



**INTEROPERABILITY SOLUTIONS FOR
EUROPEAN PUBLIC ADMINISTRATIONS
MONITORING AND EVALUATION
D03.05/D03.06 ACTION 1.7 PERCEIVED QUALITY AND
UTILITY MONITORING REPORT**

Framework Contract n° DI/07173

31st July 2015

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EXECUTIVE SUMMARY

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

The survey for measuring the Perceived Quality and Utility of Action 1.7 – e-PRIOR, was launched during the first semester of 2015. The objective of the survey was to evaluate the Perceived Quality and Utility of the e-PRIOR solution. More specifically, the goal of the survey was to understand to what extent the solution is user-friendly and to identify the benefits which users might gain from the using it.

The survey was designed in the EUSurvey tool and distributed by link on the e-PRIOR Customer portal and by e-mail to:

- 47 email addresses – contractors using web services to connect to e-PRIOR;
- 73 functional mailboxes – customers for e-Invoicing;
- 4 functional mailboxes – customers for e-Ordering.

The survey was launched on the 8th of April 2015 and was active for one month until the 6th of May 2015. In total, 43 responses were collected.

The survey result analysis (see Table 1) shows the Action 1.7, Perceived Quality and Utility scores. The **Perceived Quality score** is **4.15** (scale: 1...5) and the **Utility score** is **4.31** (scale: 1...5).

The detailed score calculation process is described in Section 4.2.3.

TABLE 1 – ACTION 1.7 SURVEY RESULTS

Evaluation criteria	Mean ¹	Mode ¹	StDev ¹	StErr ¹
Action 1.7 Perceived Quality	4.15	4	0.88	0.04
Action 1.7 Utility	4.31	5	0.91	0.04

Conclusion: Based on the survey data analysis, the e-PRIOR solution meets the main objectives of Action 1.7. According to the Action 1.7 objectives, e-PRIOR enables public administrations to connect to the PEPPOL network successfully.

Overall, users are satisfied with the functionality offered by the e-PRIOR solution for working with invoices, orders and requests.

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

¹ see Glossary (Section 6.3)

REVISION HISTORY

Date	Version	Description	Authors	Approved by
31-July-2015	1.00	For QA purpose, the accepted draft version is changed into the final version. No other changes are implemented.	CGI-Accenture	
29-May-2015	0.20	Initial version updated	CGI-Accenture	
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1. INTRODUCTION

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

Based on the scope of the Specific Contract, the Perceived Quality is to be measured for 9 actions and the Utility is to be measured for 13 actions. This report covers the Perceived Quality and Utility measurements for Action 1.7 – e-PRIOR.

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 methodology used for the Perceived Quality and Utility measurements;
- **Section 3** summarises the collected data;
- **Section 0** focuses on the survey result overview and data analysis;
- **Section 5** provides the survey conclusions and recommendations;
- **Section 6** appendix includes:
 - Statement mapping per dimensions;
 - Raw data export;
 - Glossary.

2. SURVEY METHODOLOGY

A common methodology was developed by the previous ISA Monitoring and Evaluation contractor for all the surveys that enables comparison between the different survey results. This methodology was also applied to evaluate Action 1.7. This section explains how the Perceived Quality and Utility are measured and what dimensions are covered under each evaluation criterion. The last part of this section describes the architecture of the survey.

2.1. PERCEIVED QUALITY

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

Perceived Quality is measured using the eGovQual scale model³.

The assessment is based on the following dimensions:

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

2.2. UTILITY

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

Utility is measured using an adaptation of the VAST (Value ASsessment Tool) methodology⁵, considering an additional dimension related to the Global and Intermediate objectives of the ISA programme.

The assessment is based on the following dimensions:

- **Value for the European Union:** Looks at the assessment of the external value of an information system or an IT project. External value of a project is considered to be any benefit which is delivered outside the Commission itself. This external aspect is divided into two parts: society (Social Value) and individuals (External Users' Value);
- **Value for the European Commission:** Encompasses criteria through which the internal value of an IT project can be assessed. All factors that can contribute to the improvement of the EC performance should be considered as delivering an internal value;

² DG BUDG (2004), "Evaluating EU activities, a practical guide for the Commission services"

³ eGovQual scale developed by Papadomichelaki and Mentzas (2012)

⁴ DG BUDG (2004), "Evaluating EU activities, a practical guide for the Commission services"

⁵ More information can be found on: <http://ec.europa.eu/dgs/informatics/vast/>

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

The ISA Programme is mainly focusing on the value for the cross-border and cross-sector interoperability dimension. In this context, the value for EC is considered to have a lower weight than other dimensions. Consequently, this particular survey did not focus on this dimension and there are no utility statements that cover this dimension.

2.3. SURVEY ARCHITECTURE

In order to measure the Perceived Quality and Utility a respondent is supposed to grade the statements based on his/her level of agreement. A 5-point Likert scale⁶ is used as a grading scale, ranging from ‘Strongly Agree’ to ‘Strongly Disagree’ with an additional ‘No Opinion/Not Applicable’ option.

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

As the responses collected are depending on the users’ profiles, the user is requested to answer skip logic questions with either ‘Yes’ or ‘No’ and afterwards more questions are presented if the respondent selected ‘Yes’.

3. ACTION 1.7 SURVEY DATA SUMMARY

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

TABLE 2 – ACTION 1.7 SURVEY DATA SUMMARY

Action 1.7 – e-PRIOR	
Start date:	08/04/2015
End date:	06/05/2015
Sample size (by email)	124
Sample size (message on the e-PRIOR Customer portal)	Unknown
Amount of responses:	43
The survey launching method:	E-mail notification + message on the e-PRIOR Customer portal

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

4. ACTION 1.7 SURVEY RESULTS AND ANALYSIS

This section aims to provide a detailed survey analysis and to represent the results depending on the division of the e-PRIOR solution usage within the Action 1.7 Perceived Quality and Utility evaluation criteria.

4.1. RESPONDENT DISTRIBUTION ANALYSIS

4.1.1. Respondent Distribution by Role

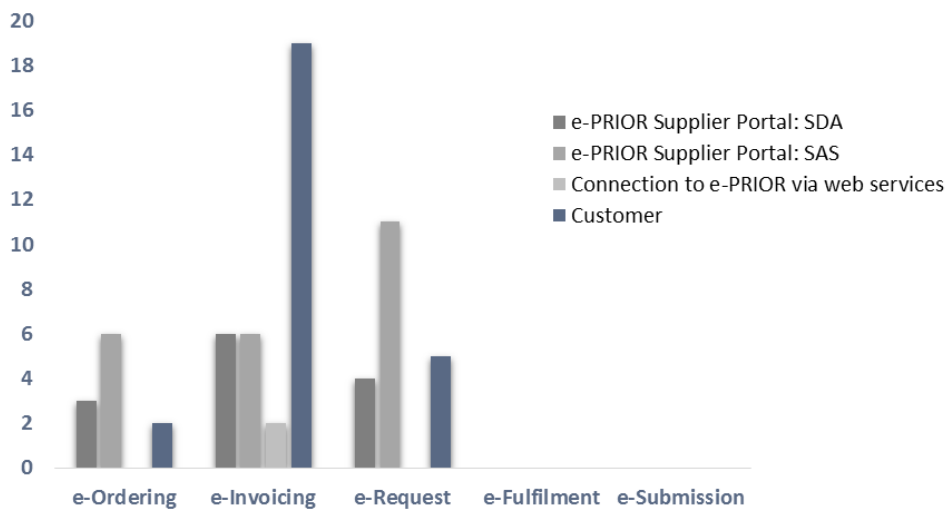
Figure 1 shows the classification of e-PRIOR survey's respondents according to their role. In total, 43 respondents participated in the survey. 24 (56%) out of 43 are Suppliers and 19 (44%) out of 43 are Customers. It also shows that 10 (42%) out of 24 are Suppliers using the e-PRIOR Supplier portal and having SDA (Supplier Data Entry Agent) rights, 12 (50%) out of 24 are Suppliers using the e-PRIOR Supplier portal and having SAS (Supplier Authorised to Sign) rights and 2 (8%) out of 24 are Suppliers using connection to e-PRIOR via web services.

FIGURE 1 – RESPONDENT DISTRIBUTION BY ROLE



Figure 2 shows the respondent distribution by e-PRIOR module used. Among all Action 1.7 survey respondents, the most frequently used is the e-Invoicing module, i.e. this module used by maximum of the respondents. The e-Fulfilment and e-Submission modules are quite new ones, and there is a very small usage at the moment, this fact also confirmed by the Action 1.7 survey, i.e. no one from the respondent used those modules.

FIGURE 2 – RESPONDENT DISTRIBUTION BY E-PRIOR MODULE



4.2. ACTION 1.7 SURVEY RESULT OVERVIEW

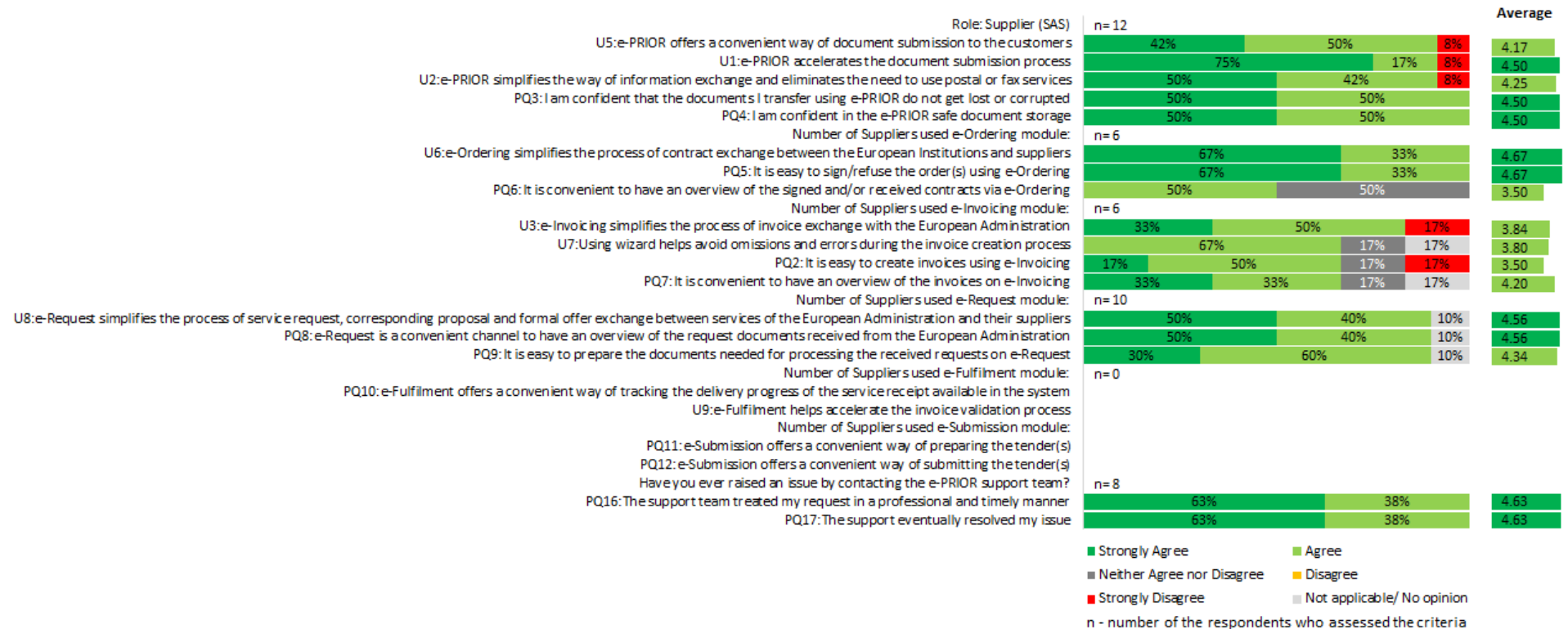
This section aims at providing an overview on the survey response range at the following levels:

- **Action 1.7 overall survey response overview** shows a survey response range collection covered by the Action 1.7 Perceived Quality and Utility survey;
- **Result overview according to the evaluation criteria** shows the survey response range per statement depending on the evaluation criteria (Perceived Quality and Utility);
- **Result analysis according to the evaluation criteria** provides a score calculation by evaluation criteria dimension and the overall evaluation criteria score.

4.2.1. Action 1.7 Overall Survey Response Overview

Figure 3 gives an overview of the survey results provided by suppliers who are using e-PRIOR Supplier portal and have SAS access rights. The statements were graded based on the users who responded ‘Yes’ to the skip logic question (a question that directs a respondent to a series of questions based on their responses).

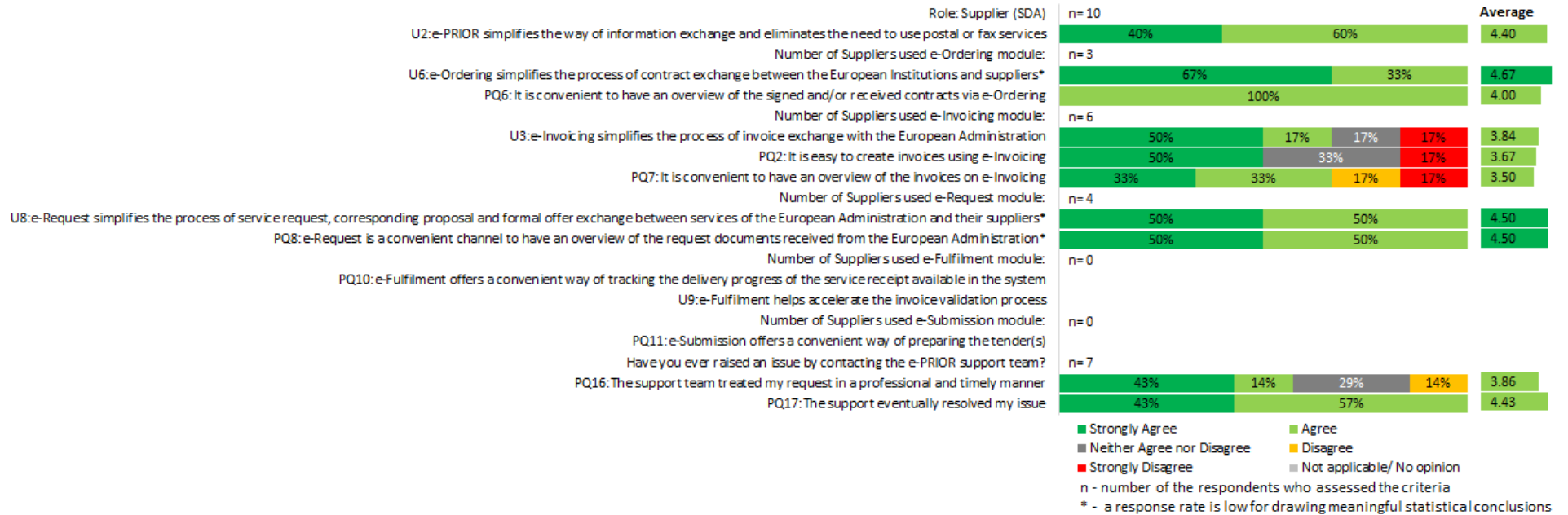
FIGURE 3 – ACTION 1.7 SURVEY RESPONSE OVERVIEW BY SUPPLIERS USING PORTAL (SAS)



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Figure 4 gives an overview of the survey results provided by suppliers who are using e-PRIOR Supplier portal and have SDA access rights. The statements were graded based on the users who responded ‘Yes’ to the skip logic question (a question that directs a respondent to a series of questions based on their responses).

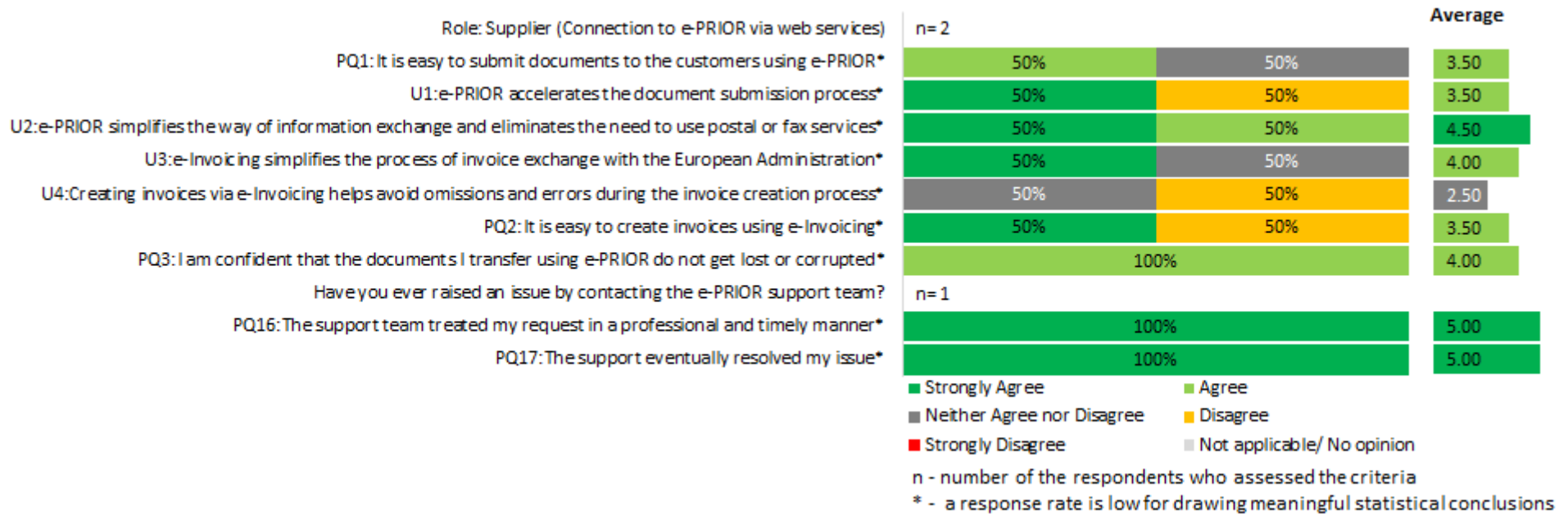
FIGURE 4 – ACTION 1.7 SURVEY RESPONSE OVERVIEW BY SUPPLIERS USING PORTAL (SDA)



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Figure 5 gives an overview of the survey results provided by suppliers who are using connection to e-PRIOR via web services. The statements were graded based on the users who responded 'Yes' to the skip logic question (a question that directs a respondent to a series of questions based on their responses).

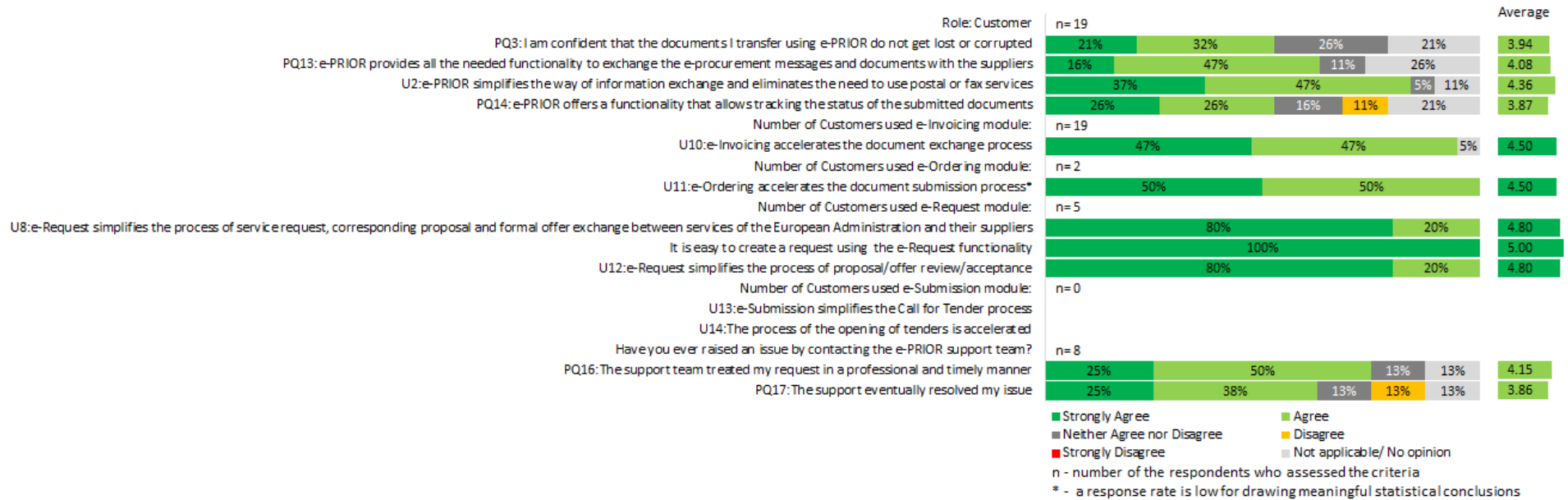
FIGURE 5 – ACTION 1.7 SURVEY RESPONSE OVERVIEW BY SUPPLIERS USING CONNECTION TO E-PRIOR VIA WEB SERVICES



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Figure 6 gives an overview of the survey results provided by suppliers who are using connection to e-PRIOR via web services. The statements were graded based on the users who responded 'Yes' to the skip logic question (a question that directs a respondent to a series of questions based on their responses).

FIGURE 6 – ACTION 1.7 SURVEY RESPONSE OVERVIEW BY CUSTOMERS



4.2.1.1. RESPONDENT FEEDBACK

Table 3 gives a detailed overview of the feedback received for Action 1.7. It should be noted that this feedback was provided once the user chose a ‘Disagree’ or ‘Strongly Disagree’ option to evaluate the survey statement.

TABLE 3 – ACTION 1.7 RESPONDENT FEEDBACK

e-Invoicing module	When creating invoices I believe that information entered on at least one field ("order line, supplier, item ref" on the Invoice Line Details) are not shown on the invoice itself, I now enter the bon de commande reference into the previous field ("order reference"). e-Invoicing has lost many invoices and I have to insert the addresses, IBAN etc. many times ⁷ .
Document submission on the Supplier portal	Difficult to understand 'Item name' and 'Order reference' from information given on Purchase Order for a Low Value Contract
Status tracking of the submitted documents	We cannot see who signs the e-order at the supplier's side.
Support	Bug in the application The received reply was not always accurate. Lack of knowledge about the variety of procedures used in DGs other than DIGIT. The issues were not always solved, they were left for DGs to solve them internally, instead of providing a global solution from which all DGs could profit.

4.2.1.2. RECOMMENDATIONS

Table 4 gives a detailed overview of the recommendations received for Action 1.7.

TABLE 4 – ACTION 1.7 RECOMMENDATIONS

Recommendations for an improvement of the e-PRIOR Supplier portal	Downloading the contracts in e-Ordering in one click, would help...
	Since the Entities frequently use abbreviations (EFSA, OHIM etc.) of their names, it would be helpful to include these with the full names in the drop down box.
	GUI improvement!
	When proposing candidates in e-Request, "subcontractor" is unclear (does it include freelancer?" in particular when on customer side, the box still appears as "freelancer" and not "subcontractor". It can create confusion in the case of an employee of a subcontractor who will be seen as a "freelancer" by the customer... while he/she is not.
	As for the e-Invoicing, I would like a more visual way to reach the already sent invoices. Sometimes it is hard to find a particular invoice.
	The overview in e-Ordering always requires to specify a time interval before any (old) contracts are shown. An option like Show All would be helpful (e-Request features such an option). The wording in e-Ordering is misleading: "accepted/processed". Accepted by whom? What does processed mean? Refusing something could also mean processing it, Expressions such as "signed by supplier/countersigned by customer" would be more precise.
	Please add more options about service contracts (i.e. during the e-invoicing procedure, when you send the invoice under a specific contract you need to attach the acceptance letter but there is no such choice in the drop down list of the documents that you may attach)
	As regards invoices, I don't understand why they disappear from the box "sent". I would like to keep them in order to use them as a model for the following invoice.
	It would be useful to have a printable version of the completed invoice for tax purposes.
	It could be useful have address and bank information already filled in.

⁷ This comment should be taken with caution because it is probably due to a misinterpretation of the symptoms. In reality, e-PRIOR has never lost any invoice.

	<p>Clarify terms on Purchase orders</p> <p>We had proposed some improvements for e-Ordering and they were welcome by DIGIT-SUPPLIER-PORTAL-SUPPORT. Some of our proposals are already in place. Some others not yet.</p> <p>Provide more on-line help about meaning of concepts and fields</p> <p>It would be useful to have possibility to download all annexes in e-request at once. Now we can only download one by one by clicking on the link. Also in e-request we would appreciate if we can upload more documents with proposal - now it is restricted to 6 attachments.</p>
<p>Recommendations for an improvement of the e-PRIOR solution</p>	<p>Not all the e-invoices come with our internal reference (purchase order reference). This information is very useful to speed up internally the treatment of the invoice. We would really appreciate that this information was a mandatory field in the e-invoice. thank you</p> <p>The use of the supplier Portal has to be made easier for SMEs. Also, more languages should be available in the tool. This applies also to the languages used for user documentation and the communication with the e-Prior support team.</p> <p>We have noticed at least 2 times that a valid invoice was generated in ABAC but we did not receive the corresponding e-mail</p> <p>Use of Chrome necessary to open the attached invoice in lecture mode. Block with IE.</p> <p>Nous souhaiterions que le numéro Abac par ex:" Local key: CDT.FAC.2015.272181" s'affiche dans la facture pour faciliter la recherche dans le système.</p> <p>To provide more flexibility in the workflows for DGs. For example for financial transactions there are 3 modules used. e-PRIOR should become a corporate tool. Should be extended to all e-procurement procedures with DIGIT providing a global support to Suppliers. More automated checks of data, better use of notifications, and extension to functional mailboxes or non-e-Prior users. Better integration with other IT systems including further automation such as ABAC WF, Contracts, FTS etc.</p> <p>There are still many bugs and DIGIT is not always reactive in a swift way</p>
<p>Other recommendations</p>	<p>The system can sometimes be very slow and when too long, it "crashes" and all your process is lost and you must re-encode what you have just done. Ex: finalize the Proposal process, the page crashes when clicking on "send" and all documents and infos uploaded on that page are lost.</p> <p>It would also be great if all EU Institutions / DGs would use all the modules... (today we still have to manage two streams: one via e-Request and one via email)</p> <p>e-PRIOR really helps to reduce the effort for mastering the bureaucratic hurdles. Thank you!</p> <p>A contextual help menu in the e-Invoicing service showing explanations and sample responses would be very useful.</p> <p>Could you sent to me via box mi las invoices? Thank you</p> <p>it would be nice to be able to "reply" to an e-mail in case further information or a correction of the invoice are needed, and so reach directly the correct contact person (without having to check the name in the contract)</p> <p>It would have been helpful if at the start I could have been sent a specimen form showing clearly what information is required in each box for invoices from a translator not registered for VAT. The information I did receive was unclear. It would also be useful to see what information, and in what boxes, is received by the Accounts Unit. In the past I have entered information in what I thought was the appropriate box and it has not been visible to the Accounts Unit. It was apparent when I received messages back from the Accounts Units that they do not receive exactly the same form as the one I have filled in.</p> <p>Would be good to have a list of dedicated page where the DGs could suggests and exchange information or consult suggested changes, modifications incl. the possibility of giving further specifications to cover DGs needs.</p>

4.2.2. Result Overview According to the Evaluation Criteria

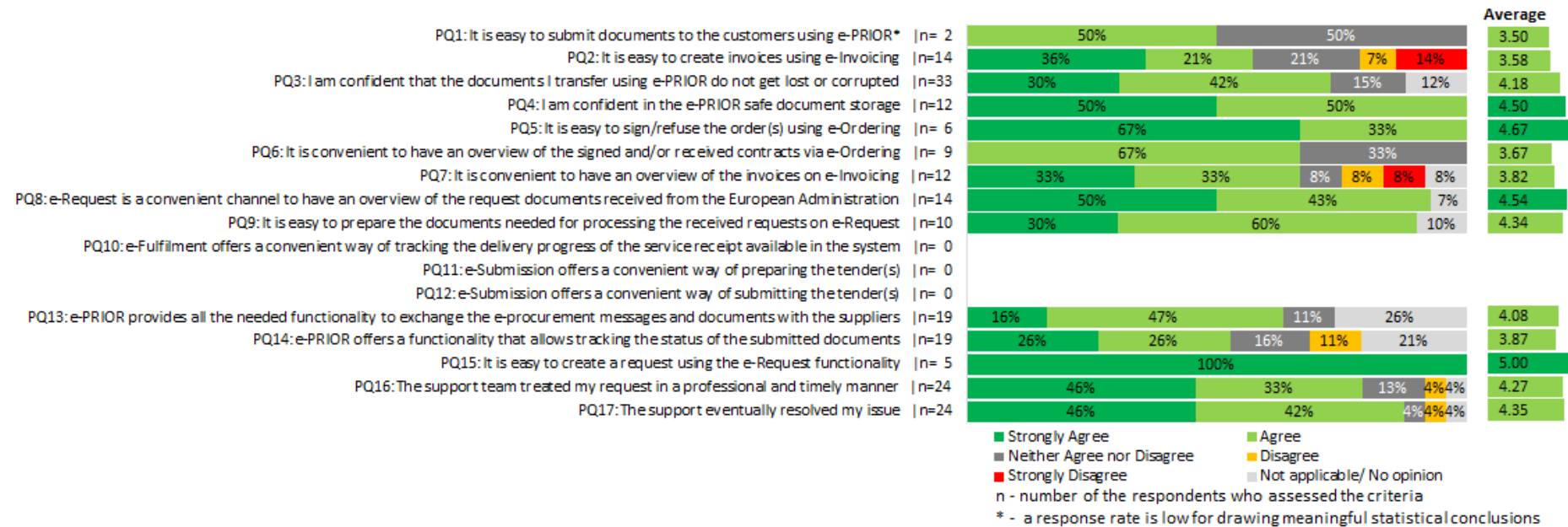
This section presents a comparison of the received replies depending on the evaluation criteria.

4.2.2.1. PERCEIVED QUALITY OF THE ACTION 1.7

This subsection gives an overview on the Perceived Quality results of Action 1.7 – e-PRIOR.

Figure 7 gives an overview on the Perceived Quality results. The statements were graded based on the users who responded ‘Yes’ to the skip logic question (a question that directs a respondent to a series of questions based on their responses).

FIGURE 7 – ACTION 1.7 PERCEIVED QUALITY STATEMENTS COMPARISON

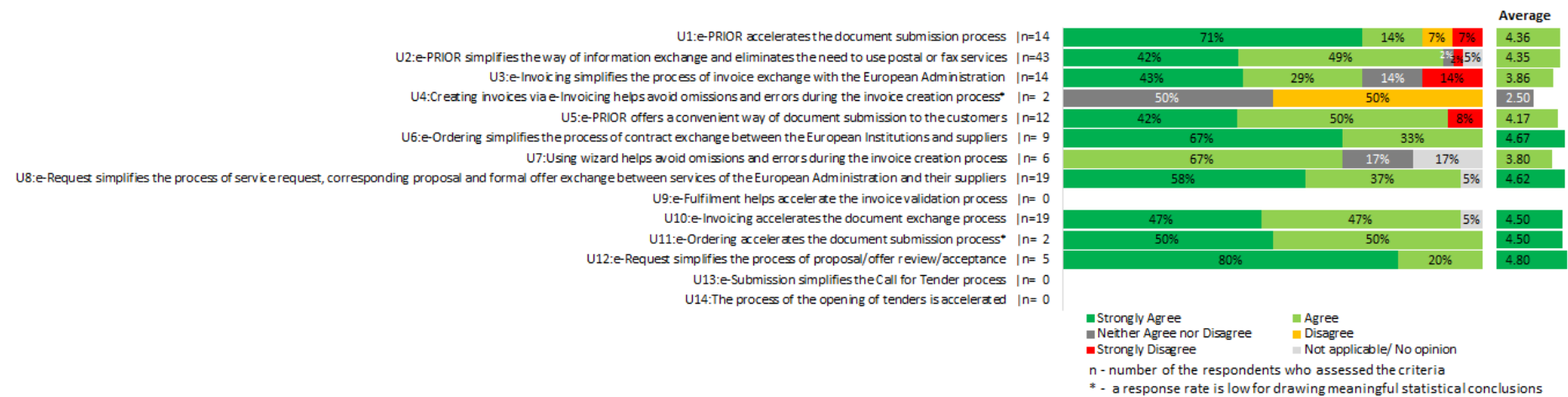


4.2.2.2. UTILITY OF THE ACTION 1.7

This subsection gives an overview of the Utility results of Action 1.7 – e-PRIOR.

Figure 8 gives an overview of the Utility results. The statements were graded based on those users who responded ‘Yes’ to the skip logic question (a question that directs a respondent to a series of questions based on their responses).

FIGURE 8 – ACTION 1.7 UTILITY STATEMENTS COMPARISON



4.2.3. Result Analysis According to the Evaluation Criteria

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

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

- The **mean**⁸ (average) is the most popular measure of location or central tendency; has the desirable mathematical property of minimizing the variance. To get the mean, you add up the values⁹ for each case and divide that sum by the total number of cases;
- **Mode** refers to the most frequent, repeated or common value⁹ in the quantitative or qualitative data. In some cases it is possible that there are several modes or none.

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

- **Standard deviation**¹⁰ shows the spread, variability or dispersion of scores in a distribution of scores. It is a measure of the average amount the scores in a distribution deviate from the mean. The more widely the scores are spread out, the larger the standard deviation;
- **Standard error**¹⁰ is the standard deviation of the sampling distribution of a statistic. It is a measure of sampling error; it refers to error in estimates due to random fluctuations in samples. It goes down as the number of cases goes up. The smaller the standard error, the better the sample statistic is as an estimate of the population parameter – at least under most conditions.

Before performing the calculations, the 5-point Likert scale range values need to be interpreted as numeric values, i.e.:

- 5 – Strongly Agree;
- 4 – Agree;
- 3 – Neither Agree nor Disagree;
- 2 – Disagree;
- 1 – Strongly Disagree;
- 0 – No opinion/ not applicable **was not considered for the calculation.**

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

⁸ Dictionary of statistics & methodology: a nontechnical guide for the social sciences (page 226).

⁹ 5-point Likert scale range values are interpreted as numeric values like described in Section 4.2.2.

¹⁰ Dictionary of statistics & methodology: a nontechnical guide for the social sciences (page 375).

4.2.3.1. PERCEIVED QUALITY OF THE ACTION 1.7

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

TABLE 5 – ACTION 1.7 PERCEIVED QUALITY SCORE DETAILS AT STATEMENT LEVEL

Statement	Mean	Mode	StDev	StErr	Dimension
PQ1: It is easy to submit documents to the customers using e-PRIOR	3.50	3; 4	0.71	0.11	Efficiency
PQ2: It is easy to create invoices using e-Invoicing	3.58	5	1.46	0.23	Efficiency
PQ3: I am confident that the documents I transfer using e-PRIOR do not get lost or corrupted	4.18	4	0.72	0.11	Reliability
PQ4: I am confident in the e-PRIOR safe document storage	4.50	4	0.53	0.08	Security/Privacy (Trust)
PQ5: It is easy to sign/refuse the order(s) using e-Ordering	4.67	5	0.52	0.08	Efficiency
PQ6: It is convenient to have an overview of the signed and/or received contracts via e-Ordering	3.67	4	0.50	0.08	Efficiency
PQ7: It is convenient to have an overview of the invoices on e-Invoicing	3.82	4	1.33	0.21	Efficiency
PQ8: e-Request is a convenient channel to have an overview of the request documents received from the European Administration	4.54	5	0.52	0.08	Efficiency
PQ9: It is easy to prepare the documents needed for processing the received requests on e-Request	4.34	4	0.50	0.08	Efficiency
PQ10: e-Fulfilment offers a convenient way of tracking the delivery progress of the service receipt available in the system	-	-	-	-	Efficiency
PQ11: e-Submission offers a convenient way of preparing the tender(s)	-	-	-	-	Efficiency
PQ12: e-Submission offers a convenient way of submitting the tender(s)	-	-	-	-	Efficiency
PQ13: e-PRIOR provides all the needed functionality to exchange the e-procurement messages and documents with the suppliers	4.08	4	0.62	0.10	Efficiency
PQ14: e-PRIOR offers a functionality that allows tracking the status of the submitted documents	3.87	4	1.07	0.17	Efficiency
PQ15: It is easy to create a request using the e-Request functionality	5.00	5	0.00	0.00	Efficiency
PQ16: The support team treated my request in a professional and timely manner	4.27	5	0.87	0.14	Support
PQ17: The support eventually resolved my issue	4.35	5	0.78	0.12	Support

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

In order to make the total Perceived Quality score calculation more accurate, a weighted mean¹¹ was used. The dimension weight is defined based on the amount of statements within a specific dimension. All four perceived quality dimensions were considered as applicable for the Action 1.7.

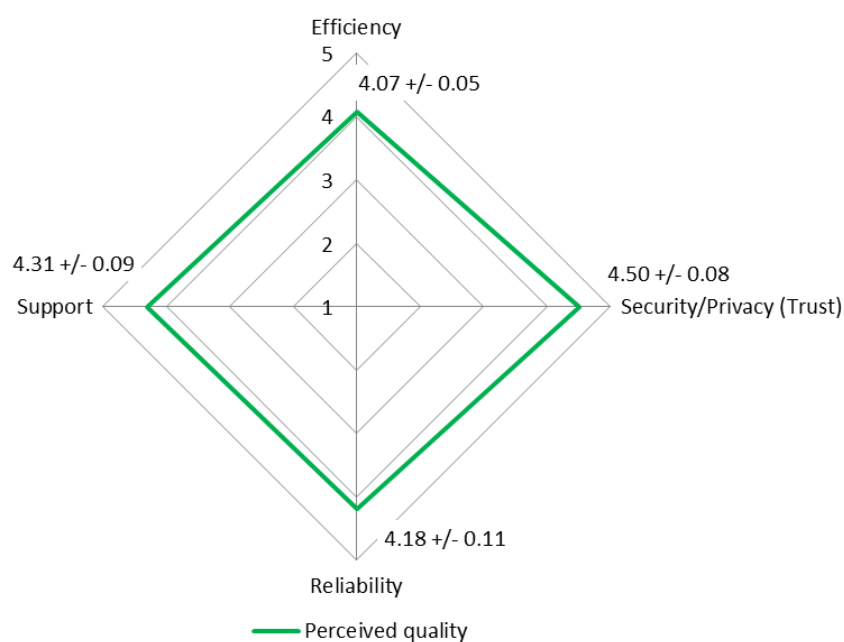
The weighted average of the Perceived Quality is **4.15** with the standard deviation equal to **0.88**, on a scale from 1 to 5, where 5 is the maximum (best) value.

TABLE 6 – ACTION 1.7 PERCEIVED QUALITY SCORE DETAILS

	Mean	Mode	StDev	StErr	Dimension	Weight
Per dimension	4.07	4	0.98	0.05	Efficiency	0.71
	4.50	4	0.53	0.08	Security/Privacy (Trust)	0.07
	4.18	4	0.72	0.11	Reliability	0.07
	4.31	5	0.82	0.09	Support	0.14
Perceived Quality	4.15¹¹	4	0.88	0.04		

Figure 9 gives a visual overview on the Perceived Quality coverage per four predefined dimensions.

FIGURE 9 – ACTION 1.7 PERCEIVED QUALITY AGGREGATION



4.2.3.2. UTILITY OF THE ACTION 1.7

Table 7 presents the detailed analysis of each utility statement.

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

TABLE 7 – ACTION 1.7 UTILITY SCORE DETAILS ON STATEMENT LEVEL

Statement	Mean	Mode	StDev	StErr	Dimension
U1:e-PRIOR accelerates the document submission process	4.36	5	1.28	0.20	Value for EU; Value for cross-border and cross-sector interoperability
U2:e-PRIOR simplifies the way of information exchange and eliminates the need to use postal or fax services	4.35	4	0.77	0.12	Value for cross-border and cross-sector interoperability
U3:e-Invoicing simplifies the process of invoice exchange with the European Administration	3.86	5	1.41	0.22	Value for cross-border and cross-sector interoperability
U4:Creating invoices via e-Invoicing helps avoid omissions and errors during the invoice creation process	2.50	2; 3	0.71	0.11	Value for EU
U5:e-PRIOR offers a convenient way of document submission to the customers	4.17	4	1.12	0.17	Value for EU
U6:e-Ordering simplifies the process of contract exchange between the European Institutions and suppliers	4.67	5	0.50	0.08	Value for cross-border and cross-sector interoperability
U7:Using wizard helps avoid omissions and errors during the invoice creation process	3.80	4	0.45	0.07	Value for EU
U8:e-Request simplifies the process of service request, corresponding proposal and formal offer exchange between services of the European Administration and their suppliers	4.62	5	0.51	0.08	Value for cross-border and cross-sector interoperability
U9:e-Fulfilment helps accelerate the invoice validation process	-	-	-	-	Value for EU; Value for cross-border and cross-sector interoperability
U10:e-Invoicing accelerates the document exchange process	4.50	5	0.52	0.08	Value for cross-border and cross-sector interoperability
U11:e-Ordering accelerates the document submission process	4.50	4; 5	0.71	0.11	Value for cross-border and cross-sector interoperability
U12:e-Request simplifies the process of proposal/offer review/acceptance	4.80	5	0.45	0.07	Value for EU
U13:e-Submission simplifies the Call for Tender process	-	-	-	-	Value for EU
U14:The process of the opening of tenders is accelerated	-	-	-	-	Value for EU

Table 8 gives an overview on the analysis of each Utility dimension as well as a total score for the utility evaluation criteria.

In order to make the total Utility score calculation more accurate, a weighted mean¹¹ was used. The dimension weight is defined based on the amount of statements within specific dimension.

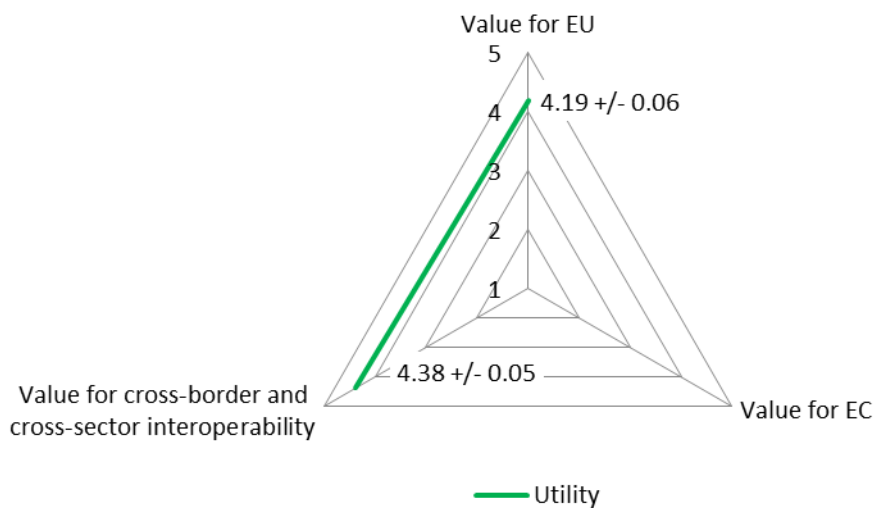
The weighted average of the Utility is **4.31** with the standard deviation equal to **0.91**, on a scale from 1 to 5, where 5 is the maximum (best) value.

TABLE 8 – ACTION 1.7 UTILITY SCORE DETAILS

Per dimension	MEAN	MODE	StDev	StErr	Dimension	Weight
	4.19	5	1.12	0.06	Value for EU	0.4
	4.38	5	0.88	0.05	Value for cross-border and cross-sector interoperability	0.6
	-	-	-	-	Value for EC	-
Utility	4.31¹¹	5	0.91	0.04		

Figure 10 gives a visual overview on the Utility coverage per predefined dimensions.

FIGURE 10 – ACTION 1.7 UTILITY AGGREGATION



4.3. STRENGTHS AND WEAKNESSES OF THE E-PRIOR SOLUTION

This section provides an overview of the strong and weak aspects of the e-PRIOR solution, revealed by the Action 1.7 Perceived Quality and Utility survey.

Prioritization of the statements were made based on the mean value of each statement. Statements with nearby mean values were grouped into three different clusters to which the following colours have been applied:

- A **Green** colour applies to statements that refer to the strong aspects of the e-PRIOR solution;
- A **Grey** colour applies to statements that refer to the aspects that require attention. For those statements respondent opinion was spread proportionally between 'Agree' and 'Disagree';
- An **Orange** colour applies to statements that refer to the weak aspects of the e-PRIOR solution. Weaknesses of those aspects are confirmed by the feedbacks provided in Table 3 and Table 4.

4.3.1. Perceived Quality of the Action 1.7

Table 9 gives an overview of the aspects that are strong, require attention or are weak of e-PRIOR solution in the context of Perceived Quality. Statements marked with "*" indicates that a response rate is low for drawing meaningful statistical conclusions.

TABLE 9 – ACTION 1.7 PERCEIVED QUALITY STRENGTHS AND WEAKNESSES

Perceived Quality Statement	Mean	Dimension
PQ15:It is easy to create a request using the e-Request functionality	5.00	Efficiency
PQ5:It is easy to sign/refuse the order(s) using e-Ordering	4.67	Efficiency
PQ8:e-Request is a convenient channel to have an overview of the request documents received from the European Administration	4.54	Efficiency
PQ4:I am confident in the e-PRIOR safe document storage	4.50	Security/ Privacy (Trust)
PQ17:The support eventually resolved my issue	4.35	Support
PQ9:It is easy to prepare the documents needed for processing the received requests on e-Request	4.34	Efficiency
PQ16:The support team treated my request in a professional and timely manner	4.27	Support
PQ3:I am confident that the documents I transfer using e-PRIOR do not get lost or corrupted	4.18	Reliability
PQ13:e-PRIOR provides all the needed functionality to exchange the e-procurement messages and documents with the suppliers	4.08	Efficiency
PQ14:e-PRIOR offers a functionality that allows tracking the status of the submitted documents	3.87	Efficiency
PQ7:It is convenient to have an overview of the invoices on e-Invoicing	3.82	Efficiency
PQ6:It is convenient to have an overview of the signed and/or received contracts via e-Ordering	3.67	Efficiency
PQ2:It is easy to create invoices using e-Invoicing	3.58	Efficiency
*PQ1:It is easy to submit documents to the customers using e-PRIOR	3.50	Efficiency

4.3.2. Utility of the Action 1.7

Table 10 presents an overview of the aspects that are strong, require attention or are weak of the e-PRIOR solution in the context of Utility. Statements marked with “*” indicates that a response rate is low for drawing meaningful statistical conclusions.

TABLE 10 – ACTION 1.7 UTILITY STRENGTHS AND WEAKNESSES

Utility Statement	Mean	Dimension
U12:e-Request simplifies the process of proposal/offer review/acceptance	4.80	Value for EU
U6:e-Ordering simplifies the process of contract exchange between the European Institutions and suppliers	4.67	Value for cross-border and cross-sector interoperability
U8:e-Request simplifies the process of service request, corresponding proposal and formal offer exchange between services of the European Administration and their suppliers	4.62	Value for cross-border and cross-sector interoperability
U10:e-Invoicing accelerates the document exchange process	4.50	Value for cross-border and cross-sector interoperability
*U11:e-Ordering accelerates the document submission process	4.50	Value for cross-border and cross-sector interoperability
U1:e-PRIOR accelerates the document submission process	4.36	Value for EU; Value for cross-border and cross-sector interoperability
U2:e-PRIOR simplifies the way of information exchange and eliminates the need to use postal or fax services	4.35	Value for cross-border and cross-sector interoperability
U5:e-PRIOR offers a convenient way of document submission to the customers	4.17	Value for EU
U3:e-Invoicing simplifies the process of invoice exchange with the European Administration	3.86	Value for cross-border and cross-sector interoperability
U7:Using wizard helps avoid omissions and errors during the invoice creation process	3.80	Value for EU
*U4:Creating invoices via e-Invoicing helps avoid omissions and errors during the invoice creation process	2.50	Value for EU

5. CONCLUSIONS AND RECOMMENDATIONS

The objective of the survey was to evaluate the Perceived Quality and Utility of Action 1.7 – e-PRIOR. The following conclusions have been drawn based on the analysis performed:

- Perceived Quality:
 - Overall survey results show that the e-PRIOR solution users are satisfied with its quality, i.e. it is easy and convenient to proceed with invoices, orders and requests using e-PRIOR;
 - e-Fulfilment and e-Submission modules have not been used by the survey respondents and have not been evaluated at the current stage;
 - Users' feedback and recommendations show that some technical issues sometimes occur with e-PRIOR, e.g. system may crash while processing the documents.
- Utility:
 - Based on the responses received, e-PRIOR simplifies and accelerates procedures with invoices, orders and requests;
 - According to the comments provided, some users are experiencing issues with the meaning of some terms used in e-PRIOR, i.e. sometimes it is not clear what kind of information is expected from the user.

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

- Perceived Quality:
 - Review recommendations provided by e-PRIOR users and consider those for an improvement, e.g. users are willing to have a multiple document downloading functionality, the pre-filled bank account information, etc.;
 - Improve the incident management as some complaints were received from the users;
 - Check the reasons why the specific procedure may collapse during the process.
- Utility:
 - Review the possibility of implementing the features suggested by the users, e.g. possibility to have an overview of all documents, store documents in the "sent" folder, etc.;
 - Add field description in order to explain what kind of information is expected from the user.

6. APPENDIX

6.1. STATEMENT MAPPING TO DIMENSIONS

In order to measure the Perceived Quality and Utility of the Action 1.7 and calculate the average score of each dimension, all survey statements were mapped to the dimensions according to the evaluation criteria.

Table 11 shows the statements mapping according to four dimensions of the Action 1.7 Perceived Quality.

TABLE 11 – ACTION 1.7 PERCEIVED QUALITY STATEMENT MAPPING TO DIMENSION

Question	ID	Efficiency	Security/Privacy (Trust)	Reliability	Support	Count of areas covered by question
It is easy to submit documents to the customers using e-PRIOR	PQ1	✓				1
It is easy to create invoices using e-Invoicing	PQ2	✓				1
I am confident that the documents I transfer using e-PRIOR do not get lost or corrupted	PQ3			✓		1
I am confident in the e-PRIOR safe document storage	PQ4		✓			1
It is easy to sign/refuse the order(s) using e-Ordering	PQ5	✓				1
It is convenient to have an overview of the signed and/or received contracts via e-Ordering	PQ6	✓				1
It is convenient to have an overview of the invoices on e-Invoicing	PQ7	✓				1
e-Request is a convenient channel to have an overview of the request documents received from the European Administration	PQ8	✓				1
It is easy to prepare the documents needed for processing the received requests on e-Request	PQ9	✓				1
e-Fulfilment offers a convenient way of tracking the delivery progress of the service receipt available in the system	PQ10	✓				1
e-Submission offers a convenient way of preparing the tender(s)	PQ11	✓				1
e-Submission offers a convenient way of submitting the tender(s)	PQ12	✓				1
e-PRIOR provides all the needed functionality to exchange the e-procurement messages and documents with the suppliers	PQ13	✓				1
e-PRIOR offers a functionality that allows tracking the status of the submitted documents	PQ14	✓				1
It is easy to create a request using the e-Request functionality	PQ15	✓				1
The support team treated my request in a professional and timely manner	PQ16				✓	1
The support eventually resolved my issue	PQ17				✓	1
# of questions covering dimension		13	1	1	2	
% of questions covering dimension		76%	6%	6%	12%	

Table 12 shows the statement mapping according to two dimensions of the Action 1.7 Utility.

TABLE 12 – ACTION 1.7 UTILITY STATEMENT MAPPING

Question	ID	Value for EU	Value for EC	Value for cross-border and cross-sector interoperability	Count of areas covered by question
e-PRIOR accelerates the document submission process	U1	✓		✓	2
e-PRIOR simplifies the way of information exchange and eliminates the need to use postal or fax services	U2			✓	1
e-Invoicing simplifies the process of invoice exchange with the European Administration	U3			✓	1
Creating invoices via e-Invoicing helps avoid omissions and errors during the invoice creation process	U4	✓			1
e-PRIOR offers a convenient way of document submission to the customers	U5	✓			1
e-Ordering simplifies the process of contract exchange between the European Institutions and suppliers	U6			✓	1
Using wizard helps avoid omissions and errors during the invoice creation process	U7	✓			1
e-Request simplifies the process of service request, corresponding proposal and formal offer exchange between services of the European Administration and their suppliers	U8			✓	1
e-Fulfilment helps accelerate the invoice validation process	U9	✓		✓	2
e-Invoicing accelerates the document exchange process	U10			✓	1
e-Ordering accelerates the document submission process	U11			✓	1
e-Request simplifies the process of proposal/offer review/acceptance	U12	✓			1
e-Submission simplifies the Call for Tender process	U13	✓			1
The process of the opening of tenders is accelerated	U14	✓			1
# of questions covering dimension		8	0	8	
% of questions covering dimension		50%	0%	50%	

6.2. RAW DATA EXPORT

The attached file provides the survey result export.



RawDataExport.xls

6.3. GLOSSARY

- The mean⁸ (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 values⁹ for each case and divide that sum by the total number of cases;
- Mode refers to the most frequent, repeated or common value⁹ in the quantitative or qualitative data. In some cases it is possible that there are several modes or none;
- Standard deviation¹⁰ 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 error¹⁰ is the standard deviation of the sampling distribution of a statistic. It is a measure of sampling error; it refers to error in estimates due to random fluctuations in samples. It goes down as the number of cases goes up. The smaller the standard error, the better the sample statistic is as an estimate of the population parameter – at least under most conditions;
- ‘Perceived Quality’ is defined as the extent to which the outputs of an ISA action are meeting its direct beneficiaries’ expectations²;
- ‘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 programme⁴;
- A Likert Scale is a widely used scaling method developed by Rensis Likert. Likert scale refers to the use of an ordinal 4- or 5- point rating scale with each point anchored or labelled;
- Weighted mean is a procedure for combining the means of two or more groups of different sizes; it takes the sizes of the groups into account when computing the overall or grand mean.