



INTEROPERABILITY SOLUTIONS FOR
EUROPEAN PUBLIC ADMINISTRATIONS
MONITORING AND EVALUATION

D03.03. Perceived Quality and Perceived Utility
Monitoring Report

ISA Action 2.17 e-Certis

Framework Contract n° DI/07173-00

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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 assessment of **the ISA Action 2.17 – e-Certis**. The objective of the survey is to measure the action's Perceived Quality, which is defined as the extent to which the outputs of an ISA action are meeting its direct beneficiaries' expectations¹, 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 programme².

The respondents were asked to evaluate e-Certis and its documentation. The survey was designed in the EUSurvey tool and distributed by e-mail and a side banner on the e-Certis web page. The Project officer was responsible for sending out the reminders to the survey respondents. Over the duration of two months³, eleven 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.

TABLE 1 – ACTION 2.17 SURVEY PERCEIVED QUALITY MAIN RESULTS

	Score	Explanation of the score scale
Usefulness Score	4.36	Average value on a scale from 1 (Not Useful at All) to 7 (Very Useful).
Value Score	3.51	Average value of all the statement means in the range from 1 (Disagree) to 5 (Agree).
User Satisfaction Score	56.29	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	-27	Net Promoter Score from -100 (every customer is a Detractor) to 100 (every customer is a Promoter).
OVERALL PERCEIVED QUALITY SCORE	3.12	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 (lowest score) to 5 (highest score).

¹ DG BUDG (2004), "Evaluating EU activities, a practical guide for the Commission services"

² Papadomichelaki, X. and Mentzas, G. (2012), "e-GovQual: A multiple-item scale for assessing e-government service quality"

³ The survey was launched on the 2nd of December 2016 and was active until the 31st of January 2017.

TABLE 2 – ACTION 2.17 SURVEY PERCEIVED UTILITY MAIN RESULTS

	Score	Explanation of the score scale
Usefulness Score	4.36	Average value on a scale from 1 (Not Useful at All) to 7 (Very Useful).
Value Score	3.59	Average value of all the statement means in the range from 1 (Disagree) to 5 (Agree).
User Satisfaction Score	78.45	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	-27	Net Promoter Score from -100 (every customer is a Detractor) to 100 (every customer is a Promoter).
OVERALL PERCEIVED UTILITY SCORE	3.36	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 (lowest score) to 5 (highest score).

Main findings:

- The survey results demonstrate that e-Certis and its documentation **comply with the ISA programme’s objectives; however, improvements are needed;**
- The respondents are more satisfied with the Perceived Utility of e-Certis compared to the Perceived Quality;
- Performance and Support are the most important strengths of e-Certis;
- e-Certis provides usable and updated information; however, there is a lack of specific information;
- The main weaknesses are: the structure and the documentation of e-Certis.

Recommendations:

- To improve the completeness and accuracy of the documentation;
- Respondents recommend:
 - Making the guide available in either PDF or Word format;
 - A choice of seeing similar documentation when clicking on relevant documentation;
 - Specific rules regarding what countries are supposed to input in e-Certis;
 - To improve the evidences and criterions of research engine;
 - The interface should be aligned with the ESPD data model;
 - e-Certis needs to be more clear and easy to follow.
- The structure of e-Certis needs to be more user friendly.

REVISION HISTORY

Date	Version	Description	Authors	Approved by
13/02/2017	0.10	Initial version	CGI - Accenture	
22/02/2017	1.00	Final version	CGI - Accenture	
06/03/2017	1.10	Final version	CGI - Accenture	
06/03/2017	1.20	Minor changes done	CGI - Accenture	
06/03/2017	1.30	Minor changes done based on feedback from PO	CGI - Accenture	

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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 333 under Framework contract n° DI/07173-00).

Based on the scope of the Specific Contract, the Perceived Quality and the Perceived Utility is to be measured for three actions. This report covers the Perceived Quality and Perceived Utility measurements for Action 2.17 – e-Certis.

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 e-Certis;
 - Usefulness Score;
 - Perceived Quality and Perceived Utility measurements;
 - Action strengths, weaknesses, insignificance and complements;
 - Respondent recommendations and main benefits;
- **Section 6:** provides the survey conclusion and recommendations;
- **Section 7:** appendix includes:
 - Raw data export;
 - Glossary.

2 OVERVIEW OF THE ACTION 2.17 – E-CERTIS

The scope of this action covers the modelling, development and technical documentation of a criterion based evidence system to be used in any electronic business process. This system will be first tested in the context of electronic procurement but can be used in any other domain where compliance with criteria needs to be proven in the context of a business process.

Five main functionalities are in the scope of this project, functionalities available through a web interface or through a machine-to-machine interface (web services):

- **Definition of criteria:** The system will allow the definition of a standard criteria hierarchy which will be unique per domain. In eProcurement, these criteria will cover the exclusion and selection criteria.
- **Definition of Means of Proof:** Member States will be able to define means of proof which can be used in their country to prove the compliance with the criterion.
- **Creation of Criteria Templates:** During an electronic process, e-Certis will allow a private or public operator to select the criteria which are relevant for the specific procedure, these criteria selected being stored in an electronic Criteria Template which can be added to the e-Documents of the procedure.
- **Creation of an Electronic Compliance Document (ECD):** Based on the criteria template and on a standard document containing all its means of proof, an operator will be able to generate through e-Certis an electronic document proving its compliance with the criteria. If not possible, e-Certis will inform the operator on missing means of proof.
- **Validation of ECD:** e-Certis will validate the structure of the document and possibly any content based on information available in base registers.

Objective of the Action

This action aims to develop a generic system which will allow to define criteria in any given business domain with a mechanism for compliance definition and checking based on e-Documents.

Benefits and Beneficiaries of the Action**TABLE 3 – ACTION 2.17 BENEFITS AND BENEFICIARIES OF E-CERTIS**

Beneficiaries	Anticipated benefits
Procurement authorities	Clarity on criteria used. Integration in the e-Procurement chain, reducing administrative tasks and cutting the costs.
European Commission Services	Creation of a generic service to support electronically processes based on electronic certificates and processes. This service will allow an easier implementation of e-Government solutions.
Economic operators	Possibility to use electronic procedures instead of a paper based approach. Increased transparency on criteria and assessment rules. Reduced administrative workload to generate compliance documents.
Member States' public administrations	EU public offices will receive information support tools in designing fully EIF-compliant e-Procurement operations, enabling cross-border access and interoperability. This will increase the general uptake of e-procurement and level of SME inclusion.
Software industry and IT service markets	By providing a coherent model for implementing e-procurement operations within the broader EU Interoperability framework, we will offer to industry and services market a much clearer reference scenario to define their own strategies. The availability of tools for EU-wide comparable measurement will enable software and service industry to improve their offer.

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' expectations¹.

Eight 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 the Framework for Assessing Documentation Adequacy⁴ and it covers the following four dimensions:

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

Perceived quality for tools and services is measured using an adaption of the eGovQual scale model⁵ which covers the following four dimensions:

- **Usability (Us):** the ease of using or user friendliness of the service/tool and the quality of information it provides;
- **Trust (Privacy) (T):** the degree to which the user believes the service/tool is safe from intrusion and protects personal information;
- **Performance (P):** the feasibility and speed of accessing, using, and receiving services of the service/tool;
- **Support (S):** the ability to get help when needed and the level of service received.

⁴ Arthur J. D, Stevens K. T (1990), “Document Quality Indicators: A Framework for Assessing Documentation Adequacy”

⁵ Papadomichelaki X., Mentzas G (2012), “e-GovQual. A multiple-item scale for assessing e-government service quality” <http://imu.ntua.gr/sites/default/files/biblio/Papers/e-govqual-a-multiple-item-scale-for-assessing-e-government-service-quality.pdf>

Due to the non-applicability of the Usability of the documentation, the Expandability of the documentation and Trust (Privacy) dimensions, they were excluded from the evaluation of Action 2.17 – e-Certis upon the request of the Project Officer.

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 programme⁶ 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 into five 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);
- **Sustainability:** to what extent the financial, technical and operational sustainability of solutions is ensured⁷;
- **Collaboration:** the degree to which the action promotes/facilitates collaboration/cooperation between PAs⁸;
- **Interoperability:** the degree to which the action's outcome(s) support cross-border and cross-sector interaction between Public Administrations and between Public Administrations and businesses and citizens;
- **Supporting EU Policies:** the degree to which the action's outcome(s) can support implementation of EU policies and activities.

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 activities⁹ and actions' specific objectives." The Perceived Utility statements were tailored to reflect these objectives and were based on the ESOMAR¹⁰ (World Association of Opinion and Marketing Research Professionals) standards.

⁶ Papadomichelaki, X. and Mentzas, G. (2012), "e-GovQual: A multiple-item scale for assessing e-government service quality"

⁷ European Commission (2013), Interim evaluation of the ISA programme, "Report from the Commission to the European Parliament and Council COM (2013) 5 final".

⁸ CRN (2015), Collaboration http://research.crn.com/technology/knowledge_management/collaboration

⁹ 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)

¹⁰ ESOMAR, edited by Hamersveld, M., Bont C. (2007), Market Research, Handbook, 5th Edition

The developed Perceived Utility dimensions enable the comparison between different actions and will also provide the opportunity to see if the ISA programme objectives have been met (from the user point of view).

Due to the non-applicability of the Sustainability dimension, it was excluded from the evaluation of Action 2.17 – e-Certis upon the request of the Project Officer.

3.3 SURVEY MEASUREMENTS

In the data analysis, the core types of measurements which are performed include the Value Score, the User Satisfaction Score, the Net Promoter Score and the Overall Score for Perceived Quality and Perceived Utility. The survey measurements are divided into two groups: action level measurements 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 the mean value from a single question: *"Overall, how useful is e-Certis in your work?"*
- Action strengths, weaknesses, insignificance and complements: statements are located in quadrants based on the calculated mean values of the dimensions' conformity and dimensions' importance. The quadrants highlight the weak and strong aspects of the action, as well as threats and opportunities.

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 dimensions' 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® (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 Action: for the purpose of identifying the usage rate of the action outputs.
- 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 scale¹¹.
- 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 using a 5-point Likert grading scale¹¹. 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, insignificance and complements show the location of the action statements based on dimensions' conformity and dimensions' importance results.
- The recommendations: the last section includes several open questions for recommendations and opinions regarding the action and the survey.

¹¹ 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 4 gives an overview of the survey start and end dates, the respondents the survey was proposed to, the amount of responses collected, as well as the survey launching method.

TABLE 4 – ACTION 2.17 SURVEY TECHNICAL INFORMATION ABOUT THE FIELDWORK

Start date:	2/12/2016
End date:	31/01/2017
The survey launch method:	E-mail notification and Banner on the e-Certis web page
Reminders:	E-mail reminders were sent out by Project Officers
Target population:	Regular users Aggregators and e-Certis editors
Total number of respondents:	11
Number of suitable respondents for the survey:	11

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 profile illustrates the diversity of the respondents from the demographic point of view, thus ensuring that the opinions of different groups are included.

TABLE 5 – ACTION 2.17 DEMOGRAPHIC PROFILE OF RESPONDENTS

RESPONDENT PROFILE			
		Amount	Col %
ALL RESPONDENTS		11	100.0
GROUP*	e-Certis editors	6	54.5
	Economic Operator (Supplier)	3	27.3
	Contracting authority	2	18.2
	Other (mentioned 1 time: 3rd party / CCEV Expert; public procurement supervisory body)	2	18.2
ORGANISATION	Public administration at national level	7	63.6
	Academic	1	9.1
	Non-governmental or non-profit organisation	1	9.1
	Other (mentioned 1 time: 3rd party / Supplier; Law firm)	2	18.2
LOCATION	Austria	1	9.1
	Denmark	1	9.1
	Estonia	1	9.1
	Finland	1	9.1
	France	1	9.1
	Greece	2	18.2
	Hungary	1	9.1
	Romania	1	9.1
	Slovakia	2	18.2

Base: all respondents, n=11

*There were multiple choices possible for these questions. This explains why the percentage of responses can exceed 100%.

5.2 USAGE OF THE ACTION

The usage profile provides an overview of the usage rate of e-Certis. Table 6 shows how frequently the respondents use e-Certis and in what they are particularly interested in.

TABLE 6 – ACTION 2.17 USAGE OF E-CERTIS

USAGE PROFILE			
		Amount	Col %
ALL RESPONDENTS		11	100.0
FREQUENCY OF USAGE	Use it regularly	3	27.3
	Have used it occasionally	3	27.3
	Have tried it once	3	27.3
	Other (mentioned 1 time: I don't use the service as an end user, I use it as an editor; As editor I have filled in the criteria in e-Certis, In contracting authority's role there is hardly any use for e-Certis information)	2	18.2
PARTICULARLY INTERESTED IN*	Certification requirements in my country	2	66.7
	Certification requirements in another country	2	66.7
	Criteria used in my country	2	66.7
	Criteria used in another country	2	66.7

Base: all respondents, n=11

**Respondents who uses e-Certis regularly, n=3*

**There were multiple choices possible for these questions. This explains why the percentage of responses can exceed 100%.*

5.3 USEFULNESS SCORE

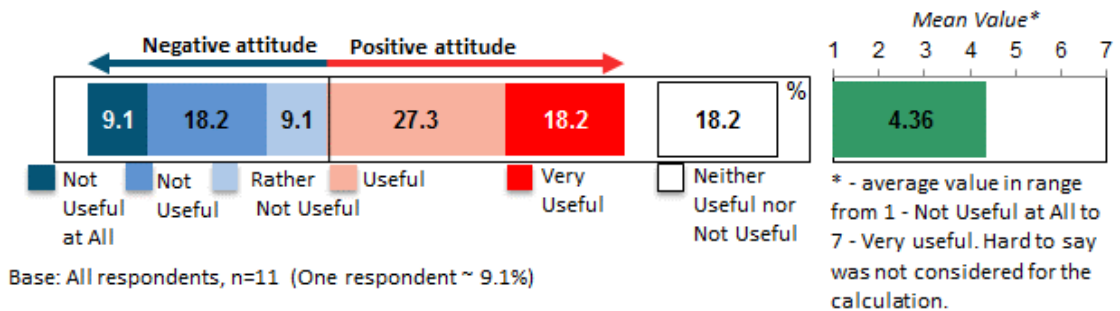
The Usefulness Score is calculated taking into account a single question: “Overall, how useful is eCertis in your work?”.

The survey respondent is asked to provide his/her opinion using the 7-point Likert grading scale. For the evaluation of 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 neutral attitude ‘Neither Useful nor Not Useful’ answer (the bar in white) 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 2.17 USEFULNESS SCORE



The survey results show that e-Certis overall has been evaluated with a mean value 4.36, which is between the values 4 - ‘Neither Useful nor Not Useful’ and 5 – ‘Rather Useful’. However, the data also shows a highly diverse response, meaning that for some respondents e-Certis is ‘Useful’ (3 out of 11 respondents) or ‘Very

Useful' (2 out of 11 respondents), while for some it is 'Not Useful at All' (1 out of 11 respondents), 'Not Useful' (2 out of 11 respondents) or 'Rather Not Useful' (1 out of 11 respondents).

The respondents were also asked to specify why they chose the exact answer for evaluating the usefulness of e-Certis. Six out of eleven respondents have provided an explanation. Those respondents who had a negative opinion provided the following comments:

- *'No information for France';*
- *'This time it contained no information on which documentation to request from a successful tenderer from the Netherlands. Last time it contained only outdated information on which documentation to request from a successful tenderer from France (updated in 2009...). The guide on how to use the tool could not be opened on my computer - apparently the computer did not recognise that type of file';*
- *'The data e-Certis provides is rarely needed'.*

The respondents who had a positive opinion provided the following comments:

- *'Used it a couple of times';*
- *'I am a 3rd party, working mostly on the provided REST API';*
- *'e-Certis provides usable and updated information and you do not have to look for data in different platforms especially for cross border tenders, but I have to say it needs to be developed'.*

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. It was agreed with Project Officer that two Perceived Quality (Accuracy of the documentation and Completeness of the documentation) and all four Perceived Utility (Potential Re-usability, Collaboration, Interoperability and Supporting EU Policies) dimensions and their statements will only be evaluated by those respondents who are e-Certis editors or represent Prequalification service/Aggregator/National register, because of their in-depth knowledge about e-Certis.

5.4.1 Value Score

This section includes the analysis and results of Perceived Quality and Perceived Utility Value Scores. It is structured into two main sections: the dimensions' importance and dimensions' 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 to the respondents, then it is essential that its conformity assessment is positive. However, if a dimension is not important to the respondents, then it should not be considered as the action's weakness because of non-compliance with the outputs of the action.

Five Perceived Quality dimensions (Usability, Performance, Support, Accuracy of the documentation and Completeness of the documentation) and four Perceived Utility dimensions (Potential Re-usability, Collaboration, Interoperability and Supporting EU Policies) are evaluated 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 choice is excluded from the score calculations. Before performing the survey data calculations, the 5-point Likert scale values are interpreted as numeric values:

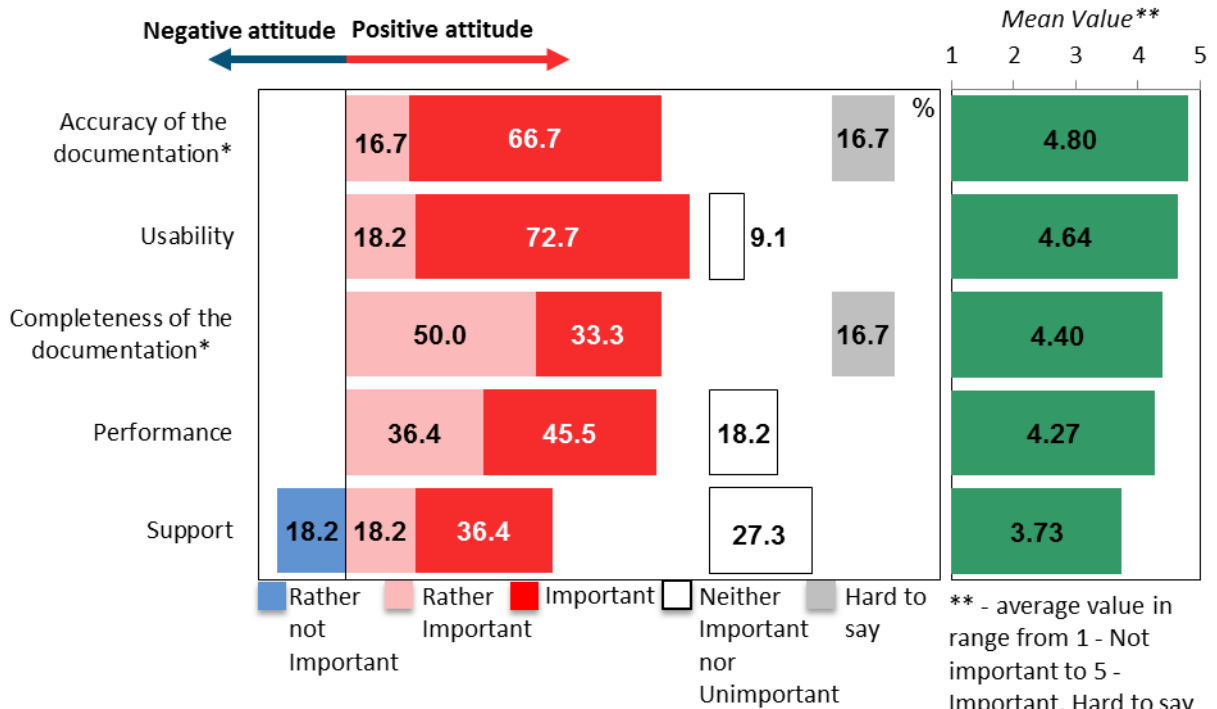
- 5 – Important;
- 4 – Rather Important;
- 3 – Neither Important nor Unimportant;
- 2 – Rather not Important;
- 1 – Not Important;
- 0 – Hard to Say/Not Applicable (*is not considered for the calculation*).

In order to have an overview of the positive and negative attitude proportions, the bars in blue represent the negative attitude (answers 'Not Important' and 'Rather not Important'), whereas the bars in pink/red

represent the positive attitude (answers ‘Rather important’ and ‘Important’). In addition, a neutral opinion (the bars in white) and a ‘Hard to say’ answer (the bar 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 2 – ACTION 2.17 PERCEIVED QUALITY DIMENSIONS IMPORTANCE RESULTS

"How important are the factors below to you when using e-Certis and the data it provides?"



Base: All respondents, n=11 (One respondent ~ 9.1%)

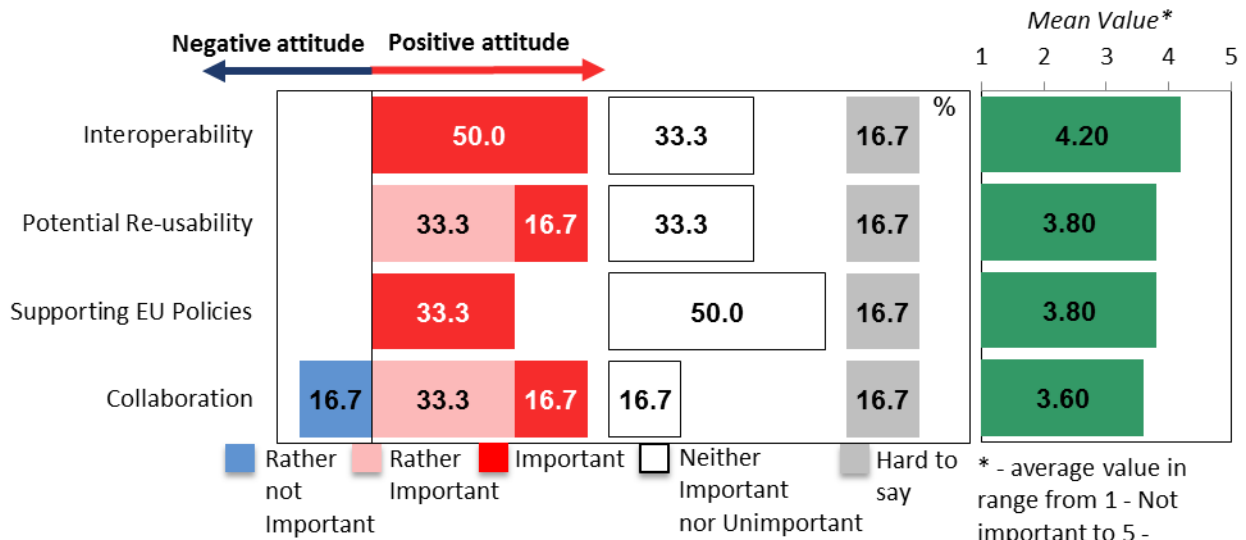
*Base: Respondents, who are eCertis editors or represent Prequalification service/Aggregator/National register, n=6 (One respondent ~16.7%)

** - average value in range from 1 - Not important to 5 - Important. Hard to say was not considered for the calculation.

The survey results indicate that four out of five Perceived Quality dimensions (Accuracy of the documentation, Usability, Completeness of the documentation and Performance) are very important to the respondents and are evaluated with a mean value between 4 – ‘Rather Important’ and 5 – ‘Important’. Only the Support dimension is evaluated as less important – two respondents consider it as ‘Rather not Important’; however, the mean value (3.73) is higher than the neutral value 3 – ‘Neither Important nor Unimportant’.

FIGURE 3 – ACTION 2.17 PERCEIVED UTILITY DIMENSIONS IMPORTANCE RESULTS

"How important are the factors below to you when using e-Certis and the data it provides?"



Base: Respondents, who are eCertis editors or represent Prequalification service/Aggregator/National register, n=6 (One respondent ~16.7%)

* - average value in range from 1 - Not important to 5 - Important. Hard to say was not considered for the calculation.

All four Perceived Utility dimensions (Interoperability, Collaboration, Potential Re-Usability and Supporting EU Policies) have been evaluated with a mean value that is higher than the neutral value 3 – ‘Neither Important nor Unimportant’. Only the Collaboration dimension has received a negative value by one respondent – ‘Rather not Agree’. The results do not reflect any statistically meaningful differences between the mean values, as they were evaluated by only five respondents each (one respondent in each case chose an answer ‘Hard to say’), meaning that the standard error is very high.

5.4.1.2 DIMENSIONS CONFORMITY

In order to measure the Perceived Quality 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 dimension 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 2.17 has nine Perceived Quality and seven Perceived Utility statements regarding the dimensions' conformity. Table 7 gives an overview of the statements representing each dimension. The Potential Re-usability dimension is represented by four statements. The support dimension is represented by three statements. The Performance and the Accuracy of the documentation dimensions are represented by two statements each, while the Usability, the Completeness of documentation, the Collaboration, the Interoperability and the Supporting EU Policies dimensions are represented by one statement each.

TABLE 7 – ACTION 2.17 STATEMENT MAPPING TO DIMENSIONS

	Perceived Quality Statements	Dimension
1	The structure of e-Certis is clear and easy to follow	Usability
2	e-Certis is available and accessible whenever it is needed	Performance
3	The e-Certis perform the service successfully upon the first request	Performance
4	The support team showed a sincere interest in solving users' problem	Support
5	The support team provided prompt replies to the users' inquiries	Support
6	The support team has the knowledge to answer users' questions	Support
7	The documentation is accurate	Accuracy of the documentation
8	The documentation is free from grammar/style errors	Accuracy of the documentation
9	The documentation is complete and does not require additions	Completeness of the documentation
	Perceived Utility Statements	Dimension
1	Overall e-Certis helps to save costs	Potential Re-usability
2	Overall, the result of e-Certis helps to save time	Potential Re-usability
3	Overall, the tool supports effective reuse of tools/documentation	Potential Re-usability
4	e-Certis is planned to be used in future	Potential Re-usability
5	The e-Certis helps successfully cooperate with other public administrations/departments	Collaboration
6	Overall, the e-Certis supports effective electronic cross-border and cross-sector interaction	Interoperability
7	The e-Certis supports the implementation of European community policies and activities	Supporting EU Policies

5.4.1.2.2 DIMENSIONS CONFORMITY RESULTS

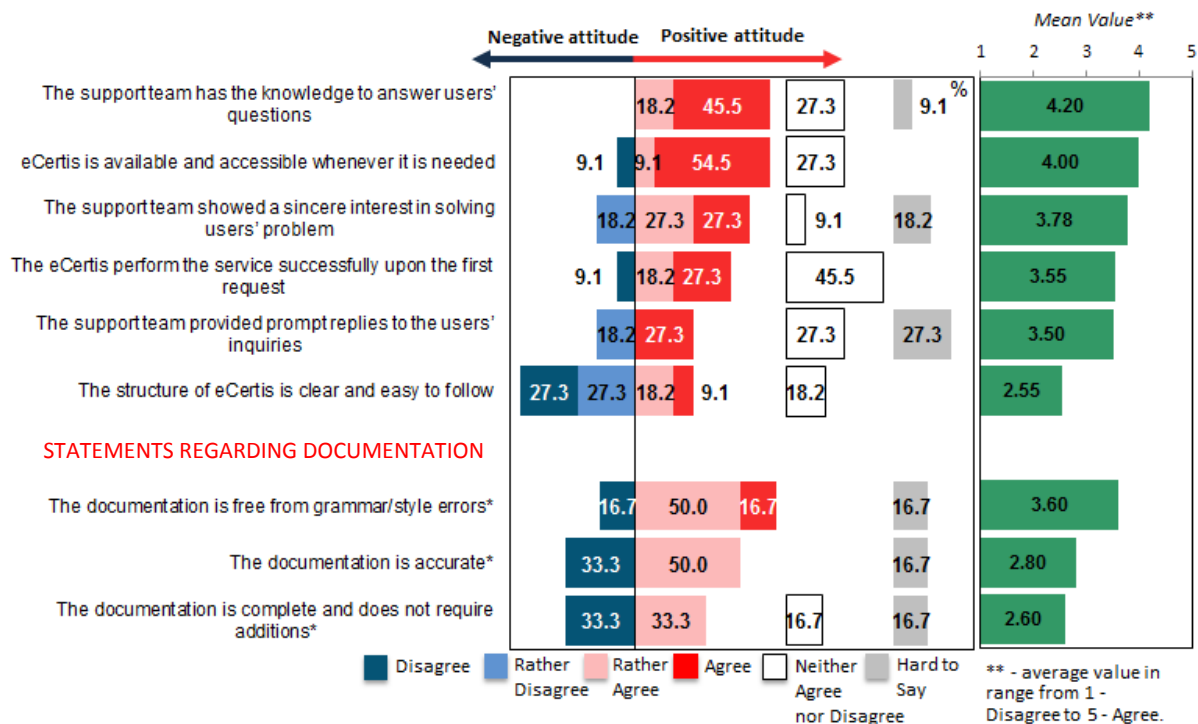
For the purpose of describing dimensions' conformity to the action, nine Perceived Quality and seven Perceived Utility statements were designed for the survey. The respondents are asked to evaluate the extent to which these statements conform to this particular action.

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 bar in blue represents the negative attitude (answers 'Disagree' and 'Rather Disagree'), whereas the bars in pink/red represent the positive attitude (answers 'Agree' and 'Rather Agree'). In addition, a neutral opinion (the bars in white) and the answer 'Hard to say' (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 2.17 PERCEIVED QUALITY DIMENSIONS CONFORMITY RESULTS



Base: All respondents, n=11 (One respondent ~ 9.1%)

*Base: Respondents, who are eCertis editors or represent Prequalification service/Aggregator/National register, n=6 (One respondent ~16.7%)

** - average value in range from 1 - Disagree to 5 - Agree. "Hard to say" was not considered for the calculation.

Figure 4 shows that most of the statements have been evaluated as conformable to e-Certis as the mean values are higher than the neutral value 3 – ‘Neither Agree nor Disagree’. Respondents are satisfied with the work of the support team and the performance of e-Certis. However, the data indicates that some aspects should be improved. More than half of the respondents disagree that the structure of e-Certis is clear and easy to follow.

Regarding the documentation, respondents also think that some improvements are necessary, as two out of six respondents disagree that documentation is accurate and complete and one respondent disagree that the documentation is free from grammar/style errors. The results do not reflect any statistically meaningful differences between the mean values, as they were evaluated by only five respondents each (one respondent in each case chose an answer ‘Hard to say’), meaning that the standard error is very high.

FIGURE 5 – ACTION 2.17 PERCEIVED UTILITY DIMENSIONS CONFORMITY RESULTS

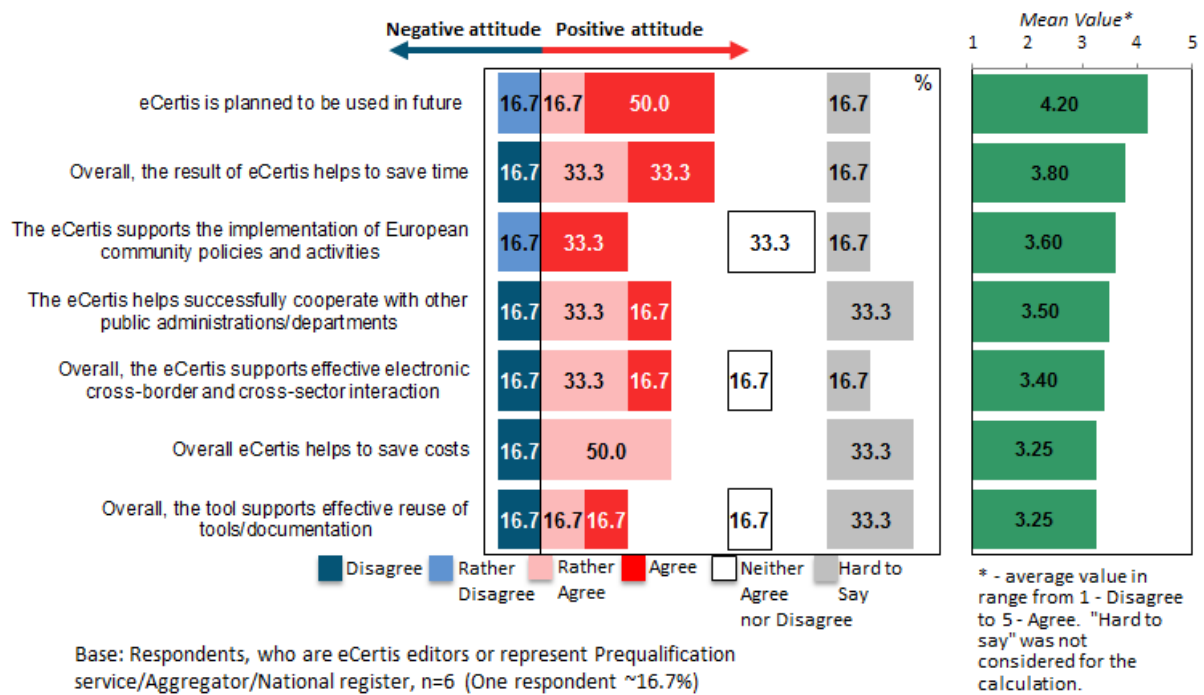


Figure 5 indicates that all Perceived Utility statements are evaluated as relevant to e-Certis. The average value is higher than the neutral value 3 – ‘Neither Agree nor Disagree’. However, due to the low number of respondents, the standard error is very high and the mean value does not reflect any statistically meaningful differences.

Table 8 and Table 9 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.

The additional statistical calculations¹² - mode, standard deviation and standard error are excluded from the data analysis due to a low number of respondents. With reference to the theory used in business research methods,¹³ it is concluded that for statistically meaningful calculations the minimum respondent number should be equal to or greater than ten per statement. Because two Perceived Quality and all four Perceived Utility dimensions were evaluated by only six respondents and the other three Perceived Quality dimensions have some respondents who did not provide an exact evaluation (they selected the answer 'Hard to say').

TABLE 8 – ACTION 2.17 AVERAGE RATING PER PERCEIVED QUALITY DIMENSION

	Dimension	MEAN
Per dimension	Support	3.86
	Performance	3.78
	Accuracy of the documentation	3.20
	Completeness of the documentation	2.60
	Usability	2.55
Total Criterion Score		3.20

The survey results show that three Perceived Quality dimensions (Support, Performance and Accuracy of the documentation) are evaluated as relevant to e-Certis as their mean values are higher than the neutral value 3. The Completeness of the documentation and the Usability dimensions have a lower mean value, meaning that from the Perceived Quality perspective documentation is the weakest aspect of e-Certis and improvements of documentation are needed.

TABLE 9 – ACTION 2.17 AVERAGE RATING PER PERCEIVED UTILITY DIMENSION

	Dimension	MEAN
Per dimension	Potential Re-usability	3.67
	Supporting EU Policies	3.60
	Collaboration	3.50
	Interoperability	3.40
Total Criterion Score		3.54

The survey results show that all four Perceived Utility dimensions (Potential Re-usability, Supporting EU Policies, Collaboration and Interoperability) are evaluated as almost equally relevant to e-Certis as their mean values fall within the range of the standard error.

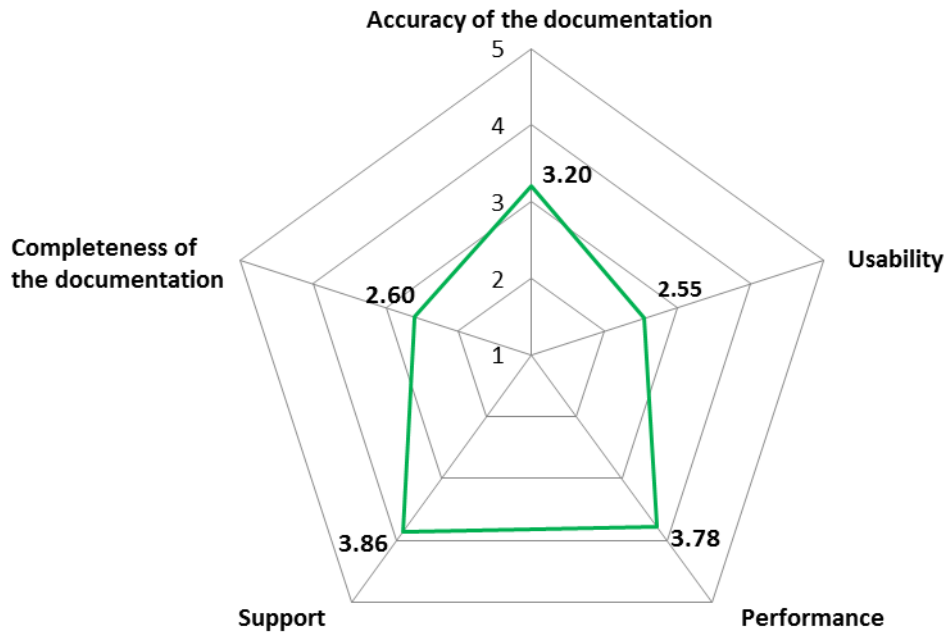
¹² Dictionary of statistics & methodology: a nontechnical guide for the social sciences (page 226).

¹³ Cooper D. R., Schindler P. S. (2013), Business Research Methods, 12th Edition

5.4.1.2.3 CRITERION SCORE AGGREGATION

Figure 6 and Figure 7 provide a visual overview of the dimension conformity scores.

FIGURE 6 – ACTION 2.17 PERCEIVED QUALITY CRITERION SCORE AGGREGATION



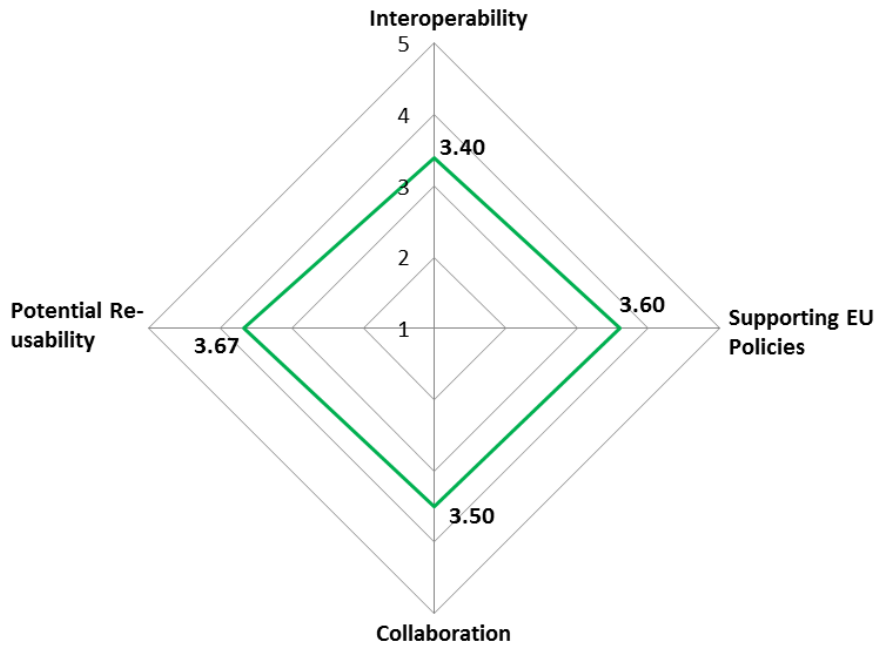


FIGURE 7 – ACTION 2.17 PERCEIVED UTILITY CRITERION SCORE AGGREGATION

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.

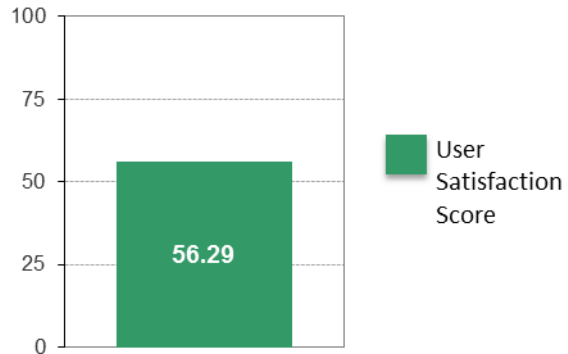
The User Satisfaction Score is assessed with reference to the results of the dimensions’ importance and dimensions’ conformity evaluation. The User Satisfaction Score is measured at the individual level for each of the survey respondents via identification of the important dimensions for that particular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

To increase the accuracy of the calculation, a specific weight coefficient is applied to the dimensions. To those dimensions which were evaluated as “Important”, a weight coefficient of 1 was applied, while a coefficient of 0.5 was applied to the dimensions which were 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 8 – ACTION 2.17 PERCEIVED QUALITY USER SATISFACTION SCORE

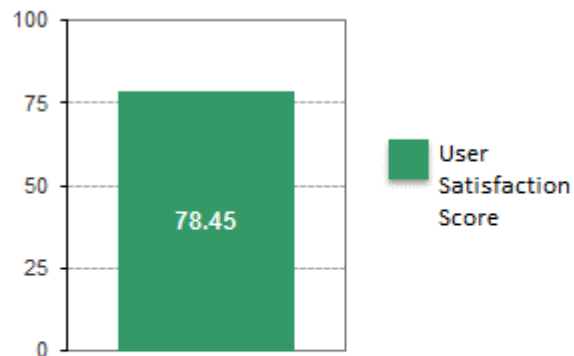
Figure 8 shows that the User Satisfaction Score is **56.29**. The result indicates an average level of respondent satisfaction with the Perceived Quality of e-Certis, meaning that those Perceived Quality dimensions which are important to respondents are also partially relevant to e-Certis.



Base: All respondents, n=11
 *Base: Respondents, who are eCertis editors or represent Prequalification service/Aggregator/National register, n=6

FIGURE 9 – ACTION 2.17 PERCEIVED UTILITY USER SATISFACTION SCORE

Figure 9 shows that the User Satisfaction Score is **78.45**. The result indicates a good level of respondent satisfaction with the Perceived Utility of e-Certis, meaning that those Perceived Utility dimensions which are important to respondents are also relevant to e-Certis.



Base: Respondents, who are eCertis editors or represent Prequalification service/Aggregator/National register, n=6

5.4.3 Net Promoter Score

The Net Promoter Score® (NPS) is a widely used management tool that helps evaluate the loyalty of a customer relationship¹⁴. This management tool has been adapted to suit the ISA programme’s Evaluation and Monitoring activities and measures the overall respondents’/stakeholders’ experience and loyalty to a specific ISA action.

¹⁴ Official webpage of Net Promoter Score® community <http://www.netpromoter.com/home>.

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”¹⁵. 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:

$$\text{NPS} = \% \text{ of Promoters} - \% \text{ of Detractors}^{15}$$

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

FIGURE 10 – ACTION 2.17 NET PROMOTER SCORE

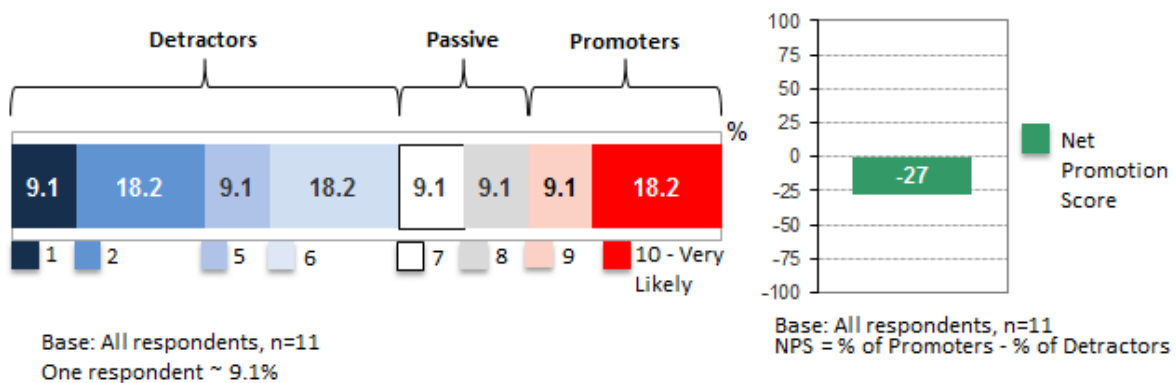


Figure 10 shows that six out of eleven respondents are unsatisfied e-Certis users, meaning that they would not recommend it to colleagues or other PAs, while three respondents are Promoters, who would recommend it. However, three out of six detractors did evaluate the possibility of recommending e-Certis to others with values five and six, which indicates that with some improvements they could become Passive users or even Promoters of e-Certis. The Net Promoter Score value is calculated as the percentage difference between Promoters and Detractors. The NPS is **-27** (NPS is expressed in whole numbers).

¹⁵ Markey, R. and Reichheld, F. (2011), “The Ultimate Question 2.0: How Net Promoter Companies Thrive in a Customer-Driven World”

5.4.4 Overall Score

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

To calculate the Overall 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 Utility score, the average value of these four measurements is calculated. To reduce any linear scale to a different linear scale the following formula¹⁶ 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:

$$(5-1) * ((-27) - (-100)) / (100 - (-100)) + 1 = 4 * 73 / 200 + 1 = 292 / 200 + 1 = 1.46 + 1 = 2.46$$

TABLE 10 – ACTION 2.17 OVERALL PERCEIVED QUALITY SCORE CALCULATION

NAME OF THE SCORE	ORIGINAL VALUE	VALUE AFTER REDUCING TO A FIVE POINT SCALE
Usefulness Score	4.36	3.24
Value Score	3.51	3.51
User Satisfaction Score	56.29	3.25
Net Promoter Score	-27	2.46
OVERALL PERCEIVED QUALITY SCORE		3.12

¹⁶ Transforming different Likert scales to a common scale. IBM. Retrieved February 04. 2016., from <http://www-01.ibm.com/support/docview.wss?uid=swg21482329>

The survey results show that, on a 5-point scale, the Value Score (**3.50**), The User Satisfaction Score (**3.25**) and the Usefulness Score (**3.24**) have higher values, than the Net Promoter Score (**2.46**) and are above the average score – 3, meaning that e-Certis is beneficial to users overall. However, the fact that e-Certis has received a Net Promoter Score that is below the average value 3, indicates that there are some aspects that need to be improved.

TABLE 11 – ACTION 2.17 OVERALL PERCEIVED UTILITY SCORE CALCULATION

NAME OF THE SCORE	ORIGINAL VALUE	VALUE AFTER REDUCING TO A FIVE POINT SCALE
Usefulness Score	4.36	3.24
Value Score	3.59	3.59
User Satisfaction Score	78.45	4.14
Net Promoter Score	-27	2.46
OVERALL PERCEIVED UTILITY SCORE		3.36

The survey results show that regarding overall Perceived Utility score the Value Score is slightly higher (**3.59**) if compared to Perceived Quality Value Score (**3.51**), while the User Satisfaction score is significantly higher **4.14** compared to **3.25**. It means that users are more satisfied with the Perceived Utility dimensions.

5.5 ACTION STRENGTHS, WEAKNESSES, INSIGNIFICANCE AND COMPLEMENTS

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 insignificance and complements.

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 (1st quadrant);
- Weaknesses – Essential to respondents but not relevant to the action (2nd quadrant);
- Insignificance – Not essential to respondents and not relevant to the action (3rd quadrant);
- Complements – Not essential to respondents but relevant to the action (4th quadrant).

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

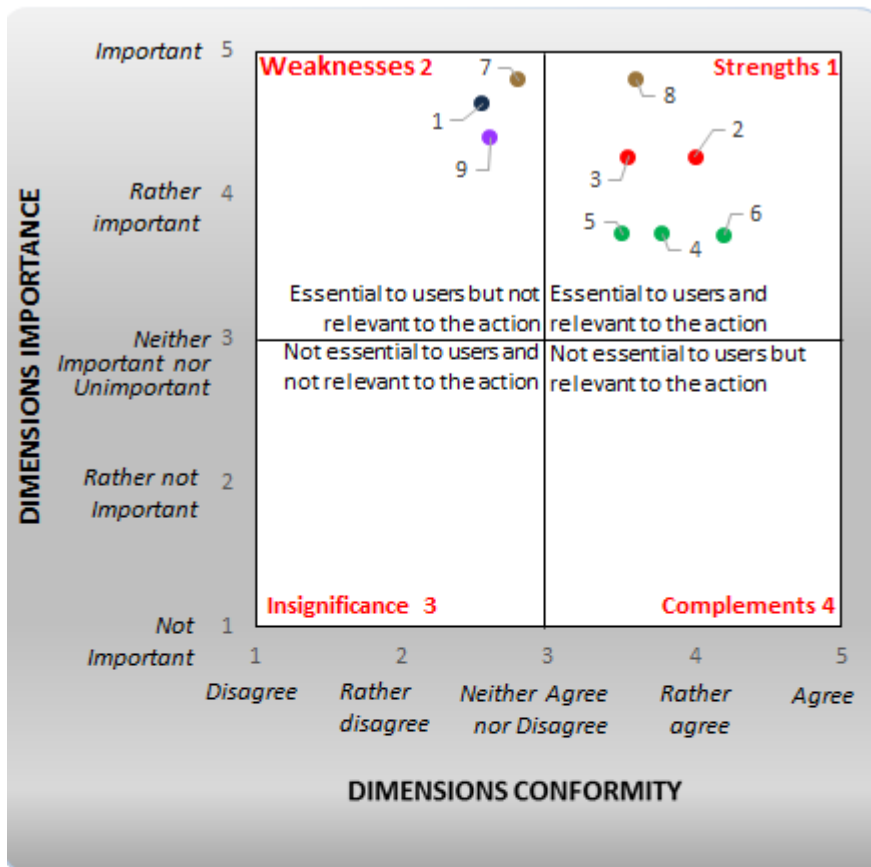
- Dark blue: Usability;
- Red: Performance;

- Green: Support;
- Brown: Accuracy of the documentation;
- Purple: Completeness of the documentation.

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

- Dark blue: Potential Re-usability;
- Red: Collaboration;
- Green: Interoperability;
- Brown: Supporting EU Policies.

FIGURE 11 – ACTION 2.17 PERCEIVED QUALITY ACTION STRENGTHS, WEAKNESSES, INSIGNIFICANCE AND COMPLEMENTS



I. Usability:

1 - The structure of eCertis is clear and easy to follow

II. Performance:

- 2 - eCertis is available and accessible whenever it is needed
- 3 - The eCertis perform the service successfully upon the first request

III. Support:

- 4 - The support team showed a sincere interest in solving users' problem
- 5 - The support team provided prompt replies to the users' inquiries
- 6 - The support team has the knowledge to answer users' questions

IV. Accuracy of the documentation:

- 7 - The documentation is accurate
- 8 - The documentation is free from grammar/style errors

V. Completeness of the documentation:

- 9 - The documentation is complete and does not require additions

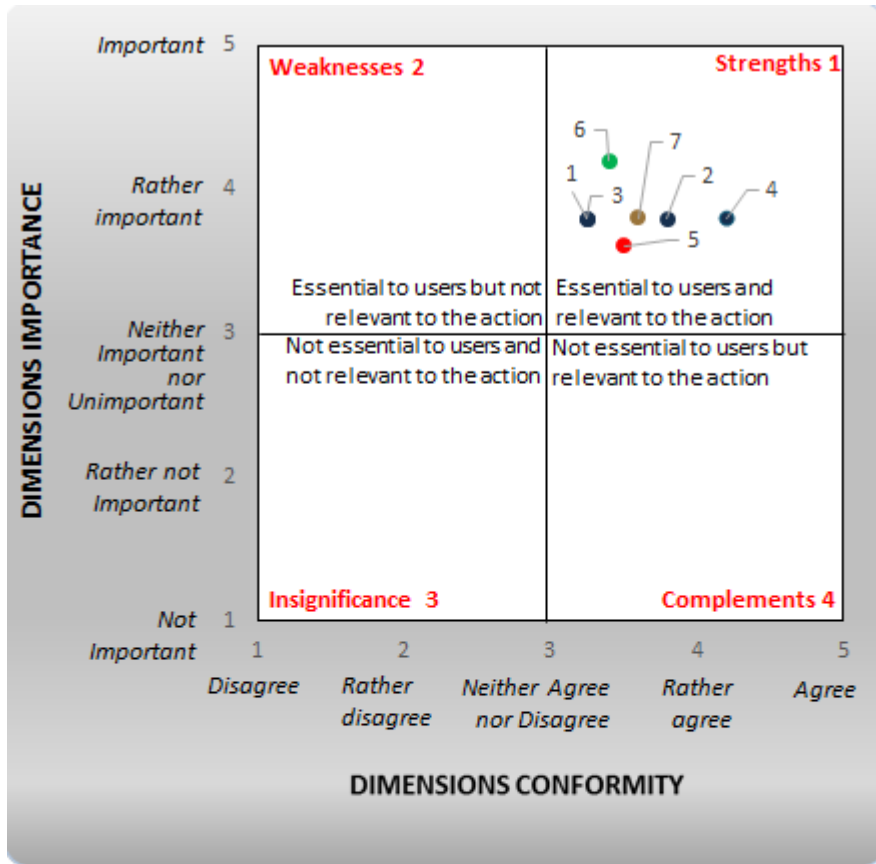
As seen in Figure 11, six out of nine statements are evaluated as essential to the respondents and relevant to the action - all of them are placed in the 1st quadrant and are identified as strengths of e-Certis. The most relevant statements are regarding performance of e-Certis and support of the e-Certis team.

However, three out of nine statements are essential to the respondents, but irrelevant to the action, meaning that they represent the weaknesses of e-Certis:

- 'The structure of e-Certis is clear and easy to follow' (statement 1);

- 'The documentation is accurate' (statement 7) and
- 'The documentation is complete and does not require additions' (statement 9).

FIGURE 12 – ACTION 2.17 PERCEIVED UTILITY ACTION STRENGTHS, WEAKNESSES INSIGNIFICANCE AND COMPLEMENTS



I. Potential Re-usability

- 1 - Overall eCertis helps to save costs
- 2 - Overall, the result of eCertis helps to save time
- 3 - Overall, the tool supports effective reuse of tools/documentation
- 4 - eCertis is planned to be used in future

II. Collaboration:

- 5 - The eCertis helps successfully cooperate with other public administrations/departments

III. Interoperability:

- 6 - Overall, the eCertis supports effective electronic cross-border and cross-sector interaction

IV. Supporting EU Policies:

- 7 - The eCertis supports the implementation of European community policies and activities

As seen in Figure 12, all the statements are evaluated as essential to the respondents and relevant to the action - all of them are placed in the 1st quadrant and are identified as strengths of e-Certis.

When comparing different statements, it is evident that for respondents' effective electronic cross-border and cross-sector interaction via e-Certis is the most important aspect, while the most relevant are the fact, that e-Certis helps to save time and it is planned to be used in future.

5.6 RESPONDENT RECOMMENDATIONS AND OPINIONS

This section provides an overview of the feedback received on e-Certis. 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 12 – ACTION 2.17 RECOMMENDATIONS AND BENEFITS

"Do you have any recommendations to improve eCertis?"
Make the guide available in either pdf or Word format. If clicking on relevant documentation in your own country could give you the choice of seeing similar documentation in other countries that would be very helpful.
e-Certis needs rules what countries are supposed to input in it, not just what but also in which format (as questions, as paragraphs directly from laws etc.)
e-Certis data model, using the rest interface should be aligned with the ESPD data model, when it comes to usage of code lists, values etc. in order to promote interoperability between the two artefacts/systems
Larger text fields for submitting information. Simplify changing information that is submitted and published.
It should be more clear and easy to follow and more data (updated) should be available in order to make it more reliable.
Certainly it would be possible to improve the usage of e-Certis by improving the evidences and criterions of research engine. It would be also interesting to get an extract in the spreadsheet format of the evidences and criterions based on country.
"What are the main benefits or the most valuable things about eCertis?"
Maybe using the data in the Commission ESPD service
Thanks to the e-Certis, we can have a global view of different applicable laws and expectations of each of the European Union's country. In addition, e-Certis allows to improve the expected interoperability between different data which are necessary to pass in the public market. Finally, e-Certis can be a real lever in the use of the DUME (ESPD).
Evidence provision for foreign/eu criteria
Links to the national databases
Data available and accessible in one platform
"Do you have any other recommendations to share with us?"
Without doubts it would be interesting to have more complete documentation guide in order to facilitate the usage for editors.

6 SURVEY CONCLUSION AND RECOMMENDATIONS

The objective of the survey was to evaluate the Perceived Quality and the Perceived Utility of Action 2.17 – e-Certis and its documentation. The following conclusions have been drawn based on the analysis performed:

- The ISA Action 2.17 – e-Certis received a **slightly higher than average Perceived Quality and Perceived Utility assessment with an Overall Perceived Quality Score of – 3.12 out of 5 and Overall Utility Score of – 3.36 out of 5**. The Overall Perceived Quality and Perceived Utility Scores and the average values of the individual parameters indicate that, overall, the respondents consider e-Certis beneficial; however, there are some aspects that need to be improved.
- Taking into account dimensions' importance and dimensions' conformity, Performance and Support are the most important strengths of e-Certis.
- Respondents who think that e-Certis is useful in their work highlight the usable and updated information which e-Certis provides, while the lack of specific information is the main reason why some respondents think that e-Certis is not useful in their work.
- Overall, respondents are more satisfied with the Perceived Utility (**78.45**) of e-Certis compared to the Perceived Quality (**56.29**).
- The main weaknesses are that e-Certis does not have a clear and easy to follow structure and the documentation is not accurate and complete.
- Respondents recommend:
 - Making the guide available in either PDF or Word format;
 - A choice of seeing similar documentation when clicking on relevant documentation;
 - Specific rules regarding what countries are supposed to input in e-Certis;
 - To improve the evidences and criterions of research engine;
 - The interface should be aligned with the ESPD data model;
 - e-Certis needs to be more clear and easy to follow.

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

- To improve the completeness and accuracy of the documentation.
- The structure of e-Certis needs to be more user friendly to increase the overall user satisfaction with e-Certis and willingness to promote it.

Comments on the survey results received from the Project Officer:

- The Project Officer of the Action 2.17 agrees, with the results and admits that such results were expected.

- This report shows that the usefulness of e-Certis is based on data provided by Member States. Therefore this report is useful for us to persuade Member States to update the data in e-Certis properly.
- On the 14th of February e-Certis team had an e-Certis editorial meeting to discuss the data quality. France and Greece informed that they will provide data in roughly 2 months in e-Certis. Other Member States used the meeting as well to update the data in the system.
- The Project Officer suggests that a survey regarding e-Certis and its Perceived Quality and Perceived Utility should be repeated at the end of the year of 2017 to compare the results and see if there are improvements. This new survey should be split into two parts: the questions regarding data and the questions about the IT solution.

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 mean¹² (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 values¹² for each case and divide that sum by the total number of cases;
- Mode¹² 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® (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 deviation¹² 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 error¹² 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;