepare fundaments for new scientific discoveries. The other importance of digital curation is to reach the visibility of the archival collections in the public domain. Raw digital objects of vast quantities might not be attractive for a meaningful start to the research. Archivists/curators could give a vital impulse to the collection processing because they prepare data visualization, compile a list of names, graphs, maps, charts, related links, etc. By adding added value to the digital collection, the curator creates several important entry points that serve as an invitation for their researchers to discover new relations among digital objects, contributing to a better understanding of their content and the context (Sabharwal, 2017).

The foundation of each curated website representation starts with the question of its purpose and final goals. One inevitable curator's question is, to whom are they preparing the curated representation? Websites aimed at addressing not only professionals but also other users' questions. In addition, they find valuable information on archival processing and curation per se. By using digital curated representation, users could better understand the actual value of the digital objects and get assurance of their trustworthiness and authenticity. However, it is also essential that curators understand how added value works concerning users and its purpose.
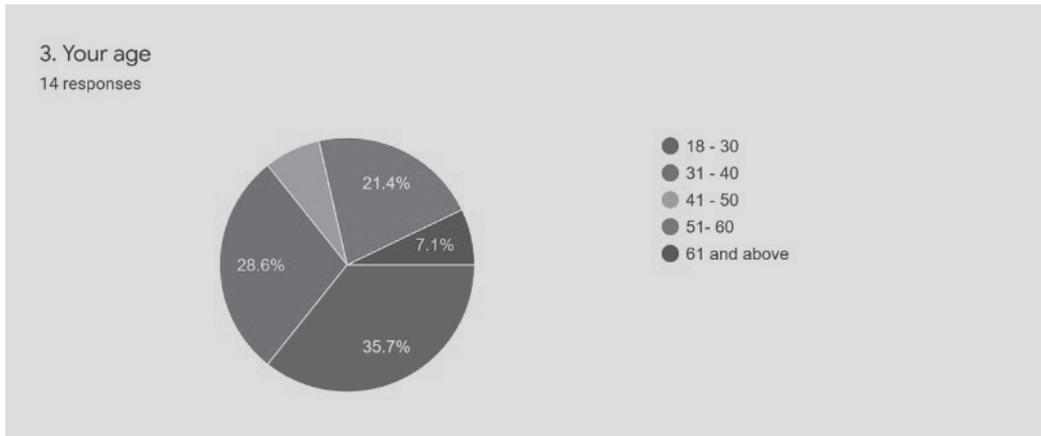
THE QUESTIONNAIRE
METHODOLOGY

Finding information in archives is not always an easy task because it requires a lot of skills and precise knowledge of different nature (content, context, domain, etc.) and much understanding of archival logic and curator's ideas. This chapter examines how researchers, historians, archivists, and doctoral students seek information in archives. It is a study of their information-seeking behavior in the concurrent environments of disintermediation and re-intermediation when archivists and curators 'make sense' of digital objects for successful usage. In this section, the author analyses when and how

researchers locate digital sources, which strategy they apply, and how they use archival materials from digital curated collections, and when they need professional assistance in this process.

This part is based on the questionnaire, consisting of 28 questions covering three thematic groups. First dedicated to the participants, including their personal, educational, and professional information. The second, dedicated to their communication habits with archivists, the strategies applied when researching digital curated collections. The final part of the questionnaire relates to the digital curated representations, which will not be detailed analyzed in this paper. The targeted groups included university-educated researchers, assistant and full professors, doctoral students, and professional and young archivists. The questionnaire was conducted between November 11 and 17, 2021. For one week, 14 responders responded out of 21 who initially received an email link with the invitation for the questionnaire. Twenty-one questions offered multiple answers; 7 were descriptive, while the questionnaire ends with open notes for comments or suggestions. The questionnaire was sent to 21 individuals showing a slight imbalance in sexes. The responder's ratio was 57% of male and 43% of female.[2]
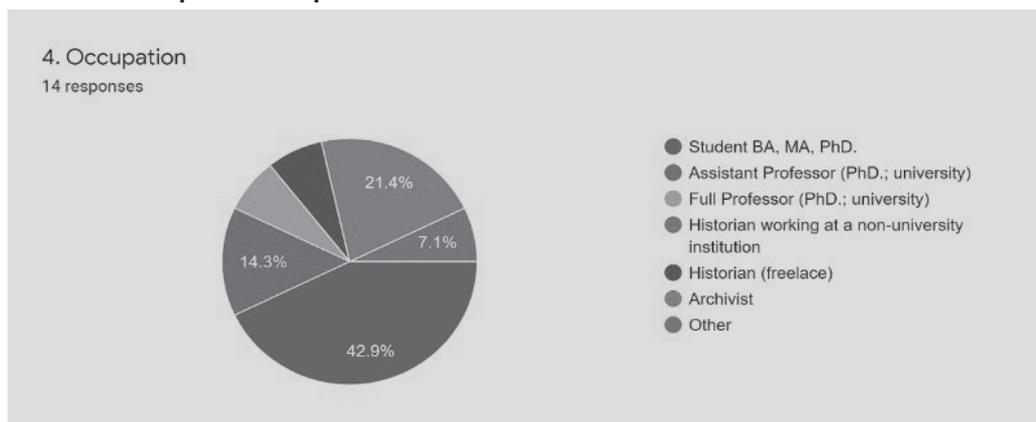
Chart 1. The Participants Age Groups

All age groups from 18 to above 60 took part in the questionnaire (Chart 1). The most numerous were the first group between 18-30 years, consisting of 5 respondents (36%). Followed by 4 responders in a group between 31 and 40 years (29%), 3 responders were in the age group 51-61 (21%) while other 2 age groups were represented by 1 respondent (7%) each.[3]

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2   The questionnaire goes much beyond the envisaged aims of this presentation. The rest of the data will be soon published in a separate paper.
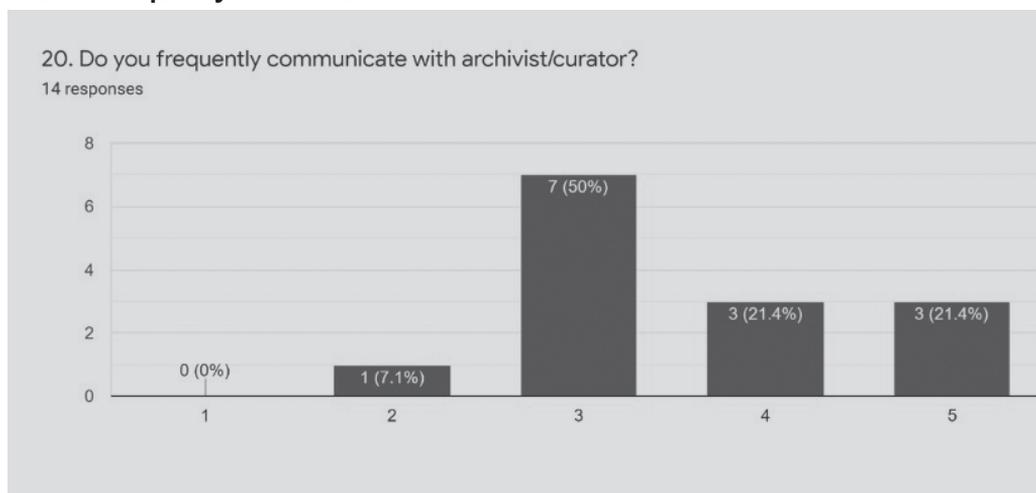
3   The author included all age groups and did not focus exclusively on the 'younger' age groups, with a higher level of information and technology literacy. One of the limitations is that the author selected the group which regularly visits archives and thus does not represent a vast number of users from other cultural heritage institutions.

Chart 2. Participants' Occupation

Concerning occupation (Chart 2), 6 responders were MA or Ph.D. students (43%), 3 responders were archivists (21%), the same number as those of Assistant and Full Professors at universities (21%). Concerning their education, 8 responders (57%) hold Ph.D. and 6 (43%) hold MA and were actively involved in a Doctoral program. The respondents were geographically dispersed from North America (USA 2) over Europe (Austria 2, Slovenia 2, Romania, Italy, Germany, and Hungary 1) to Australia (2).
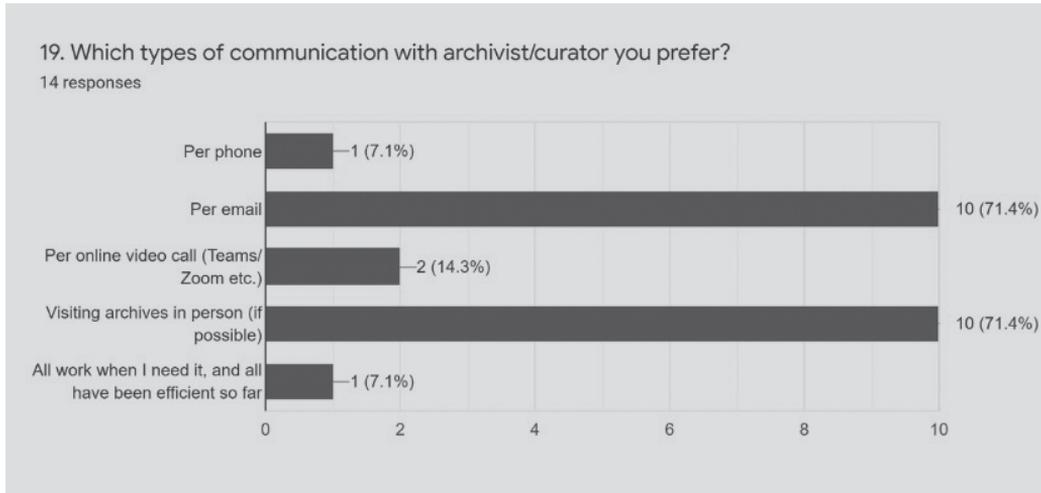
USERS – IN DISINTERMEDIATED RESEARCH

The intensity of the communication between users and archivists (Chart 3) describes general contacts with archivists when dealing with archival reference services. The question concerning the frequency of contacts shows 3 responders (21%) with "very frequently" (marked with 5) contacts the exact figure as those "frequently" contacting (marked with 4). The most significant 7 responders (50 %) moderately contact archivists (marked with 3). Ony one responder had rare contacts (marked with 2). No researchers would avoid contacting archivists (marked with 1).

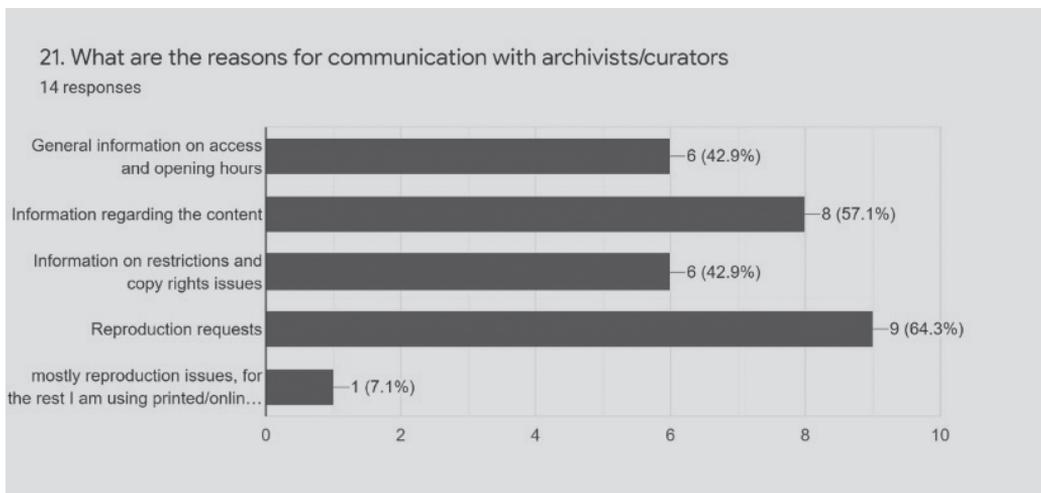## Chart 3. Frequency of Communication Users-Archivists.

The analysis of preferred types of communication (Chart 4) shows that 10 responders (more than 71 %) prefer contacting archivists per email. At the same time, one prefers the phone; the other one uses the phone and other modes of communication. The basic communication literacy is still *via* email and relying on the information from the first hand obtained while visiting archives. Only 2 respondents prefer modern types of communication such as Zoom or Skype. There is a slight discrepancy in the number of 'younger' age group preferring newer modes of communication.

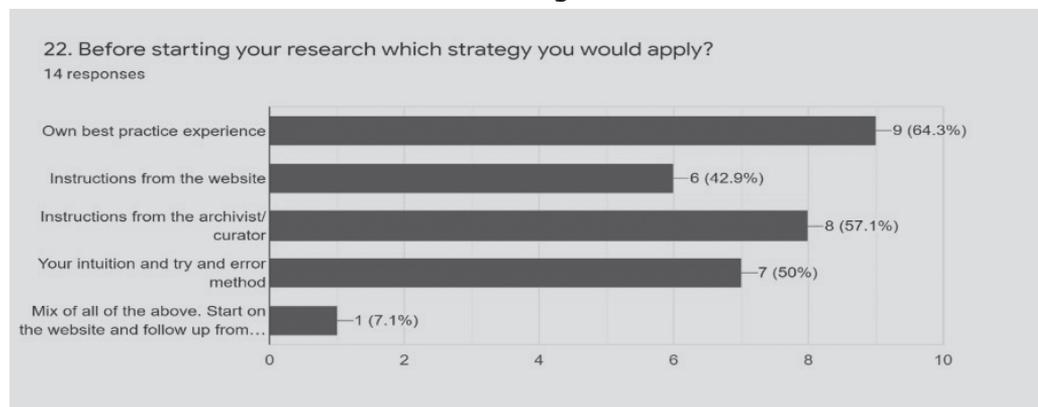**Chart 4. Preferred Types of Communication**

There are high figures of responders visiting archives in person. It means that they remain loyal to traditional and professional interaction with archivists whenever this is possible. A sign that researchers trust archivists as essential sources of information whose variety of knowledge could help their archival research (Duff et al., 2013). Although researchers disclose their names on this stage of communication and become 'visible' still, archivists do not know how successful they are in their research results.

Chart 5. Reasons for Communication with Archivists

When asked about the reasons for contacting archivists/curators (Chart 5), the answers range from the reproduction requests (9 responders or 64 %) to questions relating to the content of the collection (8 responders or 57%) to questions relating to access and opening hours (6 responders or 43%) and restrictions and copyrights issues. The high figure of 64% of those interested in reproduction-related questions could be explained by the pandemic situation that prevents archives from opening research rooms for the public.[4] Those who plan onsite visits regularly seek detailed information from the institutional website on the extent of available materials and after seeking additional information from archivists by email to verify that the visit makes sense.[5]

Chart 6. Researchers and their Research Strategies

22. Before starting your research which strategy you would apply?
14 responses

- Own best practice experience — 9 (64.3%)
- Instructions from the website — 6 (42.9%)
- Instructions from the archivist/curator — 8 (57.1%)
- Your intuition and try and error method — 7 (50%)
- Mix of all of the above. Start on the website and follow up from… — 1 (7.1%)

When asked about applying adequate research strategies (Chart 6) at the beginning of their research, 9 responders (64 %) answered that they use their own best practice and experience. In second place is a group of 8 responders (57 %) who ask for more detailed information from the archivist. An important figure still confirms the significant role of archivists in detecting and locating archival materials. In the third place, responders (50 %) use their intuition and try the error method. This is a crucial indicator that shows that there are researchers who go very broadly, making an impression that they are not focused on one but more research themes and who rely on multiple tries and errors as a method of checking 'what is available.' One of the reasons for such an 'information building' strategy could be that their research topic has not been wholly crystallized and that they seek the other supporting information. Only 6 responders (43 %) seek instruction from the website as the starting point for their research. One researcher (7 %) combines all research strategies, assuming that it would be successful. This question also confirms how the research drive is individual (best practice and intuition) based on their research experiences gained through previous archival research. Once the researchers visit a new archive, they immediately want to be familiar with the new working environment. Researchers thus learn access policies, general and specific rules, and regulations, consulting reference archivists to position their research theme into a broader historical context exposing it to their informal information intelligence (Duff et al., 2013).

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4   However, there could be other issues such as lack of institutional and public funds for adequate travel grants for the research abroad.
5   Reference Services today face an increase in emails concerning 'digitization on demand' requests due to the Covid pandemic and inquiries relating to accessibility for onsite research.

ARCHIVIST, CURATORS, AND CURATED COLLECTIONS

Archivists and curators make sense of archival digital materials, and for this reason, they are unavoidable information providers for researchers. In a disintermediated environment, users might omit this valuable information source or be unaware of their value. Archivists and curators select, structure, and create digital collections aiming to be transparent, easily navigable, equipped with appropriate finding aids, with rich contextual and visualized statistical data. In doing this, archivists and curators must extend their skills and knowledge toward much broader themes and areas.

Digital representations with the 'added value' content represent a new level of digital content beyond archival long-term preservation standards. The communication remains subtle and intuitive by integrating the principle of orientation, organization, archival context, and structure.
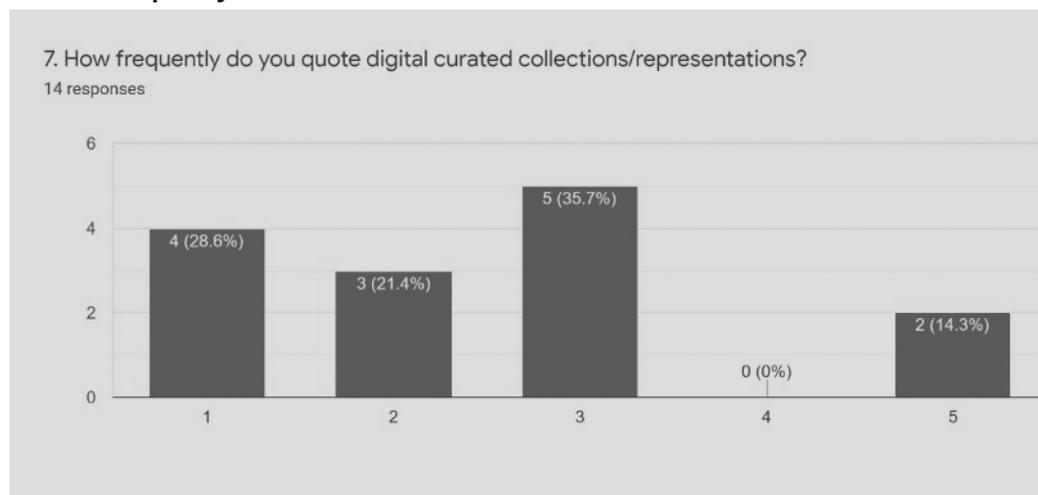
Structuring and visualizing a digital curated collection can be challenging depending on many factors (nature of the archival sources, period, and the curator's knowledge of the context and content of the collections, etc.). One can recognize elements of professional outreach toward historians and other specialist users whose main task is to use archival sources and understand the aims and structure of the digital collection. Not all researchers will quickly understand its logic, find sources, or understand digitization aims. Many users would like to know why this and not some other collection was selected for digitization. They would like to know all stages in its creation and why it is visualized this and not any other way. All these are legitimate questions on which curators must have an immediate response, because curation is very individual and creative.

Below the author is analyzing the users and their experiences with curated collections.
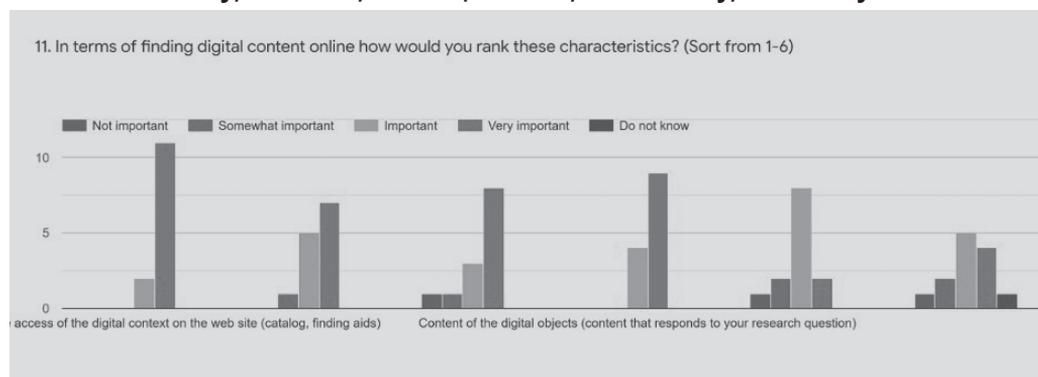
Chart 7. Frequency of Using Digital Collections

In Chart 7, most responders 9 (64 %) extensively use digital collections (marked with 1), and this number is declining toward 'not using' (marked with 5). The other 5 responders are moderately using it. However, if these figures are compared with those on Chart 8, we find evident discrepancies concerning the frequency of citing digital collections. More responders use digital curated collections, but they are less citing them.

Chart 8. Frequency of Citation of Curated Collections

7. How frequently do you quote digital curated collections/representations?
14 responses

Thus, the number of 'regularly' citing responders dropped to 4 (29 %) (marked with 1) while 'moderately' citing responders (marked with 3) grew to 5, generating concerns for less frequent citations. Finally (marked with 5), we found 2 responders (14 %) who do not cite curated collections at all. In general, a firm majority still regularly cite digital content in their work.
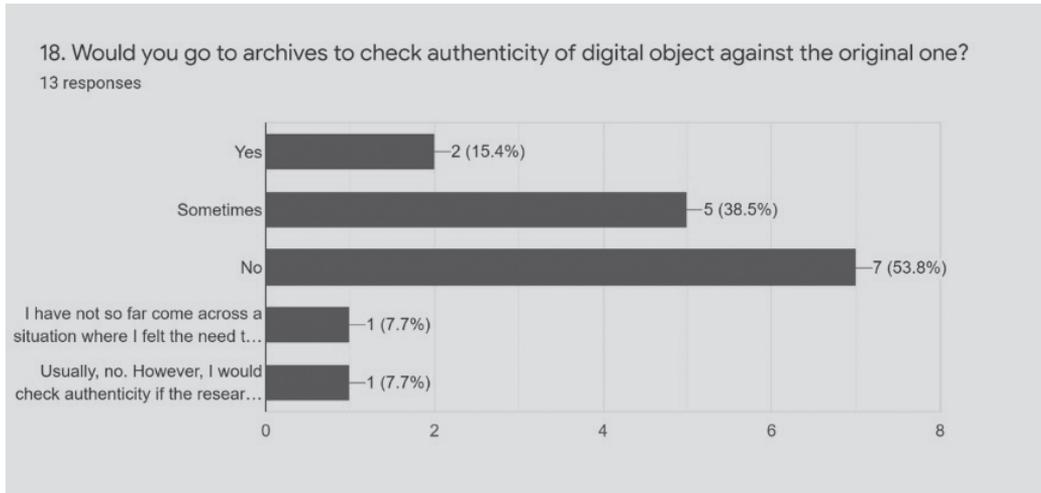
Chart 9. Findability, Selection, Context, Content, Connectivity, and Clarity

11. In terms of finding digital content online how would you rank these characteristics? (Sort from 1-6)

The most complex question consisted of 6 sub-questions. The responders had to estimate the intensity of the given values starting from not important, 'somehow important' and 'important' to 'very important to 'do not know.'

The most important value was concerning the findability of archival digital materials, which 11 responders consider as 'very important' and 2 consider as "important." Expectedly, in second place was the content of the digital materials with 9 responders, while 8 responders indicated institutional and historical context of digital objects as 'very important.' Fourth place with 7 responders was the selection of digital objects (appraisal) for digitization. Connectivity with other similar collections and links to them was considered only as "important" while 2 considered it as very and somehow important while 1 person found it not important. Finally, the most colored and fragmented section was the clarity of digital curated collections, scopes, and aims. The responses split between 'important' and 'very important' 9, to 'somehow important', 'not impor-
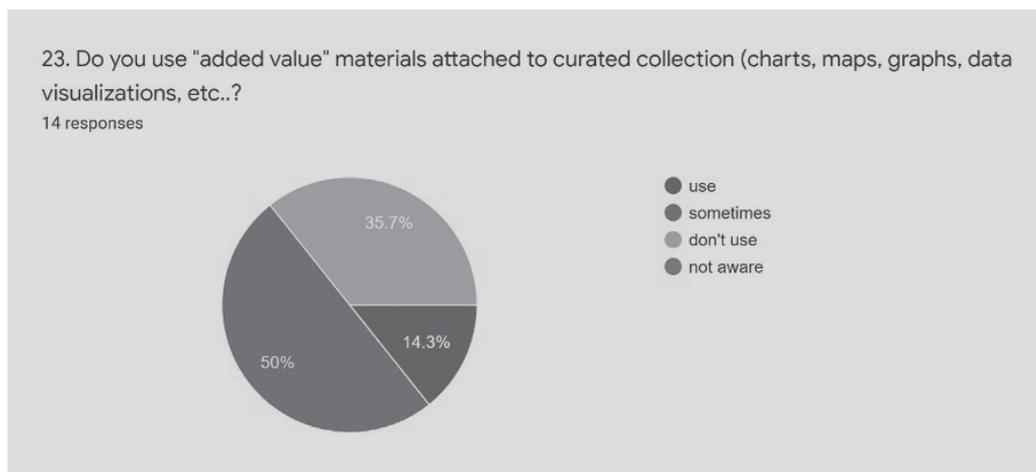
tant,' and that the responder did not know anything about it. The answers illustrate that most responders are primarily interested in the location and access of the digital content, followed by the materials essential for their research. In this example, the context plays a moderate role before appraisal and clarity of the curated collections. Regarding the self-explanatory question or whether the digital collections should be intuitive and logical, 10 respondents (77 %) answered positively, and only 1 responded negatively. At the same time, two responders did not know how to respond which shows certain either reservations or possible misunderstanding of the concept.

Chart 10. Trusting the Authenticity of Digital Objects

18. Would you go to archives to check authenticity of digital object against the original one?
13 responses

- Yes — 2 (15.4%)
- Sometimes — 5 (38.5%)
- No — 7 (53.8%)
- I have not so far come across a situation where I felt the need t… — 1 (7.7%)
- Usually, no. However, I would check authenticity if the resear… — 1 (7.7%)

When asked about the authenticity of digital objects (Chart 10), 7 responders (50%) would decline visiting archives and check the authenticity of their digital resources. In contrast, only 2 responders would go to archives to check authenticity, while 5 responders (39 %) said they would go 'sometimes' depending on the 'situation'. A value indicates that the majority of responders trust the digital source. One responder indicated that he was never in the situation to doubt digital objects' authenticity and suspicious nature, which can relate to the fact that he trusted the institutions standing behind digital content. However, a few researchers expressed certain reservations when using digital content. One respondent would not go to check the authenticity, but "…only if the research project implies studying a limited set of rare or important documents." The researcher would be checking the contextual information to examine if the elements of a whole are identical to the same body of the collection. Suppose they build logical relations which users can automatically connect with reliability and trustworthiness.

Chart 11. The use of "added value" in Curated Collections

23. Do you use "added value" materials attached to curated collection (charts, maps, graphs, data visualizations, etc..?

14 responses

- use
- sometimes
- don't use
- not aware

35.7%

14.3%

50%

It seems that the "added value" attached to digital collections has not been fully appreciated. There could be several reasons for this, such as lack of quality that leads to distrust of such valuable resources. Or simply ignorance of users and their misunderstanding of its function in connection with the digital objects. Maybe the future lies in further granulation of classical 'archives,' its terms and concepts, integrating various multidisciplinary approaches directly or indirectly related to the content. In the same way, digital collections will be intermingled by the net of horizontally (thematic) and vertically (chronologic) access points that would bring all richness of the content and the context of the collection.

The questionnaire showed that users manage to cope with difficulties while researching despite disintermediation by combining new and traditional creative strategies and solutions. While it is difficult to measure their hit results during the research, users, in one way or another, remain relatively content with their findings, and only those interested in deeper content will approach an archivist.

CONCLUSION

In the past decade, there has been an increased interest in digital curations and the processes concerning long-term preservation, primarily focusing on contextual information and the principles used in this process. Although unpredictable for both users and archivists, disintermediation weakened and reformulated traditional bonds between them. Re-inter-mediation attempts to make archives again a vital place for researchers by bringing new modes of interaction. Digital curations and their representations could also be seen as necessary and valuable 'byproduct' of digital preservation and as a tool for disintermediated dissemination of the archival information (collections) and a potential of the institutional outreach. Thus, archives are still relevant, but their role has been evolving. However, the intensity of communicating between archivists and researchers is a question for continuous observation as disintermediation and re-intermediation are two concurrent processes.

Researchers benefited very much from technological advancement, which forced them to acquire new knowledge and adopt their research strategies accordingly. One can trace some indications of researcher behavior changes by analyzing the users' questionnaire conducted in November 2021. The aim of the questionnaire was twofold. Firstly, to explain how the communication with the archivist happens during disintermediated research and secondly, to examine how researchers use curated archival collections and their representations.

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