

# INTEROPERABILITY SOLUTIONS FOR EUROPEAN PUBLIC ADMINISTRATIONS MONITORING AND EVALUATION

# D03.04/D03.05 PERCEIVED QUALITY AND PERCEIVED UTILITY MONITORING REPORT

ISA ACTION 1.2 ACCESS TO BASE REGISTRIES

Framework Contract n° DI/07173-00 16 August 2016

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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 Perceived Utility monitoring for **the documentation of the ISA Action 1.2** – **"Access to base registries"**. The objective of the survey is to measure the documentations Perceived Quality which is defined as the extent to which the outputs of an ISA action are meeting its direct beneficiaries' expectations<sup>1</sup> and Perceived Utility which 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<sup>2</sup> and the actions' specific objectives.

The survey of the Action 1.2 included the evaluation of the "Access to base registries" documentation, e.g., study, cartography, recommendations and guidelines. The survey was designed in the EUSurvey tool and distributed by e-mail to 88 contacts. Over the duration of more than one month<sup>3</sup>, 16 stakeholders have responded.

Table 1 and Table 2 give an overview of the main results of the survey. The detailed score calculation process is described in section 5.4.4.

	Score	Mode	StDev	StErr	Explanation of the score scale
Usefulness Score	5.40	6	1.55 0.40		Average value on a scale from 1 (Not useful at All) to 7 (Very Useful).
Value Score	4.01	4	0.78	0.07	Average value of all the statement means in the range from 1 (Disagree) to 5 (Agree).
User Satisfaction Score	70.25	Not applicable for this score		for this	User Satisfaction Score from 0 (none of the respondents are satisfied) to 100 (all respondents are satisfied with the work performed by the Action).
Net Promoter Score	-6	Not ap	Not applicable for this scoreNet Promoter Score from -100 (ever Detractor) to 100 (every customer The Overall Perceived Quality Scor value of the Usefulness Score, the V User Satisfaction Score, and the Net reduced to a five point scale in rank		Net Promoter Score from -100 (every customer is a Detractor) to 100 (every customer is a Promoter).
OVERALL PERCEIVED QUALITY SCORE	3.66	Not ap			The Overall Perceived Quality Score is the average value of the Usefulness Score, the Value Score, the User Satisfaction Score, and the Net Promoter Score reduced to a five point scale in range from 1 – the lowest score to 5 – the highest score.

#### TABLE 1 – ACTION 1.2 PERCEIVED QUALITY SURVEY MAIN RESULTS

<sup>&</sup>lt;sup>1</sup> DG BUDG (2004), "Evaluating EU activities, a practical guide for the Commission services"

<sup>&</sup>lt;sup>2</sup> Papadomichelaki, X. and Mentzas, G. (2012), "e-GovQual: A multiple-item scale for assessing e-government service quality"

<sup>&</sup>lt;sup>3</sup> The survey was launched on the 10<sup>th</sup> of February 2016 and was active until the 18<sup>th</sup> of March 2016.

	Score	Explanation of the score scale
Usefulness Score	5.40	Average value on a scale from 1 (Not useful at All) to 7 (Very Useful).
Value Score	4.21	Average value of all the statement means in the range from 1 (Disagree) to 5 (Agree).
User Satisfaction Score	70.91	User Satisfaction Score from 0 (none of the respondents are satisfied) to 100 (all respondents are satisfied with the work performed by the Action).
Net Promoter Score	0	Net Promoter Score from -100 (every customer is a Detractor) to 100 (every customer is a Promoter).
OVERALL PERCEIVED UTILITY SCORE	3.74	The Overall Perceived Utility Score is the average value of the Usefulness Score, the Value Score, the User Satisfaction Score, and the Net Promoter Score reduced to a five point scale in range from 1 – the lowest score to 5 – the highest score.

#### TABLE 2 – ACTION 1.2 PERCEIVED UTILITY SURVEY MAIN RESULTS

It is important to take into account that only 16 out of 88 respondents participated in the survey and evaluated the Perceived Quality, from which only nine respondents qualified for the evaluation of the Perceived Utility, meaning that the results of this action perform more like indicators of the Perceived Quality and Perceived Utility without fully representing the opinions of all the users.

Main findings:

- The survey results demonstrate that, in general, the users of the "Access to base registries" documentation consider Perceived Quality and Perceived Utility as rather positive, however some aspects require improvements.
- Regular updates of the "Access to base registries" guidelines and documentation are necessary to ensure the completeness of the documentation.
- Regarding Perceived Quality, the "Access to base registries" documentation is perceived as **most beneficial in terms of Usability**.
- Regarding Perceived Utility, the "Access to base registries" documentation is perceived as **most** beneficial in terms of Sustainability.

# **REVISION HISTORY**

Date	Version	Description	Authors	Approved by
18/05/2016	0.10	Initial version	CGI - Accenture	
16/06/2016	1.00	Final version	CGI - Accenture	
16/08/2016	2.00			Approved by HVA on 29/07/2016.

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# **1** INTRODUCTION

CGI-Accenture has been requested to deliver Perceived Quality and Perceived Utility Monitoring and Evaluation Reports as part of the execution of the ISA programme monitoring (Technical Annex for Specific Contract SC 193 under Framework contract n° DI/07173-00).

Based on the scope of the Specific Contract, the Perceived Quality is to be measured for 15 actions and the Perceived Utility is to be measured for 17 actions. This report covers the Perceived Quality and Perceived Utility measurement for the Action 1.2 - "Access to base registries".

This document is divided into the following sections:

- **Section 1:** provides an overview of the structure of the report;
- Section 2: provides an overview of the action and its objectives;
- Section 3: explains the methodology used to measure the Perceived Quality and Perceived Utility;
- **Section 4:** summarises the collected data;
- Section 5: focuses on the survey results and the data analysis:
  - The demographic profile of respondents;
  - Usage frequency of the action's outputs;
  - Usefulness Score;
  - Perceived Quality and Perceived Utility measurements;
  - Action strengths, weaknesses, opportunities and threats;
  - Statements based on action objectives;
  - Respondent recommendations and opinions;
- Section 6: provides the survey conclusion and recommendations;
- **Section 7:** appendix includes:
  - Raw data export;
  - Glossary.

# 2 ACTION 1.2 - "ACCESS TO BASE REGISTRIES"

Important components of European public services, base registries contain basic and reliable information on items such as persons, companies, vehicles, licenses, buildings, locations and roads. Such registries are under the legal control of and maintained by individual Public Administrations (PAs).

Cross-border cooperation between registries could considerably reduce the administrative burden for businesses and citizens alike and offer possible benefits in the areas of work, leisure and retirement in Europe.

For such cooperation to take place, the interfaces between these registries need to be defined, published and harmonized, at both semantic and technical levels.

This action assess the needs and requirements for a framework that will enable access to authentic data sources at the Member State level.

As the information needed for operating European public services is owned and managed at the Member State level (or within a Member State) within registries, the study will look at whether and how the opening up of these registries – with the appropriate security and privacy measures – can help foster the establishment of European public services.

#### Action's objectives:

- Enable access to the base registries across the EU and different sectors;
- Support the implementation of the generic reusable tools and solutions for effective electronic crossborder communication between public administrations.

#### Action's benefits:

- More efficient and effective access to information across borders when establishing European public services;
- Quicker and easier European public service establishment;
- Reduced administrative burdens.

# **3** SURVEY METHODOLOGY

A common methodology was developed by the CGI-Accenture team for all the surveys included in the Perceived Quality and Perceived Utility Monitoring and Evaluation Reports. The common methodology enables a comparison between the different action results. The first section explains how the Perceived Quality is measured and which dimensions are covered. The second section explains how the Perceived Utility is measured and which dimensions are covered. The next section gives an overview of the main survey measurements. The last section describes the architecture of the survey.

# **3.1 PERCEIVED QUALITY**

**Perceived Quality** is defined as the extent to which the outputs of an ISA action are meeting its direct beneficiaries' expectations<sup>1</sup>.

Four dimensions are used to measure the Perceived Quality criterion. These dimensions are derived from the main objectives of the ISA programme. Perceived Quality for information is measured using Framework for Assessing Documentation Adequacy<sup>4</sup> and it covers the following four dimensions:

- Accuracy (A): the freedom from mistake or error; a synonym is "correctness"<sup>4</sup>;
- **Completeness (C)**: the possession of all necessary parts, elements or steps<sup>4</sup>;
- **Usability (U)**: the capability, convenience of using the document(s)<sup>4</sup>;
- **Expandability (Ex)**: the ability to apply in broader/other context (for example to cross-sector, or from local to regional, national level) <sup>4</sup>.

The survey statements for the dimensions listed above are developed according to the information presented in the framework specification<sup>4</sup> document.

### **3.2 PERCEIVED UTILITY**

**Perceived 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<sup>5</sup> and the action's specific objectives.

Regarding the Perceived Utility measurement, several statements are derived from the objectives of the ISA programme. These statements are grouped in three dimensions which are defined as the criteria for measuring the Perceived Utility:

• **Potential Re-usability:** the degree to which the action's outcome(s) can be reused by public administrations (PAs);

<sup>&</sup>lt;sup>4</sup> Arthur J. D, Stevens K. T (1990), "Document Quality Indicators: A Framework for Assessing Documentation Adequacy"

<sup>&</sup>lt;sup>5</sup> Papadomichelaki, X. and Mentzas, G. (2012), "e-GovQual: A multiple-item scale for assessing e-government service quality"

- **Sustainability:** to what extent is the financial, technical and operational sustainability of solutions ensured<sup>6</sup>.
- **Collaboration:** the degree to which the action promotes/facilitates collaboration/cooperation between PA's<sup>7</sup>.

However, within this survey the Collaboration dimension is not evaluated due to being not relevant for the "Access to base registries" documentation.

The survey statements for the dimensions listed above were developed according to:

The ISA programme's main objectives: "To support cooperation between European public administrations by facilitating the efficient and effective electronic cross-border and cross-sectorial interaction between such administrations, including bodies performing public functions on their behalf, enabling the delivery of electronic public services supporting the implementation of Community policies and activities"<sup>8</sup> and actions' specific objectives. The Perceived Utility statements were tailored to reflect these objectives and were based on the ESOMAR<sup>9</sup> (World Association of Opinion and Marketing Research Professionals) standards.

The developed Perceived Utility dimension allows a comparison between different actions and also provides the opportunity to see if the ISA programme objectives have been met (from the user point of view).

### **3.3 SURVEY MEASUREMENTS**

In the data analysis, the core types of measurements which are performed include the Usefulness Score, the Value Score, the User Satisfaction Score, the Net Promoter Score and the Overall Score for Perceived Quality. The survey measurements are divided into two groups: action level measurement and Perceived Quality and Perceived Utility level measurements.

Action level measurements:

- The Usefulness Score indicates the respondents' evaluation of how useful the action is. The Usefulness Score is calculated taking into account a mean value from a single question: "Overall how useful is/would be the "Access to base registries" documentation and the tool to your work?"
- Action strengths, weaknesses, opportunities and threats: statements are located in quadrants, based on the dimensions' conformity and dimensions' importance calculated mean values. The quadrants highlight the weak and strong aspects of the action, as well as threats and opportunities.

<sup>&</sup>lt;sup>6</sup> European Commission (2013), Interim evaluation of the ISA programme, "Report from the Commission to the European Parliament and Council COM (2013) 5 final".

<sup>&</sup>lt;sup>7</sup> CRN (2015), Collaboration http://research.crn.com/technology/knowledge\_management/collaboration

<sup>&</sup>lt;sup>8</sup> Decision No 922/2009/EC of the European Parliament and of the Council of 16 September 2009 on interoperability solutions for European public administrations (ISA) (2009)

<sup>&</sup>lt;sup>9</sup> ESOMAR, edited by Hamersveld. M., Bont C. (2007), Market Research, Handbook, 5<sup>th</sup> Edition

• Statements based on action objectives show the respondents' evaluation to what extent the action's objectives have been achieved.

Perceived Quality and Perceived Utility level measurements:

- The Value Score shows the action's compliance to the dimensions defined above (see sections 3.1 and 3.2). Two aspects are considered for each dimension. On one side, the importance of the dimension for the users is assessed. On the other side we measure if the action is compliant with the dimension. This section includes statement mapping to dimensions, dimensions' conformity results, criterion score and aggregation.
- The User Satisfaction Score shows how satisfied the respondents are with the action. The User Satisfaction Score is assessed with reference to the results of the dimensions' importance and conformity evaluation. The User Satisfaction Score is measured at the individual level for each of the survey respondents via the identification of the important dimensions for that particular respondent.
- The Net Promoter Score<sup>®</sup> (NPS) is a widely used management tool that helps evaluate the loyalty of a customer relationship. In order to evaluate the NPS, the question *"how likely the respondent would recommend the particular action's output to others"* is asked.
- The Overall Score is used to get a single score that describes the overall Perceived Quality and Perceived Utility of the action. In order to determine the Overall Score, the average value of the Usefulness Score, the Value Score, the User Satisfaction Score and the Net Promoter Score is calculated. To calculate the Overall Score, all measurements are reduced to a five point scale.

### **3.4 SURVEY ARCHITECTURE**

The survey is divided into several sections which are outlined below:

- The demographic profile: for the purpose of identifying the respondents' demographic profile, respondents are asked to answer several questions. The demographic profile illustrates the diversity of the respondents who have participated in the survey.
- Usage of the action outputs: for the purpose of identifying the usage rate of the action outputs, the respondents are asked to answer several questions regarding the usage of every action output. These questions also work as filters, selecting respondents who should evaluate the statements regarding the specific action output.

- The action's Usefulness: for the measurement of the action's usefulness, the respondents are asked to evaluate a single question using a 7-point Likert grading scale<sup>10</sup>.
- The Perceived Quality and Perceived Utility Measurement: in order to measure the Perceived Quality and Perceived Utility, the respondents are asked to grade dimensions and statements based on their level of importance and agreement. A 5-point Likert grading scale<sup>10</sup> is used as a grading scale. Responses to these questions are used to determine the Value Score, action strengths, weaknesses, threats and opportunities, and the User Satisfaction Score.
- The Net Promoter Score: there is a single question that measures the Net Promoter Score. By answering this question, the respondents indicate their likelihood of recommending the action's outputs to colleagues or other PAs.
- Action strengths, weaknesses, opportunities and threats show the location of the action statements based on dimension conformity and importance results.
- Statements based on action objectives: in order to evaluate the extent to which these objectives conform to the action, the respondents are asked to grade statements based on their level of agreement. A 5-point Likert scale<sup>10</sup> is used as a grading scale.
- The recommendations: the last section includes three open questions for recommendations and opinions regarding the action and the survey.

<sup>&</sup>lt;sup>10</sup> 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.

# 4 SURVEY DATA SUMMARY

This section aims to provide detailed information about the data gathering fieldwork. Table 3 gives an overview of the survey start and end dates, the number of respondents the survey was proposed to, the amount of responses collected, as well as the survey launching method.

#### TABLE 3 – ACTION 1.2 SURVEY TECHNICAL INFORMATION ABOUT THE FIELDWORK

Start date:	10/02/2016
End date:	18/03/2016
The survey launch method:	E-mail notification
Reminders:	E-mail reminders sent out on 18/02/2016, 29/02/2016, 07/03/2016 and 14/03/2016
Target population:	88
Total number of respondents:	16
Number of suitable respondents for the survey:	16

# 5 SURVEY RESULTS AND ANALYSIS

This section aims to provide the detailed survey analysis and to present the results.

# **5.1 DEMOGRAPHIC PROFILE OF RESPONDENTS**

The respondents' demographic profiles tend to describe the action respondents from the demographical point of view illustrating the diversity of the respondents. Table 4 gives an overview of the demographic profile of the respondents. It is important to take into account that only 16 respondents participated in this survey, thus the percentage value of one respondent is 6.25%.

RESPONDENT PROFILE					
		Amount	Col %		
ALL RESPONDENTS		16	100.0		
	ISA Representatives	9	56.3		
	Other (Mentioned 1 time: Responsible for Flemish data				
RESPONDENT	exchange platform; Federal Public Service ICT Belgium (FEDICT);				
GROUP	ISA working group member; PSI Group; Ministry of Justice,	7	43.8		
	Hungary; Public Administration; Base Registries Access				
	coordinator)				
ORGANIZATION*	Public Administration at national level	6	85.7		
	Public Administration at regional level	1	14.3		
			6.0		
	Austria	1	6.3		
	Belgium	3	18.8		
	Bulgaria	1	6.3		
	Finland	1	6.3		
	Greece	1	6.3		
	Hungary	1	6.3		
LOCATION	Latvia	1	6.3 6.3		
	Lithuania	1			
	Luxembourg Malta	1	6.3 6.3		
		1	6.3		
	Portugal Romania	1	6.3		
	Slovakia	1	6.3		
	Spain	1	6.3		
		1	0.5		
	Management Level**	9	56.3		
POSITION LEVEL	Technical Level	5	31.3		
	Other (Mentioned 1 time: Expert Level; Management / Legal)	2	12.5		

#### TABLE 4 – ACTION 1.2 DEMOGRAPHIC PROFILE OF RESPONDENTS

Base: all respondents, n=16

\*Base: respondents, who do not belong to ISA Representative or Directorate General group, n=7

\*\*Respondents who qualify for the Utility evaluation

### 5.2 USAGE OF THE ACTION

The usage profile provides an overview of the usage rate of the action. Table 5 shows if the respondents have ever consulted the "Access to base registries" documentation. It is important to take into account that only 16 respondents participated in this survey, thus the percentage value of one respondent is 6.25%.

#### TABLE 5 - ACTION 1.2 USAGE OF "ACCESS TO BASE REGISTRIES"

USAGE PROFILE				
		Amount	Col %	
ALL RESPONDENTS		16	100.0	
	Yes	14	87.5	
DOCUMENTATION CONSULTED	No	1	6.3	
	Hard to Say	1	6.3	

Base: all respondents, n=16

### **5.3 USEFULNESS SCORE**

The Usefulness Score is calculated taking into account a single question: "Overall how useful is/would be the "Access to base registries" documentation and the tool to your work?"

The survey respondent is asked to provide his/her opinion using the 7-point Likert grading scale. For the evaluation of the Usefulness, a grading scale is used with values ranging from "Very Useful" to "Not Useful at All". An additional "Hard to Say" option is provided, however this score is excluded from the score calculations. Before performing the survey data calculations, the 7-point Likert scale values are interpreted as numeric values:

- 7 Very Useful;
- 6 Useful;
- 5 Rather Useful;
- 4 Neither Useful nor Not Useful;
- 3 Rather Not Useful;
- 2 Not Useful;
- 1 Not Useful at All;
- 0 Hard to Say (is not considered for the calculation).

In order to have an overview of the positive (Rather Useful, Useful and Very Useful) and negative (Rather Not Useful, Not Useful and Not Useful at All) attitude proportions, the bars in blue represent the negative attitude, whereas the bars in pink and red represent the positive one. In addition, a no opinion bar in grey is presented separately on the right. An explanatory legend with colour codes represents the data which is available. The average mean value is presented on the right side of the figure.



#### FIGURE 1 – ACTION 1.2 USEFULNESS SCORE

The survey results show that the documentation of the "Access to base registries" seems useful to 75% of the respondents. Only three respondents (19%) provided a negative response. The mean value is **5.40**, and it is between the values 5 – 'Rather Useful' and 6 – 'Useful, however, due to the fact that only 16 respondents participated in this survey, the data should be reviewed with caution.

### **5.4 PERCEIVED QUALITY AND PERCEIVED UTILITY MEASUREMENTS**

This section aims to provide a detailed Perceived Quality and Perceived Utility measurement analysis and to present the results.

#### 5.4.1 Value Score

This section includes the analysis and results of the Perceived Quality and Perceived Utility Value Scores. It is structured into two main sections: the dimensions' importance and conformity via statements.

#### 5.4.1.1 DIMENSIONS IMPORTANCE

Prior to the evaluation of the dimensions' conformity to the outputs of the action, it is essential to initially ascertain whether these dimensions are important to the respondents while working with the action. If a specific dimension is important for respondents, then it is essential that its conformity assessment is positive. However, if a dimension is not important to respondents, then non-compliance with the outputs of the action should not be considered as the action's weakness.

Four Perceived Quality dimensions – Usability, Accuracy, Completeness and Expandability, and two Perceived Utility dimensions – Potential Re-usability and Sustainability, are included in the survey. This section describes the respondents' answers regarding the importance of the dimensions.

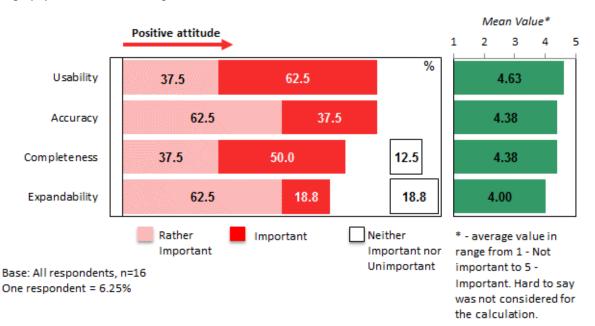
Each respondent is requested to provide his/her opinion using the 5-point Likert grading scale. For the dimensions' importance evaluation, a grading scale with values ranging from 'Important' to 'Not important' is used. An additional 'Hard to Say/Not Applicable' option is provided, however this score is excluded from the score calculations. Before performing the survey data calculations, the 5-point Likert scale values are interpreted as numeric values:

- 5 Important;
- 4 Rather Important;
- 3 Neither Important nor Unimportant;
- 2 Rather not Important;
- 1 Not Important;
- 0 Hard to Say/Not Applicable (is not considered for the calculation).

The bars in pink/red represent the positive attitude (answers 'Rather important' and 'Important'). In addition, a neutral opinion (the bars in white) is presented separately on the right. An explanatory legend with colour codes represents the available data. The average mean value for each of the dimensions is presented on the right side of the figure.

FIGURE 2 – ACTION 1.2 PERCEIVED QUALITY DIMENSIONS IMPORTANCE RESULTS

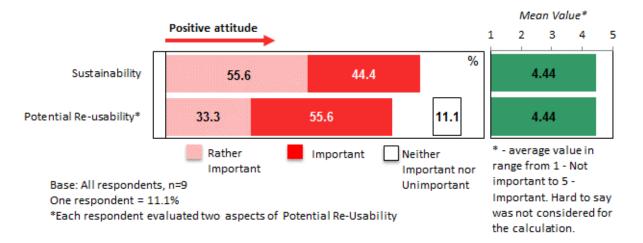
"How important to you are these factors when using the "Access to base registries" documentation, e.g., study, cartography, recommendations, guidelines?"



The survey results indicate that the most important Perceived Quality dimension of the "Access to base registries" documentation is Usability. 62.5% of the respondents evaluated this dimension as 'Important' while 37.5% evaluated it as 'Rather Important'. The mean value is **4.63**. The Accuracy and the Completeness dimensions are the next most important dimensions with the mean value of **4.38**. The Expandability dimension has the lowest mean value – **4.00**. Also, three respondents admitted that it is hard to evaluate the Expandability. All of the dimensions were evaluated with a mean value greater than 4 which is between the values 4 – 'Rather Important' and 5 – 'Important'.

#### FIGURE 3 – ACTION 1.2 PERCEIVED UTILITY DIMENSIONS IMPORTANCE RESULTS

"How important to you are these factors when using the "Access to base registries" documentation, e.g., study, cartography, recommendations, guidelines?"



The survey results indicate that both Utility dimensions of the "Access to base registries" documentation have been evaluated with a mean value 4.44. Neither of the dimensions received a negative evaluation, while the Potential Re-usability dimension did receive a 'Neither Important not Unimportant' evaluation, by one respondent. However, due to the fact that only nine out of the eighteen respondents qualified for the evaluation, the data should be overlooked with caution.

#### 5.4.1.2 DIMENSIONS CONFORMITY

In order to measure the Perceived Quality and Perceived Utility dimensions' conformity to the action, a set of descriptive statements was developed for each dimension. By evaluating the statement conformity to the action, the extent to which the dimensions correspond to the ISA programme's objectives is measured.

This section provides an analysis of the statements. It starts with statement mapping to dimensions, which is followed by the analysis of the Perceived Quality and Perceived Utility dimensions' conformity statements. Finally, the last section provides an overview of the statement conformity scores, which are summarised in groups according to the dimensions.

#### 5.4.1.2.1 STATEMENT MAPPING TO DIMENSIONS

In total, Action 1.2 has ten Perceived Quality and three Perceived Utility statements regarding the dimensions' conformity. Table 6 gives an overview of the statements representing each dimension. The Accuracy and the Usability dimensions are represented by three statements each, the Completeness, the Expandability and the Potential Re-usability dimensions are represented by two statements each, while the Sustainability dimension has only one statement.

	Perceived Quality Statements	Dimension
1	The documentation is accurate	Accuracy
2	The sources of documentation listed are verifiable	Accuracy
3	The documentation is free from grammar/style errors	Accuracy
4	The reference links work and are accessible	Completeness
5	The documentation is complete and does not require additions	Completeness
6	The documentation is appropriate/applicable to my business needs	Usability
7	The guidelines are easy to understand	Usability
8	The structure of the documentation is clear and the systematic design remains consistent	Usability
9	The documentation is applicable to other sectors	Expandability
10	The documentation format is transferrable to other applications	Expandability
	Perceived Utility Statements	Dimension
1	Overall, the action documentation could save costs	Potential Re-usability
2	Overall, the action documentation could save time	Potential Re-usability
3	The documentation is planned to be used in future	Sustainability

#### TABLE 6 – ACTION 1.2 STATEMENT MAPPING TO DIMENSIONS

#### 5.4.1.2.2 DIMENSIONS CONFORMITY RESULTS

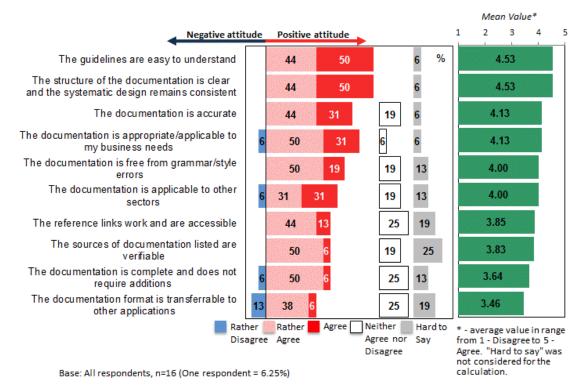
For the purpose of describing dimensions' conformity to the action, ten Perceived Quality and three Perceived Utility statements were designed for this survey. The respondents were asked to evaluate the extent to which these statements conform to the particular action.

Each respondent is requested to provide his/her opinion using the 5-point Likert grading scale. For the dimensions' conformity evaluation, a grading scale with values ranging from 'Agree' to 'Disagree' is applied. An additional 'Hard to Say/Not Applicable' option is provided, however this score is excluded from the score calculations. Before performing the survey data calculations, the 5-point Likert scale values are interpreted as numeric values:

- 5 Agree;
- 4 Rather Agree;
- 3 Neither Agree nor Disagree;
- 2 Rather Disagree;
- 1 Disagree;
- 0 Hard to Say/Not Applicable (*is not considered for the calculation*).

In order to have an overview of the positive and negative attitude proportions, the bars in blue represent the negative attitude (answers 'Disagree' and 'Rather disagree'), whereas the bars in pink/red represent the positive ones (answers 'Agree' and 'Rather Agree'). In addition, a neutral opinion (the bars in white) and no

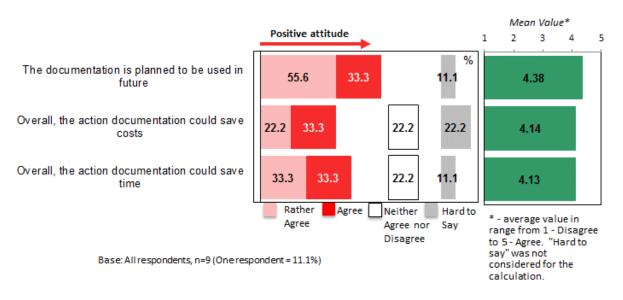
opinion (the bars in grey) are presented separately on the right. An explanatory legend with colour codes represents the available data. The average mean value for each of the dimensions is presented on the right side of the figure.



#### FIGURE 4 – ACTION 1.2 PERCEIVED QUALITY DIMENSIONS CONFORMITY RESULTS

Figure 4 shows that all of the statements are evaluated as relevant to the documentation of the "Access to base registries"; the average value is higher than a neutral value (3 - 'Neither Agree nor Disagree'). Also, for some statements a non-negligible amount of respondents chose the answer 'Hard to say', meaning that they were unable to evaluate them or simply haven't had enough experience working with the documentation of the "Access to base registries". The most relevant statements regarding the evaluation of "Access to base registries" documentation are:

- 'The guidelines are easy to understand' (mean value 4.53) and
- 'The structure of the documentation is clear and the systematic design remains consistent' (mean value **4.53**).



#### FIGURE 5 – ACTION 1.2 PERCEIVED UTILITY DIMENSIONS CONFORMITY RESULTS

**Figure 5 shows that all of the statements are evaluated as relevant to the documentation of the "Access to base registries";** the average value is higher than the positive value (4 - 'Rather Agree'). The most relevant statement is:

#### - *'The documentation is planned to be used in future'* (mean value **4.38**).

However, due to the fact that only nine out of the sixteen respondents qualified for the Perceived Utility evaluation, the data should be overlooked with caution.

Table 7 and Table 8 provide an overview of the statement conformity scores, which are summarised per dimension. To calculate these scores, the average values of all the conformable dimension statements are taken into account.

Table 7 also provides an overview of the additional statistical calculations<sup>11</sup> - mode, standard deviation and standard error. With reference to the theory used in business research methods,<sup>12</sup> it is concluded that for statistically meaningful calculations, the minimum respondent number is equal to or greater than ten per statement, therefore additional statistical calculations are excluded from Table 8.

<sup>&</sup>lt;sup>11</sup> Dictionary of statistics & methodology: a nontechnical guide for the social sciences (page 226).

<sup>&</sup>lt;sup>12</sup> Cooper D. R., Schindler P. S. (2013), Business Research Methods, 12th Edition

	Dimension	MEAN	MODE	StDev	StErr
	Usability	4.40	4	0.66	0.10
Per dimension	Accuracy	4.00	4	0.68	0.11
	Completeness	3.75	4	0.72	0.14
	Expandability	3.75	4	0.95	0.19
Total Criterion		3.98	4	0.75	0.14
Score		3.90	-	0.75	0.14

#### TABLE 7 – ACTION 1.2 ADDITIONAL STATISTICAL CALCULATIONS FOR PERCEIVED QUALITY DIMENSIONS

The survey results show that the respondents evaluated the Usability statements as the most relevant to the documentation of the "Access to base registries" (mean value 4.40). The Accuracy statements (mean value 4.00) are the second most relevant to the documentation of the "Access to base registries". The respondents evaluated the Completeness and the Expandability statements (mean value 3.75) as the least relevant (but not as irrelevant, since the value is higher than the neutral value of 3 - 'Neither agree nor disagree'). However, the fact that only 16 respondents evaluated each statement should be taken into account.

TABLE 8 – ACTION 1.2 AVERAGE RATING PER PERCEIVED UTILITY DIMENSION

	Dimension	MEAN
Per dimension	Sustainability	4.38
	Potential Re-usability	4.14
Total Criterion Score		4.26

The survey results show that the respondents evaluated the Sustainability statement (mean value 4.38) as more relevant to the documentation of the "Access to base registries" than the Potential Re-usability statements (mean value 4.14). As explained above, the additional statistical calculations are not provided due to the low number of respondents. Also due to the fact that only nine respondents participated in this survey the data should be overlooked with caution.

#### 5.4.1.2.3 PERCEIVED QUALITY CRITERION SCORE AGGREGATION

Figure 6 provides a visual overview of the dimensions' conformity scores.





#### 5.4.2 User Satisfaction Score

The User Satisfaction Score shows how satisfied and happy the respondents are with the performance of a specific action. The User Satisfaction Score is expressed as a percentage from 0 to 100, where 0 signifies that there are no satisfied and happy respondents, whereas 100 signifies all respondents are satisfied and happy with the work performed by the action.

The User Satisfaction Score is assessed with reference to the results of the dimensions' importance and dimensions' conformity evaluation. The User Satisfaction Score is measured at the individual level for each of the survey respondents via identification of the important dimensions for that particular respondent.

To increase the accuracy of the calculation, a specific weight coefficient is applied to the dimensions. To those dimensions which respondents evaluated as "Important" a weight coefficient of 1 was applied, while a coefficient of 0.5 is applied to the dimensions which respondents evaluated as "Rather Important". A coefficient of 0 is applied to all the other dimensions. Finally, all the individual values are summed.

As the next step, an analysis of the statements which represent these identified dimensions is performed. If a respondent claimed that a particular statement fully corresponded to the specific dimension (value 5 – 'Agree'), then a coefficient of 100 (100% eligibility) is assigned. If evaluated with 4 – 'Rather Agree', a coefficient of 75 applies, if evaluated with 3 – 'Neither Agree nor Disagree', a coefficient of 50 applies, if evaluated with 2 – 'Rather Disagree', a coefficient of 25 applies, and in the case it was evaluated with 1 – 'Disagree', the coefficient is 0.

#### FIGURE 7 – ACTION 1.2 PERCEIVED QUALITY USER SATISFACTION SCORE

Figure 7 shows that the **Perceived Quality User Satisfaction Score is 70.25**. The result indicates a good level of respondent satisfaction with the documentation of the "Access to base registries".



Base: All respondents, n=16

### FIGURE 8 – ACTION 1.2 PERCEIVED UTILITY USER SATISFACTION SCORE

Figure 8 shows that the **Perceived Utility User Satisfaction Score is 70.91**. The result indicates a good level of



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Base: Respondents who qualified for the Perceived utility evaluation, n=9 respondent satisfaction with the documentation of the "Access to base registries". However, this value is only indicative due to the low number of respondents who participated in this survey.

#### 5.4.3 Net Promoter Score

The Net Promoter Score<sup>®</sup> (NPS) is a widely used management tool that helps evaluate the loyalty of a customer relationship<sup>13</sup>. This management tool has been adapted to suit the ISA programmes' Evaluation and Monitoring activities and measures the overall respondents'/stakeholders' experience and loyalty to a specific ISA action.

In order to evaluate the NPS, the question *"how likely the respondent would recommend the particular action's output to others"* is asked. The assessment is done on a scale from 0 to 10, where 0 represents the *answer* "Not likely at all" and 10 – "Extremely likely"<sup>14</sup>. After the data analysis, the respondents are classified as follows:

- **Promoters** (numeric values from 9 10) loyal users who will keep using the action's final outcome and refer others, promoting the usage of the action's outcomes;
- **Passives** (numeric values from 7 8) satisfied but unenthusiastic users who will most probably not recommend the action's outcomes to others;
- **Detractors** (numeric values from 0 6) unhappy users who can damage the image and decrease the usage of the action's outcomes.

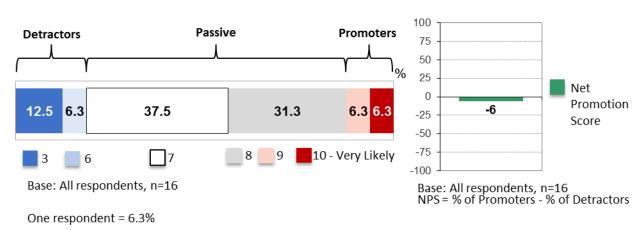
The NPS final score calculation is done based on the following formula:

NPS = % of Promoters - % of Detractors<sup>14</sup>

The result can range from a low of -100 (every customer is a Detractor) to a high of +100 (every customer is a Promoter).

<sup>&</sup>lt;sup>13</sup> Official webpage of Net Promoter Score <sup>®</sup> community http://www.netpromoter.com/home.

<sup>&</sup>lt;sup>14</sup> Markey, R. and Reichheld, F. (2011), "The Ultimate Question 2.0: How Net Promoter Companies Thrive in a Customer-Driven World"



#### FIGURE 9 – ACTION 1.2 PERCEIVED QUALITY NET PROMOTER SCORE

Figure 9 shows that only 12.6% of the respondents (two out of sixteen) are Promoters of the "Access to base registries" documentation and would recommend it to colleagues or other PAs. A slightly higher proportion of the respondents, 18.8% (three out of sixteen), are Detractors of the "Access to base registries" documentation and would not recommend it to colleagues or other PAs. The Net Promoter Score is -6 meaning that more respondents would not recommend the documentation of the "Access to base registries". However, due to the low number of respondents, the difference between Promoters and Detractors is only one respondent. Therefore, the NPS should be considered as an indicator that there are respondents who are loyal users of the "Access to base registries" documentation and that at the same time there are unhappy users.

#### FIGURE 10 – ACTION 1.2 PERCEIVED UTILITY NET PROMOTER SCORE

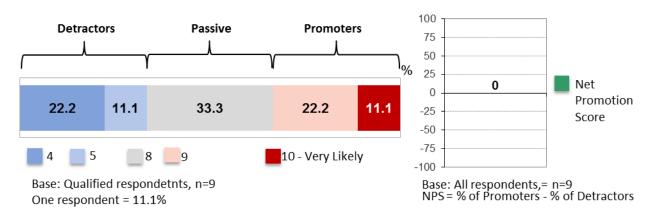


Figure 10 shows that 33.3% of the respondents (three out of nine) are Promoters of the "Access to base registries" documentation and would recommend it to colleagues or other PAs. The same proportion of the respondents, 33.3% (three out of nine), are Detractors of the "Access to base registries" documentation and would not recommend it to colleagues or other PAs. The Net Promoter Score is 0 meaning that the same amount of respondents would and would not recommend the documentation of the "Access to base

registries". Due to the low number of survey respondents, the NPS should be considered as an indicator that there are respondents who are loyal users of the "Access to base registries" documentation and at the same time there are unhappy users.

#### 5.4.4 Overall Score

Referring to the performed measurements described earlier, namely, the Value Score, the User Satisfaction Score, the Usefulness Score and the NPS, an Overall Perceived Quality and Perceived Utility Scores are calculated.

To calculate the Overall Perceived Quality and Perceived Utility Score, all measurements are reduced to a five point scale (the statements used to calculate the Value Score are already expressed using a scale from 1 to 5, the Usefulness Score had values from 1 to 7, NPS - from -100 to +100, and the User Satisfaction Score - from 0 to 100). In order to determine the Overall Perceived Quality and Perceived Utility scores, the average value of these four measurements is calculated. To reduce any linear scale to a different linear scale the following formula<sup>15</sup> is used:

$$Y = (B - A) * (x - a) / (b - a) + A$$

- Y = Value after reducing to a five point scale
- x = Value in the initial scale
- B = The highest value of the new scale (in this case it is 5, as we are reducing other scales to a five point scale)
- A = The lowest value of the new scale (in this case it is 1, as we are reducing other scales to a five point scale)
- b = The highest value of the original scale (for Net Promoter Score and User Satisfaction Score it is + 100, for Usefulness Score it is 7)
- a = The lowest value of the original scale (for the Net Promoter Score it is 100, for the User Satisfaction Score it is 0 and for the Usefulness Score it is 1)

Example of reducing Net Promoter Score to a five point scale:

(5-1) \* ((-6) - (-100)) / (100 - (-100)) + 1 = 4 \* 94 / 200 + 1 = 376 / 200 + 1 = 1.88 + 1 = 2.88

<sup>&</sup>lt;sup>15</sup> Transforming different Likert scales to a common scale. IBM. Retrieved February 04. 2016., from http://www-01.ibm.com/support/docview.wss?uid=swg21482329

NAME OF THE SCORE	ORIGINAL VALUE	VALUE AFTER REDUCING TO A FIVE POINT SCALE
Usefulness Score	5.40	3.93
Value Score	4.01	4.01
User Satisfaction Score	70.25	3.81
Net Promoter Score	-6	2.88
OVERALL PERCEIVED QUALITY SCORE		3.66

#### TABLE 9 – ACTION 1.2 OVERALL PERCEIVED QUALITY SCORE CALCULATION

The survey results show that on a 5-point scale, the Value Score is the highest (4.01), which indicates that the action strongly complies with the dimensions. The Usefulness Score (3.93) and the User Satisfaction Score (3.86) are the next highest values. The Net Promoter Score (2.88) is the only score that is below the average value of 3. However, due to the low number of respondents who participated in this survey and the high standard error in cases when the response rate is relatively low, these values are only indicators of the real situation.

#### TABLE 10 - ACTION 1.2 OVERALL PERCEIVED UTILITY SCORE CALCULATION

NAME OF THE SCORE	ORIGINAL VALUE	VALUE AFTER REDUCING TO A FIVE POINT SCALE
Usefulness Score	5.40	3.93
Value Score	4.21	4.21
User Satisfaction Score	70.91	3.84
Net Promoter Score	0	3.00
OVERALL PERCEIVED UTILITY SCORE		3.74

The survey results show that on a 5-point scale, the Value Score is the highest (4.21), which indicates that the action strongly complies with the dimensions. The Usefulness Score (3.93) and the User Satisfaction Score (3.72) are the next highest values. The Net Promoter Score (3.00) is the lowest score, however, due to the low number of respondents who participated in this survey and the high standard error in cases when the response rate is relatively low, these value are only indicators of the real situation.

### **5.5** ACTION STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS

When analysing the data results of the dimensions' conformity versus the dimensions' importance, the action's strengths, weaknesses, opportunities and threats can be identified.

Statements are located in quadrants, based on the dimensions' conformity statements and dimensions' importance calculated mean values. The quadrants highlight the weak and strong aspects of the action, as well as threats and opportunities.

In general, all the statements that are attributed to the action can be grouped into four categories:

- Strengths Essential to respondents and relevant to the action (1<sup>st</sup> quadrant);
- Weaknesses Essential to respondents but not relevant to the action (2<sup>nd</sup> quadrant);
- Threats Not essential to respondents and not relevant to the action (3<sup>rd</sup> quadrant);
- Opportunities Not essential to respondents but relevant to the action (4<sup>th</sup> quadrant).

Four colours are used to identify Perceived Quality dimensions in Figure 11:

- Dark blue: Accuracy;
- Red: Completeness;
- Brown: Usability;
- Purple: Expandability.

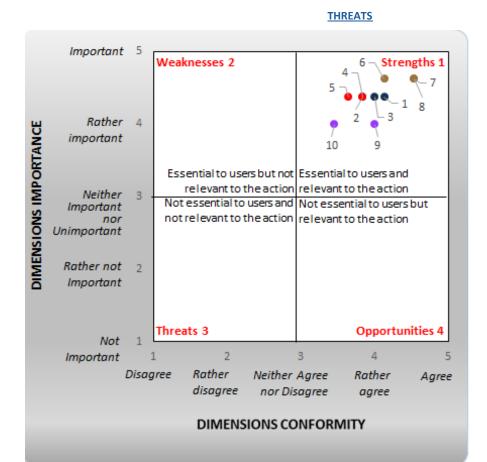
Two colours are used to identify Perceived Utility dimensions in Figure 12:

- Dark blue: Potential Re-usability;
- Red: Sustainability.

As seen in Figure 11, all ten Perceived Quality statements were evaluated as essential to respondents and relevant to the action - all of them are placed in the 1<sup>st</sup> quadrant and are identified as strengths of the documentation of the "Access to base registries".

The following two statements are the actions most important strengths (the most relevant to the action and important to the respondents):

- 'The guidelines are easy to understand' (statement 7) and
- 'The structure of the documentation is clear and the systematic design remains consistent' (statement
  8).



#### FIGURE 11 – ACTION 1.2 PERCEIVED QUALITY ACTIONS STRENGTHS, WEAKNESSES, OPPORTUNITIES AND

#### I. Accuracy:

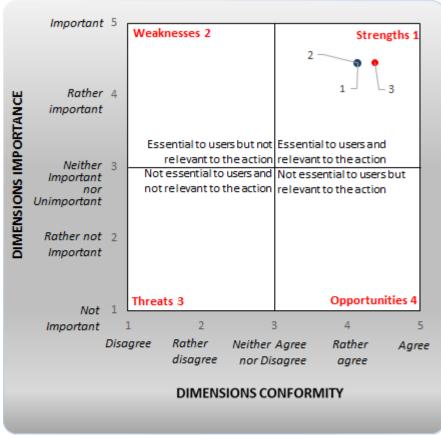
- 1 The documentation is accurate
- 2 The sources of documentation listed are verifiable
- 3 The documentation is free from grammar/style errors
- II. Completeness:
- 4 The reference links work and are accessible
- 5 The documentation is complete and does not require additions
- III. Usability:
- 6 The documentation is appropriate/applicable to my business needs
- 7 The guidelines are easy to understand
- 8 The structure of the documentation is clear and the systematic design remains consistent
- IV. Expandability:
- 9 The documentation is applicable to other sectors
- 10 The documentation format is transferrable to other applications

As seen in Figure 12, all three Perceived Utility statements were evaluated as essential to respondents and relevant to the action - all of them are located in the 1<sup>st</sup> quadrant and are identified as strengths of the "Access to base registries" documentation.

The following statement is the action's most important strength (the most relevant to the action and important to the respondents):

- 'The documentation is planned to be used in future' (statement 3).

# FIGURE 12 – ACTION 1.2 PERCEIVED UTILITY ACTION STRENGTHS, WEAKNESSES, OPPORTUNITIES AND



**THREATS** 

I. Potential Re-usability:

- 1 Overall, the action documentation could save costs
- 2 Overall, the action documentation could save time
- II. Sustainability:
- 3 The documentation is planned to be used in future

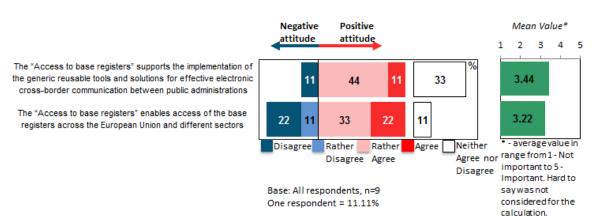
### **5.6 STATEMENTS BASED ON ACTION OBJECTIVES**

For the purpose of describing the action's objectives, statements based on action objectives were designed for this survey. The respondents were asked to evaluate the extent to which these statements conform to the particular action, namely, if the action's objectives have been achieved.

The respondent is asked to provide his/her opinion using the 5-point Likert grading scale. For the dimension conformity evaluation, a grading scale with values ranging from 'Agree' to 'Disagree' is applied. An additional 'Hard to Say/Not Applicable' option is provided, however this score is excluded from the score calculations. Before performing the survey data calculations, the 5-point Likert scale values are interpreted as numeric values:

- 5 Agree;
- 4 Rather Agree;
- 3 Neither Agree nor Disagree;
- 2 Rather Disagree;
- 1 Disagree;
- 0 Hard to Say/Not Applicable (is not considered for the calculation).

In order to have an overview of the positive and negative attitude proportions, the bars in blue represent the negative attitude (answers 'Disagree' and 'Rather Disagree'), whereas the bars in pink/red represent the positive ones (answers 'Agree' and 'Rather Agree'). In addition, a neutral opinion (the bars in white) is presented separately on the right. An explanatory legend with colour codes represents the available data. The average mean value for each of the dimensions is presented on the right side of the figure.



#### FIGURE 13 – ACTION 1.2 STATEMENTS BASED ON ACTION OBJECTIVES

The survey results demonstrate that both statements based on action objectives, were evaluated as relevant to the action. Also the variance of the responses is very high, mainly for the second statement. Both of the statements have a mean value slightly higher than the neutral value (3 - 'Neither Agree nor Disagree').

However, due to the fact that only nine respondents participated in this survey the data should be overlooked with caution.

### 5.7 **RESPONDENT RECOMMENDATIONS AND OPINIONS**

This section provides an overview of the recommendations and main benefits received about the "Access to base registries" documentation. It should be noted that each response is given by a single survey respondent, which means that the number of different answers to each question is the same as the number of respondents who had an opinion or a recommendation to the specific question.

#### TABLE 11 – ACTION 1.2 RECOMMENDATIONS

"Do you have any recommendations to improve the "Access to base registries", taking into consideration the "Access to base registries" as a whole with all its documentation, e.g., study, cartography, recommendations, guidelines?"

Most of problems in "Access to base registries" are legal and not technical. No legal approach is taken to overcome these difficulties.

It's always difficult to say how complete things are; it's the knowledge that we share and that is useful. I believe that base registries are area where EU level coordination may go even further than just interoperability, making some steps towards harmonization. Theoretical data modelling (core data models) activities should keep track what is going on in "business areas" (like Commercial registries), not to fall behind real in practical developments.

The description of the main functions for update, linking to other registries etc.

Use some basic images/graphics were possible to make it more visual.

"What are the main benefits or the most valuable things about the "Access to base registries"?"

To show different realities and situations around Europe, although a general approach (covering different legal aspects is missing)

Possibility to compare our own approach to base registries with the approaches followed in other member states.

Cross border services

Good examples, best practices and helpful in the discussions in our own environment.

The LOST guideline

Compact presentation of the results; good descriptions explaining the context of each and every recommendation.

Can be used to encourage national administrations to apply the EU good practices when creating a new base registry.

"Do you have any other recommendations to share with us?"

Models should be agreed taken into account all situations, country specific issues and legal constraints. Working towards a more EU level of base registries would be nice and helpful to really have exchange between countries

In this study you've examined how (cross-border) "Access to base registries" is crucial to make the "only once" principle a reality. It would be interesting if you could examine how (cross-border) access to identity providers (databases with information on identities and mandates) is crucial to make the eIDAS regulation a reality.

# 6 SURVEY CONCLUSION AND RECOMMENDATIONS

The objective of this survey was to evaluate the Perceived Quality and Perceived Utility of the documentation of Action 1.2 – "Access to base registries". It is important to take into account that only sixteen respondents participated in the survey, from whom only nine respondents qualified for the Perceived Utility evaluation, meaning that the results of the survey are more like indicators of the Perceived Quality and Perceived Utility and do not fully represent the opinion of all users. The following conclusions have been drawn based on the analysis performed:

- The ISA Action 1.2 "Access to base registries" documentation received a rather positive Perceived Quality and Perceived Utility assessment with an Overall Perceived Quality Score of 3.66 out of 5 and an Overall Perceived Utility Score of 3.74 out of 5. The high Value Scores indicate that the "Access to base registries" documentation strongly complies with the dimensions. The Net Promoter Score has the lowest value in both cases, yet the data shows that there is only a one respondent difference (In the Perceived Quality Net Promoter Score) and no difference (In the Perceived Utility Net Promoter Score) between those who would recommend the "Access to base registries" documentation to colleagues or other PAs and those who wouldn't.
- Regarding Perceived Quality, the results show that the documentation of the "Access to base registries" is perceived as more beneficial in terms of Usability than in Expandability, Accuracy and Completeness.
- Regarding Perceived Utility, the results show that the documentation of the "Access to base registries" is perceived as more beneficial in terms of Sustainability than in Potential Re-usability.
- The findings represent that respondents think Action 1.2 "Access to base registries" documentation is rather useful as the Usefulness score is **5.40** and it is between 5 'Rather Useful' and 6 'Useful'.

Based on the conclusions drawn, CGI-Accenture advices the following recommendations:

- Regular updates of the "Access to base registries" guidelines and documentation are necessary to ensure the documentation's completeness.
- As Usability is the strongest aspect of the "Access to base registries" documentation and at the same time is the most important aspect to the respondents, this high quality performance must be a priority.
- According to the respondents, working towards EU level registries with the inclusion of country specific issues and legal constraints would be beneficial to the "Access to base registries" documentation. Also, images/graphics would make "Access to base registries" more visual.

# 7 APPENDIX

# 7.1 RAW DATA EXPORT

The attached file contains the survey result export.



Raw Data.xls

### 7.2 GLOSSARY

- 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.
- The mean<sup>11</sup> (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 for each case and divide that sum by the total number of cases;
- Mode<sup>11</sup> refers to the most frequent, repeated or common value in the quantitative or qualitative data. In some cases it is possible that there are several modes or none;
- The Net Promoter Score<sup>®</sup> (NPS) is a widely used management tool that helps evaluate the loyalty of a customer relationship. Customers are classified as Promoters, Passive and Detractors.

- 'Perceived Quality' is defined as the extent to which the outputs of an ISA action are meeting its direct beneficiaries' expectations;
- Standard deviation<sup>11</sup> 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<sup>11</sup> 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 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;