European Commission

Interoperability Solutions for European Public Administrations Monitoring and Evaluation

D03.05/D03.06 Action 4.2.1 Perceived Quality and Action 4.2.2 Utility monitoring report

Framework Contract n° DI/07173

31st July 2015

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EXECUTIVE SUMMARY

The purpose of this section is to provide an overview of the key findings of the Perceived Quality and Utility monitoring and evaluation activities.

The Joinup survey for measuring the Perceived Quality of Action 4.2.1 – Integrated Collaborative Platform – Joinup, and the Utility of Action 4.2.2 – Community Building and effective use of collaborative platforms, was launched at the end of the second semester of 2014. The objective of the survey is to evaluate the Perceived Quality of the Action 4.2.1 and Utility of the Action 4.2.2 among the Joinup platform users. More specifically, the goal is to understand to what extent the platform is user-friendly and to identify the benefits which users might gain from the content available on the platform.

The survey was available for all Joinup platform visitors from the 19th of December 2014 till the 2nd of February 2015. In total, 97 Joinup users responded to the survey.

The survey result analysis (see Table 1) shows the Action 4.2.1 Perceived Quality and Action 4.2.2 Utility scores. The **Perceived Quality score** for Action 4.2.1 – Integrated Collaborative Platform – Joinup, is **3.67** (scale: 1…5). The **Utility score** for Action 4.2.2 – Community Building and effective use of collaborative platforms, is **3.60** (scale: 1…5).

Detailed score calculation process is described in section 4.3.3.

TABLE 1 – ACTION 4.2.1/4.2.2 SURVEY RESULTS

Evaluation criteria	MEAN[1]	MODE[1]	StDev[1]	StErr[1]
Action 4.2.1 Perceived Quality	3.67	4	1.12	0.03
Action 4.2.2 Utility	3.60	4	1.11	0.04

Conclusion: Based on the survey data analysis, the platform meets the main objectives of Action 4.2.1 and Action 4.2.2. According to the Action 4.2.1 objectives, Joinup supports the collaboration between actions funded by ISA and the EU/Member State projects.

According to the Action 4.2.2 objectives, the Community building maintains and integrates the communities on the Joinup platform.

However, there is a need for drawing special attention to some aspects in each action based on the recommendations provided in section 5.

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[1] see Glossary (section 6.56.5)

The main users of Joinup platform are professionals who are interested in news, interoperability assets and open-source software.

REVISION HISTORY

Date	Version	Description	Authors	Approved by
31-July-2015	1.00	For QA purpose, the accepted draft version is changed into the final version. No other changes are implemented.	CGI-Accenture	
10-Apr-2015	0.03	Draft version updated based on Margarida, Corinne and KS feedback	CGI-Accenture	
26-Mar-2015	0.02	Draft version	CGI-Accenture	
23-Mar-2015	0.01	Initial version	CGI-Accenture	

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1. INTRODUCTION

CGI-Accenture has been requested to deliver a Perceived Quality and Utility Monitoring and Evaluation Report as part of the execution of the ISA programme monitoring (Technical Annex for Specific Contract N° 52 under Framework contract N°DI/07173).

Based on the scope of the Specific Contract, the Perceived Quality is to be measured for 9 actions and the Utility is to be measured for 13 actions. This report covers the Perceived Quality measurement for Action 4.2.1 – Integrated Collaborative Platform – Joinup, and the Utility measurement for Action 4.2.2 – Community Building and effective use of collaborative platforms. It was decided to combine these two actions into one survey since there is a close dependence between those. Therefore, one report is designed for both actions.

This document is divided into the following sections:

- **Section 1** provides an overview on the structure of the report;
- **Section 2** provides an overview on the methodology used for the Perceived Quality and Utility measurements;
- **Section 3** summarises the collected data;
- **Section 4** focuses on the survey result overview and data analysis;
- **Section 5** provides the survey conclusions and recommendations;
- **Section 6** is the appendix and includes:
    - o Statement mapping per dimensions;
    - o Detailed list of 'Other' organisations;
    - o Status of the respondents agreed to be contacted;
    - o Raw data export;
    - o Glossary.

2. SURVEY METHODOLOGY

A common methodology has been developed for all surveys. This enables the comparison between the results of the different surveys. This section explains how the Perceived Quality and Utility are measured and what dimensions are covered under each evaluation criterion. The last part of this section describes the architecture of the survey.

2.1. PERCEIVED QUALITY

'Perceived Quality' is defined as the **extent to which the outputs of an ISA action are meeting its direct beneficiaries' expectations.[2]**

Perceived Quality is measured using the eGovQual scale model[3].
The assessment is based on the following dimensions:

- **Efficiency:** measures the degree to which the site is easy to use;
- **Trust (Privacy):** measures the degree to which the user believes the site is safe from intrusion and protects personal information;
- **Reliability:** measures the feasibility and speed of accessing, using, and receiving services of the site;
- **Support:** measures the ability to get assistance when needed.

The methodology described in this report was developed by the previous ISA Monitoring and Evaluation contractor and were applied for measuring the Perceived Quality of Action 4.2.1.

2.2. UTILITY

'Utility' is defined as the **extent to which the effects (impact) of an ISA action correspond with the needs, problems and issues to be addressed by the ISA programme[4].**

Utility is measured using an adaptation of the VAST (**V**alue **AS**sessment **T**ool) methodology[5], considering an additional dimension related to the Global and Intermediate objectives of the ISA programme.

The assessment is based on the following dimensions:

- **Value for the European Union:** Looks at the assessment of the external value of an information system or an IT project. External value of a project is considered to be any benefit which is delivered outside the Commission itself. This external aspect is divided into two parts: society (Social Value) and individuals (External Users' Value);

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[2] DG BUDG (2004), "Evaluating EU activities, a practical guide for the Commission services"
[3] eGovQual scale developed by Papadomichelaki and Mentzas (2012)
[4] DG BUDG (2004), "Evaluating EU activities, a practical guide for the Commission services"
[5] More information can be found on: http://ec.europa.eu/dgs/informatics/vast/

- **Value for the European Commission:** Encompasses criteria through which the internal value of an IT project can be assessed. All factors that can contribute to the improvement of the EC performance should be considered as delivering an internal value;

- **Value for cross-border and cross-sector interoperability:** Covers all aspects of how information system or IT project can support the efficient and effective cross-border and cross-sector interaction between the European Public Administrations.

The methodology described in this report was developed by the previous ISA Monitoring and Evaluation contractor and was applied for measuring the Perceived Quality of Action 4.2.2

The ISA Programme is mainly focusing on the value for the cross border and cross sector interoperability dimension. In this context, the value for EC is considered to have a lower weight than other dimensions. Consequently, less focus is put on this dimension.

2.3. SURVEY ARCHITECTURE

In order to measure the Perceived Quality and Utility a respondent is supposed to grade the statements based on his/her level of agreement. A 5-point Likert scale[6] is used as a grading scale, ranging from 'Strongly agree' to 'Strongly disagree' with an additional 'No opinion/ not applicable' option.

For each presented statement the user is able to provide his/her opinion and suggestions for improvement in a free text field in case he/she rated the statement with 'Disagree' or 'Strongly Disagree'.

As the responses collected are depending on the users' profiles, the user is first requested to provide his/her profile, and afterwards the questions based on the user response are presented.

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[6] A Likert Scale is a widely used scaling method developed by Rensis Likert. Likert scale refers to the use of an ordinal 4- or 5-point rating scale with each point anchored or labeled.

3. ACTION 4.2.1/4.2.2 SURVEY DATA SUMMARY

Table 2 gives an overview on the survey start date, end date, the amount of responses collected, the amount of responses excluded from the analysis as well as the survey launching method.

TABLE 2 – ACTION 4.2.1/4.2.2 SURVEY DATA SUMMARY

Action 4.2.1 - Joinup/Action 4.2.2 – Community Building	
Start date:	19/12/2014
End date:	01/02/2015
Amount of responses:	97
Amount of responses excluded from the analysis:	6[7]
The survey launching method:	Pop-up message on Joinup platform

4. ACTION 4.2.1/4.2.2 SURVEY RESULTS AND ANALYSIS

This section aims at providing a detailed survey analysis and to represent the results depending on the Joinup platform user type within the Action 4.2.1 Perceived Quality and Action 4.2.2 Utility evaluation criteria.

4.1. ORGANIZATION LEVEL ANALYSIS

Figure 1 shows the classification of Joinup users who responded to the survey according to the type of organisation they belong to. Most of the Joinup users who responded to the survey are registered users and can be classified into the 'European Institutions', 'National Administration', 'Non-European Public Administration' and 'Non-Governmental organisations' categories.

FIGURE 1 – USERS' GROUPS ACCORDING TO ORGANISATION TYPE

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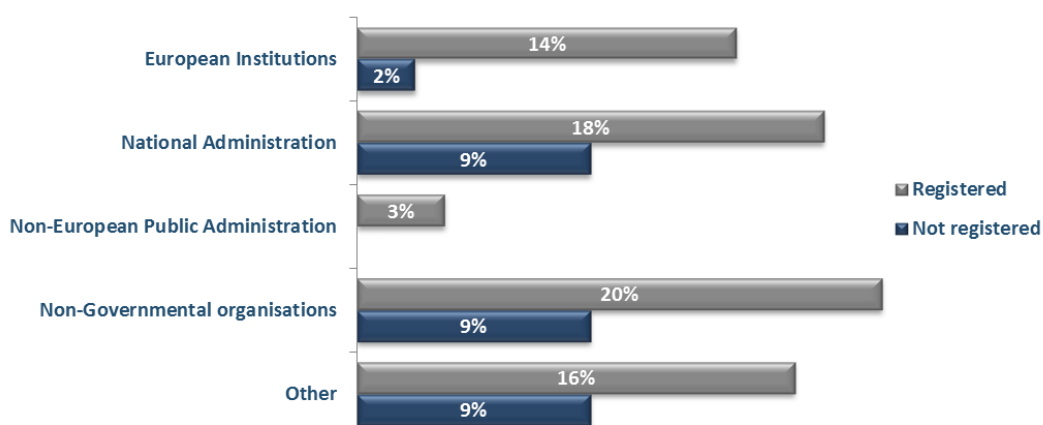
[7] A number of responses were excluded from the analysis due to obvious unreliability of the given answers. The list of the excluded responses can be found in section 6.4.

4.2. REASONS FOR ACCESSING THE JOINUP PLATFORM

There are three main reasons for accessing the Joinup platform:

1. **Focused:** people using the portal for daily work, including people developing or using the open source software;
2. **Research:** people searching for a specific topic they are interested in;
3. **Browsing:** people surfing the site for "infotainment", looking for the EU activity news, etc.

Figure 2 shows that the main Joinup platform group is the Focused group. It means that the Joinup platform is mainly used by professionals working in the interoperability sector.

In total, 74 (81%) people provided their main reason for accessing the Joinup platform.

FIGURE 2 - MAIN REASONS FOR ACCESSING THE JOINUP PLATFORM

Q: Please specify your main reason for accessing the Joinup platform
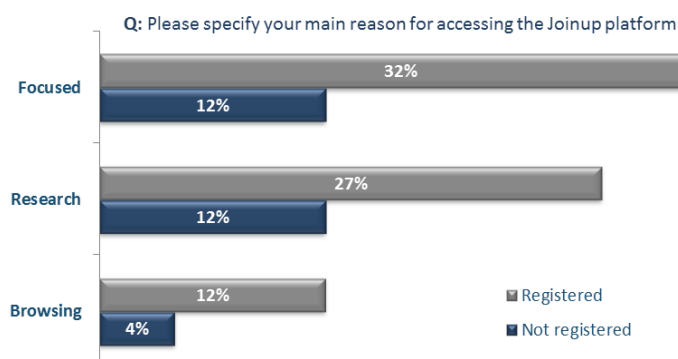
4.3. ACTION 4.2.1/4.2.2 SURVEY RESULT OVERVIEW

This section aims at providing an overview on the survey response range at the following levels:

- **Action 4.2.1/4.2.2 overall survey response overview** shows a complete survey response range collection covered by the Action 4.2.1 Perceived Quality and Action 4.2.2 Utility survey;
- **Result overview according to the evaluation criteria** shows the survey response range per statement depending on the evaluation criteria (Perceived Quality and Utility);
- **Result analysis according to the evaluation criteria** provides a score calculation by evaluation criteria dimension and the overall evaluation criteria score.

4.3.1. Action 4.2.1/4.2.2 Overall survey response overview

Figure 3 gives an overview of the survey overall results. The statements were graded based on the users who responded 'Yes' to the skip logic question (a question that directs a respondent to a series of questions based on their responses).

FIGURE 3 – OVERALL ACTION 4.2.1 /4.2.2 SURVEY RESPONSE OVERVIEW

Question	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	No opinion	Average
Do you have a Joinup user account? (n= 65)							
PQ1: The registration process on Joinup is quick and easy	23%	57%	6%	3%	6%	5%	3.92
Have you ever contacted other Joinup users? (n= 18)							
PQ2: I can easily find contact information of other Joinup users	17%	56%	28%			0%	3.89
PQ3: I can easily contact specific Joinup user by sending a personal message using Joinup	11%	39%	39%		6%	6%	3.53
Have you ever searched for communities on Joinup? (n= 37)							
PQ4: I can easily find the communities I am interested in	19%	35%	30%	11%	3%	3%	3.59
PQ5: Using Joinup tools makes it easy to participate in the community	14%	43%	30%	8%	0%	5%	3.66
U1: I find useful and relevant information in the communities I follow	24%	46%	16%	5%	3%	5%	3.89
Have you ever proposed a new community on Joinup?* (n= 6)							
PQ6: It was easy for me to propose a new community	17%	50%			33%		3.17
PQ7: Joinup provides the tools I need to manage my community on Joinup		50%	17%	17%	17%		3.00
U2: Communities helps raise awareness of interoperability solutions	17%	67%			17%		3.84
U3: Joinup provides the tools to achieve collaboration between people	33%	33%	17%		17%		2.84
Joinup offers news items, events, case studies and other documents around various topics to help its users stay informed. (n= 91)							
PQ8: Joinup offers a convenient and easy way to read news	27%	42%	7%	8%	2%	14%	3.99
U4: I found news published on Joinup relevant and informative	36%	27%	13%	7%	3%	13%	4.00
PQ9: It is easy to search for and find events related to interest on Joinup	13%	36%	15%	8%	7%	21%	3.53
U5: Information on events found on Joinup helped me to attend events I was interested in	14%	27%	19%	5%	5%	29%	3.56
PQ10: It is easy to subscribe for Joinup Newsletters	26%	40%	11%	4%	4%	14%	3.93
U6: I find Joinup Newsletters interesting and useful to follow	26%	36%	16%	3%	3%	14%	3.93
PQ11: It is easy to find information in the e-Library	10%	29%	18%	11%	4%	29%	3.40
U7: Documents found on Joinup are relevant for me	20%	45%	12%	4%	3%	15%	3.88
Have you ever posted information on Joinup? (n= 18)							
PQ12: It is easy to publish news on Joinup	11%	44%	11%	17%	11%	6%	3.30
U8: Joinup contributes to reach my audience by publishing news	6%	50%	17%	6%	6%	17%	3.54
PQ13: It is easy to create events on Joinup	6%	28%	28%	17%	11%	11%	3.00
U9: Publishing my event on Joinup resulted in more participation	6%	17%	39%	6%	6%	28%	3.16
Have you ever searched for reusable open-source software or other interoperability assets on Joinup? (n= 44)							
PQ14: It is easy to find the open-source software/ interoperability assets I search for	14%	43%	18%	14%	9%	2%	3.40
U10: The open-source software/ interoperability assets I found were relevant for me	20%	32%	20%	9%	7%	11%	3.57
U11: I have reused the open-source software/ interoperability assets I found	11%	32%	20%	11%	7%	18%	3.37
Have you ever created a project for a software or interoperability solution on Joinup? (n= 13)							
PQ15: It is easy to create a project for a software or interoperability solution on Joinup	8%	31%	8%	15%	31%	8%	2.67
PQ16: Joinup provides the tools I need to manage my project on Joinup	15%	31%	15%	8%	8%	23%	3.50
U12: My project space on Joinup helps me promote my software or interoperability solution and interact with my community	15%	15%	31%	8%	8%	23%	3.30
U13: The project space on Joinup contributed to the increase in re-using my solution	8%	15%	23%	8%	15%	31%	2.89
Have you ever contacted the Joinup support? (n= 19)							
PQ17: It is easy to contact the Joinup support	26%	42%	16%	5%	11%		3.69
U14/PQ18: The Joinup support team treated my request professionally and in due time	32%	42%	5%	11%	5%	5%	3.89
U15/PQ19: The Joinup support resolved my issue	32%	26%	16%	5%	5%	16%	3.88
Do you agree to be contacted? (n= 38)							

Legend: ■ Strongly Agree ■ Agree ■ Neither Agree nor Disagree ■ Disagree ■ Strongly Disagree ■ No opinion

n - number of the respondents who assessed the criteria

* - a response rate is low for drawing meaningful statistical conclusions

4.3.1.1.USER FEEDBACK ON FUNCTIONALITY

Table 3 gives a detailed overview of the feedback received for Action 4.2.1 Perceived Quality. It should be noted that this feedback is provided once the user had chosen a 'Disagree' or 'Strongly Disagree' option to evaluate the survey statement.

<div align="center">

TABLE 3 – ACTION 4.2.1 USER FEEDBACK
</div>

Registration	Cannot Unsubscribe and keep receiving emails
	Accessing from prior e-practice account was difficult, and I still do not know how to navigate the site.
Sending a personal message using Joinup	Doesn't work ...
Search	You have to know what you are searching for in order to find it.
	Results in search engine are not well presented
	(e-Library) a classification by topic would be more useful. Currently, the list is by default alphabetical which is not relevant.
	Searching is persistently broken
	No intuitive and slow website
	Not intuitive for searching
	Search is mainly painful on Joinup platform
Proposing a new community	Forms too complicated and too long. No real collaboration tools for communities.
News/Events	Digest received daily instead of weekly
	Cannot Unsubscribe
	Difficult to publish, too many fields requested
	Posting information on Joinup is actually a bit cumbersome. The forms contain way too many required fields, forcing useless information to be added. The list of themes is, simply put, irrelevant, and it does not even actually link to relevant information on Joinup, so to me that was a useless exercise.
	Forms too complicated and too long.
Searching for the open-source software/ interoperability assets	For some reason, the same search query will give say 200 results in March, and when repeated in April or May, just 3. How is that possible?
	Very hard to find a specific code list
	Quality of information not good enough.
	The search engine is the worst I ever used: when you give the full name of a solution, it is largely common this solution falls on the 8th page of results because of common words used (e.g. "of", "the", ...). Please improve it to have something useable (because it is obviously not)
	Miss suitable categorization for interoperability solutions
Create project	Forms too complicated and too long.
	The mandatory fields that need to be filled are quite obscure when not familiar with the ADMS vocabulary.
	Wrong SVN URL in the documentation! SVN link not displayed on project page! _way_ too much field to fill in to create a project

Table 4 gives a detailed overview of the feedback received for Action 4.2.2. It should be noted that this feedback is provided once the user had chosen a 'Disagree' or 'Strongly Disagree' option to evaluate the survey statement.

<div align="center">

TABLE 4 – ACTION 4.2.2 USER FEEDBACK
</div>

Support	We are still waiting for an answer on a request. The FAQ is outdated.
	Very difficult to get feedback or support, but it is finally possible.
	Contacted support twice, in December and January. Never received any answer. I finally got an answer by contacting directly and personally people I was directed to.

| News/Events | A lot of the communities are outdated. |

4.3.2. Result overview according to the evaluation criteria

In order to provide unbiased overview on the survey results, this section represents a comparison of the received replies depending on the user type and evaluation criteria.

Before performing the calculations, the 5-point Likert scale range values need to be interpreted as numeric values, i.e.:
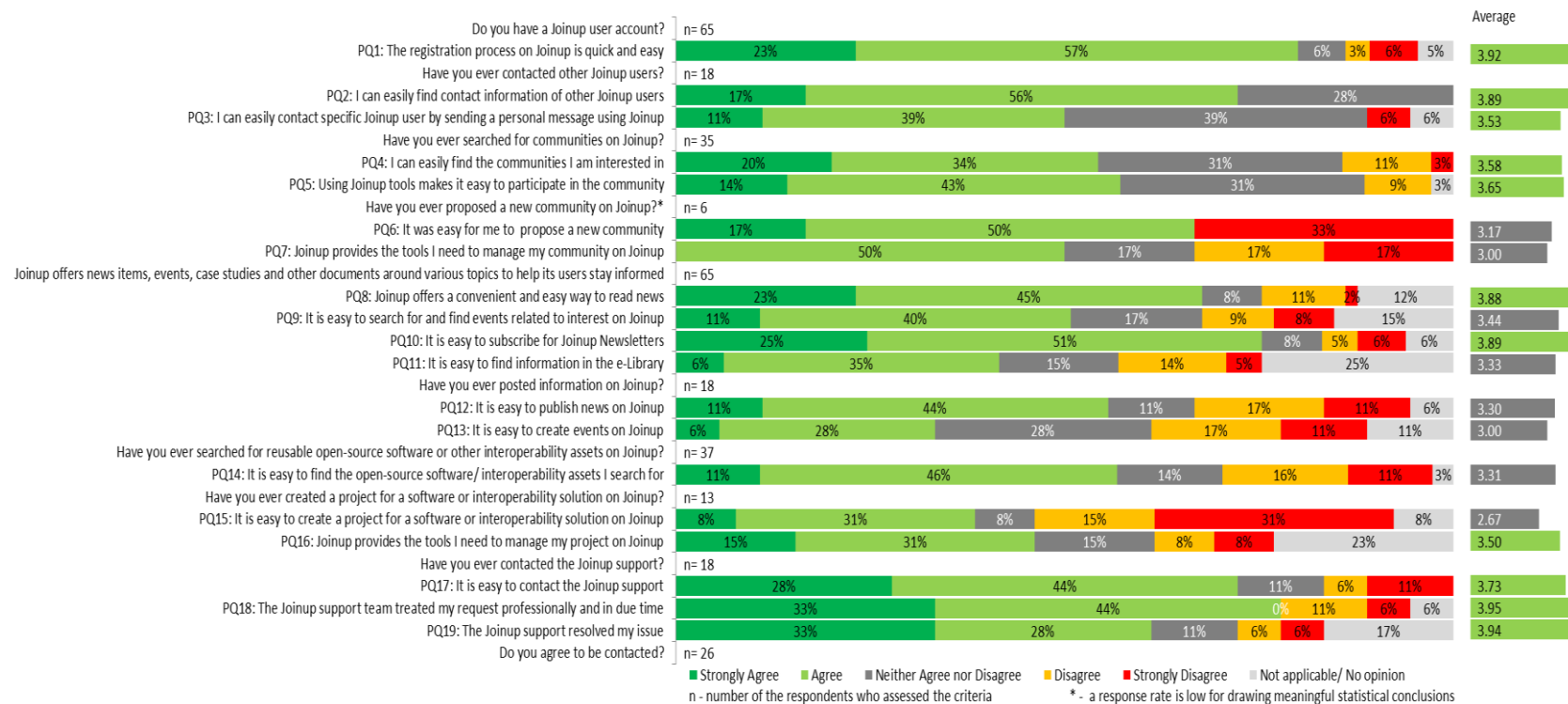
- 5 – Strongly Agree;
- 4 – Agree;
- 3 – Neither Agree nor Disagree;
- 2 – Disagree;
- 1 – Strongly Disagree;
- 0 – No opinion/ not applicable, **that was not considered for calculation**.

4.3.2.1.PERCEIVED QUALITY OF THE ACTION 4.2.1 – REGISTERED USERS

This subsection gives an overview of the Perceived Quality results of the Action 4.2.1 – Integrated Collaborative Platform – Joinup, based on registered users' opinion.

Figure 4 gives an overview of the Perceived Quality results provided by the registered users. The statements were graded based on the users who responded 'Yes' to the skip logic question (a question that directs a respondent to a series of questions based on their responses).

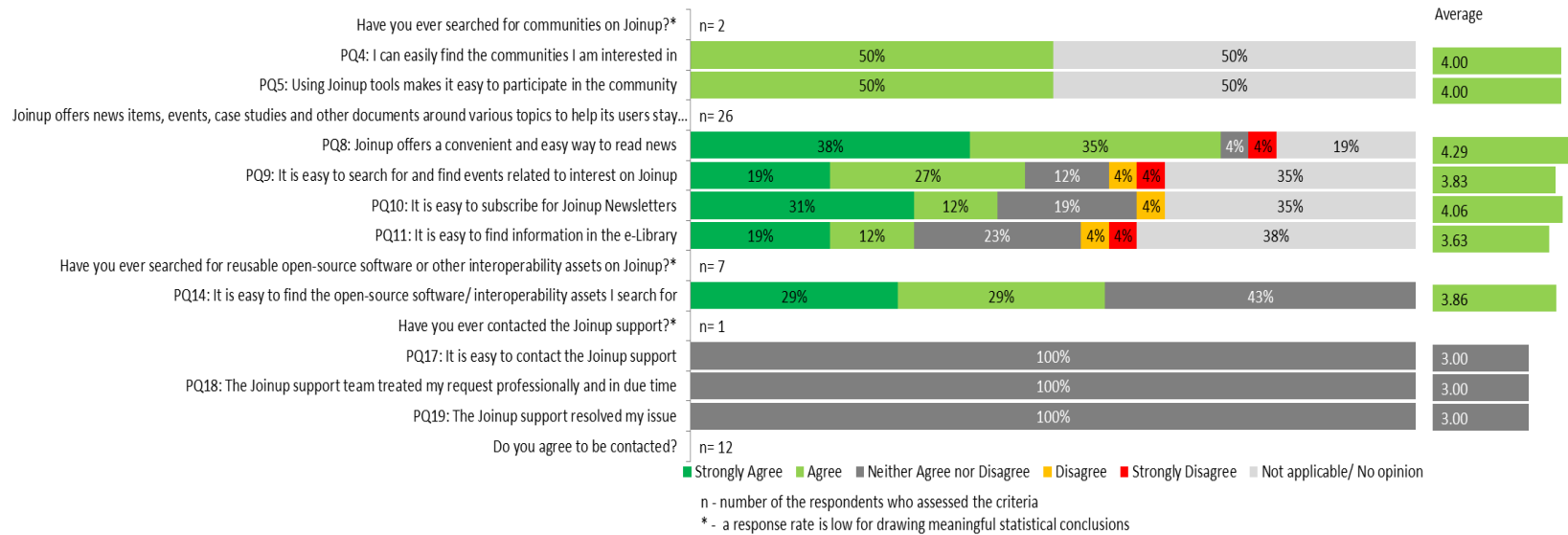**FIGURE 4 – ACTION 4.2.1 PERCEIVED QUALITY STATEMENTS COMPARISON FOR REGISTERED USERS**

Statement	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Not applicable/ No opinion	Average
Do you have a Joinup user account? n= 65							
PQ1: The registration process on Joinup is quick and easy	23%	57%	6%	3%	6%	5%	3.92
Have you ever contacted other Joinup users? n= 18							
PQ2: I can easily find contact information of other Joinup users	17%	56%	28%				3.89
PQ3: I can easily contact specific Joinup user by sending a personal message using Joinup	11%	39%	39%		6%	6%	3.53
Have you ever searched for communities on Joinup? n= 35							
PQ4: I can easily find the communities I am interested in	20%	34%	31%	11%	3%		3.58
PQ5: Using Joinup tools makes it easy to participate in the community	14%	43%	31%	9%	3%		3.65
Have you ever proposed a new community on Joinup?* n= 6							
PQ6: It was easy for me to propose a new community	17%	50%			33%		3.17
PQ7: Joinup provides the tools I need to manage my community on Joinup		50%	17%	17%	17%		3.00
Joinup offers news items, events, case studies and other documents around various topics to help its users stay informed n= 65							
PQ8: Joinup offers a convenient and easy way to read news	23%	45%	8%	11%	2%	12%	3.88
PQ9: It is easy to search for and find events related to interest on Joinup	11%	40%	17%	9%	8%	15%	3.44
PQ10: It is easy to subscribe for Joinup Newsletters	25%	51%	8%	5%	6%	6%	3.89
PQ11: It is easy to find information in the e-Library	6%	35%	15%	14%	5%	25%	3.33
Have you ever posted information on Joinup? n= 18							
PQ12: It is easy to publish news on Joinup	11%	44%	11%	17%	11%	6%	3.30
PQ13: It is easy to create events on Joinup	6%	28%	28%	17%	11%	11%	3.00
Have you ever searched for reusable open-source software or other interoperability assets on Joinup? n= 37							
PQ14: It is easy to find the open-source software/ interoperability assets I search for	11%	46%	14%	16%	11%	3%	3.31
Have you ever created a project for a software or interoperability solution on Joinup? n= 13							
PQ15: It is easy to create a project for a software or interoperability solution on Joinup	8%	31%	8%	15%	31%	8%	2.67
PQ16: Joinup provides the tools I need to manage my project on Joinup	15%	31%	15%	8%	8%	23%	3.50
Have you ever contacted the Joinup support? n= 18							
PQ17: It is easy to contact the Joinup support	28%	44%	11%	6%	11%		3.73
PQ18: The Joinup support team treated my request professionally and in due time	33%	44%	0%	11%	6%	6%	3.95
PQ19: The Joinup support resolved my issue	33%	28%	11%	6%	6%	17%	3.94
Do you agree to be contacted? n= 26							

■ Strongly Agree   ■ Agree   ■ Neither Agree nor Disagree   ■ Disagree   ■ Strongly Disagree   ■ Not applicable/ No opinion

n - number of the respondents who assessed the criteria   * - a response rate is low for drawing meaningful statistical conclusions

4.3.2.2. PERCEIVED QUALITY OF THE ACTION 4.2.1 – NOT REGISTERED USERS

This subsection gives an overview of the Perceived Quality results of the Action 4.2.1 – Integrated Collaborative Platform – Joinup, based on not registered users' opinion.

Figure 5 gives an overview of the Perceived Quality results provided by not registered users. The statements were graded based on the users who responded 'Yes' to the skip logic question (a question that directs a respondent to a series of questions based on their responses).

FIGURE 5 – ACTION 4.2.1 PERCEIVED QUALITY STATEMENTS COMPARISON FOR NOT REGISTERED USERS

Statement		Average
Have you ever searched for communities on Joinup?*	n= 2	
PQ4: I can easily find the communities I am interested in	50% / 50%	4.00
PQ5: Using Joinup tools makes it easy to participate in the community	50% / 50%	4.00
Joinup offers news items, events, case studies and other documents around various topics to help its users stay...	n= 26	
PQ8: Joinup offers a convenient and easy way to read news	38% / 35% / 4% / 4% / 19%	4.29
PQ9: It is easy to search for and find events related to interest on Joinup	19% / 27% / 12% / 4% / 4% / 35%	3.83
PQ10: It is easy to subscribe for Joinup Newsletters	31% / 12% / 19% / 4% / 35%	4.06
PQ11: It is easy to find information in the e-Library	19% / 12% / 23% / 4% / 4% / 38%	3.63
Have you ever searched for reusable open-source software or other interoperability assets on Joinup?*	n= 7	
PQ14: It is easy to find the open-source software/ interoperability assets I search for	29% / 29% / 43%	3.86
Have you ever contacted the Joinup support?*	n= 1	
PQ17: It is easy to contact the Joinup support	100%	3.00
PQ18: The Joinup support team treated my request professionally and in due time	100%	3.00
PQ19: The Joinup support resolved my issue	100%	3.00
Do you agree to be contacted?	n= 12	

Legend: ■ Strongly Agree ■ Agree ■ Neither Agree nor Disagree ■ Disagree ■ Strongly Disagree ▢ Not applicable/ No opinion

n - number of the respondents who assessed the criteria
* - a response rate is low for drawing meaningful statistical conclusions

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4.3.2.3.UTILITY OF THE ACTION 4.2.2 – REGISTERED USERS

This subsection gives an overview of the Utility results that of the Action 4.2.2 – Community Building and effective use of collaborative platforms, based on registered users' opinion.

Figure 6 gives an overview of the utility results provided by registered users. The statements were graded based on those users who responded 'Yes' to the skip logic question (a question that directs a respondent to a series of questions based on their responses).

FIGURE 6 – ACTION 4.2.2 UTILITY STATEMENTS COMPARISON FOR REGISTERED USERS
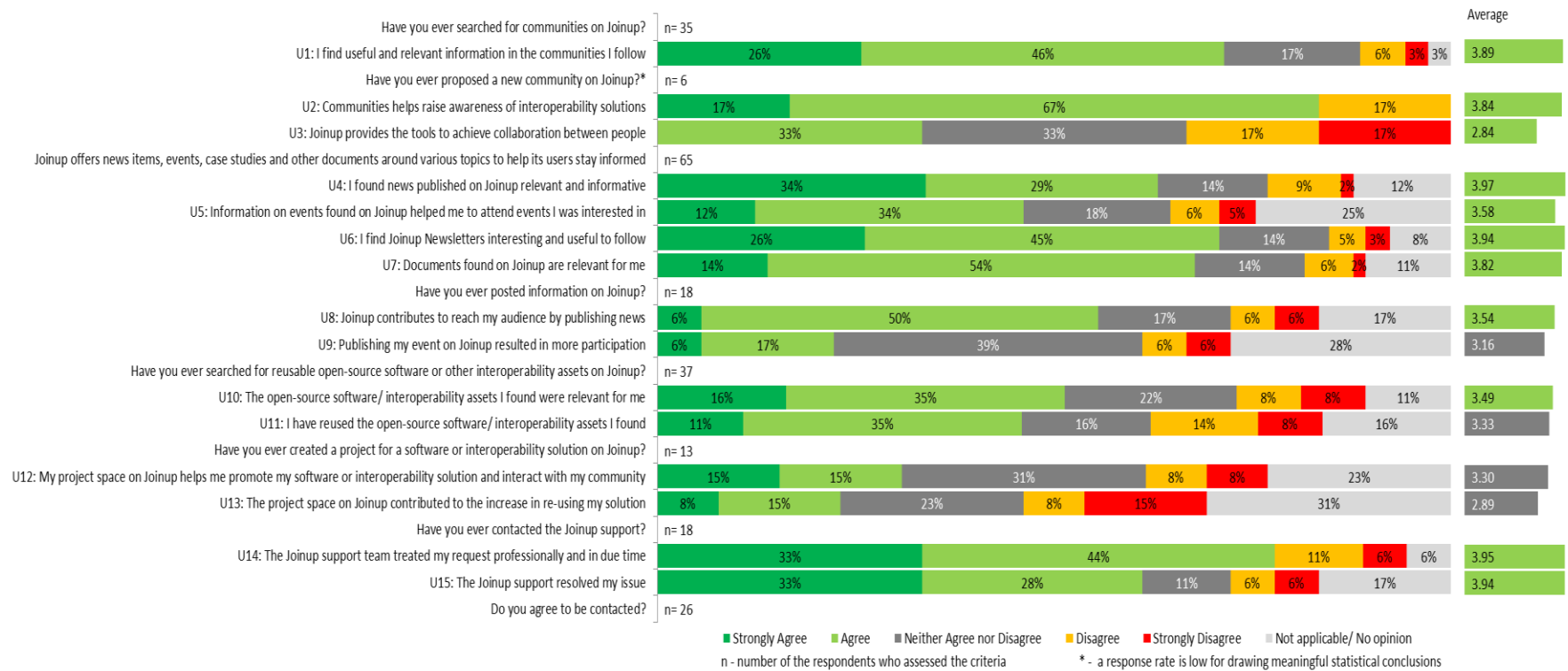
4.3.2.4.UTILITY OF THE ACTION 4.2.2 – NOT REGISTERED USERS

This subsection gives an overview of the Utility results that of the Action 4.2.2 – Community Building and effective use of collaborative platforms, based on not registered user's opinion.

Figure 7 gives an overview of the Utility results provided by not registered users. The statements were graded based on those users who responded 'Yes' to the skip logic question (a question that directs a respondent to a series of questions based on their responses).

FIGURE 7 – ACTION 4.2.2 UTILITY STATEMENTS COMPARISON FOR NOT REGISTERED USERS
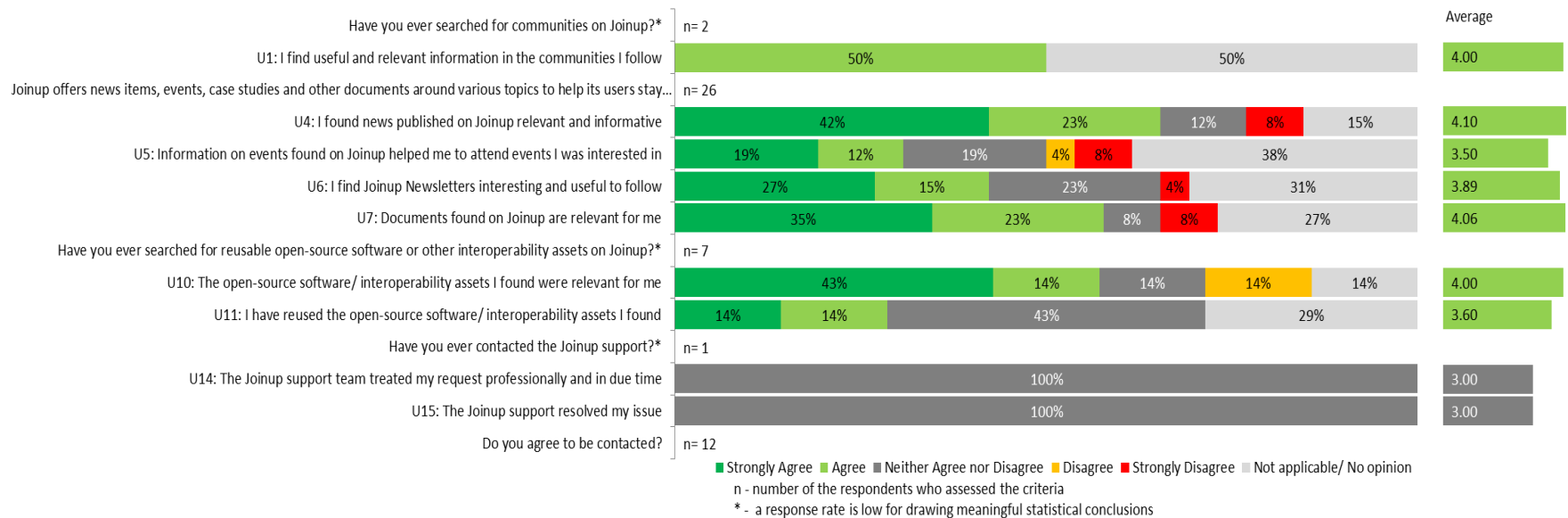
4.3.3.Result analysis according to the evaluation criteria

This section aims at presenting the method used for Perceived Quality and Utility score calculation. In order to obtain more accurate results, mean, mode, standard deviation and standard error values have been calculated.

Mean and mode are used in statistics and hereafter in this report for measuring the Perceived Quality and Utility evaluation criteria:

- The **mean**[8] (average) is the most popular measure of location or central tendency; has the desirable mathematical property of minimizing the variance. To get the mean, you add up the values[9] for each case and divide that sum by the total number of cases;

- **Mode** refers to the most frequent, repeated or common value[9] in the quantitative or qualitative data. In some cases it is possible that there are several modes or none.

In order to measure the degree of dispersion of a probability distribution, i.e. how far the data points are from the average, the standard deviation and standard error values are applied:

- **Standard deviation**[10] shows the spread, variability or dispersion of scores in a distribution of scores. It is a measure of the average amount the scores in a distribution deviate from the mean. The more widely the scores are spread out, the larger the standard deviation;

- **Standard error**[10] is the standard deviation of the sampling distribution of a statistic. It is a measure of sampling error; it refers to error in estimates due to random fluctuations in samples. It goes down as the number of cases goes up. The smaller the standard error, the better the sample statistic is as an estimate of the population parameter – at least under most conditions.

Based on the survey methodology presented in section 2, the statements related to the Perceived Quality were mapped to four dimensions and the statements related to the Utility were mapped to three dimensions. The detailed mapping of the statements is described in section 6.1.

4.3.3.1.PERCEIVED QUALITY OF THE ACTION 4.2.1

Table 5 represents the detailed analysis of each Perceived Quality statement.

TABLE 5 – ACTION 4.2.1 PERCEIVED QUALITY SCORE DETAILS ON STATEMENT LEVEL

Statement	MEAN	MODE	StDev	StErr	Dimension
PQ1: The registration process on Joinup is quick and easy	3.92	4	1.02	0.11	Efficiency

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[8] Dictionary of statistics & methodology: a nontechnical guide for the social sciences (page 226).
[9] 5-point Likert scale range values are interpreted as numeric values like described in section 4.3.2.
[10] Dictionary of statistics & methodology: a nontechnical guide for the social sciences (page 375).

Statement	MEAN	MODE	StDev	StErr	Dimension
PQ2: I can easily find contact information of other Joinup users	3.89	4	0.68	0.08	Efficiency
PQ3: I can easily contact specific Joinup user by sending a personal message using Joinup	3.53	3	0.95	0.10	Efficiency
PQ4: I can easily find the communities I am interested in	3.59	4	1.03	0.11	Efficiency
PQ5: Using Joinup tools makes it easy to participate in the community	3.66	4	0.84	0.09	Efficiency
PQ6: It was easy for me to propose a new community	3.17	4	1.73	0.19	Efficiency
PQ7: Joinup provides the tools I need to manage my community on Joinup	3.00	4	1.27	0.14	Efficiency
PQ8: Joinup offers a convenient and easy way to read news	3.99	4	1.00	0.12	Efficiency
PQ9: It is easy to search for and find events related to interest on Joinup	3.53	4	1.14	0.14	Efficiency
PQ10: It is easy to subscribe for Joinup Newsletters	3.93	4	1.06	0.12	Efficiency
PQ11: It is easy to find information in the e-Library	3.40	4	1.11	0.14	Efficiency
PQ12: It is easy to publish news on Joinup	3.30	4	1.27	0.14	Efficiency
PQ13: It is easy to create events on Joinup	3.00	4	1.16	0.13	Efficiency
PQ14: It is easy to find the open-source software/ interoperability assets I search for	3.40	4	1.18	0.13	Efficiency
PQ15: It is easy to create a project for a software or interoperability solution on Joinup	2.67	4	1.50	0.16	Efficiency
PQ16: Joinup provides the tools I need to manage my project on Joinup	3.50	4	1.27	0.14	Efficiency
PQ17: It is easy to contact the Joinup support	3.69	4	1.25	0.14	Support
PQ18: The Joinup support team treated my request professionally and in due time	3.89	4	1.19	0.13	Support
PQ19: The Joinup support resolved my issue	3.88	5	1.21	0.13	Support

Table 6 gives an overview on the analysis of each Perceived Quality dimension as well as a total score of the Perceived Quality evaluation criteria.

In order to make the total Perceived Quality score calculation more accurate, a weighted mean[11] was used. The dimension weight is defined based on the amount of statements within a specific dimension. Only 'Efficiency' and 'Support' dimensions was considered as applicable for measuring the Perceived Quality of the Action 4.2.1.

Weighted average of the Perceived Quality is 3.67 in scale from 1 to 5, where 5 is the maximum (best) value.
Standard deviation is equal to 1.12 indicating that the users' opinion was spread out over a wide range of values.

TABLE 6 – ACTION 4.2.1 PERCEIVED QUALITY SCORE DETAILS

	MEAN	MODE	StDev	StErr	Dimension	Weight
Per dimension	3.64	4	1.11	0.03	Efficiency	0.84
	3.82	4	1.20	0.08	Support	0.16
	-	-	-	-	Reliability	-
	-	-	-	-	Security/Privacy (Trust)	-
Perceived Quality	**3.67[11]**	**4**	**1.12**	**0.03**		

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[11] Weighted mean is a procedure for combining the means of two or more groups of different sizes; it takes the sizes of the groups into account when computing the overall or grand mean.

Figure 8 gives a visual overview on the Perceived Quality coverage per dimension. 'Security' and 'Reliability' dimensions were not covered and are not relevant for the Joinup survey.

FIGURE 8 – ACTION 4.2.1 PERCEIVED QUALITY AGGREGATION
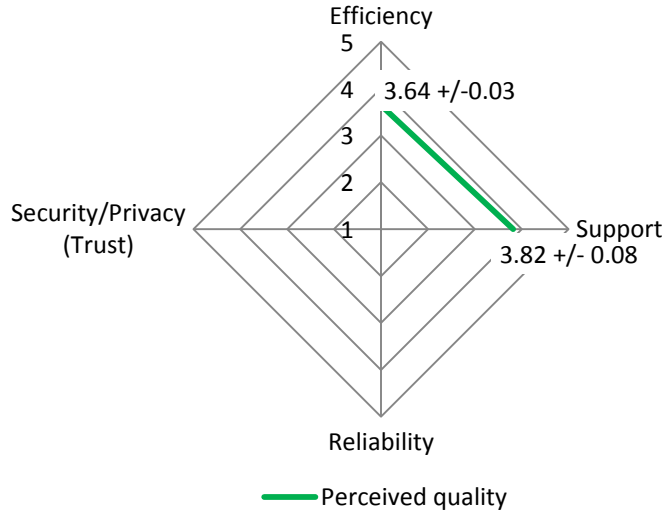
4.3.3.2.UTILITY OF THE ACTION 4.2.2

Table 7 represents the detailed analysis of each utility statement.

TABLE 7 – ACTION 4.2.2 UTILITY SCORE DETAILS ON STATEMENT LEVEL

Statement	MEAN	MODE	StDev	StErr	Dimension
U1: I find useful and relevant information in the communities I follow	3.89	4	0.97	0.11	Value for EU
U2: Communities helps raise awareness of interoperability solutions	3.84	4	0.99	0.11	Value for cross-border and cross-sector interoperability
U3: Joinup provides the tools to achieve collaboration between people	2.84	3	1.17	0.13	Value for cross-border and cross-sector interoperability
U4: I found news published on Joinup relevant and informative	4.00	5	1.11	0.13	Value for EU
U5: Information on events found on Joinup helped me to attend events I was interested in	3.56	4	1.14	0.15	Value for EU/ Value for EC
U6: I find Joinup Newsletters interesting and useful to follow	3.93	4	1.01	0.12	Value for EU
U7: Documents found on Joinup are relevant for me	3.88	4	0.97	0.11	Value for EU
U8: Joinup contributes to reach my audience by publishing news	3.54	4	1.00	0.11	Value for cross-border and cross-sector interoperability
U9: Publishing my event on Joinup resulted in more participation	3.16	3	0.99	0.11	Value for cross-border and cross-sector interoperability
U10: The open-source software/ interoperability assets I found were relevant for me	3.57	4	1.19	0.13	Value for EU
U11: I have reused the open-source software/ interoperability assets I found	3.37	4	1.16	0.13	Value for EU/Value for EC
U12: My project space on Joinup helps me promote my software or interoperability solution and interact with my community	3.30	3	1.26	0.14	Value for cross-border and cross-sector interoperability

Statement	MEAN	MODE	StDev	StErr	Dimension
U13: The project space on Joinup contributed to the increase in re-using my solution	2.89	3	1.37	0.15	Value for cross-border and cross-sector interoperability
U14: The Joinup support team treated my request professionally and in due time	3.89	4	1.19	0.13	Value for EU/Value for EC
U15: The Joinup support resolved my issue	3.88	5	1.21	0.13	Value for EU/Value for EC

Table 8 gives an overview on the analysis of each Utility dimension as well as a total score of utility evaluation criteria. In order to make the total Utility score calculation more accurate, a weighted mean[11] was used. The dimension weight is defined based on the amount of statements within specific dimension.

Weighted average of the Utility is 3.60 in scale from 1 to 5, where 5 is the maximum (best) value.

Standard deviation is equal to 1.11 indicating that the users' opinion was spread out over a wide range of values.

TABLE 8 – ACTION 4.2.2 UTILITY SCORE DETAILS

	MEAN	MODE	StDev	StErr	Dimension	Weight
Per dimension	3.80	4	1.11	0.04	Value for EU	0.47
	3.56	4	1.20	0.07	Value for EC	0.21
	3.33	4	1.11	0.06	Value for cross-border and cross-sector interoperability	0.32
Utility	**3.60**[11]	**4**	**1.11**	**0.04**		

Figure 9 gives visual overview on the Utility coverage per dimension.

FIGURE 9 – ACTION 4.2.2 UTILITY AGGREGATION
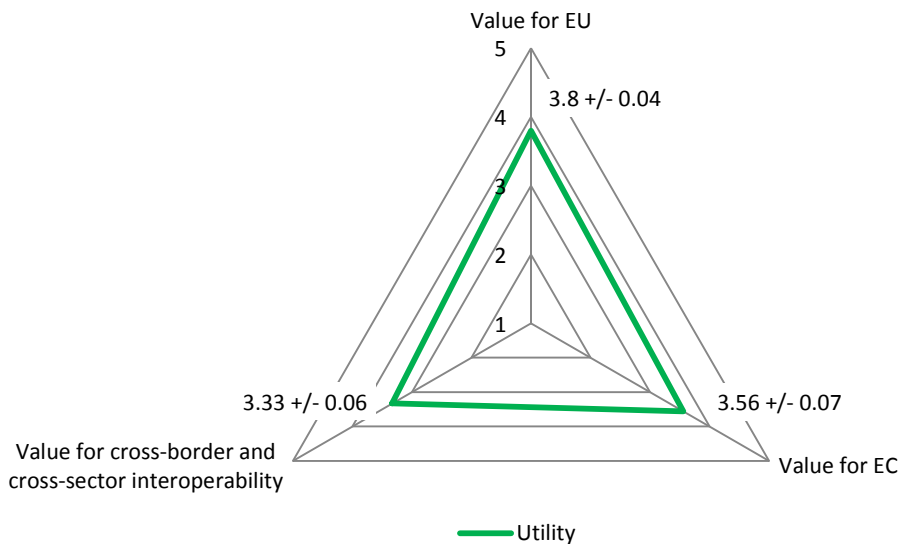
4.4. STRENGTHS AND WEAKNESSES OF THE JOINUP PLATFORM

This section aims to give an overview of strong and weak aspects of the Joinup platform revealed by the Action 4.2.1 Perceived Quality and Action 4.2.2 Utility survey.

Prioritization of the statements made based on the mean value of each statement.

For each statement, the following colour has been applied:

- Green colour applied to the statements that refers to the strong aspect of the Joinup platform;
- Grey colour applied to the statement that refers to the aspect that needs attention. For those statements respondent opinion was spread proportionally between 'Agree' and 'Disagree'.
- Orange colour applied to the statements that refer to the weak aspects of the Joinup platform. Weaknesses of those aspects are confirmed by the feedbacks provided in Table 3 and Table 4.

4.4.1. Perceived Quality of the Action 4.2.1

Table 9 gives an overview of strong and weak aspects of the Action 4.2.1 in the context of Perceived Quality.

TABLE 9 – ACTION 4.2.1 PERCEIVED QUALITY STRENGTHS AND WEAKNESSES

Perceived Quality statement	Number of respondents	MEAN	Dimension
PQ8: Joinup offers a convenient and easy way to read news	91	3.99	Efficiency
PQ10: It is easy to subscribe for Joinup Newsletters	91	3.93	Efficiency
PQ1: The registration process on Joinup is quick and easy	65	3.92	Efficiency
PQ2: I can easily find contact information of other Joinup users	18	3.89	Efficiency
PQ18: The Joinup support team treated my request professionally and in due time	19	3.89	Support
PQ19: The Joinup support resolved my issue	19	3.88	Support
PQ17: It is easy to contact the Joinup support	19	3.69	Support
PQ5: Using Joinup tools makes it easy to participate in the community	37	3.66	Efficiency
PQ4: I can easily find the communities I am interested in	37	3.59	Efficiency
PQ9: It is easy to search for and find events related to interest on Joinup	91	3.53	Efficiency
PQ3: I can easily contact specific Joinup user by sending a personal message using Joinup	18	3.53	Efficiency
PQ16: Joinup provides the tools I need to manage my project on Joinup	13[13]	3.50	Efficiency
PQ11: It is easy to find information in the e-Library[12]	91	3.40	Efficiency
PQ14: It is easy to find the open-source software/ interoperability assets I search for	44	3.40	Efficiency
PQ12: It is easy to publish news on Joinup[12]	18	3.30	Efficiency
PQ6: It was easy for me to propose a new community[12]	6[13]	3.17	Efficiency
PQ13: It is easy to create events on Joinup	18	3.00	Efficiency
PQ7: Joinup provides the tools I need to manage my community on Joinup	6[13]	3.00	Efficiency
PQ15: It is easy to create a project for a software or interoperability solution on Joinup[12]	13[13]	2.67	Efficiency

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[12] Negative feedback could be found in Table 3
[13] A response rate is low for drawing meaningful statistical conclusions

4.4.2.Utility of the Action 4.2.2

Table 10 gives an overview of strong and weak aspects of the Action 4.2.2 in the context of Utility.

TABLE 10 – ACTION 4.2.2 UTILITY STRENGTHS AND WEAKNESSES

Utility statement	Number of respondent	MEAN	Dimension
U4: I found news published on Joinup relevant and informative	91	4.00	Value for EU
U6: I find Joinup Newsletters interesting and useful to follow	91	3.93	Value for EU
U1: I find useful and relevant information in the communities I follow	37	3.89	Value for EU
U14: The Joinup support team treated my request professionally and in due time	19	3.89	Value for EU; Value for EC
U7: Documents found on Joinup are relevant for me	91	3.88	Value for EU
U15: The Joinup support resolved my issue	19	3.88	Value for EU; Value for EC
U2: Communities helps raise awareness of interoperability solutions	6[13]	3.84	Value for cross-border and cross-sector interoperability
U10: The open-source software/ interoperability assets I found were relevant for me	44	3.57	Value for EU
U5: Information on events found on Joinup helped me to attend events I was interested in	91	3.56	Value for EU; Value for EC
U8: Joinup contributes to reach my audience by publishing news	18	3.54	Value for cross-border and cross-sector interoperability
U11: I have reused the open-source software/ interoperability assets I found	44	3.37	Value for EU; Value for EC
U12: My project space on Joinup helps me promote my software or interoperability solution and interact with my community	13[13]	3.30	Value for cross-border and cross-sector interoperability
U9: Publishing my event on Joinup resulted in more participation	18	3.16	Value for cross-border and cross-sector interoperability
U13: The project space on Joinup contributed to the increase in re-using my solution	13[13]	2.89	Value for cross-border and cross-sector interoperability
U3: Joinup provides the tools to achieve collaboration between people	6[13]	2.84	Value for cross-border and cross-sector interoperability

5. CONCLUSIONS AND RECOMMENDATIONS

The objective of the survey was to evaluate the Perceived Quality of Action 4.2.1 – Integrated Collaborative Platform – Joinup and the Utility of Action 4.2.2 – Community Building and Effective Use of Collaborative Platforms. The following conclusions have been drawn based on the analysis performed:

- Action 4.2.1:
  - Overall, the Joinup platform is easy to use and navigate, however some of the Joinup functionalities require improvements;
  - Majority of Joinup users are searching for the reusable open-source software/ interoperability assets;
  - Search engine is the weakest aspect of the Joinup platform. It does not correspond to the users' needs;
  - Project/Community/Event creation form is too complex for the users.
- Action 4.2.2:
  - Joinup is a good informative platform. Users find the information available on Joinup as relevant and useful for their needs;
  - Users are interested in the Newsletters and news published on the Joinup;
  - Users are dissatisfied with the communities that contain the outdated information. It causes difficulties in the proper resource usage;
  - Users do not receive prompt replies on the requests addressed to the support team. Some of the requests remain unresolved.

Based on the conclusions drawn, CGI-ACN adduces the following recommendations:

- Action 4.2.1:
  - The technical functionality of the search engine should be revised and improved in order to ensure it corresponds to the expected needs;
  - Project/Community/Event creation form simplification should be considered in order to make it easier for the user to complete it;
  - There is a need to carry out an awareness campaign among Member States to share information for the purpose of popularizing the Joinup platform.
- Action 4.2.2:
  - The support team needs to ensure the communities are updated on a regular basis in order to avoid the user frustration;
  - The support team should improve the interaction with the users in order to improve user's opinion of the service.

6. APPENDIX

6.1. ACTION 4.2.1/4.2.2 STATEMENT MAPPING TO DIMENSION

In order to measure the Perceived Quality of the Action 4.2.1 and Utility of the Action 4.2.2 and calculate the average score of each dimension, all survey statements were mapped to the dimensions according to the evaluation criteria.

Table 11 shows the statements mapping according to four dimensions of the Action 4.2.1 Perceived Quality.

TABLE 11 – ACTION 4.2.1 PERCEIVED QUALITY STATEMENT MAPPING TO DIMENSION

Question	ID	Efficiency	Security/Privacy (Trust)	Reliability	Support	Count of areas covered by question
The registration process on Joinup is quick and easy	PQ1	✓				1
I can easily find contact information of other Joinup users	PQ2	✓				1
I can easily contact specific Joinup user by sending a personal message using Joinup	PQ3	✓				1
I can easily find the communities I am interested in	PQ4	✓				1
Using Joinup tools makes it easy to participate in the community	PQ5	✓				1
It was easy for me to propose a new community	PQ6	✓				1
Joinup provides the tools I need to manage my community on Joinup	PQ7	✓				1
Joinup offers a convenient and easy ways to read news	PQ8	✓				1
It is easy to search for and find events related to interest on Joinup	PQ9	✓				1
It is easy to subscribe for Joinup Newsletters	PQ10	✓				1
It is easy to find information in the e-Library	PQ11	✓				1
It is easy to publish news on Joinup	PQ12	✓				1
It is easy to create events on Joinup	PQ13	✓				1
It is easy to find the open-source software/ interoperability assets I search for	PQ14	✓				1
It is easy to create a project for a software or interoperability solution on Joinup	PQ15	✓				1
Joinup provides the tools I need to manage my project on Joinup	PQ16	✓				1
It is easy to contact the Joinup support	PQ17				✓	1
The Joinup support team treated my request professionally and in due time	PQ18				✓	1
The Joinup support resolved my issue	PQ19				✓	1
# of questions covering dimension		16	0	0	3	
% of questions covering dimension		84%	0%	0%	16%	

Table 12 shows the statement mapping according to three dimensions of the Action 4.2.2 Utility.

TABLE 12 – ACTION 4.2.2 UTILITY STATEMENT MAPPING TO DIMENSION

Question	ID	Value for EU	Value for EC	Value for cross-border and cross-sector interoperability	Count of areas covered by question
I find useful and relevant information in the communities I follow	U1	✓			1
Communities helps raise awareness of interoperability solutions	U2			✓	1
Joinup provides the tools to achieve collaboration between people	U3			✓	1
I found news published on Joinup relevant and informative	U4	✓			1
Information on events found on Joinup helped me to attend events I was interested in	U5	✓	✓		2
I find Joinup Newsletters interesting and useful to follow	U6	✓			1
Documents found on Joinup are relevant for me	U7	✓			1
Joinup contributes to reach my audience by publishing news	U8			✓	1
Publishing my event on Joinup resulted in more participation	U9			✓	1
The open-source software/ interoperability assets I found were relevant for me	U10	✓			1
I have reused the open-source software/ interoperability assets I found	U11	✓	✓		2
My project space on Joinup helps me promote my software or interoperability solution and interact with my community	U12			✓	1
The project space on Joinup contributed to the increase in re-using my solution	U13			✓	1
The Joinup support team treated my request professionally and in due time	U14	✓	✓		2
The Joinup support resolved my issue	U15	✓	✓		2
# of questions covering dimension		9	4	6	
% of questions covering dimension		47%	21%	32%	

6.2. ACTION 4.2.1/4.2.2 DETAILED LIST OF 'OTHER' ORGANISATIONS

Table 13 shows the detailed list of answers that were provided by the respondents in order to identify the organisation they belong to.

TABLE 13 – ACTION 4.2.1/ACTION 4.2.2 DETAILED LIST OF 'OTHER' ORGANISATIONS

'Other' organisations
Academic
I'm a researcher at the University of Amsterdam
Communication agency
A Dutch distribution grid operator.
Consultancy and IT company
Non-profit organisation
Self employed
Public-equivalent body
Baia Mare International Airport - Romania (held by the County administration)
Webconverger
Private company
Unemployed
Consulting
Standardisation, on national, European and global scale in the physical and financial supply chain
European member-state governmental organisation
Budapest Corvinus University
eHS
University Paris
We are a group of volunteer developing an OS European educational project.

Consultant

6.3. STATUS OF THE RESPONDENTS AGREED TO BE CONTACTED

40 Action 4.2.1 Perceived Quality and Action 4.2.2 Utility survey respondents agreed to be contacted in case DIGIT would like to obtain additional details on any issues they flagged in the survey. The list of persons has been transmitted to DIGIT/ISA and is not provided in this document for the confidentiality reasons.

6.4. RAW DATA EXPORT

The attached file provides the survey result export, as well as data that were excluded from the survey analysis. 6 responses were removed from the survey analysis due to comments provided by these respondents indicate that the survey information was not completed seriously.

Raw data.xls

6.5. GLOSSARY

- The mean[8] (average) is the most popular measure of location or central tendency; has the desirable mathematical property of minimizing the variance. To get the mean, you add up the values[9] for each case and divide that sum by the total number of cases;

- Mode refers to the most frequent, repeated or common value[9] in the quantitative or qualitative data. In some cases it is possible that there are several modes or none;

- Standard deviation[10] shows the spread, variability or dispersion of scores in a distribution of scores. It is a measure of the average amount the scores in a distribution deviate from the mean. The more widely the scores are spread out, the larger the standard deviation;

- Standard error[10] is the standard deviation of the sampling distribution of a statistic. It is a measure of sampling error; it refers to error in estimates due to random fluctuations in samples. It goes down as the number of cases goes up. The smaller the standard error, the better the sample statistic is as an estimate of the population parameter – at least under most conditions;

- 'Perceived Quality' is defined as the extent to which the outputs of an ISA action are meeting its direct beneficiaries' expectations[2];

- 'Utility' is defined as the extent to which the effects (impact) of an ISA action correspond with the needs, problems and issues to be addressed by the ISA programme[4];

- A Likert Scale is a widely used scaling method developed by Rensis Likert. Likert scale refers to the use of an ordinal 4- or 5- point rating scale with each point anchored or labelled;

- Weighted mean is a procedure for combining the means of two or more groups of different sizes; it takes the sizes of the groups into account when computing the overall or grand mean.