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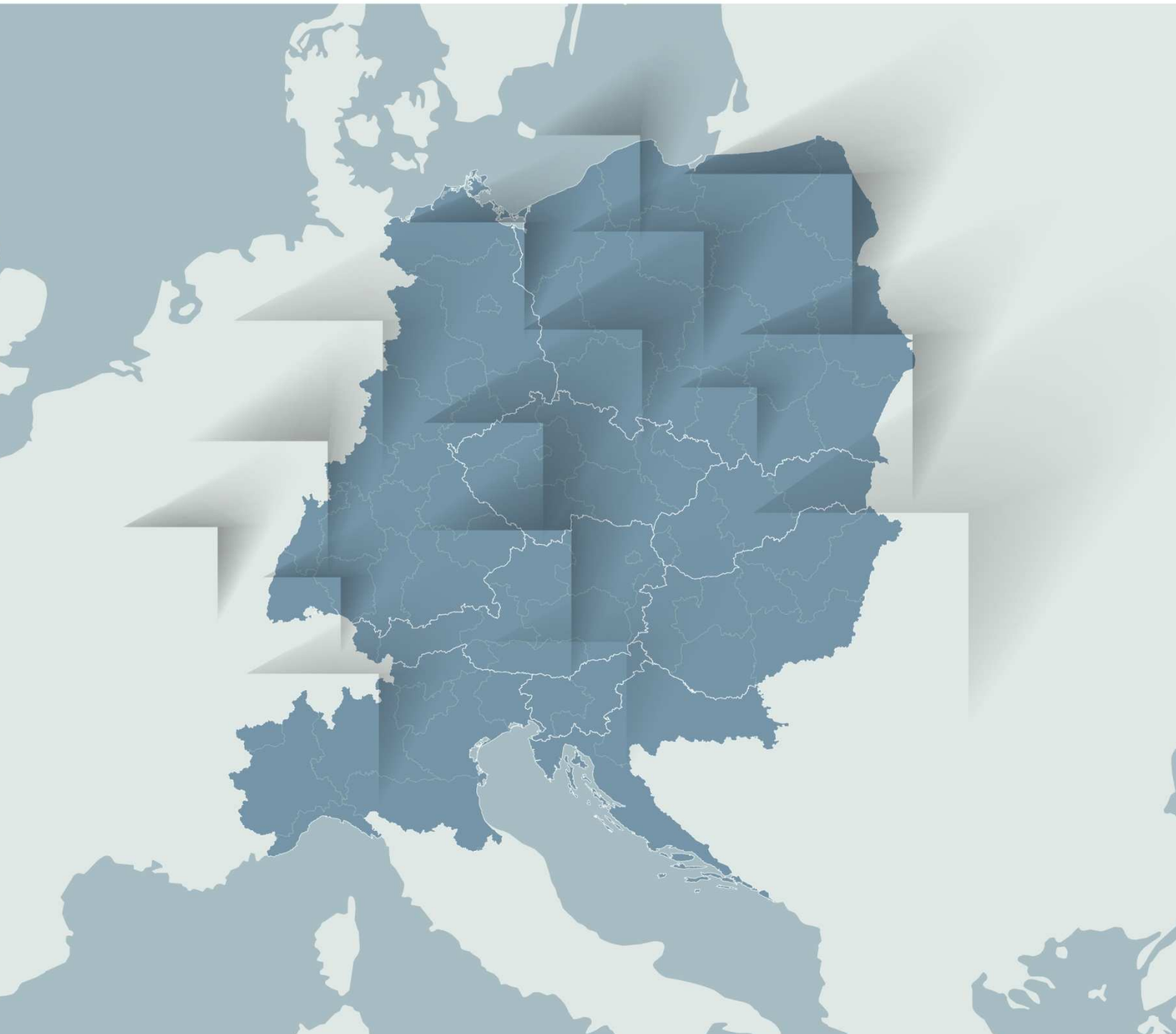
RESTAURA

Restaura: Revitalising Historic Buildings through Public-Private Partnership Schemes (CE339)

D.T4.2.1 User Requirements for the web-based tool (final version)

Version 1

09|2017



This document brings user requirements for the web-based tool as set forth in the Application Form. The web-based interactive tool with guidance on PPP in revitalisation projects, implemented by following the best standards of content, functionality and usability is one of two outputs of the WP T4 within the project. The tool has to provide, according to the Application Form, the utility by the practical focus on revitalisation projects and availability in English as well local languages versions (PL, SK, SI, HR) with informative and relevant content adapted to each country. Additional sections with output library, community section, contact and feedback shall also be provided.

The tool features and functionality will be designed to support users, based on their needs and preferences. It aims to raise professional competences and managerial capacities in revitalisation and PPP schemes, so they become initiators of future PPP projects. In this way, web tool presents an important facilitator of the 1st specific objective of the project, namely "Improved skills and competences of the public sector to use PPP schemes in renovation and revitalisation of historic buildings". It presents the starting point of the project team to organise and participate in internal trainings by the interactive web-based tool for PPP use in heritage revitalisation projects and conduct workshops for public authorities outside the partnership, who are the main drivers of PPP projects.

The tool will operate in English and in all other languages of the participating partner countries. Interactive web-based tool will be designed and implemented in English, although project partners from participating countries will ensure its adaptation to country-specific context and will provide translation into national languages (PL, SK, SI, HR) to make the tool easy-to-use. To achieve this output, we need, according to the Application Form, to identify the set of requirements for the web-based tool through any combination of task analysis, surveys, interviews, observations.

This document is based upon a survey analysis in order to ensure that tool features and functionality will meet the needs and preferences of its end users. Directly dependant deliverable upon User Requirements is the Technical Documentation that is needed as a framework upon which the web-based tool shall be implemented with all the necessary features (i.e. functionality, technical standards (e.g. responsiveness) and architecture of the web-based tool), such that it will ensure the best fit to user requirements presented in this document. The final version of the document will be confirmed at the 4th SC meeting of the Restaura Project Management, to be held in Nova Gorica (October 2017).

User Requirements

To identify the needs of potential users of the web-based tool we have conducted a focused user requirement survey. User requirements relate to an early phase of developing the web-based tool. The survey aims to answer elementary **who**, **what**, **where**, **how much**, and **how many** questions. The survey was conducted by email. Each project partner sent the form to its target groups separately and filled in the questionnaires into a joint form after receiving the results.

The survey has been distributed in all four countries of the Restaura partners: Croatia, Poland, Slovakia, and Slovenia. The exact number of recipients of the invitation to participate in the survey goes beyond 1,000 and it is not known to us, as the invitation has been delivered via group emails as well. However, a conservative estimation of the turnover rate is within the satisfactory 3-5% range. The size of the final sample is 45 which allows us to make a relevant statistical inferences about user requirements of the web-tool.

1. Survey analysis

A basis for User requirements is the survey analysis. The analysis was implemented during 14.6.2017 and 30.9.2017 in the following stages:

1. Each PP identified target groups that have been reached already and which can still be reached in the following period by inviting them to take part in the survey.
2. Early version of the questionnaire was prepared by the PP8 and feedback was obtained from other PPs with suggestions about the questionnaire (i.e. until 14.7.2017).
3. Final version of the online google form questionnaire was prepared and distributed via google form. Questionnaire was translated accordingly and distributed by each PP. The questionnaire was open between 8.8.2017 and 27.8.2017.

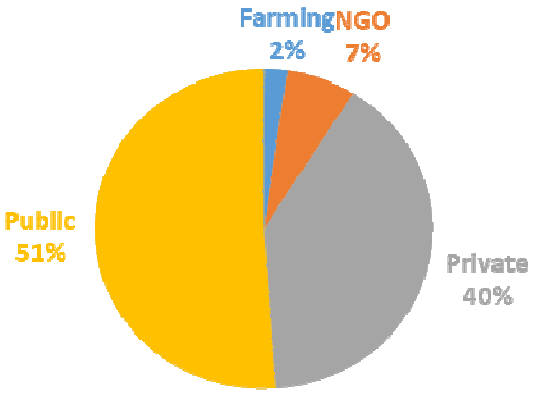
The purpose of the survey is to get the data and accurate information for the preparation of the user requirements which is required for the construction of the web-based tool. In order to get the most quality data, the survey turns to the potential users of the tool. The questionnaire was open from 8.8.2017 until 27.8.2017. Questions were split into the following categories: respondents, web-based utility, usage of the tool.

1.1 Respondents

Respondents were carefully chosen to get the information about the structure and preferences of potential end users of the web-based tool.

Respondents to the survey include four homogeneous groups: farmers, NGOs, private companies, and public entities. The representation in terms of sample shares are given in Figure 1. To account for sampling errors in the data and estimate the shares as they might truly reflect the population in all four countries, where data was collected, we add the Clopper-Pearson interval estimates of population shares in the table next to the figure.

Figure 1: A general structure of respondents



	Confidence Intervals
FARMING	0,0006 ≤ p ≤ 0,118
NGO	0,014 ≤ p ≤ 0,183
PRIVATE	0,257 ≤ p ≤ 0,557
PUBLIC	0,358 ≤ p ≤ 0,663

Estimations of confidence intervals give us a better overview of the expected structure of the groups to which actual final users of the web-based tool might belong to. The structure of potential users is important as different user types can have different preferences and different expectations from the tool. Expectedly, public sector and private companies are the largest groups of potential users of the tool, but farmers might reach up to 11,8% of all users, and NGOs up to 18,3% of all users. We shall see in the sequel of this document, a further breakdown of target groups and how they differ in terms of their expectations from using the web-based tool.

A more detailed structure is needed to assess target groups of end users. The breakdown of users to micro groups follows the Application Form and the sample includes different sub-types of potential users of the web-based tool for the revitalisation of the cultural heritage. As set forth in the Application Form, target groups for the web-based tool shall include:

- *Local public authority,*
- *Regional public authority,*
- *National public authority,*
- *Sectoral agency,*
- *Interest groups including NGOs,*
- *Higher education and research,*
- *Large enterprises,*

- *SME,*
- *Business support organisation,*
- *International organisation, EEIG under national law, and*
- *others.*

This was accounted for with the second question in the survey, were we asked respondents to tell us a bit more about the type of organization they work for. A detailed structural breakdown of respondents based on the type of the organization they work for is shown in Table 1.

Table 1: Structure of respondents

Main types of activities of respondents	Share (in %)
Farming	**2,22%**
Farming	100,00%
NGO	**6,67%**
Culture, tourism	33,33%
Non-formal education	33,33%
Protection of cultural and natural heritage	33,33%
Private	**37,78%**
Commerce	11,76%
Construction company	5,88%
Consulting	41,18%
Consulting, construction	5,88%
Culture – history	5,88%
Education	11,76%
Research, consulting	5,88%
Research, education, tourism and renovation	5,88%
Tourism	5,88%
Private, Public	4,44%
Education, projects	50,00%
Education, industry, consulting, religious services	50,00%
Public	**48,89%**
Consulting	4,55%
Heritage	4,55%
Nature protection	9,09%
Public administration	36,36%
Public administration, education	4,55%
Public administration, education, consulting, nature protection	4,55%
Public administration, research	4,55%
Public administration, research, education	4,55%
Research	13,64%
Research, consulting	4,55%
Research, education	9,09%

Notes: column shows shares of respondents within particular group (for instance, the last line in the table estimates that the expected share of users of the web-based tool that work in **research and education** activities within the **public sector** entities is **9,09%**).

As we could expect, activities in different sectors overlap considerably, widening the potential for the actual use of the web-based tool. In particular, respondents' answers provide us with a good guidance as for the types of activities in which they are active. A wide variety of their activities can be seen from the cross-section breakdown of potential end-users of the web-based tool into sub-groups (Table 2).

Table 2: A breakdown structure of respondents

Main types of activities of respondents	NGO	Private	Public	Farmer	P-P*	Partial sums (in %)
Non-formal education	1,00	0,00	0,00	0,00	0,00	0,022
Construction company	0,00	1,00	0,00	0,00	0,00	0,022
Farming	0,00	0,00	0,00	1,00	0,00	0,022
Public administration, Education	0,00	0,00	1,00	0,00	0,00	0,022
Culture - History	0,00	1,00	0,00	0,00	0,00	0,022
Public administration, Education, Consulting, nature protection	0,00	0,00	1,00	0,00	0,00	0,022
Culture, tourism	1,00	0,00	0,00	0,00	0,00	0,022
Education, Projects	0,00	0,00	0,00	0,00	1,00	0,022
Heritage	0,00	0,00	1,00	0,00	0,00	0,022
Public administration, Research	0,00	0,00	1,00	0,00	0,00	0,022
Consulting, construction	0,00	1,00	0,00	0,00	0,00	0,022
Public administration, Research, Education	0,00	0,00	1,00	0,00	0,00	0,022
Protection of cultural and natural heritage	1,00	0,00	0,00	0,00	0,00	0,022
Research, Education, Consulting, Religious services	0,00	0,00	0,00	0,00	1,00	0,022
Tourism	0,00	1,00	0,00	0,00	0,00	0,022
Research, Education, tourism and renovation	0,00	1,00	0,00	0,00	0,00	0,022
Education	0,00	1,00	0,00	0,00	0,00	0,044
Research, Education	0,00	0,00	1,00	0,00	0,00	0,044
Research, Consulting	0,00	0,50	0,50	0,00	0,00	0,044
Commerce	0,00	1,00	0,00	0,00	0,00	0,044
Nature protection	0,00	0,00	1,00	0,00	0,00	0,044
Research	0,00	0,00	1,00	0,00	0,00	0,067
Public administration	0,00	0,00	1,00	0,00	0,00	0,178
Consulting	0,00	0,88	0,13	0,00	0,00	0,178
Partial sums (in %)	0.067	0.186	0.214	0.022	0.044	

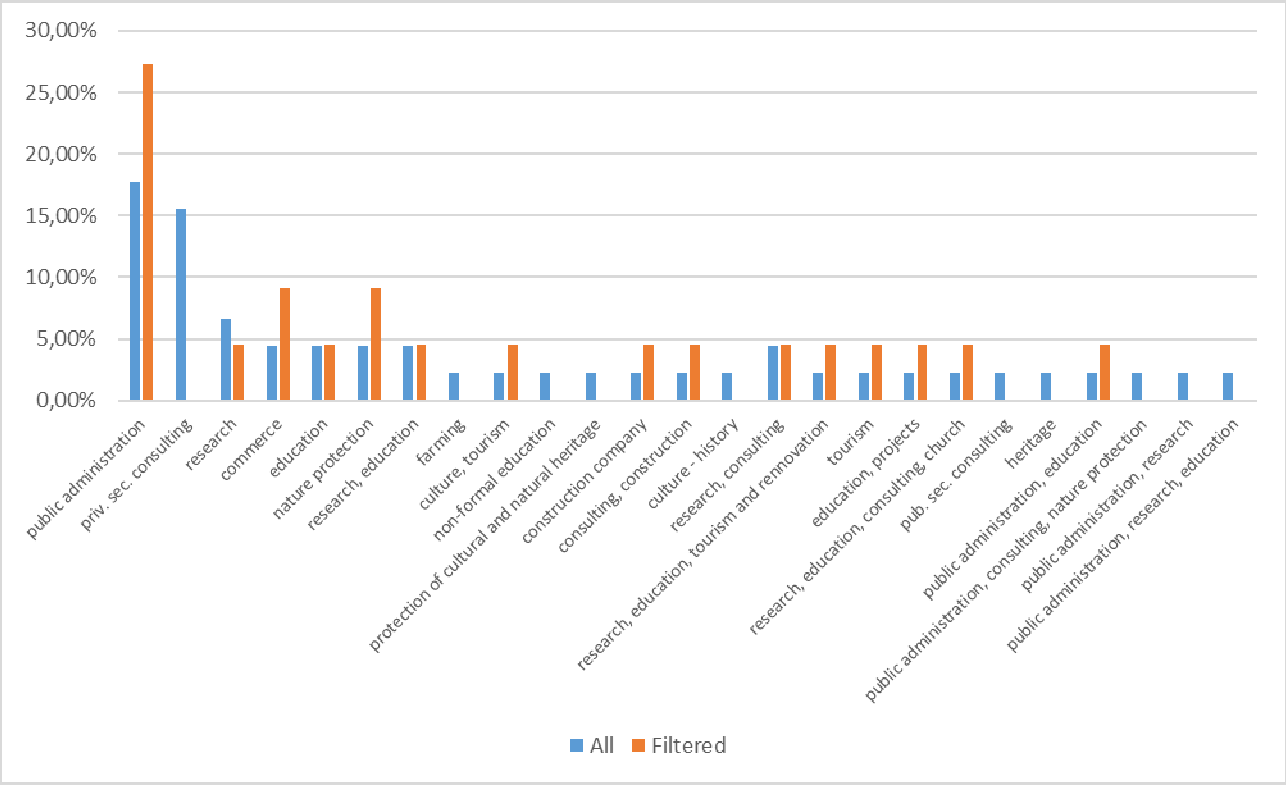
Notes: * PP - public-private organization, such as Church (neither public, nor private, nor NGO). The rightmost column shows shares of respondents within particular activity (for instance, the value for consulting line at the bottom of the table shows the expected share of users of the web-tool that work in **consulting, i.e. 17,8%**). The last line shows partial sums per types of organizations of expected users of the web-tool. For instance, the first data (**0.067**) means that the expected share of all expected users that work for the NGO is 6,7%.

We identified an additional insight into the relative importance of expected end use-segments from Table 2 by lining them in ranks by relative size. The following is the line-up of the largest clusters of end-users (in relative terms): (i) the public administration, (ii) private consulting, (iii) public sector research, (iv) public sector nature protection, (v) private sector commerce etc. Figure 2 in the sequel of the next subsection presents complete line-ups, separately for different filters for the type of the web-service use.

1.2 Web-based tool: target groups

The introductory part of the user requirements survey is followed by service-related questions. Here, we collected the data about a general internet usage, involvement into the PPP, the interest into a web-based tool for the PPP. The aim to this part was to get a clear overview of the size of the potential pool of web-tool users. According to results, all groups of respondents can be described as active internet users. A more detailed focus reveals that we can count on average on 58% of the population of potential users of the web-tool. This analysis is presented by the expected size (filtered and unfiltered) of potential end-user clusters in figure 2.

Figure 2: Expected relative size of end users (in %)



Filtered data means that only those groups of users are included that have expressed the use of internet to (i) discover new products or services and to (ii) fill-in electronic application forms. These results show that public administration uses the internet predominantly for purposes that are natural to the profile of the PPP web-based tool user that the Restaura project addresses. Public administration employees are usually involved in a variety of activities that have a very limited relation with the PPP. After cross-examining this fact with the question about the explicit involvement with the PPP, we get an insight into the primary target groups of end users of the web-based tool.

Major conclusion #1. Expected primary segments of users of the web-based tool (activity-based) consist of the following **6 equally-sized** clusters:

- *Construction*
- *Education*
- *Nature protection*
- *Public administration (non-Education)*
- *Public administration (Education)*
- *Research, Tourism and renovation*

However, the last filtering has reduced the size of final user segments to the extent that results become less stable in terms of variability and with less predictability power. According to statistical tests, each cluster size in terms of % share in the group has a potential to vary between 0.42% to up to 64%. The estimation of an overall share of end users that are most likely to use the web based tool according to their involvement in the PPP, ranges from 5.1% to up to 26.8%.

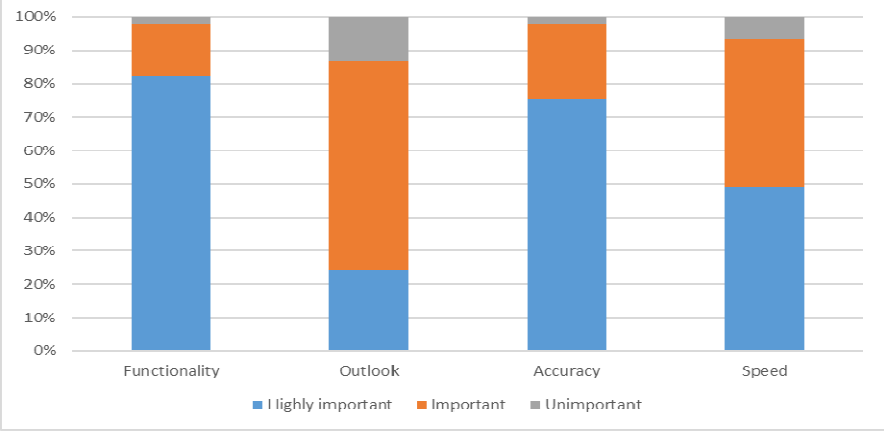
In order to assess preferences and expectations of potential users of the web-based tool, we will have to rely on experiences of mostly public administration users that are involved in activities other than the PPP. Keeping all answers is vital to safeguard the significance of user requirements (in terms of statistical standards), while knowing the final segments of end users enables us to monitor their particular needs and expectations as well.

The inclusion of all respondents allows the experience-sharing across different activities of potential end users, in particular on the fields where the internet has already been in use, which comes to the benefit of the Restaura web-tool. In particular, we will use these experiences and expectations of potential users of the tool from the survey for fine tuning the final set of user requirements and to fit aims and scopes from the Application Form.

1.3 Web-based tool: characteristics

Respondents were asked to rate the importance of some of the key characteristics of the web-based tool. We provide general results in overall for all expected segments of respondents. Their preferences are clear: users prefer functionality and accuracy of the web based tool over outlook and speed. Therefore, from this moment onwards we shall keep the most focus in these two characteristics and steer the implementation of the web-based tool upon them.

Figure 3: Characteristics of the web-based tool



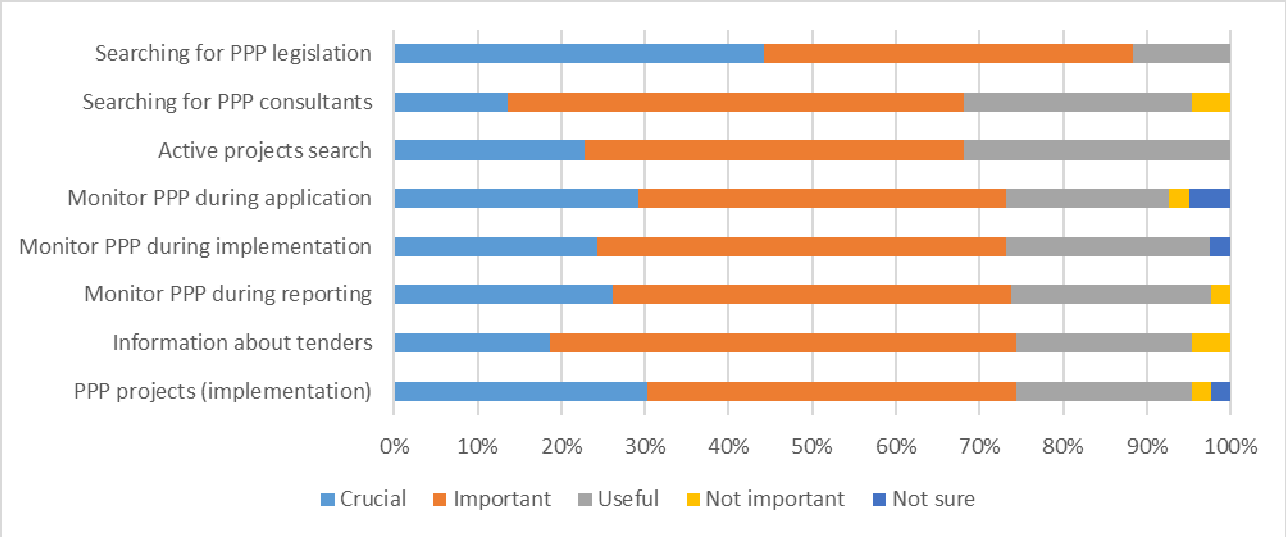
Respondents were also asked to name additional characteristics that come to mind with respect to the web-based tool. The list includes: adaptability, optimization, user-friendly, regular maintenance (update), applicability to the national legislation, availability of data, promptness, credibility, responsibility of the helpdesk, clarity, ease of use, free of charge, simplicity, easy to understand, comprehensive, includes good practices, networking platform, transparent, visibility, availability of all relevant data, up-to-date content, compact, innovative.

Major conclusion #2. The web-tool shall be focused on functionality, accuracy and user friendliness.

In order to detect what concrete functions shall the web-tool provide, we asked respondents to estimate the importance of the following key attributes:

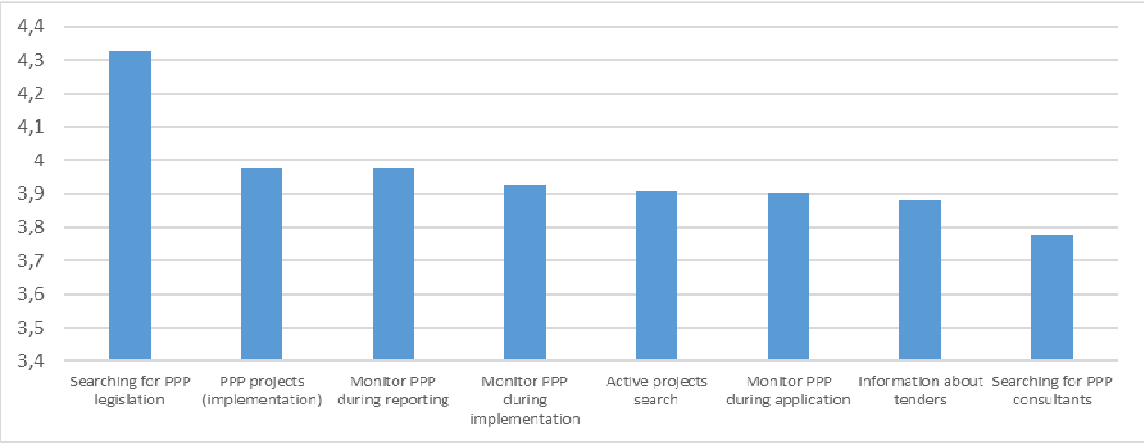
a) *searching for PPP consultants,*
b) *searching for PPP legislation,*
c) *searching for active PPP projects,*
d) *description about implementing the PPP project,*
e) *monitor the PPP project during application phase,*
f) *monitor the PPP project during implementation phase,*
g) *monitor the PPP project during reporting phase,*
h) *gives information about PPP-related public tenders.*

Figure 4: Attributes of the web-based tool



In order to obtain a point of reference for ranking the results, we have constructed a 5-level grade scale and calculated an average grade of each attribute. According to the grading of the main attributes presented in figure 4, the web-based tool needs to address the attributes in the preferential order as given in Figure 5.

Figure 5: Attributes of the web-based tool *(ranking; left-right)*



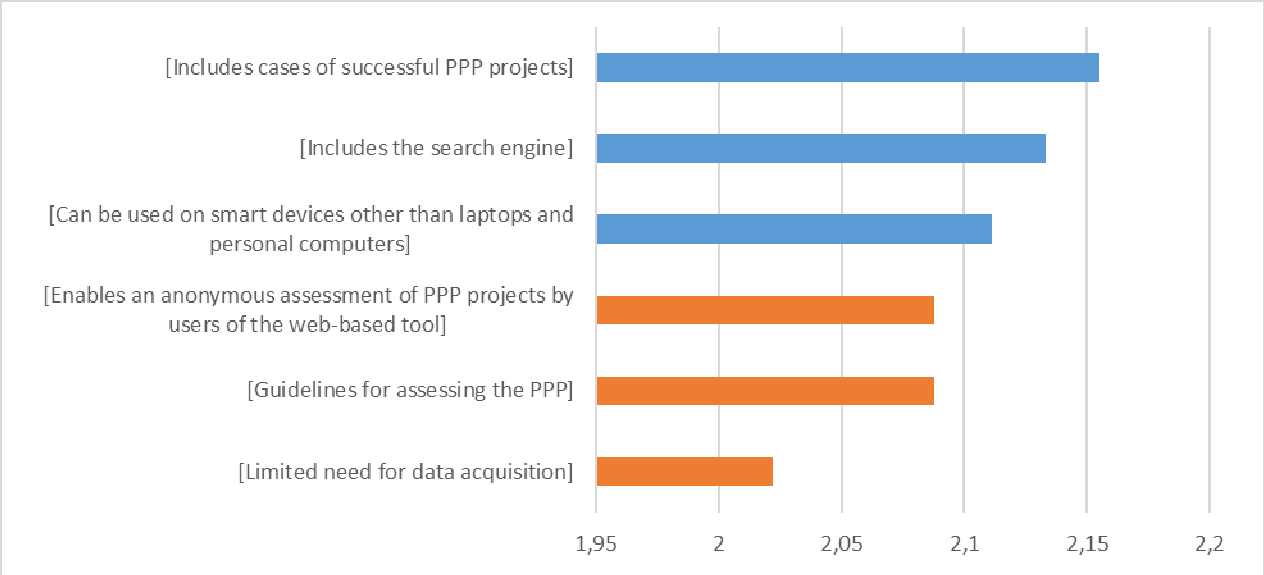
Major conclusion #3. The tool must provide the following leading attributes: searching for PPP legislation, information about the implementation of PPP projects, monitoring the PPP during reporting, monitoring PPP during implementation, search of active projects.

Note that the leading attributes represent five best evaluated attributes from Figure 5. The remaining attributes only upon the budgetary conditions. Attributes need to be provided in the functional (easy to use) and accurate (relevant information) way.

1.4 Web-based tool: functionality

To complement this technical part of the user requirements and build the framework for as functional tool to fit the expectations of its potential users, we have asked respondents to grade the functionality of the web-based tool by some key technical properties. Based on these grades we are able to fine tune the final technical attributes that the web-based tool needs to provide to its potential users. Results are presented in Figure 6. For us the most important responses are coloured in orange. The remaining three are up to the availability of funds.

Figure 6: Functionality of the web-based tool *(ranking; bottom-up)*



We have thus arrived at the fourth major conclusion of the user requirements for the web-based tool.

Major conclusion #4. Web-tool must provide guidelines to assess the PPP projects, it must enable an anonymous assessment of PPP projects by its users and provide all of its functions with as limited demands for data acquisition as possible (i.e. *it must be efficient and user friendly*).

2. Summary and Conclusions

Results of this user requirements survey are statistically validated and promise the design of a quality web-tool. We have managed to identify the relevant aspects of the web-tool that facilitate the revitalisation of the cultural heritage by the use of the PPP, in order to build up the skills and capacities of the partner institutions not only within the Restaura project, but to primarily target at least target users from countries participating in the project. In particular, the user requirement survey performed for this aim has shown that expected primary segments of users of the web-based tool (activity-based) consist of 6 equally-sized clusters: Construction, Education, Nature protection,

Public administration (non-Education), Public administration (Education), Research, Tourism and renovation.

In addition, according to answers obtained from all respondents regardless their background and principal activities, user requirements of the web-based tool need to address the following main user requirements and include the following aspects of use:

Major user requirement #1. The web-tool must be focused on functionality, accuracy and user friendliness.

Major user requirement #2. The web-based tool must provide search engine for PPP legislation (registered users), information about the implementation of PPP projects (case studies, all users), monitoring of active PPP projects during reporting (registered users), monitoring PPPs during implementation (registered users), search of registered, active, and completed PPP projects (all users).

Major user requirement #3. Web-based tool must provide guidelines to assess PPP projects.

Major user requirement #4. Web-based tool must enable an anonymous assessment of PPP projects (registered users).

Major user requirement #5. Web-based tool must provide all of its functions with as limited demands for data acquisition as possible (i.e. it must be efficient and user friendly).

Ljubljana, October, 2017.

This document was prepared by: dr. Matjaž Steinbacher and dr. Mitja Steinbacher

Appendix: Questionnaire

1. Type of organization you are employed at (private, public, other)
2. Please specify the main type of activities in which your organization is active (i.e. public administration, research, education, industry, consulting, trade, religious services, etc.):
3. For what particular purposes do you mostly use internet?
    a. Discover new products or services
    b. Analyze and track the competitors
    c. On-line shopping
    d. Filling electronic application forms
    e. To stay informed / read the news
    f. Market search / Research
    g. Social-networking
    h. To have fun
    i. Other (please specify):
4. Are you at your institution involved in Public-private-partnerships?
    a. Yes
    b. No
    c. If yes, please specify your role or experience
5. Do you think that an online web-based tool that would help you manage the PPP process would be a practical solution to you and/or your organization?
    a. Yes
    b. No
6. Please give grades according to the importance of each of the following characteristics about the web-based tool (unimportant, important, highly important):
    a. Functionality
    b. Outlook
    c. Accuracy
    d. Speed
    e. Please specify up to three other characteristics (optional): _____
7. The Restaura project aims at developing the web-based tool for the easier implementation of the PPP projects by using PPP schemes. Which attributes do you think are important to bear in

mind when developing the web-based tool for the PPP (not only for the revitalisation of the cultural heritage)?

Object / attribute	Crucial	Important	Useful	Not important	Not sure
Searching for PPP consultants in your region					
Searching for PPP legislation in your country					
Searching for currently active PPP projects in your country					
Description about implementing the PPP project in your country					
Enables all partners to monitor the PPP project during application phase					
Enables all partners to monitor the PPP project during implementation phase					
Enables all partners to monitor the PPP project during reporting phase					
Gives information about PPP-related public tenders					

8. Please designate the importance of the following properties of the web-based tool with numbers 1, 2, and 3.
    a. Limited need for data acquisition
    b. Guidelines for assessing the PPP
    c. Includes the search engine
    d. Can be used on smart devices other than laptops and personal computers
    e. Includes cases of successful PPP projects
    f. Enables an anonymous assessment of PPP projects by users of the web-based tool
9. Do you have any other requirement or comments on the web-based tool?

10. Would you consider joining a workshop, where the web-based tool for the PPP in the revitalisation of the cultural heritage will be presented and tested?
    a. Yes
    b. No
11. If you are considering joining a workshop at the Restaura project, please provide us with your contact information (optional)
    a. Name:
    b. Family name:
    c. Working email:
    d. Country:
12. Do you have any unresolved question for the Restaura Helpdesk concerning PPP in the revitalisation of cultural heritage? If yes, please specify (optional):