Research and Innovation Action

Social Sciences & Humanities Open Cloud

Project Number: 823782   Start Date of Project: 01/01/2019   Duration: 40 months

Deliverable D1.2

Quality Assurance & Risk Assessment Plan

Dissemination Level	PU
Due Date of Deliverable	31/08/2019 (M8)
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Work Package	WP1- Project Management and Administration
Task	T1.2. Quality Assurance & Risk Assessment
Type	Report
Approval Status	
Version	V1.2
Number of Pages	p.1 – p.35

Abstract:

This deliverable comprises the Quality plan for the SSHOC project. It documents general quality policies and practices to be followed, as well as risk assessment instruments to be used by all partners throughout the duration of the project in order to have regular quality and risk monitoring in place.

History

Version	Date	Reason	Revised by
0.1	21/09/2019	1st draft (outline)	Ivana Ilijasic Versic
0.2	30/09/2019	2nd draft including initial input	Ivana Ilijasic Versic, Martina Drascic
0.3	22/10/2019	3rd draft and editing	Ivana Ilijasic Versic, Martina Drascic
0.4	10/11/2019	added sections on risk management	Ivana Ilijasic Versic
1.0	09/14/2019	Peer reviewed by Project Management Board and technology expert	PMB (Daan Broeder, Marieke Willems, Johanna Bristle, Emiliano Degl'Innocenti, Laure Barbot, Gianmaria.Bottoni@city.ac.uk, Cees Van Der Eijk, Vasso Kalaitzi) Carsten Thiel
1.1	11/16/2019	Peer-review comments addressed	1st Tier Scientific Board members (Franciska de Jong, Ron Dekker)
1.2	19/12/2019	Final review comments addressed and submission	Martina Drascic

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Time Schedule before Delivery

Next Action	Deadline	Care of
First draft version ready	22/08/2019	CESSDA
First version for PMB review	01/10/2019	CESSDA
2nd review	10/11/2019	PMB
3rd review	01/12/2019	SSHOC Scientific Board
Implementing comments and final version	20/12/2019	CESSDA

Executive Summary

This document is the deliverable "D1.2 – Qualitative Assurance and Risk Assessment plan" of the Horizon2020 project "Social Sciences & Humanities Open Cloud" (hereinafter also referred to as "SSHOC", project reference: 823782).

This deliverable comprises the quality plan for the SSHOC project and the risk monitoring procedures to be used by project partners. The document outlines rules, mechanisms and processes, as well as resources that are established in order to maintain a high level of quality in the project implementation and its outcomes. It also contains procedures on how identification and monitoring of potential risks will be conducted, and it describes steps and actions needed to prepare and implement appropriate contingency plans.

In conjunction with D1.1 SSHOC Project Management Plan, this document also serves as a core reference for the consortium organisation and delivery of the day-to-day work throughout the project and will be updated if required.

The plan first describes the responsibilities in the project with regard to the quality of work and project outcomes, including progress indicators. It then refers to project-internal communication procedures, describing what was not documented already in other relevant project documents, going into details on document control and templates, and listing minimum requirements.

The second part of the plan is focused on the actual procedures established within the project, and crucial for the quality of the final products, milestones reports, deliverables. A separate section is dedicated to describing the project Wiki page (SSHOC Guidelines, created in WP1), a living internal project platform, which this document will feed into and which will reflect future updates of this deliverable. Following on the general quality procedures, the document lists certain priority areas defined by the project (Dissemination, Marketplace, Tools and Services, Training), and quality measures and potential risks which concern specifically these areas, not covered by the rest of the document.

The final part of the document explains the main principles and approach to risk management within the project, responsibilities for risk monitoring and tools and procedures provided.

This plan will serve as a guide to both the project coordinator and partners, in order to ensure that quality reviews will occur at appropriate points in the project, and as a reference to understand participants responsibilities, concerning the project communication, deliverables and outcomes. It is applicable to all project-related activities, and thus compliance with the plan is mandatory for all involved in the project.

Abbreviations and Acronyms

1st TIER SB	Scientific Board: Directors of CLARIN, CESSDA, DARIAH, E-RIHS, ESS, LIBER, SHARE,
CA	Consortium Agreement
CESSDA	Consortium of Social Sciences Data Archives
CLARIN	Common Language Resources and Technology Infrastructure
CNR	Consiglio Nazionale delle Ricerche (Italian Research Council)
CO	Coordinator
DARIAH	Digital Research Infrastructure for the Arts and Humanities
DoA	Description of Action (Annex 1 of the GA)
EC	European Commission
EOSC	European Open Science Cloud
ERIC	European Research Infrastructure Consortium
E-RIHS	European Research Infrastructure on Heritage Science
ESS	European Social Survey
FAQ	Frequently Asked Questions
FS	Financial Statement
GA	Grant Agreement
LIBER	Association of European Research Libraries
PMB	Project Management Board: CO + WP Leaders
SHARE	Survey of Health, Ageing and Retirement in Europe
SSHOC	Social Science and Humanities Open Cloud
T	Task
TRUST-IT	TRUST-IT SERVICES LIMITED
PMB	Project Management Board, consisting of Work Package Leaders
WP	Work Package

Table of Contents

1. Introduction

The present document is the Quality Assurance and Risk Assessment Plan for the Horizon 2020 project "SSHOC - Social Sciences and Humanities Open Cloud''. As such, it describes requirements, procedures and regulations as far as these are needed for a uniform approach towards a successful implementation and completion of the project. The requirements contained in this plan shall be applied by all personnel engaged in SSHOC. Proposals for modifications or additions must be submitted to the CO and PMB.

This deliverable (D1.2) is a result of the second task of the Project Management and Administration Work Package - **T1.2. Quality Assurance & Risk Assessment**. The task deals with defining and specifying the appropriate mechanisms and processes established in order to maintain a certain quality level in the whole project structure and outcomes and the identification of potential management and delivery risks in the project. Main outcomes of this task are delivering a Quality and Risk management plan and developing a project Wiki page as a guideline to secure project-wide quality. The lead partner in this task is the Coordinator, CESSDA ERIC, and other partnering institutions are the beneficiaries who form the Project Management Board: ESS ERIC, SHARE ERIC, CLARIN ERIC, DARIAH ERIC, LIBER, TRUST-IT, and E-RIHS (represented by CNR), as well as members of the 1st Tier Scientific Board.

PURPOSE AND SCOPE

This deliverable has been created specifically for the SSHOC partners, describing the quality procedures to be followed for the duration of the project. The purpose of this document is to serve as a guide to both the project coordinator and partners, in order to ensure that quality reviews occur at appropriate points in the project, and as a reference to understand participants' responsibilities concerning the project communication, delivery and outcomes.

The main objectives of this document are to:

- explain and manage the interaction between the beneficiaries and linked third parties during the project;
- define the rules of progress monitoring of the work on a regular basis;
- set editorial and quality standards for project document contents;
- give instructions about templates provided for support.

This deliverable is closely connected to D1.1 "Project Management Plan". D1.1 is a general overview of the management procedures of the project, whereas D1.2 is a reference to everyday conduct and implementation, and tools and procedures available for that.

2. Quality approach and measures

2.1. Quality planning

The project coordinator (CESSDA ERIC) recognises that each of the project partners may have their own documented quality management system. However, due to the size of the project and number of partners, and for ease of coordination, the project has planned to put its own quality processes in place. Quality planning, as for this project, is about defining the outcomes required by the project, with their respective quality criteria, quality responsibilities of the involved partners and quality assessment methods. Quality assurance should provide control to the project direction and ensure that the management is of high quality. The purpose of planning is to provide a secure basis for:

- agreement on overall quality expectations,
- communicating this agreement clearly so that all project partners would have a common understanding of what the project's goals are, and how to achieve them,
- quality control and deliverables that fit the purpose.

2.2. Quality responsibilities and implementation

Effective collaboration in a project of this size requires central coordination, clear rules for communication and unambiguous mechanisms for decision-making. All of these principles are detailed in the SSHOC GA as well as the H2020 Online Manual.

Governance of the project and the decision making, including the responsibilities and procedures to ensure the overall project quality, are described in detail in:

- D1.1 SSHOC Project Management Plan, *Section 3: Project organisation*
- SSHOC Consortium Agreement, *Section 6: Governance structure*

The general roles and responsibilities are defined there, so this document will not go into detail or repeat project governance structure and general responsibilities, but rather focus on specific issues of quality of work and outcomes, and responsibilities associated with it.

2.2.1. Board-level roles

As the consortium's ultimate 1st-tier decision-making body, the SSHOC Scientific Board is responsible for the overall assessment of the project's progress and consequently for defining a set of expectations, in accordance to a wider external context of SSHOC. During its meetings, the Scientific Board will make decisions in order to facilitate the general quality of the project and advise the Project Management Board.

The SSHOC Project Management Board, as the key coordination body for the execution of the Project relating to the provisions of the Grant Agreement, is responsible for verification of work progress, the quality of final results, and their correspondence to the overall project objectives, which includes:

- ensuring that project results meet the quality expectations defined within the consortium in such a way that they (e.g. deliverables) can be submitted to the European Commission (EC),
- providing the **final editorial review** of all outcomes
- ensuring that WP leaders implement quality control measures e.g. each WP Leader in coordination with the Task Leader and task members, **to assign official expert reviewers** for project outcomes,
- ensuring internal consensus about and compliance with the rules and principles that are established for the purpose of quality assurance, described in this Deliverable, as well as project Deliverable 1.1, or otherwise communicated to the Consortium.

2.2.2. Progress indicators at WP-level

The Work Package Leader is in charge of ensuring that the work is carried out according to schedule and that the expected deliverables are produced, and for discovering and handling errors as early in the project lifecycle as possible. As soon as any risk is identified, the WP leader will define a mitigation strategy as planned in the DoA in the GA.

The progress of work will be tracked with the following general indicators:

Quality Indicator	References for WP	References for Task
The activity corresponds to the project specifications	SSHOC Description of Action (DoA) in the GA	SSHOC DoA in the GA
The development activity is based on a solid work plan	SSHOC DoA Work Package description	SSHOC DoA Task description within Work Package description
All steps are fully documented	WP meetings minutes Internal reports where applicable Deliverables Milestones reports	Task meetings minutes Internal reports where applicable Deliverables Milestones reports
There is a realistic risk assessment and recovery plan	Annual reports Internal WP documents and WP meetings minutes	Annual reports Internal Task documents and Task meetings minutes
All major progress is reported to the PMB and CO	PMB Coordination calls minutes Internal communication (emails and collaboration platform)	PMB Coordination calls minutes Internal communication (emails and collaboration platform)

Table 1: Quality Indicators for work carried in the project

While the aforementioned are the general quality indicators, each WP and Task should identify their own WP/Task-specific indicators, related to their specific characteristics, goals and work plans.

In respect to delivery quality, while everyone participating in the project has a responsibility to deliver high-quality project outcomes, the key project roles in this area are the following:

Quality area	Quality of	Responsable
Reporting in general	Information and schedule of reporting	CO
	Reporting tools and templates available	CO
Internal reporting & EC official reporting	Regular ongoing & continuous reporting	CO on WP1 and information to the Consortium WP leaders for WP work Task leaders for Task level work
	Annual reports & Periodic technical report	CO for overall document WP leaders for WP sections Task Leaders for Task sections each Team member for their contribution
	Financial statements	Each Beneficiary for their statement
Milestones	Achievement and coordination & Report on milestone	Responsible Beneficiary as listed in the DoA in the GA
Deliverables	Production and finalising	Responsible Beneficiary as listed in the DoA in the GA
	Review	Project partner selected who takes the responsibility to review
Priority areas identified	Dissemination of project and its outcomes in general	WP2 leader and Team
	Dissemination of specific work and deliverables	All partners responsible for their work and outcomes with support from WP2
	MarketPlace Quality	WP7 leader and Team
	Tools and Services quality	Each WP leader and Team for their respective outcomes
	Training quality	WP6 leader and Team
	Specific Engagement activities	All WP leaders and Teams responsible for their work on engagement and organising events with support from WP6

Table 2. Delivery quality related responsibilities

2.2.3.   Project-internal communication procedures and tools

To establish the communication and collaboration quality needed, the CO provided several management and collaboration tools, most relevant of them being:

- Internal Project Document Repository for keeping records - hosted in Coordinator owned Google Shared Drive;
- Collaboration platform for communication and day-to-day collaboration - hosted by Coordinator Basecamp account;
- SSHOC Wiki "Guidelines" for informing partners in detail on rules and procedures in SSHOC.

These tools will be referred to in this Deliverable in order to explain the procedures of assuring quality in the project.

The coordination-related communication and procedures are listed and detailed in the SSHOC Project Management Plan (D1.1) under *section 6*, detailing the procedures as well as the tools available, including details on face-to-face and online meetings as well as the online collaboration platform. The general operational procedures for consortium bodies, including details on convening meetings, and their frequency, are detailed in the SSHOC Consortium Agreement, under *section 6: Governance structur*e. In this regard, only procedures not regulated by the already existing documents will be mentioned here and general rules to ensure quality level.

MEETINGS

While the procedures for official project bodies meetings have been defined by the two aforementioned documents, procedures should be followed on other levels of project communication as well. This means that all project Work Packages Leaders are expected to set up regular virtual meetings with their respective Task Leaders in order to keep track of the work done, discuss any relevant issues and make decisions. All WPs have started in M1 and will end in M40 of the project and regular WP-level meetings are to be held on a monthly basis. At the task level, virtual meetings are to be organised by the Task Leader, the first one in the month the Task is officially starting its work, as noted in the DoA in the GA descriptions of Tasks.

In cases where the Task has a relatively small number of participants, frequency of meetings at task level should be decided at the task level, in agreement with respective WP leader. Other arrangements are possible, as long as the description of action is followed, and the project's timeline and delivery schedule respected.

All Task Leaders of the respective Work Package should attend the WP meetings, and all Team members should attend the regular Task meetings. Later start of specific work carried on by a particular partner, should not be a reason for non-participation in regular meetings, as the communication on current work being carried on is considered vital for assuring the quality of all later outcomes within the Task.

WP and Task Leaders are responsible for organising these virtual meetings, and for informing all the Team members in a timely manner, providing the agenda and minutes document. In cases where a certain Team member is non-responsive, other members of their institution should be contacted using the SSHOC Contact list. If the non-responsiveness continues, the Coordinator should be informed in order to intervene. The same procedure is to be applied by the respective Team members, in case of non-responsiveness of a Task or Work Package leader.

MINUTES

All official, both regular and event-driven meetings, should be documented, and all proofs and documentation should be kept in the SSHOC Project Document Repository, under the respective Work Package, and Task.

The collaborative platform (SSHOC Basecamp) can also be used to store these documents in order to facilitate the collaboration, but **only as an addition** to storing the documentation in official Project Document Repository.

The official Minutes template, detailed in the next section of this Deliverable, should be used for documenting all the project-related meetings. Task Leaders are responsible for keeping documented minutes of the Task level meetings, while WP Leaders are responsible to do the same for the Work Package meetings.

2.2.4. Document Control

To ensure easy access for all project partners and reduce potential editorial burdens, Microsoft Word and Excel will be used as standard tools for the project document outcomes, with MS PowerPoint and Adobe PDF. Partners should save the documents in the Word format. Accordingly, in the Project Document Repository, Google Doc and Google Spreadsheet can be used.

DOCUMENT TYPES AND DOCUMENT REQUIREMENTS

Three distinct document types are provided for the following purposes:

- Documents for the EC (deliverables, periodic reports, financial statements),
- PowerPoint presentations (project meetings, presentations during workshops, reviews, conferences and other),
- Documents for internal use (agendas, minutes, internal reports, and other).

The documents should be prepared in open formats, but once finalised distributed in PDF.
The language of **all documents should be English**, and the maximum size of a document 10 MB without annexes.

Templates for documents are prepared by the Coordinator and WP2 team members and are made available via the project's Project Document Repository. Initial pages should contain essential project information as well as document-specific details. The minimal requirements per outcome type are defined below.

DELIVERABLES

Each deliverable document should contain a Title page which must include the project title, Grant Agreement (GA) number, program and type of action, start date of the project and duration in months, followed by a table including:

- ○ *Dissemination level*: The dissemination level field can have one of the following possible values (predetermined in the DoA in GA):
  - ■ PU: The document is open and public to everyone
  - ■ RE: The document is restricted to a specified group
  - ■ CO: The document is confidential i.e. restricted to the consortium members, including Agency and Commission and project reviewers.

- ○ *Due date of Deliverable*
- ○ *Actual Submission Date*
- ○ *Work Package related*
- ○ *Task related*
- ○ *Type of the Deliverabl*e - this field can have one of the following possible values (predetermined in the DoA in GA):
  - ■ R: Document, report
  - ■ DEM: Demonstrator, pilot, prototype, plan designs
  - ■ DEC: Websites, patents filing, press & media actions, videos, etc.
  - ■ OTHER: Software, technical diagram, etc
- ○ *Approval status* - this field will be empty or marked with "pending EC approval" unless the Deliverable is approved by the EC; Once approved, CO will add "Approved by the EC" followed by the date of approval
- ○ *Version of the document*
- ○ *Number of pages*

This table is to be followed by the *Abstract* (up to 3 sentences), information about the document licence and disclaimer, and EU flag next to the text: *SSHOC, "Social Sciences and Humanities Open Cloud", has received funding from the EU Horizon 2020 Research and Innovation Programme (2014-2020); H2020-INFRAEOSC-04-2018, under the agreement No. 823782.*

The predetermined structure of each document's contents is broken down into the following sections:

- ● *History*
- ● *Author list*
- ● *Contributor list (optional)*
- ● *Table before delivery (optional)*
- ● *Executive summary:*
  An executive summary (one to two pages) should contain enough information for the readers to become acquainted with the full document without reading it. It contains the objective, problem, background information, a description of any alternatives, and the major conclusions. Therefore, the structure of a comprehensive executive summary would address and incorporate the following points:
  - ○ the objective and the scope of the document are to be described in a concise, comprehensive and straightforward way, explaining what this document aims to do and how this is going to be done.
  - ○ the methodology or the rationale of the document is to be presented in order to provide an overview of how the research results were obtained.
  - ○ the main results/outcomes of the document should be described.
  - ○ some conclusions may be provided.
- ● *Abbreviations and Acronyms (optional but highly recommended)*
- ● *Table of contents*
- ● *Introduction*
- ● *Main body of the document (Headings, Subheadings and the core text)*
- ● *Conclusions*

- *References (if applicable)*
- *Annexes (if applicable)*
- *List of figures (optional but recommended for documents containing several tables)*
- *List of tables (optional but recommended for documents containing several tables)*

MILESTONES REPORTS

After achieving a milestone, the responsible partner has to provide a short report on milestone using the provided template. Report on milestone achievement will contains the same Title page as the Deliverable template excluding the "approval status" (the Milestones report are not to be submitted to the EC via participant portal). The following should be the structure of the document:

- *Author list*
- *Introduction*
- *Description of Milestone*
    - *Role of Milestone*
    - *Means of verification*
- *Conclusions and next steps*
- *References (if applicable)*
- *Annexes (if applicable)*
- *List of figures (optional)*
- *List of tables (optional)*

MINUTES

All project meetings, on all levels, virtual or in person, should have meeting minutes, either a one-time document for each meeting or rolling minutes for repeating regular meetings. A suggested template available in the Project Document Repository represents the template for minutes of meetings but can be appropriated for rolling minutes as well. The minimum requirement for minutes is to include:

- *project title and logo*
- *project number*
- *title of the meeting*
- *dissemination level*
- *Work Package / Task related*
- *Date*
- *Responsabile beneficiary*
- *List of participants (with reference to the institution they represent)*
- *Agenda (and/or combined with minutes)*

OTHER PROJECT DOCUMENTS OR OUTCOMES MINIMUM REQUIREMENTS

For all other project outcomes, reports, internal documents, one of the aforementioned templates can be appropriated, but all documents have to, as a minimum, contain the Title page containing:

- project title

- Grant Agreement (GA) number
- program and type of action
- start date of the project and duration in months
- followed by a table including:
  ○ *Dissemination level*
  ○ *Date*
  ○ *Work Package related*
  ○ *Task related*
  ○ *Author or authors list*
- information about the document licence and disclaimer
- footer: EU flag next to the text: *SSHOC, "Social Sciences and Humanities Open Cloud", has received funding from the EU Horizon 2020 Research and Innovation Programme (2014-2020); H2020-INFRAEOSC-04-2018, under the agreement No. 823782.*

POWERPOINT PRESENTATIONS

A template for presentations is prepared by project CO and appropriated by the WP2 team. Two different versions are made available in the Project Document repository. Presentations, whether used for internal meetings or dissemination to external stakeholders, as a minimum requirement have to contain:

- a title page with:
  ○ *Presentation title and subtitle*
  ○ *Name and surname, position, and institution of the author(s)*
  ○ *Event name, date(s), place*
  ○ *Licence image*
  ○ *EU flag and text: This project was funded from the EU Horizon 2020 Research and Innovation Programme (2014-2020) under Grant Agreement No. 823782*
  ○ *Project logo*
- final page containing - an invitation to join the project community, and links to project website, email, and social media accounts (recommended).

3. Quality Procedures

In previous sections, some general quality assurance prerequisites were described - quality responsibilities and means and tools available. In this section the focus will be on the procedures set up to enable quality control and prevent possible risks. Quality control focuses on activities which ensure fulfilment of the requirements at the desired level of quality (inspections, testing, review) and identifying ways of eliminating causes of possible unsatisfactory performance.

3.1. SSHOC Wiki and procedures

In order to facilitate timely and comprehensive communication about all project rules, procedures, both established in official EC documents, and internal project related ones, including the changes in the respective areas, project CO produced online project Wiki site "SSHOC Guidelines", available internally to all project partners. **Location:** https://sites.google.com/cessda.eu/sshocwiki/.

The SSHOC Wiki site contains project policies and guidelines based on the project contractual documents, decisions of the project bodies and identified best practices. The content will evolve throughout the project lifetime. These Guidelines are a product of Task 1.2 Quality Assurance & Risk Assessment, as a tool for updating and disseminating the SSHOC procedures to all partners, in order to assure project-wise quality. Any updates of the SSHOC Quality Assurance and Risk Management Plan will be published as a part of SSHOC Guidelines site, which will be used as a living project tool available to all partners.
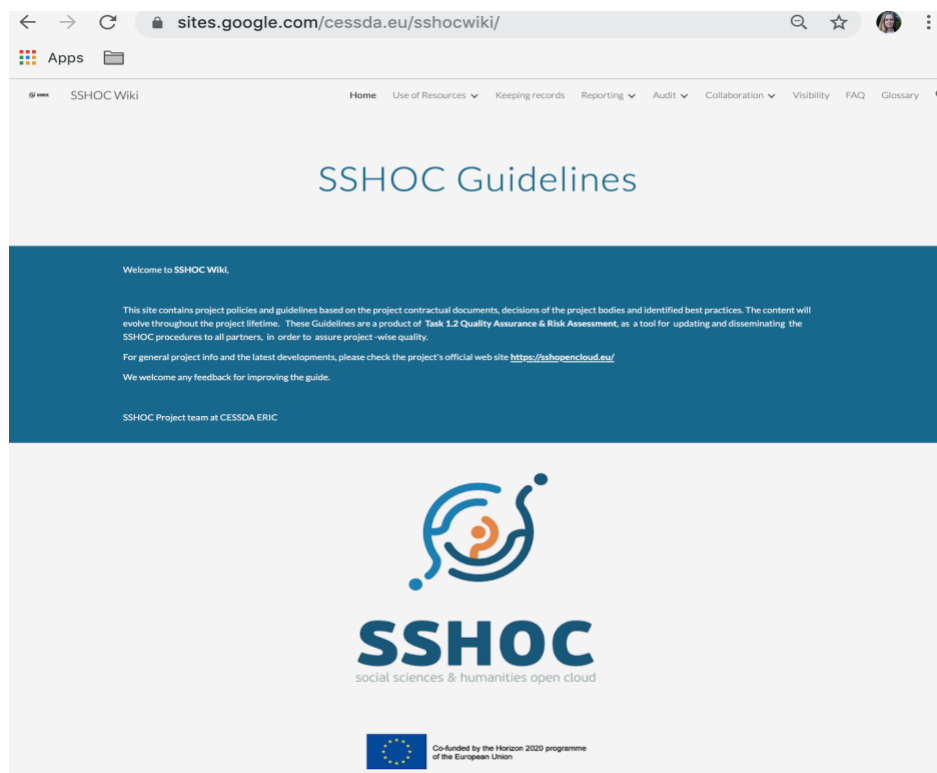

Figure 1. SSHOC Guidelines Home page

The SSHOC Guidelines structure is the following:

- *Home*
- *Use of Resources:*
  - Budget
  - Adjustments
- *Keeping Records*:
  - Financial recording
  - Time recording
- *Reporting*:
  - Reporting Calendar
  - Internal reports
  - EC reports:
    - Continuous reporting:
      - Deliverable submission
      - Milestones reporting
      - Deliverables & Milestones delay
      - Critical implementation Risks & Mitigation measures
      - Publications
      - Dissemination & Communication Activities
      - SME Impact
      - Open data
      - Gender
    - Periodic Reports:
      - Individual financial statement
    - Final report
- *Audit:*
  - EC financial Audit
  - Certificates on the financial statements (CFC)
- *Collaboration*:
  - Online collaboration tool
  - Document repository
  - Software development
  - Contact list
- *Visibility*
- *More:*
  - FAQ & Glossary

The above listed sections explain in detail all the most important procedures, deadlines, and give responses to most common questions regarding management, implementation, dissemination and reporting within an EC funded project. Some of the most relevant procedures regarding quality will also be explained in the following chapters.

3.2. Archiving procedure

Internal Project Document Repository, available to the Consortium is kept in Google Shared Drive owned by the Coordinator[1], or another appropriate service, unless decided differently. After the project end, CO will be taking care of the archive as described in the GA.

On the project level, the following documents are to be saved and archived and made available for all partners in the Project Document Repository:

- GA and DoA
- CA
- Deliverables and other major research results/documents
- Reports (internal, EC)
- Financial summaries (updated, filled cost templates)
- Contact list
- Amendement files (if relevant)
- Meeting minutes and presentations (according to CA obligations and dissemination plan)
- Media files or other material (project logo, project ppt template, project dissemination materials, press releases, etc.)
- Consortium meeting signature lists

The following documents are to be saved and archived:

- other agreements
- copies of key correspondence with the EC

The following must be archived at an organisational level by all partners:
- Direct personnel costs:
  - monthly signed timesheets);
  - calculation of hourly rate (EU GA: Article 6.2);
  - proof of paid salary;
  - labour contracts;
- Other direct costs (travel costs and related subsistence allowances, equipment costs, costs of other goods and services);
  - quotations (sub)contracts;
  - all receipts of expenditure;
  - meeting docs: signed presence lists, minutes, agenda;
- Direct costs of subcontracting;
  - quotations (sub)contracts;
  - signed (sub)contracts.

[1] SSHOC internal Project Document Repository is only available to SSHOC project partners who get access by invitation; Location: https://drive.google.com/drive/folders/0AHTMCVTMPbCtUk9PVA

3.3. Reporting

The quality of reporting in SSHOC is ensured by:

- providing reporting templates
- ensuring each report is peer-reviewed
- ensuring each report is proof-read
- enforcing procedures and setting timelines for delivery.

Even though official reporting is mostly regulated by the GA and the CA, some internal procedures have been set up in SSHOC, in order to assure quality. Thus, internal financial project reporting has been agreed to be done on a 6-month basis, and since three of the WP1 deliverables are *Annual progress reports*, it is planned to update them after 6 months and have a complete project overview on 6-month basis. The reporting calendar, published at SSHOC Wiki "Guidelines" lists all project periodic reports (both official EC and internal project reports) and includes the final deadlines for reports or inputs to be sent to CO. In this way, timely delivery is assured, as well as time for editorial review.

Type	Period	Template available	Deadline to deliver to the Coordinator	By whom	Deadline to deliver to the EC
Continuous reporting	n/a	**1.Template_deliverables_SSHOC.docx** (located in PDR root)/SSHOC Implementation/Templates/) **1.aTemplate_Milestone report_SSHOC.docx** (located in PDR root)/SSHOC Implementation/Templates/) **SSHOC_Gender of participants** table (located in PDR root)/SSHOC Implementation/WP1/T1.3 Other Continuous reporting)	Whenever the progress happen or the milestone achieved	All beneficiaries and WP leaders	Continuous
Internal report 1	M01-M06 (Jan 2019 - Jun 2019)	**5.Financial_report.xlsx** (located in PDR root)/SSHOC Implementation/Templates/)	M07 (Jul 2019) Actual: 04.08.2019.	All beneficiaries (incl. reports for their LTPs)	n/a
Internal report 2	M07-M12 (Jul 2019 - Dec 2019)	**5.Financial_report.xlsx** (located in PDR root)/SSHOC Implementation/Templates/)	M13 (Jan 2020) Actual: 29.01.2020.	All beneficiaries (incl. reports for their LTPs)	n/a
Periodic technical report **1**	M01-M18 (Jan 2019 - Jun 2020)	**Technical_report_B.docx** (located in PDR root)/SSHOC Implementation/Templates/)	M19 (Jul 2020) Actual: 31.07.2020.	WP leaders	M20 (Aug 2020)
Periodic financial report **1**	M01-M18 (Jan 2019 - Jun 2020)	**5.Financial_report.xlsx** (located in PDR root)/SSHOC Implementation/Templates/)	M19 (Jul 2020) Actual: 31.07.2020.	All beneficiaries (incl. reports for their LTPs)	M20 (Aug 2020)
Internal report 3	M19-M24 (Jul 2020 - Dec 2020)	**5.Financial_report.xlsx** (located in PDR root)/SSHOC Implementation/Templates/)	M25 (Jan 2021) Actual: 28.01.2021.	All beneficiaries (incl. reports for their LTPs)	n/a
Internal report 4	M25-M30 (Jan 2021 - Jun 2021)	**5.Financial_report.xlsx** (located in PDR root)/SSHOC Implementation/Templates/)	M31 (Jul 2020) Actual: 31.07.2020.	All beneficiaries (incl. reports for their LTPs)	n/a
Periodic technical report **2**	M19-M36 (Jul 2020 - Dec 2021)	**Technical_report_B.docx** (located in PDR root)/SSHOC Implementation/Templates/)	M37 (Jan 2022) Actual: 31.01.2022.	WP leaders	M38 (Feb 2022)
Periodic financial report **2**	M19-M36 (Jul 2020 - Dec 2021)	**5.Financial_report.xlsx** (located in PDR root)/SSHOC Implementation/Templates/)	M37 (Jan 2022) Actual: 31.01.2022.	All beneficiaries (incl. reports for their LTPs)	M38 (Feb 2022)
Final technical report (Period 3)	M37-M40 (Jan 2022 - Apr 2022)	**Final_report_B.docx** (located in PDR root)/SSHOC Implementation/Templates/)	M41 (May 2022) Actual: 30.05.2022.	WP leaders	M42 (Jun 2022)
Final financial report (Period 3)	M37-M40 (Jan 2022 - Apr 2022)	**5.Financial_report.xlsx** (located in PDR root)/SSHOC Implementation/Templates/)	M41 (May 2022) Actual: 30.05.2022.	All beneficiaries (incl. reports for their LTPs)	M42 (Jun 2022)

Table 3. Project Reporting Calendar
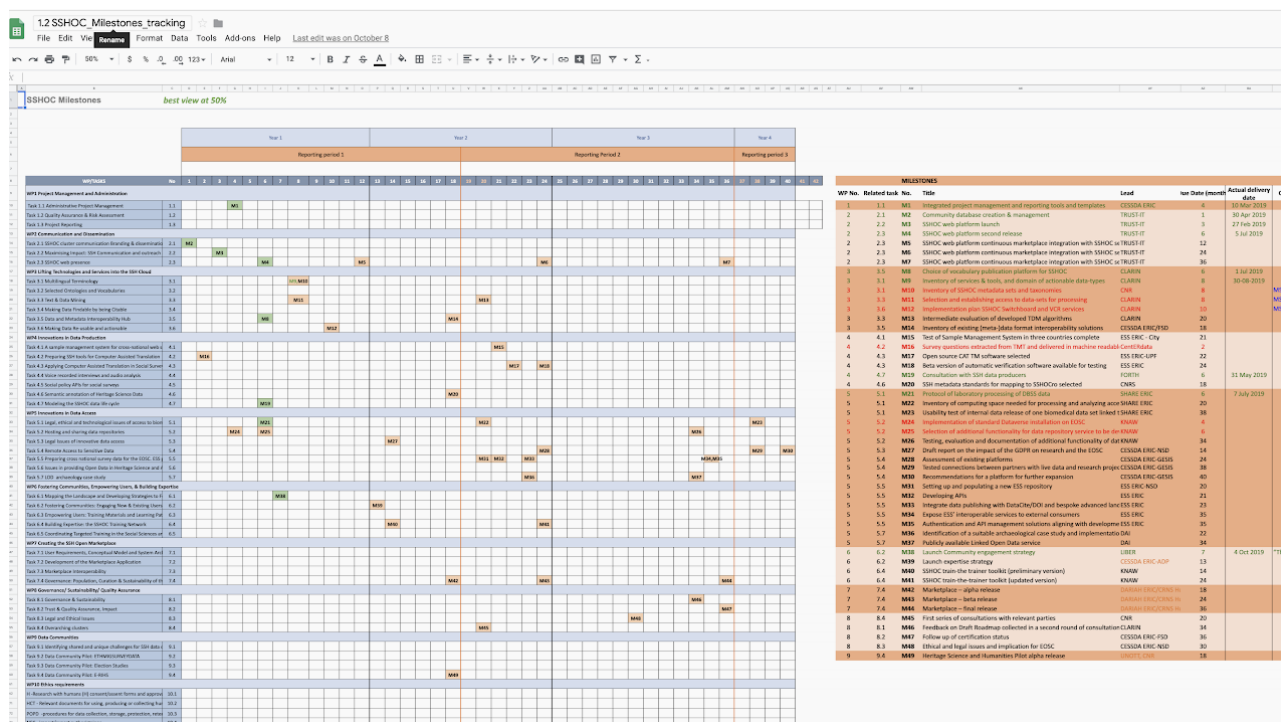
3.4. Milestones reporting

The partner responsible for the production of a milestone is defined in the deliverables list of the DoA.

Normally, the WP leader acts as the "Milestone responsible", but specific roles and responsibilities may be defined differently.

Due to the size of the project, and the number of both project partners and Milestones they are responsible for, an internal procedure on Milestone achievement reporting was set-up:

- Once the specific milestone is achieved the person in charge creates a simple report in coordination with the Task leader (who acts as a reviewer), using the template provided by Coordinator, after which they send the report to the WP Leader to consolidate (2nd review)
- The Work Package Leader reports about it to Coordinator by email, sending the Word document of the report on milestone achievement
- Coordinator enters the achievement and the date in the EC Portal and archives both Word and PDF versions in the Project Document Repository.

In order for all partners to have an overview and feedback on Milestones achieved, (including Linked Third Parties or just team members who do not have continuous access to the EC Funding & Tenders portal) an additional tool was created for tracking milestones achievement - Milestones tracking table, available in Project Document Repository in WP1.

Figure 2. Milestones Tracking table in SSHOC document repository

The tracking table contains a sheet with guidelines on preparing a Milestone report, and a sheet with Milestone calendar, and Milestone list, including marcation of pending, achieved milestone, reports submitted to CO, and delay explanations. The CO is responsible for maintenance.

3.5. Deliverables

3.5.1. Production of deliverables and review

As well as for the Milestones, for tracking of Deliverables procedure and submission, and for disseminating the information on current status to project partners, a deliverable tracking table was set-up, and maintained by the CO. The spreadsheet contains a sheet with instructions and guidelines for preparing the deliverable, a sheet with a Deliverable list and timeline, including information on author, reviewer, and status of the deliverable.

Each deliverable should be created according to the set timeline shown in the figure below.

Responsible:	Responsable partner as listed in GA	Reviewer appointed	Coordinator & author	Coordinator
Production Timeline:	4 weeks before	3 weeks before	2 week before	Deadline

Drafting	Writing	Completing	Internal Review	Revision/Final Editing (CO)	
create Word version and share through Google Drive			inform reviewers to start review via mailing list	send Word version to CESSDA MO	

Figure 3. Deliverable production, review and submission timeline

The partner responsible for the production of a deliverable is specified in the deliverables list of the DoA. Normally, the WP leader acts as the "Deliverable responsible", but specific roles and responsibilities may be defined differently.

The internal procedure is set for deliverable production, review and submission, in order to assure the quality of the final product:

- Before launching the production of the deliverable, the deliverable responsible partner should define the document structure (using the provided template in the Project Document Repository), the contributions expected from each partner, the quality check criteria, the relevant reviewer(s) and the timetable for the deliverable development as defined in a preliminary document named SSHOC_Deliverable Process and Submission (Google sheet) stored in Project Document Repository: SSHOC Implementation/ WP1 / Deliverables.
- Upon receipt of the inputs from the different contributors, the deliverable responsible should merge them into a single document. This first draft should then be circulated to the appointed reviewer(s).
- Reviewers will check the consistency with the project plans and give their feedback and/or approval. This iterative procedure will be repeated as necessary, until all involved partners give approval. The deliverable responsible should then prepare a final draft which will be sent to the Coordinator (CESSDA). The final document should be sent to CO in open (Word) document.

- The final version is consolidated by the Project management office (CESSDA MO) to take care of the final formatting, and English check if needed. The final PDF document is uploaded to the EC submission portal within the continuous reporting process, and both open and PDF versions of the Deliverable are stored in the project document repository SSHOC Implementation/ WP1 / Deliverables / Submitted Deliverables.

The quality of Deliverable will be tracked with the following general indicators (suggestions for reviewers and authors to keep in mind while writing or reviewing):

Quality indicator	Reference
The deliverable is in accordance with the objectives and descriptions stated in the Description of Action	SSHOC DoA in the GA Clear links and references to work done within and outside of SSHOC project
The deliverable offers complete documentation on the work done	SSHOC DoA in the GA Number of reviewers/reviews
The deliverable is compliant with the templates and guidelines	D1.1 Management Plan D1.2 Quality Assurance & Risk Assessment plan (this document) Deliverable Template
The deliverable is legible and clear	Text structure Language and syntax errors Use of paragraphs and chapter Use of pictures, tables and diagrams Clear distinction between body and annexes

Table 4. Quality indicators used for deliverable review

NB. For **deliverables that are not in writing** (e.g. DEM, DEC, OTHER), the beneficiaries must submit a short written description which includes means of verification and location of the non-textual deliverable. That description is to be submitted in a Word document using the Deliverable template as well (only simplified).

3.5.2. Delay in Deliverables submission

In case of possible delay in SSHOC project, the Work Package Leader has to inform the CO by email and send a detailed explanation on the delay at least three weeks before the deadline. This explanation will be used in communication with Project Officer. After consulting with the PO, CO informs the PMB and responsabile

partners for Deliverable about the result of consultation. The delay explanation has to be included in the next official Periodic report.

The explanation should be formed in the following format:

Regarding DXX (DX.XX) [Name of deliverable]; due [due date of deliverable]

- we would like to ask for an extension until [new date].
- **Reason for the postponement in time of delivery:**
- **Consequences of delay in delivery:**

4. Risk Management and prioritised areas

4.1. SSHOC prioritised areas with regards to Quality and Risk Control

In the beginning of the project proposal preparation, several areas of particular interest were identified, and the Work Packages were aligned accordingly. Those were as follows:

- **Dissemination and Outreach** as a priority area with requirements set up by the European Commission for EC funded projects, covered in SSHOC by WP2;
- **Tools and services** as a priority area enabling the realisation of SSHOC specific project objective of building the SSH Cloud as a virtual infrastructure with existing and new infrastructures connected, covered in SSHOC primarily by WP3, 4, and 5;
- **SSH Open Marketplace** - a special priority area due to being the focal technical outcome of the project, covered in SSHOC by WP7;
- **Engagement and training** as a priority area enabling the realisation of SSHOC specific project objective of maximising re-use of data through Open Science and FAIR principles, as well as ensuring the actual engagement of the stakeholders, covered in SSHOC primarily by WP6.
- **Governance** as a priority area enabling the realisation of SSHOC specific project objective of setting up an appropriate governance model for the SSH part of the EOSC, covered in SSHOC by WP8.
- **Other data communities** as priority area considering the specificities of different sub-domains of the social sciences and humanities, covered in SSHOC by WP9.

Measures and procedures for ensuring quality, as well as identified risks to be monitored within these areas will be detailed in the following paragraphs.

4.1.1. Dissemination and Outreach

Dissemination activities are generally overseen by the Work Package 2 Leader and Team, who can also be consulted on how to disseminate project results successfully. The first point of Dissemination is the project website www.sshopencloud.eu.

Part of the basic form required for the purpose of dissemination is the appropriate placement of logos and a clear textual reference to the project's funding. Unless otherwise agreed with the EC or unless it is impossible, any dissemination of project results must display the EU emblem and contain the following text in accordance with Art. 29.4: "This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 823782". In addition, the project logo should be visibly included.

A consistent visual identity is used for all communication and dissemination activities. **Templates for external communication** and documents are provided within the WP2 materials in the Document Repository. **A communication kit** available to all partners is published on the project website and is public: https://www.sshopencloud.eu/communications-kit.

Event and dissemination table - In order to control the quality of dissemination, a project-internal event and dissemination sheet was created and shared with project partners in the Project Document Repository. This table is used to plan dissemination and assure engagement of stakeholders, as well as report on dissemination activities by partners. Each partner, preferably before, and as a minimum requirement after completing a dissemination activity, has to report it to the WP2 and fill in the Event and dissemination table. Work Packages 2 and 6 are responsible for maintenance and instructing the partners on continuous usage of the table. To ensure visibility and effective engagement a **SSHOC event checklist** was prepared for all partners to use. The checklist is available on the project internal Google Shared Drive Document Repository and Wiki page.

Events Blog and reporting template is available was produced and available to all project partners in the Project Document Repository, in order to set standards for reporting on SSHOC events and facilitate both reporting and dissemination quality of material. All partners conducting SSHOC workshops are obliged to create such a report and communicate the organisation to WP2 and WP6.

A **publication guide** was set in place to ensure an effective and uniform communication from the SSHOC project with its stakeholders, building on the SSHOC identity. The guidelines are available on the project internal Document Repository and Wiki page for all partners to use.

Branding guidelines were published on the SSHOC website in the communication kit, to align all branding within the project such as collaterals, website and the development of the SSH Open Marketplace (WP7) and branding of the SSHOC services. All further information and details on dissemination quality, including the procedures and quality indicators, is presented in **Deliverable 2.1 SSHOC Overall Communication and Outreach Plan.**

RISKS

One risk, already identified in the GA as medium, is the **lack of engagement** at outreach events. Event attendance will be strategically identified and actively promoted through partner networks and synergies. The consortium has elaborated a well-defined partner network to achieve the effective outreach plan in the D2.1Overall Communication and Outreach Plan in April 2019.

Another risk for Dissemination, communication and impact is the **lack of visibility** through media channels. This risk was defined as being low in the GA. Consortium members have established close links with key media channels and are active as journals and copywriters, even internationally.

The identified risk of **low acceptance** or understanding of the new data access tools, guidelines and services by users and public was already defined in the GA as being a low risk. SSHOC will aim for the SSH Open Science cloud to be developed by researchers for researchers. The consortium is and will continue to involve users in development and testing, have workshops and webinars as defined in D2.1 and D6.1 Community engagement strategy.

4.1.2. Tools and Services

SOFTWARE DEVELOPMENT

Within SSHOC, software development should follow the "Four simple recommendations"[2] as well as established best practices in Software Engineering. As a first point of reference, the Technical Reference[3] jointly developed by CESSDA, CLARIN & DARIAH can be used.

It should be noted that software quality is becoming an increasingly important aspect of infrastructure services. For services to be listed as beta-version in the current EOSC-hub Marketplace, Technology Readiness Level (TRL) 7 is required, and in order to offer the service to customers, TRL 8[4] is required. Any software development within the SSHOC project that aims to develop a re-usable solution should only be undertaken, once its sustainability and maintenance plan has been decided. In particular, a partner institution must be designated as future maintainer. It is this maintainer's responsibility to decide on technology stack, software framework and development platform.

As general guidelines, CESSDA recommends (similar to its implementation of the Technical Reference[5])

- Version control should be used.
- Permissible OSI-approved[6] licenses such as APACHE-2 or EUPL-1.2 should be applied unless good reasons exist for another choice.
- All intellectual property rights must be clear.
- Licenses and ownership must be clearly stated.
- When developing open source code, do this from the very beginning.
- According to the CESSDA Software Maturity Levels[7], a quality criterion of 'Minimum standard' in each attribute should be met, 'Expected standard' throughout is preferred.
- All contributions (funding, developers, others) should be clearly acknowledged.

SERVICE OPERATION

Any tool or service developed within SSHOC must be included in the **SSHOC service inventory with EOSC-hub impact**[8]. This inventory is used by SSHOC partners as a basis for discussing the long-term maintenance of the different services that are being being built and improved through SSHOC. To this end, clear responsibilities are defined and fed back to business model discussions for the respective services. SSHOC will where possible and useful make such analysis of SSHOC services in the context of other existing services from the SSHOC stake-holder infrastructures, to facilitate overlap detection and coherent recommendations for EOSC integration.

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[2] Jiménez RC, Kuzak M, Alhamdoosh M et al. Four simple recommendations to encourage best practices in research software. F1000Research 2017, 6:876, https://doi.org/10.12688/f1000research.11407.1

[3] Thiel C, Weidling M, Moranville Y. EURISE Network Technical Reference: https://technical-reference.readthedocs.io

[4] Service Maturity Classification https://wiki.eosc-hub.eu/display/EOSC/Service+Maturity+Classification

[5] CESSDA Public Technical Guidelines https://bitbucket.org/cessda/cessda.guidelines.public/src/master/

[6] Open Source Initiative website: https://opensource.org/

[7] CESSDA Software maturity level: https://zenodo.org/record/2614050#.Xe2kGZNKjBI

[8] SSHOC service inventory with EOSC-hub impact is a project-internal inventory available in the Project Document Repository with access available to the project consortium:
https://docs.google.com/spreadsheets/d/1LKxPLVKr9ZaIeET5YNC7quqouNWx3zMLKwaTQwra_BE/edit#gid=0

RISKS

The main risks identified for ongoing software development and ultimate availability of production ready services that can be operated by project partners beyond the project timeline were identified in the proposal. **Understaffing** and unexpected **technical complications** can impact the progress of the development efforts, the availability of EOSC platforms and long-term cost need to be clear as well.

Another risk related to software development could be related to the **low acceptance** and/or understanding of the developed tools by future users. To avoid this, researchers and therefore future users are to be involved in the development process. Furthermore, detailed user guides can be released, reporting the functionalities and details of the developed system along with practical guide on how to fully profit from the services offered by the tool.

Communication on the services under development is ongoing and regularly revisited with WP leaders and project coordinator to identify any possible occurrences of risks and subsequently notify decision bodies and start corrective actions.

4.1.3. SSH Open Marketplace

The SSH Open Marketplace is a core technical result of the SSHOC project and central for the achievement of the project goals.

DEVELOPMENT OF THE SSH OPEN MARKETPLACE

As mentioned in the D7.1 - System Specification for the SSH Open Marketplace, the design and development work of the SSH Open Marketplace follows the "best practices of agile and User Centered Design (UCD) approaches" as well as an iterative process based on SCRUM methodology. The recommendations mentioned in the previous section (4.1.2 Tools and Services - "Software development") are followed, and the development work is openly accessible in the Gitlab instance of one of the project partners: https://gitlab.gwdg.de/sshoc.

Furthermore, an internal document "SSHOCMP - Development Guidelines" gathers and summarises the communication channels used between partners, the structure chosen for the Gitlab project created, as well as the conventions used to organise the work.

CURATION PROCESS

The quality of the content that will be showcased in the SSH Open Marketplace is ensured by a strong curation process developed in both T7.3 and T7.4, thus assuring that technical interoperability issues are addressed and a strong editorial team is being put in place that will ensure that the curation process is stable and involves the community.

RISKS

The main risks regarding the creation of the SSH Open Marketplace have been identified in the project proposal: 6 - **Too few available software developers** and 7 - **Technical difficulties** of complex software development. To anticipate these risks, an intense communication between WP partners, involving also when needed the other partners of the project, has been set up, and a community of skilled partners has been

identified across the Consortium in order to easily find replacements and support needed. The creation of the SSH Open Marketplace gathers a team with a large range of technical skills and competencies (from UX design, front-end and back-end development to system architecture experts) as well as partners responsible for the connection with the users' communities. Communication happens on a daily basis (via our Slack channel, Basecamp and e-mail) and there are regular conference calls and face-to-face meetings. Minutes to these meetings are accessible for all project partners in the GDrive.

Furthermore, to involve the (future) users of the SSH Open Marketplace from the very beginning of the project and build a discovery portal that not only answers to communities' needs but also a platform to which they can contribute, two task forces have been set up in 2019. The first one conducted 22 interviews with SSH researchers to inform the technical requirements, and the on-going second one is in charge of defining and monitoring - in close collaboration with WP2 and 6 - the involvement of communities in the SSH Open Marketplace.

Finally, in order to reduce the risk of overlaps and redundancy with other currently ongoing EOSC related initiatives and projects, aiming at developing new and cataloguing existing resources to be shared through EOSC, or creating and supporting EOSC governance and operations, contacts have been established with all the relevant projects (EOSC-Hub, Secretariat, other cluster projects, regional initiatives, etc).

4.1.4. Engagement and Training

Activities related to SSHOC stakeholder engagement and Building expertise are carried out in WP6 and thoroughly described in **D6.1 Community Engagement Strategy** and **D6.2 Building Expertise Strategy.** The two documents also include specific engagement and training activities with respective Key Performance indicators that will be periodically monitored by WP6 *Fostering Communities, Empowering Users, & Building Expertise* participants.

RISKS

Potential risks regarding Engagement and Training are both identified in the respective Strategy documents. In terms of Stakeholder Engagement potential risks that may be faced in the course of the project and hinder the success of the strategy are:

- **Project complexity** due to a high number of consortium partners, collaborating organisations, work packages and deliverables,
- **Delay in development of SSHOC services** that might affect training schedule and,
- **specialized training to be delivered by partners outside WP6**

These risks are tackled by WP6 Fostering Communities, Empowering Users, & Building Expertise by establishing clear contact with all project WPs and tasks and monitoring project activities of interest for engagement and training. This is done to an extent where each Work Package in the project has a dedicated person in WP6 to control and regularly communicate with the WP Leader. WP6 uses an overview of the various tasks, and targeted activities and audiences for each task, to minimize overlaps and ensure all relevant stakeholders are addressed and involved. The overview is updated periodically. Furthermore, an internal survey and a first round of internal interviews have been carried out. WP6 participants act as link partners for each WP/task and follow

developments, to ensure the successful monitoring of project activities, identify opportunities and potential speakers/trainers for the project's engagement, community building and training activities.

Stakeholder landscape complexity: The SSH community landscape is fragmented. Researchers and other end-users are active in numerous SSH disciplines. Furthermore, they are part of institutions with different internal structures and management policies. This makes it difficult to reach them properly and/or involve them in the process individually. To overcome this challenge, the project targets groups rather than individuals in terms of engaging with end-users, in combination with a comprehensive communications and outreach plan.

Overlaps and duplication of work when it comes to training activities and production of training materials, as the training environment re: EOSC and SSH is extensive. For this purpose, WP6 created an overview of relevant training initiatives annexed in the Building Expertise Strategy. These initiatives, their activities, tools and training materials are to be taken into account by the SSHOC Building Expertise activities to uncover synergies and avoid overlaps and duplication.

EOSC Complexity as concept and continuous development, simultaneous to the SSHOC activities: Two strategies developed in WP6 are taking this risk into account by setting continuous monitoring and allowing a level of flexibility in terms of event types and formats.

Geographical distribution of partners not sufficient to ensure European coverage for national training nodes: this potential risk is being addressed by interaction with SSHOC stakeholders that participate in the SSHOC Training Community and can propose organizations that can assume the role of training nodes outside of the project consortium.

The possibilities of directly reaching out to individual stakeholders for engagement purposes are limited due to the new **European General Data Protection Regulation** (GDPR). For this reason, the project has put in place a "two-steps communications method"[9].

4.1.5. Governance

Even though activities related to communication and collaboration with other relevant players in the ESFRI landscape and - possibly beyond - are already planned elsewhere in the project, SSHOC has a dedicated WP to cover critical issues relevant for the future integration of the SSH Cloud within the EOSC.

WP8 deals with different layers of complexity towards the seamless integration of the SSH-CH community into the EOSC ecosystem, including: Governance, Sustainability, Quality and Trust issues (including issues related to Open Access and the implementation of the FAIR principles). WP8 also seeks to implement strategies to foster collaboration with potential stakeholders, also outside the SSH-CH domain (including cross-disciplinary coordination and cooperation, common initiatives involving other clusters in different domains, e.g. Physical Sciences and Engineering; Environment and Health & Food).

RISKS

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[9] see SSHOC Deliverable 6.1 Community Engagement Strategy

Difficulty in cooperating with other ERICs and Pan-European projects: due to the scale and relevance of SSHOC, a vast part of the key players in the ESFRI landscape of Social and Cultural Innovation is represented within the project's consortium. The risk of lack of cooperation with other ERICs and Pan-European projects is thus very limited and will be managed with specific actions, also leveraging on existing communities (e.g.: ERIC Forum, EOSC-Hub Advisory Board, Research Data Alliance, others) to organise targeted meetings.

Balance between research communities in the governance: as a consequence of the project's scale and in consideration of the different articulation of the SSH and CH research communities, both in terms of number of disciplines involved and different levels of engagement with the EOSC, a proper balance in representation of their voice - through the active participation of relevant stakeholders from different domains - is a key for the success of the project. While the risk of underrepresentation / over representation seems marginal, WP8 will constantly monitor the landscape and adjust the project strategy, according to the engagement strategy elaborated in other WPs and leveraging on existing communities.

Overlapping of work with other clusters: as far as Trust & Quality and Legal & Ethical Issues are concerned, the risk of overlap with other clusters could be quite strong. WP8 built an internal platform to avoid unnecessary duplication, map possible needs and plan effective collaboration strategies - as well as to help sharing information and expertise.

4.1.6. Other Data Communities

In WP9 of SSHOC project, the focus is on the perspective of thematic and (inter)disciplinary user communities and on addressing the challenges that they encounter when attempting to contribute to SSHOC by implementing principles, procedures, tools and services developed in the other WPs. The entire Work Package basically investigates and predicts possible obstacles that might be met, and assesses potential solutions.

The low probability, but still relevant risks are having too few available software developers and having Unforeseen legal (GDPR and national) barriers to data sharing. The mitigation measures identified are to prioritize work, reschedule, build on existing tools and past experience, involve users in testing, and to identify likelihood of such barriers at the start of work that requires actual data sharing.

This availability of software developer related risk may at earliest materialise in the course of the work for D9.9 (Production of Knowledge Graph and Election Studies Analytics Dashboard); this risk, and mitigating measures, will be discussed in the course of the work for D9.7 (Design of the Knowledge Graph), and will be commented upon in the report of that deliverable.

The more likely to happen risk (medium probability) are the different technical difficulties of complex software development, which will be addressed in the aforementioned deliverables as well.

One of the probable risks is a low acceptance or understanding of the new data access tools, guidelines and services by users and public. The *Deliverable 9.8 User-community involvement plan* is one of the places to assess which practical measures will help to mitigate these risks. How successful it will be these to overcome (or even prevent) these risks can only be assessed after the completion of Deliverable 9.4 *Database with the metadata of surveys to EMMs across Europe* and Deliverable 9.9 *Delivery of user-validated Knowledge Graph, and Election Studies Analytics dashboard*, and will be reported systematically in D9.10 *User community feedback and usage report*.

4.2. Risk management

Relevant project risks and how to address them are described in the DoA and risk management will be conducted throughout the project. Known risks will be regularly reviewed and new risks will need to be recognized so to adequately address them. Assessment of risks will lead to the formulation of appropriate mitigation measures which will help to prevent and overcome a risk or reduce its effects.

The common process behind risk management can be summarised as follows:
- **identification** (recognize and describe the risk)
- **analysis** (analyse likelihood and consequences of risks)
- **assessment** (determine magnitude of risks for the project)
- **response planning** (create and execute an action plan to prevent or minimize risks)
- **control** (monitor, track and review risks and mitigation actions).

Risk management is the responsibility of the Project Management Board, and the Project Coordinator. Risk monitoring will be done at least every 6 months (Annual reports, and Annual reports updates). A **Risk Register table** is created to facilitate easier monitoring by the CO. The risk register is available in the Project Document Repository, under WP1 / Task 1.2 Quality Assurance & Risk Assessment folder.

At the strategic level risk management focuses on the WPs' contribution to the project objectives which is the responsibility of the 1st Tier Scientific Board and the CO. At the operational level risk management focuses on the activities within WPs, which is the responsibility of each WP leader.

Each partner has the responsibility to report immediately to their respective WP leader any risk situations that may arise affect the project objectives or their successful completion. This includes any the time schedule of the deliverables. In case of problems or delays, the Coordinator has to be consulted and it may set up task forces in order to take the necessary actions. In case there is no resolution, PMB will be consulted and will establish mitigation plans to reduce the impact of risk occurring. The final instance is consultation with the 1st Tier Scientific Board. Some measures can be: strengthened supervision, adjustments to project strategy, changes to implementation arrangements and changes in budget allocations.

CHANGE MANAGEMENT

A project of the size, complexity and duration of SSHOC cannot exist without adapting to the dynamics from within or from outside of the project. Changes might go from members leaving the consortium or new ones joining, modifications in the DoA, and other. Any adjustments in terms of allocated budget, activities or staff efforts, will be communicated to Coordinator.

Minor changes do not require prior approval of the Granting authority and should always be communicated to the Coordinator and all the involved parties, and reported within the internal, periodic and/or final reporting process. In case of major adjustments the CO will be in contact with the Project Officer (PO) and Legal Officer (LO). Major adjustments, if requested by the PO, will be addressed through an amendment procedure described in Art. II.13 of the Grant Agreement. For changes regarding delays in submission of Deliverables or Milestones achievement see *section [Quality procedures](#) under Milestones and Deliverables subsections.*

5. Conclusion

In this deliverable the risk management methodology, as well as the quality assurance and control procedures for the SSHOC project have been introduced. The Quality Assurance & Risk Assessment plan d will serve as a reference for the SSHOC consortium during the execution of the project. Any updates to the content of this document will be published in the SSHOC Wiki "Guidelines".

6. References

- SSHOC Grant Agreement (no.823782)
- SSHOC Project Management Plan (D1.1) - https://sshopencloud.eu/d11-sshoc-project-management-plan
- SSHOC Consortium Agreement
- SSHOC Overall Communication and Outreach Plan (D2.1) - https://sshopencloud.eu/d21-sshoc-overall-communication-and-outreach-plan
- SSHOC Community Engagement Strategy (D6.1) - https://sshopencloud.eu/d61-sshoc-community-engagement-strategy
- SSHOC Building Expertise Strategy (D6.2)
- SSHOC Wiki "SSHOC Guidelines"
- Jiménez RC, Kuzak M, Alhamdoosh M et al. Four simple recommendations to encourage best practices in research software. F1000Research 2017, 6:876, https://doi.org/10.12688/f1000research.11407.1
- Thiel C, Weidling M, Moranville Y. EURISE Network Technical Reference: https://technical-reference.readthedocs.io
- Service Maturity Classification: https://wiki.eosc-hub.eu/display/EOSC/Service+Maturity+Classification
- SSHOC service inventory with EOSChub impact - a project internal inventory available in Project Document Repository with access available to project Consortium: https://docs.google.com/spreadsheets/d/1LKxPLVKr9ZaIeET5YNC7quqouNWx3zMLKwaTQwra_BE/edit#gid=0
- CESSDA Public Technical Guidelines: https://bitbucket.org/cessda/cessda.guidelines.public/src/master/
- Open Source Initiative website: https://opensource.org/
- CESSDA Software maturity level: https://zenodo.org/record/2614050#.Xe2kGZNKjBI
- SemaGrow Project (Grant Agreement No: 318497) Quality Assurance & Risk Assessment Plan (D1.4.3.)
- H2020 Online Manual: http://ec.europa.eu/research/participants/docs/h2020-funding-guide/grants/grant-management_en.htm

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