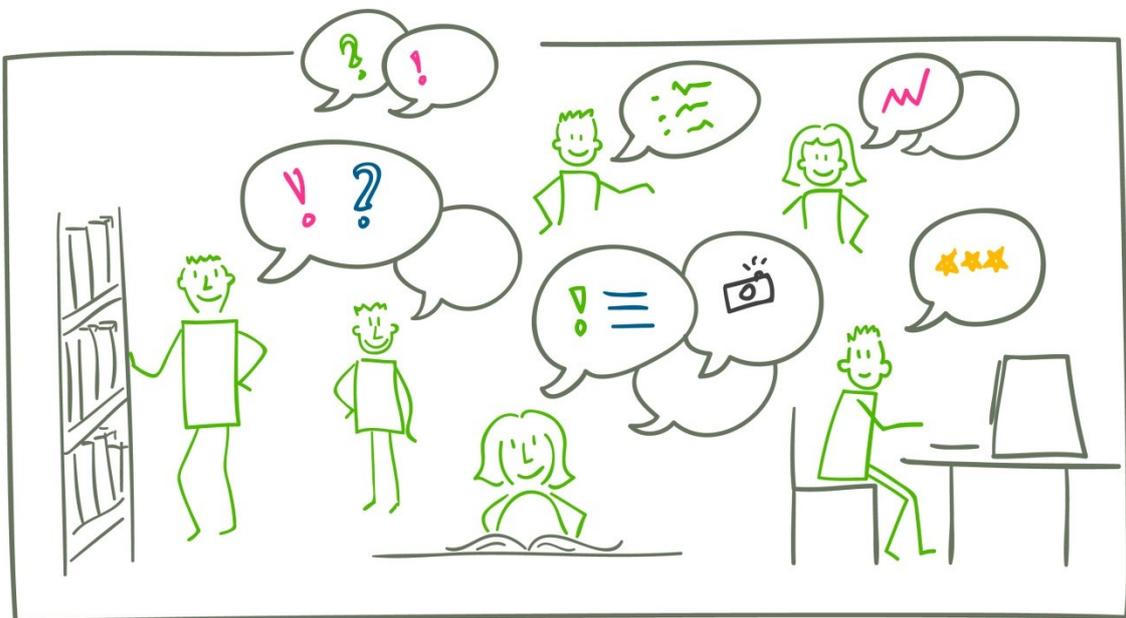


**Digital mediation and online user education:
meeting the needs of archive and library users**

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1. INTRODUCTION

The presence of heritage institutes, such as archives and libraries, on the worldwide web has made it possible to extend services to external users and to those who prefer preparing their visit at home. On their website, institutions offer information on the varied collections, along with search instruments to navigate what's digitally available to the public.

Exciting, new opportunities have presented themselves. But new problems have also arisen. Despite – or maybe because of – modernization, a significant amount of users arrive at the institution or land on the institution's homepage without the skills to use the available tools and efficiently retrieve the information they are looking for.

In order to meet these particular needs, current practices, weaknesses and opportunities have been studied in the MADDLAIN project through the lens of e-learning and effective mediation tools.



2. STATE OF THE ART AND OBJECTIVES

2.1. State of the art

For several decades now, online user education and digital mediation has been evolving. Both practices are beneficial for heritage institutions in order to:

- Enable the user to effectively consult information outside the physical confines of the archive or library: the content is available anywhere, at any time
- Reduce the time spent by the user accustoming oneself to basic principles of specific archives and libraries over and over again
- All with the purpose to allow the user to spend more time on actual research

In short, online user education and digital mediation allow for improved user-friendliness and effective research, and thus better user relationships. Some, mostly international, heritage institutions have a policy on online user accompaniment, whereas the participating FSI largely have not yet. This study is carried out to identify needs and opportunities regarding the subject, and to learn from good practices.

2.2. Literature review

Some of the principles of e-learning are interesting in a digital mediation context for archives and libraries. In this context The Royal Library of Belgium, the State Archives of Belgium and the CegeSoma can be regarded as “institutional access points for knowledge resources”. E.g. of some of these principles that are applicable to archives, libraries and their audience:

“E-learning courses are free of space and time constraints, which entails they offer a high level of flexibility to their users. Learners can consult course contents and resources at a location and time of day that is most convenient for them and they can study at their own pace” (Sun et al., “What drives a successful e-learning?”, in *Computers & Education*, 2007). Students can also select material that corresponds to their own knowledge level and interests to obtain the information they require to effectively perform a task or activity. Full engagement of students in the learning process is therefore essential for successful e-learning (Stephen Kigundu, “Engaging e-Learning in Higher Education: Issues and Challenges“, in *International Journal of Educational Science*, 6(1): 125-132 (2014).)

A comprehensive overview of literature on e-learning and its aspects can be found in the submitted files under the name: LiteratureReview.docx, going from very abstract concepts, to good practices and e-learning in an archival or library setting.

2.3. Objectives

The objectives of this study on digital mediation and online user education are, first and foremost, to establish current practices in the participating FSI. The next objective is twofold: to identify user needs (explicit demand) and to describe user behaviour (implicit). A third objective consists of exploring good practices and their components in similar institutions. Lastly, guidelines concerning digital mediation and online user education in heritage institutions will be formulated.

3. METHODOLOGY

3.1. Current practices in the participating FSI

The current state of digital mediation and user education at the AGR, CEGESOMA and KBR was mapped through content analysis of the websites of the three institutions. Content, related to digital mediation of the collections and search tools, was added to an Excel sheet entitled 'Mediation_[FSI]' describing the following properties:

- URL
- Content
- Content type
- Instruction / Media
- # Clicks
- Goal (PIWIK)
- Description

The properties describe: the location of the content (URL), the subject of the digital mediation or user education practice (such as research (topics), parts of the collection, search engines, ...), the type of content (tutorial, descriptive, FAQ, database or catalogue), the structure or form of the content (PDF, plain text, images, lists ...), the lowest number of clicks required to get from the homepage to the concerned webpage (to establish the 'depth' of the concerned information). Lastly, when available: the corresponding PIWIK goal in order to easily retrieve web statistics if necessary.

Additionally, an online questionnaire amongst the personnel who are in contact with the audience served as a means to gain insight into the current accompaniment for the use of the main digital catalogues in the participating FSI. The questionnaire sought out to shed a light on the following topics:

- Perceived ease of use of the digital catalogues;
- Frequently asked questions concerning the use of the digital catalogues;
- Services, concerning the use of the digital catalogues, that are currently offered.

3.2. Identifying user needs with regard to digital mediation and describing user behaviour

The responses of users of the AGR, CEGESOMA and KBR resulting from the online survey have been analysed in order to identify user needs with regard to digital mediation. Using the raw data from the user survey, a qualitative analysis was done, following these steps:

1. Selection of those particular questions that shed a light on (a) the necessity for improved online user education and digital mediation, (b) current user behaviour that indicates how users navigate the website and search information, (c) ways to improve online user education and digital mediation in the concerned FSI
2. A close reading of the responses, resulting in a brief analysis per question.

3.3. Good practices in similar institutions

Current good practices with regards to digital mediation and online user education at institutions similar to the FSI were identified in order to gain a somewhat representative overview of key components, digital services and their functionalities.

1. Selection of a sample of 7 similar institutions per participating FSI (archives, libraries and centers for research/archives on war and/or aspects of contemporary society) for a total of 21 similar institutions.
2. Identification of digital services that are offered by said institutions through analysis of their website.
3. Visual presentation of the digital services in a PowerPoint document.
4. Adding the digital services into an Excel sheet and identifying the following components:

Identification

- Institution;
- URL: Homepage;
- URL: Catalogue;
- Catalogue name.

Key components

- Definition: archive (AI);
- Glossary, terms (AI);
- Definition: finding aid (AI);
- How to: finding aid (AI);
- How to: catalogue (AI);
- Rules (AI);
- What's accessible (AI);
- What's digitally accessible;
- Central research page;
- First visit aid (AI);
- Video tutorials (AI);
- IM, chat (AI);
- FAQs;
- Personal account.

The abbreviation '(AI)' – Archival Intelligence – was added in a second phase. These “markers” originate from Benjamin Bromley’s 2010 thesis on user education resources and archival concepts. Archival Intelligence is a concept first described by researchers Yakel and Torres in a 2003 paper.

5. Questionnaire sent to the total of 21 institutions. The questionnaire consisted of open-ended questions regarding digital mediation in order to research the following aspects:
 - Motivation
 - Target audience
 - Processes, workflow
 - Outcome, value
 - Unforeseen consequences or challenges

The responses are added to the project documents as raw data, seeing as there wasn't enough time left for a thorough analysis.

4. SCIENTIFIC RESULTS AND RECOMMENDATIONS

4.1. Current practices in the participating FSI

Value

Researching current digital mediation practices resulted in an Excel sheet describing the content that is publicly available to users of the participating FSI and the way the content is structured. The Excel sheets can be used as a template with indicatory components for evaluation of other institutions or future practices. The data can be used as a means to evaluate one's practices and reflect on topics such as (a) what exactly do we put online? Do users need this information or other? (b) how do we structure our information? Is the structure ideal for the type of information we are providing? (c) is our content centralized or scattered across the website? Do users quickly retrieve the information they need? (d) do we differentiate in order to approach different audiences? (e) how many clicks does it take to reach certain informative pages? Is the information too deeply buried in the website? etcetera.

The online staff survey helped identify perceived ease of use of the digital catalogues and services, concerning the use of the digital catalogues, that are currently offered. A report was written in order to cluster certain topics. The raw data can be consulted for additional insight.

Notable findings

AGR and CEGESOMA

The State Archives provide separate, specific information for 6 different profiles in such a way that there is less (unnecessary) information overload. Other, general digital information on arch.be is scattered across at least 13 webpages. Almost all information is structured as text with hyperlinks. About half of these include either bulleted or numbered lists. One webpage refers to a video tutorial. Search.arch.be tends to have more information in a FAQ (answered questions) format and databases for extra, structured information. None of the information on the arch.be websites is deeply hidden in the website, mostly because of the drop down menu on the homepage.

31 staff members who are in contact with the public of the State Archives for a total of about 232 employees (0.13:1) answered the survey. 37% of the respondents affirm that there is a service system in place to accompany users in the use of the digital catalogue. Current user accompaniment consists of in-person explanation in the reading rooms, information service by telephone and by e-mail. Since August 2016, a video tutorial on the use of the digital catalogue is featured on the State Archives' YouTube channel in the Dutch and French language.

The Cegesoma provides information on their digital collections through at least 10 webpages. On almost all of these pages, the collections are described using text, often with hyperlinks. Occasionally, a static image is added to the webpage. The depth of the information ranges from 2 to 6 clicks, which is a considerable depth.

12 staff members who are in contact with the public of the Cegesoma for a total of about 44 employees (0.27:1) answered the survey about accompaniment of users. 33% of the respondents affirm that there is a service system in place to accompany users in the use of the digital catalogue. The responses to the survey indicate that services provided by the CegeSoma are based upon one-on-one contact between a member of

the personnel that is present at the reading room and the user of the archive. It isn't clear to which extent external users can make use of information services, e.g. by e-mail or telephone.

KBR

The Royal Library describes digital collections and related information across at least 13 webpages. These pages contain mostly textual information, bulleted lists and hyperlinks. Most information is buried no deeper than 3 clicks into the website kbr.be.

33 staff members who are in contact with the public of the Royal Library for a total of about 270 employees (0.12:1) answered the survey. 65% of the respondents affirm that there is a service system in place to accompany users in the use of the digital catalogue. Accompaniment is currently offered mainly via in-person guidance at the reading rooms: step by step guidance at the computer, guidance is provided if people ask questions, and if people seem hesitant about using the OPAC, the staff will approach them discretely and try to solve their issues. During a guided visit or workshops, users get a demo to learn how the OPAC works. Explanation by e-mail and by telephone is also provided. If users find themselves at home, they can consult the online manual, but the personnel agrees that it isn't the most useful tool. There are webpages with information on library topics.

Limits

Researching components of a website is an objective tool. No information may be wilfully left out. However, due to websites' ephemeral nature, the current analysis may be outdated soon.

The responses of the staff at the FSI are valuable because they are in touch with the audience. Most of the staff members who are in contact with the public responded to the staff survey, but this wasn't a certainty. Moreover, staff members can only share information about users who communicate with them. Users who don't ask questions or file their complaints are left out of the equation.

Intermediate outcomes

Help from the staff was appreciated in the making of and filling out of the staff survey. Their expertise is acknowledged.

4.2. Identifying user needs with regard to digital mediation and describing user behaviour

Value

An analysis of the user survey resulted in a PDF containing a summary of responses to relevant questions (i.e. relating in some way or another to the topic of digital mediation) and a brief analysis from the perspective of digital mediation and online user education. The survey and its data are an essential, direct means for identifying user needs and behaviour.

Additionally, the online staff survey helped identify frequently asked questions concerning the use of the digital catalogues. A report was written in order to cluster certain topics. The raw data can be consulted for additional insight.

Findings and recommendations

AGR and CegeSoma

Most respondents who do not consult physical sources at the State Archives point to time and travel constraints. More than 20% respondents find the sources in a digital format sufficient for their research. Archival description seems to be the most important to the respondents who use the search engines at a distance. Most people would appreciate a webpage explaining what can be found online, why some information is not (yet) available, etcetera. Note it is unclear whether or not users' dissatisfaction concerning the performance of the search engine stems from a poor know-how of archival structure. A minority of less than 10% consult the collections at the State Archives only. Respondents mainly travel to the State Archives for complementary research or to ask questions. Almost 80% of the respondents (French-speaking excluded) consult the search engine 'Search Persons' at locations other than the State Archives. Service at distance is strongly recommended, as these respondents rarely visit the State Archives. Archival knowledge is absolutely necessary to comprehend the underlying structure of the search engine. Users do not necessarily possess this knowledge, especially new users. Some users provide feedback about the search engine, without reply. Users have to be kept up-to-date. All in all, most respondents demand more transparency.

17 out of 30 staff members who are in contact with the public at the State Archives receive questions regarding the digital catalogues from users. When asked to list the most frequently asked questions, an array of problems come to the surface. 9 of 36 common questions concern the use of the search engines. Almost all of these questions were very broad, except for one concerning finding acts of marital status. 8 of 36 common questions concern 'missing' pieces of information: ranging from incomplete inventories, inventories in only one language, missing descriptions, etcetera. 6 of 36 common questions concern the finding of digitized images. The State Archives require users to create an online account in order to consult digital content. Most people ask general questions: "How do I find digitized material?", "How do I log into my account?". One staff member notes that people also enquire about downloading and saving digital content. 5 of 36 common concern the location of the documents. Only 2 questions regard the consultation of material, not including the questions about the location of the documents.

People are likely to consult the collections of the CegeSoma more often if the number of online digitized documents is higher. It is also advised to clearly indicate on the website what can be found in the collections and how to conduct a research. Digital mediation could help clarify at least some of the topics: explaining how keywords are attributed, explaining why some inventories aren't found online, explaining how archives are structured, explaining that searching in different languages yields different results, etcetera. Most respondents, over 60%, use Pallas, the digital catalogue, both inside and outside the CegeSoma. More than 30% use it only outside of the CegeSoma. Users who prefer to consult these digital sources outside of the CegeSoma (70%) can be accommodated through digital means only. Currently, there are few digital mediation practices in place on the CegeSoma website. 60% of the respondents who don't consult digital sources through Pallas don't because they did not know it is possible to gain access to them. It is recommended to clearly indicate what is and what isn't online.

10 out of 12 staff members who are in contact with the public at the CegeSoma receive questions regarding the use of the digital catalogue Pallas. 8 of 16 questions regard the correct and efficient use of Pallas. 5 of 16 questions concern the interpretation of search results and following steps, such as how to reserve documents and view digital images. 2 of 16 questions are on the definition of a catalogue and where to find it.

KBR

Respondents tend to consult the digital collections but abstain from going to the library itself, mainly because of time constraint. To accommodate users that prefer digital search instruments (over 80%), specific education resources regarding the use of the digital search instruments of the Royal Library could be helpful. Note one should not however forget about the usefulness of complementary paper inventories. Respondents want to be kept up-to-date of what resources can be found through the digital catalogue. They feel the manual isn't sufficient for searching in particular collections. A good idea would be to research if users respond well to information pertaining to a particular collection. It is advised, however, to keep the general manual, and provide additional support for inexperienced users. It isn't clear to users how they can access the digital sources that the Royal Library offers. Recommendations include straightforward, intuitive web design, an online guide or webpage about all digital sources (e.g. "What we have online" versus "what not").

17 out of 32 staff members who are in contact with the public at the Royal Library receive questions regarding the use of the OPAC. 16 of 33 common questions relating to the correct use of the OPAC. "I found the document, what's next?" makes up 9 of 33 common questions. 7 of 33 common questions related to technical issues and/or accessing the OPAC.

Limits

The responses of the users were especially valuable when it came to qualitative data (open answers, comments) on digital mediation. However, a limited number of users take the time to write out their opinion, cutting down on representation.

The responses of the staff at the FSI are valuable because they are in touch with the audience. Most of the staff members who are in contact with the public responded to the staff survey, but this wasn't a certainty. Moreover, staff members can only share information about users who communicate with them. Users who don't ask questions or file their complaints are left out of the equation.

Intermediate outcomes

Help from the staff was appreciated in the making of and filling out of the staff survey. Their expertise is acknowledged.

4.3. Good practices in similar institutions

Value

Good practices research resulted in a visual presentation of digital services in other institutions (in PDF format). Secondly, an Excel sheet in which key components of digital mediation are compared, provided information on the strengths and weaknesses in similar institutions. Finally, answers by members of the personnel of these other institutions were collected and reflect the process the institutions have gone through in order to be able to offer certain digital services. These answers were also collected (but not analysed due to lack of time) to avoid reinventing the wheel and learn from others' experiences.

Findings

AGR and CEGESOMA

Key components for digital mediation through the institution's website were defined as:

- Definition of 'archive';
- Glossary, archival terms;
- Definition of 'finding aid';
- Guide on how to use a finding aid;
- Guide on how to use a catalogue;
- Rules;
- What's accessible;
- What's digitally accessible;
- Central research information page;
- First visit aid for new users;
- Video tutorials;
- Instant messaging;
- FAQ;
- Possibility of personal account.

The National Archives and other archives of United Kingdom, the Netherlands (including Brabants Historisch Informatie Centrum), Luxemburg, France (including the French High Alps) and Australia were researched and are all good examples to follow, with the National Archives of United Kingdom fulfilling 92% of above components. (They don't provide a definition of a finding aid.) The Dutch NIOD and French INA are decent examples to follow, with the NIOD fulfilling 58% of the above components.

KBR

Key components for digital mediation through the institution's website were defined as:

- Glossary, archival terms;
- Guide on how to use a catalogue;
- Rules;
- What's accessible;
- What's digitally accessible;
- Central research information page;
- Research guides;
- First visit aid for new users;
- Video tutorials;
- Instant messaging;
- FAQ;
- Possibility of personal account.

The National Library of France, United Kingdom, the Netherlands, Ireland, Australia and the libraries of Genève and New York are good examples to follow, with the National Library of France offering 83% of all components. (They don't provide video tutorials or help you plan your research through their website.)

Limits

As with all web-based research, the collected data can be outdated quickly, due to the nature of the study object. Additional qualitative data, context, and background knowledge are needed to study these components in depth.

Intermediate outcomes

The contact that was established with members of the personnel in other institutions can be very useful for future endeavours and cooperations.

5. GUIDELINES

5.1. Guidelines for current practices in the participating FSI

- Decide on a strategy for structuring content: to separate information per user profile or to centralize information on as few web pages as possible. Both serve to avoid information overload
- Consider the depth of this information: the deeper it is placed on the website, the less likely users will find this information
- Almost all information is structured as text with hyperlinks, about half of these include either bulleted or numbered lists: provide information in different media formats such as short video tutorials (maximum 2 to 3 minutes), Frequently Asked Questions, infographics, schematic representations of the collection, etcetera
- Current user accompaniment consists mainly of in-person explanation. Consider the route a long distance user has to follow in order to retrieve information. Which steps do they have to follow to get a reference number for a document they are looking for? How can you guide them digitally, 24/7?
- Create a user-friendly step-by-step guide, based upon a realistic situation with users in the reading room. Create different scenarios for different target groups (the elderly, genealogists, student, in different languages, ...)
- Review the current informative tools (based upon the MADDLAIN documents: 'Mediation_[FSI]') from the perspective of a user who knows nothing about the institution. Does it hold up? Can you easily change some things?
- Use the document 'StaffSurvey_Report' as a source for a new FAQ or for the creation or revision of (new) tools. The most commonly asked questions are grouped per institution

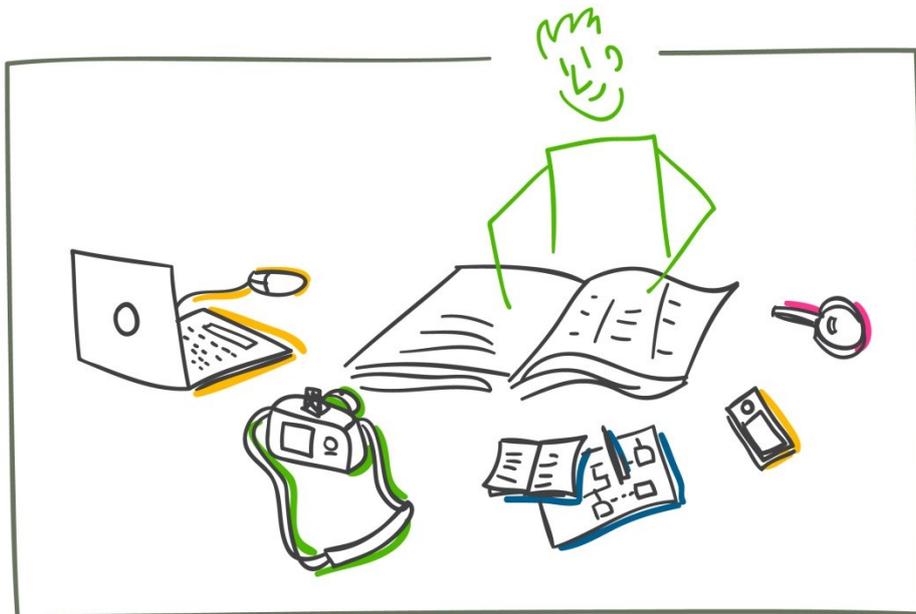
5.2. Guidelines resulting from identifying user needs with regard to digital mediation and describing user behaviour

- Most users would very much appreciate a webpage explaining what can be found online and why some information is not (yet) available
- Most respondents who do not consult physical sources at the State Archives point to time and travel constraints. Is there a way to help these users prepare their visit at home, so they have to spend little time at the institutional building itself? E.g. online reservation, digitization services
- Archival description is very important for long-distance users in order to determine the value of the documents for their research. Consider investing in archival description or create an online crowd-sourcing platform so that regular visitors can be a helpful 'buddy' to a long-distance user, for example
- Archival knowledge is absolutely necessary to comprehend the underlying structure of the search engine. Users do not necessarily possess this knowledge, especially new users
- Do inform users about the importance of complementary paper inventories. Users do not know that part of the collection is described in paper inventories only!
- Users feel the manual isn't sufficient for searching in particular collections. A good idea would be to research if users respond well to information pertaining to a particular collection. It is advised, however, to keep the general manual, and provide additional support for inexperienced users. Recommendations include straightforward, intuitive web design, an online guide or webpage about

all digital sources (e.g. “What we have online” versus “what not”).

5.3. Good practices in similar institutions

- Do not reinvent the wheel: look to other institutions for good practices, such as The National Archives of United Kingdom, the Netherlands (including Brabants Historisch Informatie Centrum), Luxemburg, France (including the French High Alps) and Australia. The National Library of France, United Kingdom, the Netherlands, Ireland, Australia and the libraries of Genève and New York are good examples to look to for digital mediation in libraries
- In the document ‘GoodPractices_ResponsesQuestionnaire’ contact persons can be found
- Study the work process of other institutions before you create your own. Learn from others



6. TOPICS FOR INTERN WORKING GROUPS & FURTHER RESEARCH

- How can users contribute to, for example, the FAQ instead of just ‘consuming’ information? Let them learn by experience
- Digital literacy is a real issue: causes are linked to skill, age, education or socio-cultural background
- Bottom-up communication about the needs of users can be a valuable source of information: talk to the staff in the reading rooms, let them have regular meetings, provide feedback, create a database with the questions they get by e-mail or in-person ...
- Active engagement in the construction of knowledge, through the use of e-learning tools that facilitate the learning process, instead of passive reception is important
- Examination of the meaning and applications of ideas and concepts in real world contexts, instead of consideration of ideas and concepts in isolation: empathize with the user
- Always keep self-efficacy in mind: the implementation of digital mediation tools aims to stimulate and maintain the user’s engagement
- Digital mediation tools allow users to select information that meets their level of knowledge, interest and what they need to know to perform more effectively in looking up digital documents online
- E-learning can be used in two major ways: the presentation of content and the facilitation of the learning processes
- There are two issues that can hinder learning online and the use of tools: fragmentation and complexity.

7. ANNEXES

- Excel sheets: Current Practices + Methodological Note (title of documents: Mediation_[FSI])
- Report: Staff Survey (title of document: StaffSurvey_Report)
- User Survey: Analysis + Methodological Note (title of documents: UserSurveyAnalysis_[FSI])
- Practices: Visual (title of documents: Practices_Visual_[FSI])
- Good Practices: Responses (title of document: GoodPractices_ResponsesQuestionnaire)