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INTEROPERABILITY SOLUTIONS FOR  
EUROPEAN PUBLIC ADMINISTRATIONS  
MONITORING AND EVALUATION

D03.05 Perceived Quality Monitoring Report

ISA action 5.2. Support for the European  
Interoperability Strategy (EIS)

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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 monitoring of **the ISA Action 5.2 – Support for the European Interoperability Strategy (EIS) including its Governance**. The objective of the survey was 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' expectations<sup>1</sup>.

Action 5.2 on the EIS governance support is a long lasting action under the ISA programme. During 2015 and with the publication of the Digital Single Market (DSM) strategy, a revision of EIS was decided and the action supported it. Therefore, the survey of Action 5.2 included the evaluation of the EIS Governance Support services and the revised EIS. The survey was designed in the EUSurvey tool and distributed by e-mail to 33 contacts. Over the duration of one month<sup>2</sup>, 10 stakeholders have responded.

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

**TABLE 1 – ACTION 5.2 SURVEY MAIN RESULTS**

	Score	Explanation of the score scale
<b>Usefulness Score</b>	4.80	Average value on a scale from 1 (Not useful at All) to 7 (Very Useful).
<b>Value Score</b>	3.43	Average value of all the statement means in the range from 1 (Disagree) to 5 (Agree).
<b>User Satisfaction Score</b>	60.72	User Satisfaction Score from 0 (none of the respondents are satisfied) to 100 (all respondents are satisfied with the work performed by the Action).
<b>Net Promoter Score</b>	-20	Net Promoter Score from -100 (every customer is a Detractor) to 100 (every customer is a Promoter).
<b>OVERALL PERCEIVED QUALITY SCORE</b>	3.25	<b>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.</b>

It is important to take into account that only 10 out of 33 respondents participated in the survey, from which only one respondent uses the outcomes of the action regularly, meaning that the results of this action perform more like indicators of the Perceived Quality without fully representing the opinion of all the users.

Main findings:

- The survey results demonstrate that, in general, users of EIS consider that the perceived quality is only average, meaning that there is a number of aspects requiring improvement.

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

<sup>2</sup> The survey was launched on the 22<sup>nd</sup> of January 2016 and was active until the 26<sup>th</sup> of February 2016.

- **The weakest point of EIS is the fact that none of the respondents who participated in the survey are fully satisfied with the services provided by EIS and they would not recommend the action's outcomes to others in the way it is now.**
- Respondents have evaluated the Accuracy of the European Interoperability Strategy as more beneficial than Expandability, Usability and Completeness, meaning that documentation is accurate – free from grammar/style errors, the sources listed are verifiable.
- Improvements in the Completeness and Usability of the action would be of benefit to EIS.

## REVISION HISTORY

Date	Version	Description	Authors	Approved by
17/03/2016	0.10	Initial version	CGI - Accenture	
25/04/2016	0.20	Updated version	CGI - Accenture	
04/05/2016	0.30	Updated version	CGI - Accenture	
24/05/2016	0.40	Updated version	CGI - Accenture	
13/06/2016	1.00	Final version	CGI - Accenture	
16/08/2016	2.00			Approved by HVA on 29/07/2016.

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# 1 INTRODUCTION

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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 measurement for the Action 5.2 – European Interoperability Strategy (EIS).

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;
- **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 measurements;
  - Action strengths, weaknesses, opportunities and threats;
  - Respondent recommendations and opinions;
- **Section 6:** provides the survey conclusion and recommendations;
- **Section 7:** appendix includes:
  - Raw data export;
  - Glossary.



## 2 ACTION 5.2 – SUPPORT FOR THE EUROPEAN INTEROPERABILITY STRATEGY (EIS)

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The European Interoperability Strategy (EIS) is one of the two documents communicated from the European Commission to Member States (MSs) as a guide towards interoperability in the public sector. EIS provides guidance regarding the interaction, exchange and cooperation between European public administrations for the delivery of European public services across national borders and sectors. It helps the implementation of the European Interoperability framework and acts as an implementation roadmap.

Ensuring interoperability between the legal instruments, business processes, information exchanges and components that support the delivery of European public services is a continuous task.

Action 5.2 was initially set up in 2010 to support the implementation of EIS and particularly its governance in EC and Member States. Since then, the action has gone through changes that reflect the revised strategy and its objectives in 2012/2013.

Currently EIS is being revised under the frame of the Digital Single Market Strategy. The action is focused on supporting this revision of EIS. The final review of the action will be done in 2016 during the newly adopted ISA<sup>2</sup> Programme which will include the revised framework and the revised strategy as part of a new Commission Communication.

### **Action's objectives:**

- Monitoring the implementation of the EIS in MSs.
- Identifying actions that enhance or hinder EIS implementation.
- Ensuring regular maintenance and evolution of the EIS so that it stays aligned with the EU political agenda and with the priorities and initiatives of the MSs regarding European public services and interoperability.

### **Action's benefits:**

- Ensuring awareness of and strategic alignment between interoperability activities and MSs' related priorities and coherence of interoperability actions at EU and Member State levels.
- Achieving strategic alignment between interoperability activities and EU policies as well as coherence of interoperability actions within the Commission.

## 3 SURVEY METHODOLOGY

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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 scope. 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 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 and are as follows:

- **Accuracy (A):** the freedom from mistake or error; a synonym is “correctness”<sup>3</sup>;
- **Completeness (C):** the possession of all necessary parts, elements or steps<sup>3</sup>;
- **Usability (U):** the capability, convenience of using the document(s)<sup>3</sup>;
- **Expandability (Ex):** the ability to apply in broader/other context (for example to cross-sector, or from local to regional, national level)<sup>3</sup>.

The survey statements for the dimensions listed above are developed according to the information presented in the framework specification document<sup>3</sup>.

### 3.2 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 level measurements.

Action level measurement:

- 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 EIS Governance Support service and/or revised EIS documentation to your work?”*

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<sup>3</sup> Arthur J. D, Stevens K. T (1990), “Document Quality Indicators: A Framework for Assessing Documentation Adequacy”

- 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.

Perceived Quality level measurements:

- The Value Score shows the action's compliance to the dimensions. 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 and criterion score aggregation.
- The User Satisfaction Score shows how satisfied the respondents are with the action. The User Satisfaction Score is assessed with the reference to the results of the dimension's 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® (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 would describe the overall Perceived Quality 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.

### 3.3 SURVEY ARCHITECTURE

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

- The demographic profile: for the purpose of identifying the respondent's demographic profile, they 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 scale<sup>4</sup>.
- The Perceived Quality Measurement: in order to measure the Perceived Quality, the respondents are asked to grade dimensions and statements based on their level of importance and agreement. A 5-point Likert scale<sup>4</sup> is used as a grading scale. Responses to these questions are used to determine the Value Score, action strengths and weaknesses, 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 public administrations.
- Action strengths, weaknesses, opportunities and threats shows the location of the action statements based on dimension conformity and importance results.
- The recommendations: the last section includes three open questions for recommendations and opinions regarding the action and the survey.

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<sup>4</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 2 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 2 – ACTION 5.2 SURVEY TECHNICAL INFORMATION ABOUT THE FIELDWORK**

<b>Start date:</b>	22/01/2016
<b>End date:</b>	26/02/2016
<b>The survey launch method:</b>	E-mail notification
<b>Reminders:</b>	E-mail reminders sent out on 29/01/2016, 09/02/2016, and 22/02/2016
<b>Target population:</b>	33
<b>Total number of respondents:</b>	10
<b>Number of suitable respondents for the survey:</b>	10

## 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 respondents from the demographical point of view. It illustrates the diversity of the respondents. Table 3 gives an overview of the demographic profile of the respondents. It is important to take into account that only ten respondents participated in this survey, thus the percentage value of one respondent is 10%.

**TABLE 3 – ACTION 5.2 DEMOGRAPHIC PROFILE OF RESPONDENTS**

RESPONDENT PROFILE			
		Amount	Col %
<b>ALL RESPONDENTS</b>		10	100.0
<b>RESPONDENT GROUP*</b>	European public administrations	5	50.0
	Commission services that develop, support or maintain European digital public services	4	40.0
	DG DIGIT	3	30.0
	Policy makers in EC or Member States	3	30.0
<b>ORGANISATION</b>	EU institutions	6	60.0
	Public administration at national level	4	40.0
<b>LOCATION</b>	Belgium	6	60.0
	Czech Republic	1	10.0
	Finland	2	20.0
	United Kingdom	1	10.0

Base: all respondents, n=10

\*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 the action. Table 4 illustrates the diversity of the action's output users and their frequency of using EIS. **It is important to take into account that only ten respondents participated in this survey, thus the percentage value of one respondent is 10.0%.**

**TABLE 4 – ACTION 5.2 USAGE OF EIS**

USAGE PROFILE			
		Amount	Col %
<b>ALL RESPONDENTS</b>		10	100.0
<b>POSITION LEVEL</b>	Policy maker	6	60.0
	Business manager	1	10.0
	Legal responsible	1	10.0
	Other (mentioned 1 time: Team Coordinator; Policy maker and eGovernment department specialist)	2	20.0
<b>INTENSITY WORKING WITH EIS GOVERNANCE SUPPORT SERVICES AND/OR DOCUMENTATION</b>	Have used it in daily job	1	10.0
	Just looked at it	2	20.0
	Just heard, but don't use/work with it*	7	70.0

*Base: all respondents, n= 10*

*\*Respondents who selected the answer marked with an asterisk evaluated the Perceived Quality from a theoretical point of view.*

### 5.3 USEFULNESS SCORE

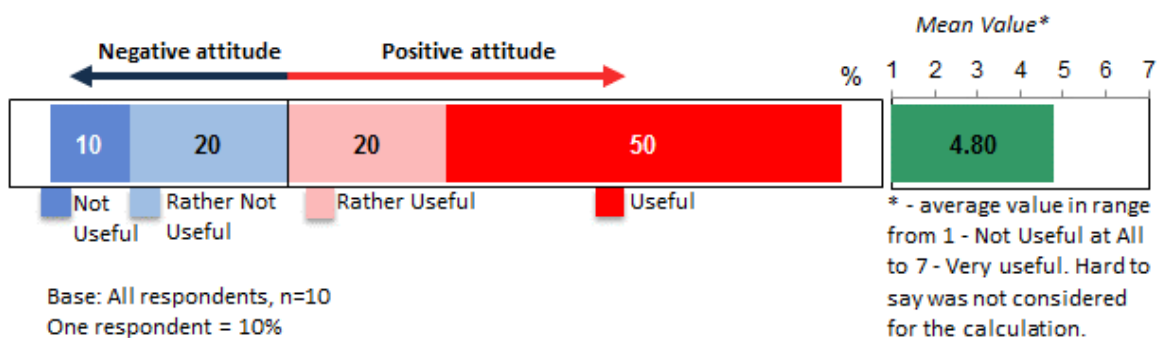
The Usefulness Score is calculated taking into account a single question: “Overall, how useful is/would be the EIS Governance Support service and/or revised EIS documentation to your work?”

The survey respondent is asked to provide his/her opinion using the 7-point Likert grading scale. For 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. 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 5.2 USEFULNESS SCORE**



The survey results show that EIS seems useful to the majority of the respondents, i.e., to five respondents; only three respondents out of ten provided a negative response. I. The mean value is **4.80**, and it is between 4 - 'Rather Useful' and 5 - 'Useful' values, however, due to the fact that only 10 respondents participated in this survey out of whom only one respondent uses EIS at work, the data should be overlooked with caution.



## 5.4 PERCEIVED QUALITY MEASUREMENTS

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

### 5.4.1 Perceived Quality Value Score

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

#### 5.4.1.1 PERCEIVED QUALITY 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 it should not be considered as the action's weakness because of non-compliance with the outputs of the action.

Four Perceived Quality dimensions are included in the survey: Usability, Accuracy, Completeness and Expandability. This section describes the respondents' answers regarding the importance of the dimensions.

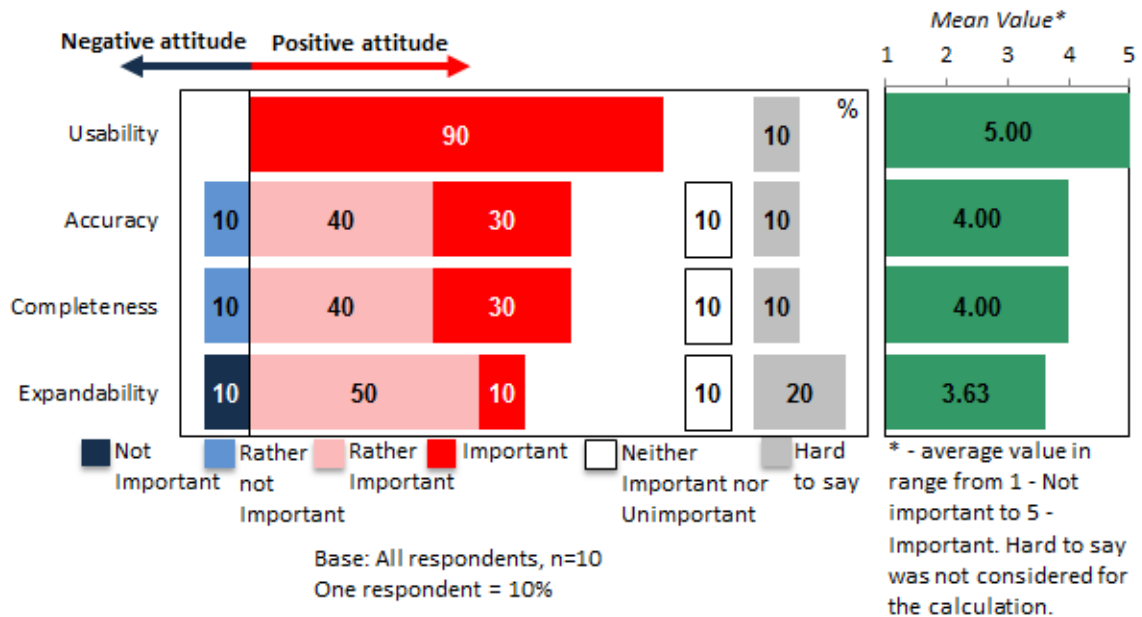
Each respondent is requested to provide his/her opinion using the 5-point Likert grading scale. For the dimension importance evaluation, a grading scale with values ranging from 'Important' to 'Not important' is used. An additional 'Hard to Say/Not Applicable' option is provided, however this score is 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*).

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 one (answers 'Rather important' and 'Important'). 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 2 – ACTION 5.2 PERCEIVED QUALITY DIMENSIONS IMPORTANCE RESULTS**

"How important are/would be the factors below to you when using EIS Governance Support services and/or revised EIS documentation, taking into consideration the EIS as a whole with all its outputs?"



The survey results indicate that respondents have evaluated the Usability dimension as the most important Perceived Quality dimension for EIS strategy. Nine out of ten respondents evaluated this dimension as 'Important' while for one respondent it was 'Hard to say'. The mean value is 5.00 which is the maximum value for the dimension importance. When thinking about the usage of EIS, the Accuracy and Completeness dimensions follow next with the mean value of 4.00. The EIS is not depending on the expansion, yet the Expandability dimension is evaluated with a mean value 3.63, which is higher than the average value/neutral value (3 - 'Neither Important nor Unimportant').

#### 5.4.1.2 PERCEIVED QUALITY DIMENSIONS CONFORMITY

In order to measure the Perceived Quality dimensions' conformity to the action (Usability, Accuracy, Completeness and Expandability), a set of descriptive statements was developed for each dimension. By evaluating the statement conformity to the action, the extent to which the ISA programme's Perceived Quality dimensions correspond to the particular action is measured.

This section provides an analysis of the statements. It starts with the statement mapping to the dimensions, which is followed by the analysis of the Perceived Quality dimension conformity statements.

##### 5.4.1.2.1 PERCEIVED QUALITY STATEMENT MAPPING TO DIMENSIONS

In total, Action 5.2 – EIS had nine statements regarding the dimensions' conformity. Table 5 gives an overview of the statements representing each dimension. The Accuracy and the Usability dimensions are represented by

three statements each, the Completeness dimension is represented by two statements, while the Expandability dimension is represented by one statement.

**TABLE 5 – ACTION 5.2 STATEMENT MAPPING TO PERCEIVED QUALITY DIMENSIONS**

	Statement	Dimension
1	The sources of EIS documentation listed are verifiable	Accuracy
2	The EIS documentation is free from grammar/style errors	Accuracy
3	The EIS documentation is accurate	Accuracy
4	The reference links work and are accessible	Completeness
5	The EIS documentation is complete and does not require additions	Completeness
6	The structure of the EIS documentation is clear and the systematic design remains consistent	Usability
7	The EIS documentation is appropriate/applicable to my business needs	Usability
8	The guidelines are easy to understand	Usability
9	The EIS documentation is applicable across sectors	Expandability

#### 5.4.1.2.2 PERCEIVED QUALITY DIMENSIONS CONFORMITY RESULTS

For the purpose of describing dimensions' conformity to the action, nine statements are designed for this survey. The respondents are 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 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 one (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 3 – ACTION 5.2 PERCEIVED QUALITY DIMENSIONS CONFORMITY RESULTS**

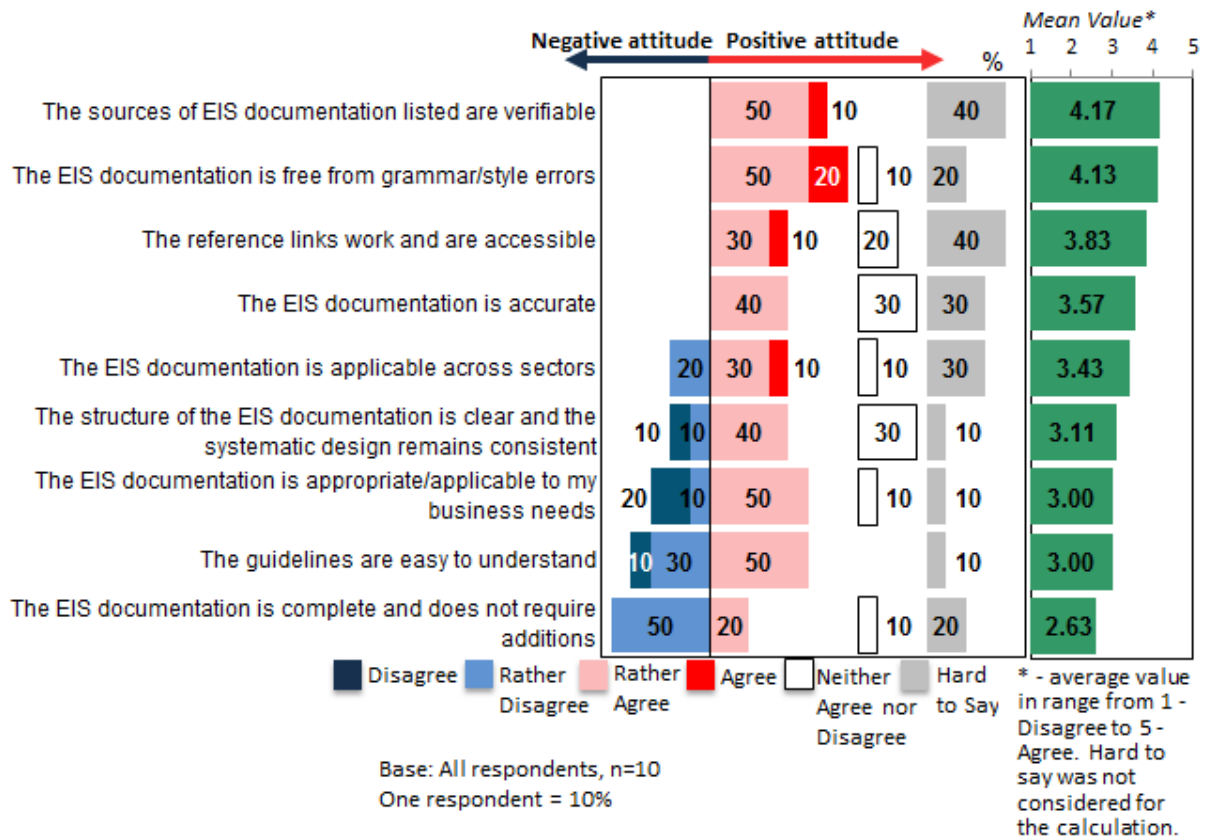


Figure 3 shows that seven out of nine statements are evaluated as reasonably relevant to EIS; the average value is higher than a neutral value (3 - 'Neither Agree nor Disagree'). One statement has an average value below the neutral value. This particular statement is not relevant to EIS. Also for many statements a non-negligible amount of respondents chose the answer 'Hard to say', meaning that they couldn't evaluate them or simply haven't had enough experience working with EIS. The most relevant statements regarding the evaluation of EIS are:

- 'The sources of EIS documentation listed are verifiable' (mean value 4.17);
- 'The EIS documentation is free from grammar/style errors' (mean value 4.13) and
- 'The reference links work and are accessible' (mean value 3.83).

Table 6 provides an overview of the statement conformity scores, which are summarised by dimensions. To calculate these scores, the average values of all the conformable dimension statements are taken into account.

**TABLE 6 – ACTION 5.2 AVERAGE RATING PER PERCEIVED QUALITY DIMENSION**

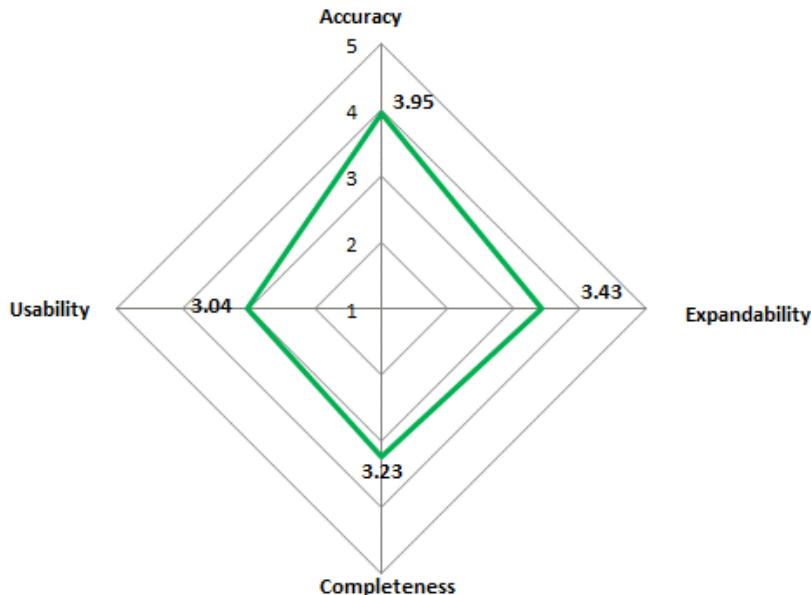
Per dimension	Dimension	MEAN
	Accuracy	3.95
	Expandability	3.43
	Completeness	3.23
	Usability	3.04
<b>Total Criterion Score</b>		<b>3.41</b>

The survey results show that the respondents evaluated the Accuracy statements as the most relevant to EIS (mean value **3.95**). The Expandability statements (mean value **3.43**) and the Completeness statements (mean value **3.23**) follow then. The respondents evaluated the Usability statements (mean value **3.04** points) as the least relevant (as neither relevant nor irrelevant, since the value is equal to the neutral value 3 - 'Neither agree nor disagree'). However, the fact that only ten respondents evaluated each statement should be taken into account. With a reference to the theory used in business research methods<sup>5</sup>, it is concluded that for statistically meaningful calculations, the minimum respondent number must be equal to or greater than ten per statement. At least one respondent evaluated every statement with an answer 'Hard to say', meaning that the additional statistical calculations<sup>6</sup> of mode, standard deviation and standard error could not be performed.

**5.4.1.2.3 PERCEIVED QUALITY CRITERION SCORE AGGREGATION**

Figure 4 provides a visual overview of the dimensions' conformity scores.

**FIGURE 4 – ACTION 5.2 PERCEIVED QUALITY CRITERION SCORE AGGREGATION**



<sup>5</sup> Cooper D. R., Schindler P. S. (2013), Business Research Methods, 12th Edition

<sup>6</sup> Dictionary of statistics & methodology: a nontechnical guide for the social sciences (page 226).

### 5.4.2 Perceived Quality 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.

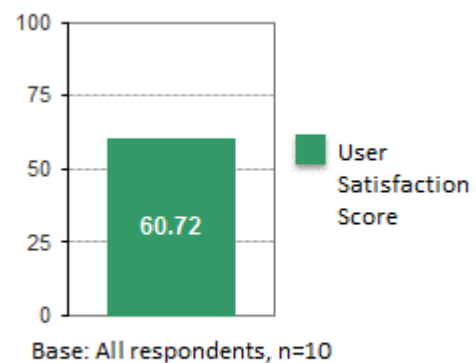
The User Satisfaction Score is assessed with reference to the results of the dimensions' importance and conformity evaluation. The User Satisfaction Score is measured at the individual level for each of the survey respondents via identification of the important dimensions for that particular respondent.

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 is 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 5 – ACTION 5.2 USER SATISFACTION SCORE**

Figure 5 shows that the **User Satisfaction Score is 60.72**. The result indicates an average level of respondent satisfaction with EIS. However this value is only indicative due to the low number of respondents who participated in this survey.



### 5.4.3 Perceived Quality Net Promoter Score

The Net Promoter Score® (NPS) is a widely used management tool that helps evaluate the loyalty of a customer relationship<sup>7</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>8</sup>. After the data analysis, the respondents are classified as follows:

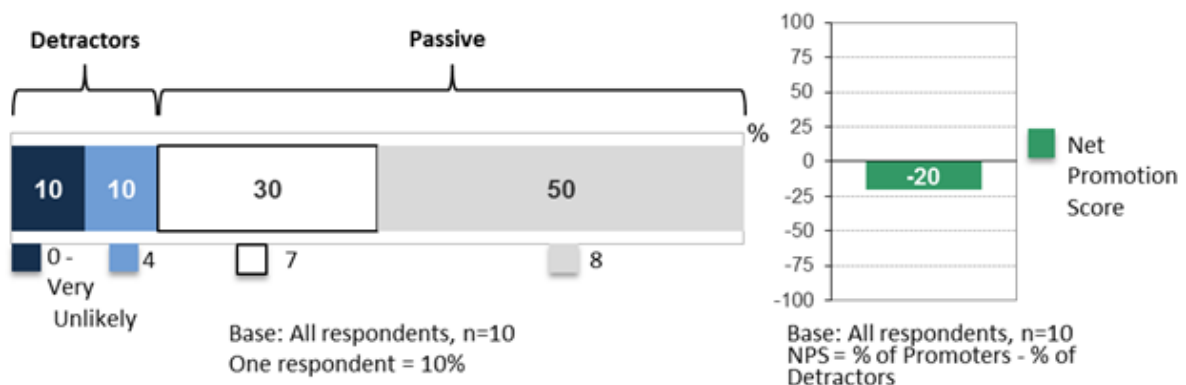
- **Promoters** (numeric values from 9 - 10) - loyal users who will keep using the action’s final outcome and refer others, promoting the usage of the action's outcomes;
- **Passives** (numeric values from 7 - 8) - satisfied but unenthusiastic users who will most probably not recommend the action's outcomes 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:

$$\text{NPS} = \% \text{ of Promoters} - \% \text{ of Detractors}^8$$

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 6 – ACTION 5.2 PERCEIVED QUALITY NET PROMOTER SCORE**



<sup>7</sup> Official webpage of Net Promoter Score® community <http://www.netpromoter.com/home>.

<sup>8</sup> Markey, R. and Reichheld, F. (2011), “The Ultimate Question 2.0: How Net Promoter Companies Thrive in a Customer-Driven World”

Figure 6 shows that none of the ten respondents are Promoters of the action, and two respondents are Detractors of EIS. Most of the respondents (eight out of ten) are passive when it comes to recommending EIS to colleagues or other public administrations. None of the respondents are fully satisfied with the Perceived Quality of the action and are loyal to it, however, most of them are not unhappy either, meaning that they are unenthusiastic users who could prefer to use their own or another solution, but with the right improvements they can become Promoters of the action.

#### 5.4.4 Overall Perceived Quality 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 Score is calculated.

To calculate the Overall Perceived Quality 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 score, the average value of these four measurements is calculated. To reduce any linear scale to a different linear scale the following formula<sup>9</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:*

$$(5-1) * ((-20) - (-100)) / (100 - (-100)) + 1 = 4 * 80 / 200 + 1 = 320 / 200 + 1 = 1.6 + 1 = 2.6$$

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<sup>9</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>



**TABLE 7 – ACTION 5.2 OVERALL PERCEIVED QUALITY SCORE CALCULATION**

NAME OF THE SCORE	ORIGINAL VALUE	VALUE AFTER REDUCING TO A FIVE POINT SCALE
<b>Usefulness Score</b>	4.80	3.53
<b>Value Score</b>	3.43	3.43
<b>User Satisfaction Score</b>	60.72	3.43
<b>Net Promoter Score</b>	-20	2.60
<b>OVERALL PERCEIVED QUALITY SCORE</b>		<b>3.25</b>

The survey results show that on a 5-point scale three out of four scores have received a positive evaluation – values are higher than 3 – ‘average value’. Due to the low number of respondents who participated in this survey and the high standard error in cases when the response rate is so low, the values of the Value Score and the User Satisfaction Score are not significantly higher than the value of the Usefulness Score. The Net Promoter Score is the only score with a significantly lower value.

## 5.5 PERCEIVED QUALITY ACTION STRENGTHS AND WEAKNESSES

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 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:

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

As seen in Figure 7, six statements are 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 EIS. Two statements are located exactly on the line between the 1<sup>st</sup> and 2<sup>nd</sup> quadrant. One statement is in the 2<sup>nd</sup> quadrant and is identified as a weakness of the EIS.

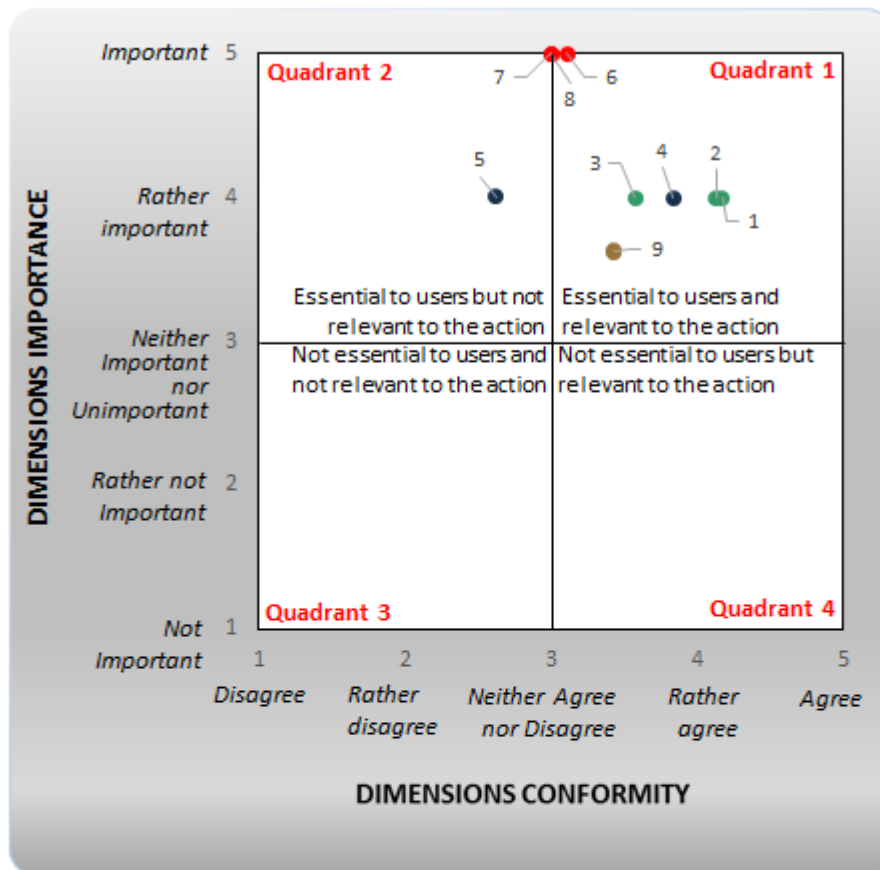
When comparing different statements, it is evident that the following three statements are important to the respondents, but are less relevant to EIS:

- *'The EIS documentation is complete and does not require additions'* (statement 5);
- *'The EIS documentation is appropriate/applicable to my business needs'* (statement 7) and
- *'The guidelines are easy to understand'* (statement 8).

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

- *'The sources of EIS documentation listed are verifiable'* (statement 1) and
- *'The EIS documentation is free from grammar/style errors'* (statement 2).'

FIGURE 7 – ACTION 5.2 PERCEIVED QUALITY STRENGTHS AND WEAKNESSES



**I. Accuracy:**

- 1 - The sources of EIS documentation listed are verifiable
- 2 - The EIS documentation is free from grammar/style errors
- 3 - The EIS documentation is accurate

**II. Completeness:**

- 4 - The reference links work and are accessible
- 5 - The EIS documentation is complete and does not require additions

**III. Usability:**

- 6 - The structure of the EIS documentation is clear and the systematic design remains consist
- 7 - The EIS documentation is appropriate/applicable to my business needs
- 8 - The guidelines are easy to understand

**IV. Expandability:**

- 9 - The EIS documentation is applicable across sectors

## 5.6 RESPONDENT RECOMMENDATIONS AND OPINIONS

This section provides an overview of the recommendations and opinions received about EIS. 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 8 – ACTION 5.2 RECOMMENDATIONS AND OPINIONS**

***"Do you have any recommendations to improve the project that supports the revised EIS including its governance, taking into consideration EIS as a whole with all its outputs - EIS Governance Support services, revised EIS documentation?"***

Perhaps it might be helpful to make available even more use cases, real-life practical examples from public administrations on how EIS recommendations are being applied. On the other hand, this might again generate the need for MS to provide these examples. We would like to thank all colleagues for sharing best practice and lessons learned. For example, we found particularly helpful examples provided in relation to the NIFO instrument. These descriptions of interoperability solutions/services helped stakeholders to see, what exactly is being "measured" by EIF criteria. We find also helpful willingness of EC contractors to provide consultations on how to fill in a questionnaire, if needed.

Extend the strategy beyond actions for the ISA<sup>2</sup> Work Programme. 2. Extend the governance to include other EU Institutions (not only Commission DIGIT+ Member States) 3. Make the strategy a living document. A strategy which is defined for 5 years and not changed is not a good strategy.

***"What are the main benefits or the most valuable things about EIS?"***

Since the project is focused mainly on the interoperability-related activities in support of the development of cross-border public services, we believe that the added value will be most visible when member states start actively developing providing these services. The guidelines will be then consulted by more stakeholders, perhaps with focused, specific project-related questions. For the moment we see the main value of the document as a reference-base and kind of check-list. National interoperability initiatives take into account provided recommendations.

Not much. It was used as guidance for the ISA Work Programme. But was not updated and thus not evolved to provide guidance during the ISA Work Programme revisions.

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

An effective strategy is not one that tries to encompass all things, but rather is very clear on the most important areas and the approach to be taken within them to achieve some tangible improvements.

## 6 SURVEY CONCLUSION AND RECOMMENDATIONS

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The objective of this survey was to evaluate the Perceived Quality of Action 5.2 – European Interoperability Strategy including its Governance. The respondents were asked to evaluate a strategy with assessment terms of tools, meaning that some of the evaluated aspects are clearly more important than others. For European Interoperability Strategy – the Accuracy dimension should be seen as more important than other dimensions. Also the Usability and Expandability statements and dimensions can only be evaluated from a theoretical point of view.

It is important to take into account that only ten respondents participated in the survey, meaning that the results of this action are more like indicators of the Perceived Quality and do not fully represent the opinion of all the users. The following conclusions have been drawn based on the analysis performed:

- The ISA Action 5.2 - EIS received a **rather positive but close to neutral Perceived Quality assessment with an Overall Perceived Quality Score of - 3.25 out of 5**. The average Overall Perceived Quality Score and an average score in some individual parameters indicate that, overall, the respondents consider EIS as more useful than not. The most negative aspect of the EIS is the Net Promoter Score, meaning that respondents are not willing to promote EIS.
- The results show that EIS is perceived as **more beneficial in terms of Accuracy than in Expandability, Usability and Completeness**.
- None of the respondents who participated are loyal and fully satisfied with the recommendations/guidelines provided by EIS, meaning that EIS is not recommended to others the way it is now.
- The findings represent that respondents think that EIS is not complete and it needs additions; the structure and guidelines are not fully clear and easy to understand – meaning that the document needs regular updates. They also have doubts about the EIS documentation being appropriate/applicable to their business needs.

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

- Additional work on the EIS guidelines and documentation is needed to make it more clear and easy to understand.
- A revision of the strategy increasing the potential usability of EIS would be of benefit, as usability is highly important to the respondents.
- Regular document updates are needed to make it more complete and up-to-date.

## 7 APPENDIX

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### 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>6</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>6</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® (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>6</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>6</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.