

**Guidelines for Public Procurement of ICT Goods
and Services
SMART 2011/0044**

D4 – Impact Assessment Preparation

**Disclaimer: This report commits only the Commission's
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1 PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

1.1 Background

The Digital Agenda is Europe's strategy for a flourishing digital economy by 2020. It outlines policies and actions to maximise the benefits of ICT for all. Several actions are related to improving standard-setting procedures and increasing interoperability of ICT systems. Europe must ensure that new IT devices, applications, data repositories and services interact seamlessly everywhere.

For the purposes of this Impact Assessment we will refer to both formal standards as defined in Directive 98/34 and technical specifications from fora and consortia that have the necessary properties to be approved by the multi-stakeholder platform as "standards". Our D2 report submitted in conjunction with this impact assessment contains a fuller discussion of EU standardisation policy.¹

1.2 Procuring ICT that is based on standards – Action 23² of the Digital Agenda

Procuring ICT that is based on standards accessible to all ICT suppliers can help promote competition among suppliers responding to public sector ICT tenders, and reduce the risk of public authorities becoming excessively dependent on a single vendor for the provision of ICT products or services beyond the timeframe of the initial procurement contract, a situation otherwise known as ‘lock-in’.

The aim of Action 23 of the Digital Agenda is the development of guidance on how to use standards in the procurement of ICT, in order to alleviate lock-in and promote competition in the ICT market serving the public sector.

1.3 Public Consultation

In order to prepare this Impact Assessment, information for the analysis of current ICT procurement practices was gathered through:

- Surveys of procuring authorities and ICT suppliers in late 2011: 244 public authorities were covered by the survey, including across all Member States, sizes, types of public body, sector and regional level. Similarly, 172 suppliers were surveyed across size, ICT sector and Member States.
- Follow-up interviews (17) and discussions with procuring authorities, suppliers and experts in the field of ICT procurement

¹ ‘Guidelines for Public Procurement of ICT Goods and Services; D2 – Overview of Procurement Practices’ SMART 2011/0044’ A report by Europe Economics for the European Commission

² http://ec.europa.eu/information_society/newsroom/cf/fiche-dae.cfm?action_id=181&pillar_id=44&action=Action%2023%3A%20Provide%20guidance%20on%20ICT%20standardisation%20and%20public%20procurement

- The development of Guidelines for procuring standards-based ICT systems,³ discussed in a public workshop held in Brussels with around 80 participants from around the EU including IT procurement representatives from public authorities; members of standards setting boards; and representatives from industry.
- A second on-line public survey to gather views on the Guidelines and information on the impacts of accompanying practical implementation measures. The consultation was held in the beginning of 2012 and received contributions from 176 respondents (99 public authorities, 40 ICT suppliers, 10 from policy groups and 27 others). This was complemented by follow-up interviews with six public authorities, suppliers and national organisations.⁴

1.4 Expertise

The consultations described above form part of the work commissioned by the European Commission to prepare for this Impact Assessment. The commissioned consultancy, Europe Economics, prepared reports on:

- The overview of current public procurement practices concerning ICT in the EU (Deliverable 2)
- Guidelines to help procurers buy ICT that is based on standards, including examples of best practice in ICT procurement at a national and EU level (Deliverable 3)
- Background information and analysis for this Impact Assessment (Deliverable 4)

1.5 Commission Inter-Service Group

An Inter-Service Steering Group was set up in January 2012 [**to be completed later by the Commission**]

1.6 Impact Assessment Board

The meeting of the Impact Assessment Board took place on **to be completed later by the Commission**]

³ 'Guidelines for Public Procurement of ICT Goods and Services; D2 – Overview of Procurement Practices' SMART 2011/0044' A report by Europe Economics for the European Commission

⁴ The results of this second survey are included in the Appendix

2 PROBLEM DEFINITION

2.1 Defining the Problem

2.1.1 What is the nature of the problem

One of the main principles of public procurement is to be as open as possible and to elicit bids from a good range of competitive suppliers. This nurtures competition in the private sector as contractors try to outdo each other to win government tenders. The most suitable company will be awarded the contract, leading to value for money and an improvement in the quality of goods and services provided to the members of public, and hence lead to more innovation.

However, when a public authority is highly dependent on a single vendor for its ICT systems ('locked-in') there will be a lack of competition and value for money might not be achieved in the long term.^{5,6} By limiting the procurement choices of public authorities to certain vendors and the suppliers of their products, lock-in can reduce the ability of other market participants to compete in contracts for public procurement. This in turn can lead to lower levels of innovation, and higher prices.

Lack of interoperability among European public administrations, brought about in part by the existence of proprietary legacy systems and the insufficient procurement of ICT that is based on standards, might retard the functioning of the internal market. This point is addressed by the European Interoperability Framework.⁷

Citizens – individuals and businesses – are increasingly required to engage and interact with public authorities via ICT-enabled structures. If public authorities procure ICT systems that are not based on standards that can be implemented by a range of suppliers, citizens may be restricted in their choice of ICT vendor or product needed to engage through electronic means of communication with the public authority.

Finally, the existence of lock-in and poor procurement practices means that ICT suppliers, in particular smaller firms with no existing hold of customers through legacy systems or technological lock-in, can be prevented from fully participating in the market for public procurement contracts.

The key problems to be addressed are therefore:

- Less than fully skilled public procurement of ICT products and services

⁵ We describe lock-in as a situation where an organisation may wish to migrate to another ICT product, system or vendor but the costs of doing so are prohibitively high (even if the alternative option has significant advantages in relation to the existing one), or the organisation cannot successfully address the technical migration challenges.

⁶ The underlying causes of lock-in include loss of data or functionality when migrating from one system that is not based on standards to another; high migration costs from ensuring compatibility between non-standard systems; and knowledge capture (including the use of restrictive IPR licensing) by suppliers and systems developers that make customers dependent on them for all future work, or unable to migrate to alternative suppliers.

⁷ European Interoperability Framework (http://ec.europa.eu/isa/documents/isa_annex_ii_eif_en.pdf)

- Less than fully effective competition in the market for public procurement of ICT, characterised by:

2.1.2 The scale of the problem

Public procurement of ICT absorbs substantial amounts of taxpayers' money.⁸ Given the varying definitions of 'lock-in' within the ICT literature, and the absence of any comprehensive source of information about the issue, evidence of the likely scale of the problem to be addressed is presented in illustrative terms only. Full details of the scale of the problem are provided in the Appendix.

- *The possibly inappropriate use of brand names in tenders:* Evidence of extensive use of brand names in tenders is provided by a number of studies.⁹ In addition, the majority of the 244 procurers responding to Europe Economics' survey use brand names in tenders, with 23 per cent either always or often referring to brand names, and just under 40 per cent only sometimes doing so. Similarly, 37 per cent of the 172 suppliers stated that brand names are always or often used in tenders.
- *The use of restrictive technical specifications in tenders:* Just under 60 per cent of suppliers to Europe Economics' survey consider that public tenders either always or often refer to very specific technology that only a few suppliers can provide, and just over 50 per cent of respondents reported that tenders either always or often refer to proprietary technical specifications.
- *Procuring ICT that is based on standards:* A significant number of procuring authorities responding to Europe Economics' survey stated that they had difficulties in using standards when procuring ICT, with just under 50 per cent citing a lack of expertise to decide which standards are relevant and appropriate for the particular ICT need.¹⁰
- *The procurement of ICT that limits the choice of vendor by citizens who are obliged to interact with the public authority:* this includes public authorities making documents available only in proprietary file formats, or having websites that are not compatible with accessibility software.¹¹ As implied by Europe Economics' survey, public authorities may not even be aware of the implicit obligation their organisation places on those accessing their ICT applications.

⁸ For example, it was estimated that total EU government expenditure of this sort could have reached €94 billion in 2007. See European Commission IDBAC eGovernment News 'UK government continues to lead ICT spending in Europe', – 01 June 2005 – EU & Europe-wide/United Kingdom <http://ec.europa.eu/idabc/servlets/Doc3be9.pdf?id=21677>

⁹ For example, Open Forum Europe, (2011), 'OFE Procurement Monitoring Report: EU Member States practice of referring to specific trademarks when procuring for Computer Software Packages and Information Systems between the months of February and April 2010' (May), p 6; R.A. Ghosh (2005), 'An Economic Basis for Open Standards' Maastricht, FLOSSPOLs project (December); Paapst, M. 'Affirmative action in procurement for open standards and FLOSS.' *International Free and Open Software Law Review* Vol.2 No.2 p.184-185

¹⁰ The majority of responding procurers stated that they did make use of standards when procuring ICT, but these revealed difficulties and our tender analysis suggests this use of not optimal.

¹¹ Lundell, Bjorn. "Public sector ICT procurement policy and practice: experience of standard document formats and office applications in the Swedish public sector." Presentation to Digital Agenda Assembly workshop on Interoperability and Standards, slide 4.

- *The lock-in of public authorities to ICT vendors, suppliers or developers.* The perceived extent of lock-in is shown in a number of sources, namely the survey conducted by Europe Economics in support of this impact assessment which shows that of the 244 procuring authorities surveyed, at least 40 per cent considered that changing their existing brand of ICT solution would be too costly as other systems would need to be adapted as well, and 25 per cent felt they would not be able to change their ICT solutions for fear that their information would not be transferable. In addition, research into the UK government's IT expenditure has revealed that many departments are locked into services by large systems integrators who have developed highly bespoke and complex systems; lack of documentation and the use of intellectual property rights mean that few other companies can maintain or extend these systems, which have often been built up over time and represent legacy systems.^{12, 13}

2.1.3 Underlying causes

There are three key underlying causes. A full description of these causes is provided in the Appendix, and summarised here.

- *Practical difficulties of procurement in a technical and fast-developing area.* Public organisations can become locked in to vendors or service providers through a lack of knowledge about the implications of their procurement practices, and a lack of technical expertise that causes them to be reliant on the skills and influence of suppliers. This may include failure to consider the whole life costs of a procurement decision; and failure to make provision in tenders and contracts for suppliers to facilitate full technical handover of solutions or to correctly licence the IPR used in solutions to enable the public organisation to share or re-use the ICT solutions if desired.
- *ICT Standards.* Public authorities face a number of difficulties in making greater use of standards when procuring ICT goods and services. There a number of underlying reasons for this, discussed in more detail in the D2 report.¹⁴ These include difficulties in assessing the quality and impact of using a standard within a solution; confusion over what standards are approved by formal standard setting organisations and which are not; and confusion over the large number of standards relevant to each ICT domain.
- *Strong market positions and network effects.* ICT markets can become overly concentrated due to network effects, whereby the benefits to a single user are significantly enhanced if there are many other users of the same technology. The use of standards can reduce market

¹² Stephen J, Page J, Myers J, Brown A, Watson D and Magee I (2011) 'System Error: fixing the flaws in government IT' Institute for Government, UK

¹³ The UK National Audit Office's landscape review stated that 'at present 80 per cent of central government IT work is undertaken by 18 suppliers' National Audit Office (2011), Information and Communications Technology in government: Landscape review, para 2.8.

¹⁴ 'Guidelines for Public Procurement of ICT Goods and Services; D2 – Overview of Procurement Practices' SMART 2011/0044' A report by Europe Economics for the European Commission,

monopolisation such that organisations can retain the benefit of their networks whilst not being dependent on a single supplier for all new components or products. An example of dominance in the ICT market linked to a lack of interoperability and potential lock-in includes:

- In 2004 Microsoft was fined €497 million for abusing its market power (near monopoly) in the market for PC operating systems by deliberately restricting interoperability between Windows PCs and non-Microsoft work group servers. The European Commission ordered Microsoft to disclose on reasonable and non-discriminatory terms complete and accurate interface documentation which would allow non-Microsoft work group servers to achieve full interoperability with Windows PCs and servers. This would enable alternative vendors to develop products that can compete on a level playing field in the work group server operating system market.¹⁵ Later in 2008, MS was fined €899 million for non-compliance with the 2004 decision.

2.2 Developing a Baseline Scenario

The importance of ICT procurement by public authorities, and thus the relevance of these problems, is likely to grow. Public expenditure on IT is high and growing: we estimate the level of EU IT public procurement at approximately €78 billion in 2010.¹⁶

IT is increasingly becoming an enabler of government functions.¹⁷ This is highlighted in the European Commission's promotion of an inclusive European information society through the Action Plan on e-Government for citizen-centred services.¹⁸

There are a number of initiatives at the European and Member State level that may help alleviate the problems related to public authorities using standards in ICT tenders to promote interoperability and avoid lock-in. These are discussed in detail in the D2 report and include, at a European level:

- The European Commission launched the Open Source Observatory and Repository (OSOR) in order to support the use of open source software in the European public sector.¹⁹ In March 2010 OSOR produced the *Guideline on public procurement of Open*

¹⁵ Case summary found at http://europa.eu/rapid/pressReleasesAction.do?reference=IP/04/382&format=HTML&aged=0&language=EN&guiLanguage=en#file.tmp_Foot_3

¹⁶ This is based on a figure for UK government expenditure on IT of €18 billion in 2010 and research that indicates the UK makes up 23 per cent of EU public IT expenditure. We cross-checked this figure with an estimate of €54 billion obtained from the MAPPs database of public sector ICT contracts based on relevant IT CPV codes (this figure is likely to be an underestimate given the fact that only above-threshold contracts are published on the OJEU, and that not all IT-related procurements are classified within IT CPV codes)

¹⁷ Stephen J, Page J, Myers J, Brown A, Watson D and Magee I (2011) 'System Error: fixing the flaws in government IT' Institute for Government, UK

¹⁸ http://ec.europa.eu/information_society/activities/egovernment/index_en.htm

¹⁹ OSOR was introduced through IDABC and continued under ISA.

Source Software which contains useful information for the procurement of ICT systems that implement standards.²⁰

- Mandate 376 covering E-Accessibility — intended to reduce “the barriers and difficulties that people experience when trying to access goods and services based on ICTs” — includes the development of a list of standards that comply with necessary technical accessibility requirements and an online toolkit which includes thorough guidance and “ready text” for public procurers.
- The 2010-2013 ICT Standardisation Work Programme under which standards setting organisations are invited to initiate work supporting the development and implementation of standards in priority areas, such as eHealth; regulated medicinal products; eGovernment; RFID and eInclusion.²¹

Initiatives at the Member State level include work to promote the use of standards in public ICT procurement, including the development of recommended lists of standards; procurement guides and ready-text; the use of central procurement services; and the development of coordinating ICT strategies. Member States involved include France, Italy, the Netherlands, the UK, Germany, Sweden, Norway, and Denmark.

However, these initiatives are limited to a few countries and often cover a limited scope (for example the promotion of only open standards; or certain IT applications like eProcurement). Public authorities’ use of standards in ICT procurement may therefore improve but this is unlikely to occur across the EU.

In addition there is little to suggest that the current levels of market power of large ICT vendors will decrease significantly in the near future.²² Public procurers are likely to continue to make excessive use of brand names in tenders and base many procurement decisions on backwards compatibility, thus entrenching positions of lock-in.

2.3 Verifying the EU’s Right to Act

The principle of conferral states that the problem should be linked to at least one of the Treaties and the objectives they contain. If the Community does not have the exclusive competence in the area in questions, then the principles of subsidiarity and proportionality apply.

The subsidiarity principle has two aspects, namely

- The necessity test: why can the objectives of the proposed action not be achieved sufficiently by Member States?

²⁰ OSOR has now migrated to Joinup <https://joinup.ec.europa.eu/>

²¹ See http://ec.europa.eu/enterprise/sectors/ict/standards/work-programme/index_en.htm.

²² However, the new Procurement Directives do promote the role of SMEs in public procurement

- The test of EU Value Added: as a result of this, can objectives be better achieved by action by the Community?

The European Commission proposes to issue recommendations to Member States on policies that can be adopted to promote good ICT procurement practices and alleviate lock-in. This role requires a coordination effort in terms of assessing the existing best practice undertaken by some Member States and communicating this throughout the rest of the EU, a task most appropriate for the European Commission.

In addition, promoting the use of standards to enhance the openness of public ICT procurement and alleviate lock-in can enhance the Single Market by increasing competition and improving the ability of ICT suppliers from across the EU to participate in public sector procurement.

The objectives of this action also support other European-wide goals and Directives, such as the Digital Agenda, the Public Sector Information Directive (whereby governments have an obligation to make their data available in open formats) and the procurement Directives) whereby the excessive use of brand names is prohibited.

3 POLICY OBJECTIVES

The general policy objectives of this initiative are:

- To promote competition in the ICT market
- To increase the value for money of the public procurement of ICT by alleviating the risk of lock-in and enhancing interoperability

These objectives contribute to the existing policy setting of the Digital Agenda, in particular Action 23, the aim of which is the development of guidance on how to use standards in the public procurement of ICT in order to alleviate lock-in and promote competition in the ICT market serving the public sector.

The objectives are also consistent with other policy areas such as:

- Public Procurement Directives: increasing value for money and enhancing competition are upheld as key elements of public procurement. In addition, the Directives prohibit the use of brand names except in defined circumstances.
- Strengthening the Single Market: promoting the use of standards to enhance the openness of public ICT procurement and alleviate lock-in can enhance the Single Market by increasing competition and improving the ability of ICT suppliers from across the EU to participate in public sector procurement.
- Work on standardisation: the 2010-2013 ICT Standardisation Work Programme under which standards setting organisations are invited to initiate work supporting the development and implementation of standards in priority areas, such as eHealth; regulated medicinal products; eGovernment; RFID and eInclusion.²³
- Increasing interoperability: the European Interoperability Framework (EIF) contains a set of recommendations on how Administrations, Businesses and Citizens should communicate with each other within the EU. The use of standards is identified within the EIF as one of eight principles for pan-European eGovernment services that are needed “to attain interoperability in the context of pan-European eGovernment services”.

3.1 Specific policy objectives

These general objectives will be achieved through:

- The increased use of appropriate standards and
- Improved ICT procurement strategies.

²³ See http://ec.europa.eu/enterprise/sectors/ict/standards/work-programme/index_en.htm.

3.2 Operational Policy Objectives

The policy options discussed below represent practical measures that Member States and the European Commission could take to help public authorities to follow the Guidelines. They would help to achieve the following operational objectives:

- Improve guidance available to public procurement authorities throughout the EU on effective procurement of ICT products and services.
- Improve information available about the appropriate use of standards in ICT procurement.

4 POLICY OPTIONS

4.1 Policy Options Considered at an Early Stage

A range of policy options to meet the policy objectives described above have been considered. These are described below.

Option 1: No EU action: this represents the ‘do nothing’ scenario whereby the European Commission takes no actions.

Option 2: The European Commission adopts a Commission Communication to identify the problems inherent in ICT procurement and proposes Europe Economics’ Guidelines document on the procurement of standards-based ICT as a solution, and disseminates it widely. This could be enhanced by option A) described below (following Option 3).

Option 3: The European Commission adopts a Commission Recommendation encouraging Member States to follow the ICT procurement Guidelines, implying that Member States will dedicate resources and expertise to develop the necessary ICT strategies that can help public authorities to get out of lock-in situations, to choose the right standards to use and use them properly in ICT tenders; and to assess standards and evaluate products that implement the standards. This could be enhanced by option A described below.

Option A, add on to both Option 2 and 3: The European Commission facilitates an online platform for the sharing of best practice on ICT procurement, with a focus on the use of standards and avoiding lock-in. This platform is supported by a network of Member States to identify specific ICT procurement issues that Member States need help with and to commission studies and projects to address these issues.

Option 4: The European Commission develops and maintains lists of recommended ICT standards for use by public procurers across all Member States

Option 5: The European Commission mandates the use of ICT standards in public procurement through legislation, possibly by amending the Procurement Directives.

4.1.1 Screening of Policy Options

As recommended in the Impact Assessment guidelines, the above policy options have been narrowed down by assessing them against criteria of effectiveness, efficiency and coherence with other overarching EU policy objectives. Two policy options, Option 4 and Option 5, have been discarded.

The development of EU-wide lists of recommended standards (Option 4) is not a practical or effective policy option. The use of particular standards in public procurement is closely linked to a Member State’s or organisation’s overall IT strategy and policy and as such standards suitable for one Member State may not be appropriate for use in another Member State. Under the principle of subsidiarity it is not appropriate for the European Commission to mandate or recommend standards

that are best chosen by Member States to meet their individual needs. Platforms already exist that coordinate the assessment of standards.²⁴ Hence knowledge exchange is promoted but no choices should be made at the European level.

Mandating the use of standards, for example through amending the Procurement Directives, (Option 5) is not considered proportionate for the problem at hand. The underlying drivers of lock-in and a lack of skill in the use of standards are largely linked to informational failures, and thus actions that seek to promote the dissemination and availability of information and encourage best practice are appropriate. In addition, the use of standards in ICT procurement is affected by ongoing changes in the IT and standards-setting domains, and as such legislation may become quickly out of date. Furthermore, the Procurement Directives are aimed to apply to general procurement and it would be against the nature of the Directives to have detailed sector-specific provisions.²⁵

4.2 Final Policy Options

The remaining policy options to be assessed are described in more detail below. Of the options requiring action, Option 2 and Option A would be under the responsibility of the European Commission, and Option 3 would fall under the responsibility of individual Member States.

Option 1: No EU action

This option represents the ‘do nothing’ case, and would mean that DAE Action 23 is abandoned. With no action from the Commission the situation regarding the use of standards in public procurement and extent of lock-in will continue as described in the base scenario. The commitments to try to attain the objectives of DAE Action 23 would not be fulfilled and the effort invested to date would be wasted.

Option 2: European Commission publishes the ICT procurement Guidelines and disseminates it widely

This option entails the European Commission publishing and disseminating the ICT procurement Guidelines developed by Europe Economics. The Guidelines provide information to public authorities (procurement officers and IT managers) on the following areas:

- Awareness of the importance of procuring ICT based on standards

²⁴ Such as the CAMSS programme, whereby Member States agree on common assessment criteria and contribute their assessments to a database; and the newly set up Multi Stakeholder platform to assess standards from industry fora and consortia. Completed assessments are planned to be made available in an assessment library that helps Member States to share and re-use assessments.

²⁵ This does not exclude the possibility for the European Commission to recommend or mandate the use of a particular standard for a particular policy initiative. However, in this case the full context for the use of the standard would be known and the specific benefits of mandating the use of the standard would need to be weighed against the costs. It is not desirable to mandate certain standards in general without sufficient context.

- Awareness of the potential problems and issues inherent in using standards in the procurement of ICT
- Guidance on the best way to identify the ICT need and conduct an evaluation of the potential procurement, including consideration of the user requirements
- Advice on interacting with suppliers to enhance the success of the use of standards

The Guidelines also provides examples of best practice to illustrate elements of the advice, and resources for procurers to use to implement the advice.

Option 3: The European Commission adopts a Commission Recommendation encouraging Member States to follow the ICT procurement Guidelines

This option entails the European Commission encouraging Member States to follow the ICT procurement Guidelines. Even though a Commission Recommendation is not legally binding, it is an incentive for Member States to address the recommendation. This option would entail Member States making resources and expertise available to all public authorities to provide advice on a range of ICT procurement issues. The way in which Member States make these resources available will be left to them to decide to ensure that advice is provided in a way that is tailored to individual national needs. The goals that Member States would be encouraged to meet under this option are as follows:

- The promotion of the importance of IT strategies at national or organisational levels, and help in developing such strategies. These strategies will provide the context for individual procurements and can help to achieve interoperability between public authorities
- An IT strategy could also be accompanied by the publishing of recommended/required lists of standards for that strategy. Member States would need to decide on which standards to recommend, based on the assessments they have carried out under the second part of this option
- Provision of ready text or templates to avoid inappropriate use of brand names: templates for common ICT products and services that include wording and standards that describe the required ICT without inappropriate mention of brand names
- Provision of ready text/templates on referencing standards
- Provision of advice and training on how to conduct proper evaluation and appraisal of ICT procurement options
- Undertaking unsolicited monitoring of calls for tenders for ICT procurements

Member States would also be encouraged to assess ICT standards in order to provide information to procurers on the impact of using ICT products or services that are based on each standard.

Existing models could be the standards assessment boards in the Netherlands, Malta and Norway,²⁶ although Member States would be free to undertake these assessments in a way that was most appropriate to their individual needs. The type of information to be provided could include:

- The costs and feasibility to suppliers of accessing and implementing the standard and whether this may exclude certain suppliers in the relevant domain from implementing the standard
- How widely the standard is implemented in the market (is there a good range of products from different suppliers implementing the standard?)
- The process followed in the development of the standard (was it sufficiently open and transparent?)
- The value of the standard in enhancing interoperability between the product to be purchased and existing ICT products and solutions
- Whether procuring products based on the standard is likely to restrict competition (by excluding suppliers) or even increase the risk of lock-in (due to evidence that the standard is not always uniformly implemented by suppliers)
- These actions should be linked to the newly set up Multistakeholder ICT standardisation platform of DG Entr and DG Infso.²⁷ With the new legislation that is foreseen to enter into force soon,²⁸ a technical specification coming from a forum or consortium that has been approved by the Multistakeholder platform may be used in public procurement. Candidate technical specifications have to be proposed by Member States, and this could begin by Member States assessing standards for their own use in ICT procurement. However, the assessment of standards by each Member State under this option would not be limited to new standards, as existing (approved) standards would still need to be assessed to determine whether they are appropriate for the Member State's ICT strategy.

Option A: The European Commission sets up an online platform for the sharing of best practice, and facilitates a network of Member States to address key problem areas

This additional option could be added to both Option 2 and Option 3. Through this option the European Commission would provide a lead on the use of ICT standards. This option entails the setup of an online community through which public authorities across the EU can share best practice and advice on ICT procurement. Contributions could include case studies on the use of standards in procurement contracts and the associated effects; or the sharing of tenders for comment and advice. Such a platform would be analogous to the Joinup platform (previously

²⁶ The Dutch Standardisation Board and Forum in the Netherlands (<http://www.forumstandaardisatie.nl/>); the Malta Information Technology Agency (<https://www.mita.gov.mt/page.aspx?pageid=282>) and the Agency for Public Management and eGovernment (Difi) in Norway (<http://standard.difi.no/english>)

²⁷ Commission Decision C(2011) 8600 of 28.11.2011. The first meeting of the Platform takes place on March 26 2012.

²⁸ Trialogue is planned for the 28 March 2012. The Danish presidency would like to close the issue by the end of their term.

OSOR). This platform could be set up independently, or as part of an existing best practice exchange resource (for example, as an additional Community within the ePractice website).²⁹ The platform would be a practical resource available to all public procurers, IT managers, suppliers and other relevant actors, and would ideally be maintained by contributing members with little direct intervention from the European Commission.

This online platform could be supported by a central network of Member States, facilitated by the European Commission, which enables Member States to meet and target specific development needs or problem areas related to ICT procurement and the use of standards. This network could be similar to the existing ISA programme facilitated by the European Commission³⁰ with the following characteristics:

- Regular meetings (for example, twice a year to begin with) hosted by the European Commission where Member States can discuss current issues relating to ICT procurement and identify areas for further investigation and research; encourage each other to take action, for example by sharing expertise on how to develop ICT strategies or to promote the use of standards in procurement; and provide help to Member States for specific problems
- The development of sectoral or regional specialisations of the ICT procurement Guidelines³¹
- The availability of a budget for a work programme, where studies and projects can be commissioned to address the development areas identified

This network would provide a flexible way for Member States to access and share advice and advance work in the area of standards-based ICT procurement. Although the organisational element of the initiative would be driven by the European Commission, the topics discussed, advice given and work streams commissioned would be decided upon by the participating Member States according to their needs. The network and work programme would be a clear way in which the European Commission can lead on the use of ICT standards.

²⁹ ePractice is an online platform bringing together news, expertise and events in the fields of eGovernment, cInclusion and eHealth. Of particular relevance is the sharing of case studies and projects. Within ePractice there exist Communities around specific topics (for example open source software; eParticipation; and government modelling) <http://www.epractice.eu/en/home/>

³⁰ The ISA (Interoperability Solutions for European Public Administrations) programme encompasses a number of working groups that address specific needs, and facilitates conferences and meetings to address these needs. The ISA also provides funds for work programmes to address identified needs through the commissioning of projects.

³¹ For example, the development of a specific guide for INSPIRE-based ICT systems and cross-border tax systems has already been proposed by the European Commission

5 IMPACTS

This section describes the impacts of the policy options. These are separated into:

- Direct impacts of each option, which shows the compliance costs associated with the options and the extent to which each option achieves the specific and operational policy objectives described in Section 3.
- Wider impacts, which show the extent to which the options achieve the general policy objectives described in Section 3.

The wider impacts are, to a certain extent, common across all policy options and are thus discussed separately in this section.

5.1 Direct Impacts of the Policy Options

This section describes the direct impacts of each policy option in terms of the nature of the benefits (the extent to which the option is likely to achieve the specific and operational objectives); the scale of the benefits; any negative impacts; and the direct costs of the option. A short description of how the each policy option contributes to the wider impacts is also included, and we also comment on the risks of unintended adverse consequences for these policy measures.

Option 2: European Commission adopts a Communication in which the ICT procurement Guidelines are published and disseminated

5.1.1 Benefits of Communication

Information on the benefits of this policy option was gathered from the ICT procurement workshop, our consultation survey on the policy options and interviews with experts and practitioners in the field of ICT procurement.

The main benefit of the dissemination of the ICT procurement Guidelines would be the increased awareness among public authorities (procurement officials and IT managers) of the importance of procuring ICT products and services that are based on standards and the importance of avoiding vendor lock-in. The Guidelines also recommend practical steps that can be taken to achieve these main aims, including what information sources should be consulted and what procedures should be followed, and encourages procurers to seek advice.

The results of the survey indicate that the majority of respondents found the Guidelines to be beneficial to them, with 75 per cent of procurement representatives indicating that the Guide are either very useful or moderately useful.³²

³² Based on a sample of 106 procurement representatives. Please see the discussion around Figure A2.3 in the Appendix

However, the impact of a Communication may not be very great if Member States are not given more direct encouragement to follow the advice on the Guidelines. For this reason the dissemination of the Guidelines should be accompanied by additional measures at the Member State level to provide the necessary detailed information.

5.1.2 *Costs of Option 2*

The costs to the European Commission of publishing and disseminating the Guidelines are estimated at between €1 million and €1.5 million in one-off costs. This is based on the experience of DG INFSO in publicising other initiatives (who consider the upper bound to be very generous), and would cover the costs of publishing the Guidelines; preparing and distributing multilingual electronic material; informing existing ICT contacts within Member States; and engaging extensively with the industry and NGOs.³³

The dissemination of the Guidelines would also be very effective through a common website such as that proposed under Option A. The incremental costs for this would be negligible.

Option 3: The European Commission encourages Member States to provide resources and expertise to advise public authorities on ICT procurement; and to assess standards and evaluate products that implement the standards

We discuss the benefits and wider impacts of the two elements of this policy option separately; first the provision of advice and then the assessment of standards. After this we present the costs of the option as a whole.

5.1.3 *Benefits of the provision of advice*

Member States will be encouraged to provide resources to advise public authorities on a range of issues related to ICT procurement, as set out in section 4. The form in which this advice should be provided will be left to Member States to decide in order to minimise the regulatory burden associated with this option and to ensure that Member States take action that is as effective for their individual needs as possible. An example could be the setting up of an advice centre or helpline.

The goals and associated benefits of the provision of advice are summarised below.³⁴ For a fuller description of the benefits please see the Appendix.

The availability of advice in *promoting and developing ICT strategies* to guide the public procurement of ICT goods and services would be beneficial as such strategies facilitate consistency in the use of standards across public sectors, which in turn can enhance interoperability and increase the ability of public authorities to share, re-use and change ICT solutions and products.

³³ Survey feedback from policy groups indicates that an extensive promotion campaign would be most beneficial to the adoption of the Guide, using avenues such as social media, traditional marketing and government channels.

³⁴ Information on the likely benefits of this policy option was gathered from the ICT procurement workshop, our consultation survey on the policy options and interviews with experts and practitioners in the field of ICT procurement.

Advice on standards available in each ICT domain that could be used in procurement would improve the awareness of ICT standards that are available and help those developing ICT tenders to base procurement on standards where relevant. This could include the development of *lists of recommended standards*.

For common ICT needs, *templates* or *ready texts* that describe products in performance-related and non-proprietary terms would make it easier for procurers to avoid the inappropriate use of brand names in tenders. These would be particularly valuable in the case of (small) procuring departments with limited access to IT expertise which would be responsible for procuring common ICT products.

Our tender analysis³⁵ revealed that standards were seldom referenced properly in tenders. The availability of *templates that fully reference commonly used standards* would avoid confusion and ensure that respondents to tenders incorporate the correct version of the standard. Templates about IPR requirements and other standard contract terms would also be very beneficial.

A significant cause of lock-in is the failure of organisations to conduct a proper appraisal of ICT procurement options that take into account all future costs of the procurement (including the likely costs of migrating away from the procured solution or supplier) and to consider the risks of being tied to a particular vendor or supplier.³⁶ If procurers are assisted in *fully evaluating their procurement options* and choosing the one that offers the greatest value for money after accounting for all costs and risks, then the prevalence of unexpected lock-in is likely to be greatly reduced. This advice could be complemented by *training courses*.³⁷

The demand for (and therefore value of) ICT procurement advice will be influenced by the awareness of the need to procure ICT that is based on standards. The *monitoring of calls for tenders for ICT procurements* would be an effective means of awareness of the need for advice.³⁸

5.1.4 Extent of benefit of advice

Results of our survey of organisations active in the field of ICT procurement indicate that all goals of a central form of advice would be valuable. The current existence of such forms of advice appears to be low, which suggests that the added value of this policy option would be high. The table below summarises the benefit of each role of an advice centre as evident from the survey. Corresponding charts are referenced in the Appendix.³⁹

³⁵ Conducted as part of D2 – Overview of Procurement Practices. See the Tender Analysis Appendix

³⁶ See the Problem Definition section above, and also our previous deliverables D2 – Overview of procurement practices and D3 – Guidelines on the procurement of ICT based on standards.

³⁷ We reiterate that an organisation remaining with a certain supplier or solution over the years should not be considered ‘lock-in’ if this has been assessed as the best option to meet the organisation’s needs.

³⁸ For example, the biggest perceived advantage of the advice centre set up as part of the Duch NOiV programme lay in its role of monitoring public sector calls for tender and providing unsolicited feedback and advice to the public authorities involved on the use of brand names or restrictive technical specifications.

³⁹ Figures A2.4 – A2.17 in the Appendix

Table 5.1: Value of Advice as Revealed in Survey

Role of Advice Centre	Awareness of advice¹	Stated benefits² (Percentage indicating 'helpful' or 'very helpful')	Potential benefits³ (Percentage indicating 'helpful' or very 'helpful')
Promote and develop ICT strategies at various levels	Organisational Level: 34% [153] At Sectoral level: 31% [149] At National level: 42% [149]	At Organisational Level: 89% [46] At Sectoral level: 88% [41] At National level: 88% [57]	At Organisational Level: 64% [98] At Sectoral level: 61% [98] At National level: 66% [85]
Develop and maintain lists of recommended standards	26% [147]	94% [35]	83% [103]
Advice on the ICT standards available for use by domain	23% [143]	90% [30]	86% [105]
Templates to avoid the use of brand names	16% [147]	91% [23]	76% [115]
Templates to properly reference standards	24% [145]	94% [35]	84% [102]
Advice on conducting proper ICT investment appraisals	24% [144]	87% [30]	85% [109]
Training on good ICT procurement practices	38% [147]	94% [51]	88% [90]

Notes: 1. Proportion of all respondents replying to this question (sample sizes in brackets); 2. Proportion of respondents with access to advice replying to this question (sample sizes in brackets); 3. Proportion of respondents with no access to advice, replying to this question (sample sizes in brackets)

Source: Europe Economics Standards Survey

5.1.5 Possible negative impacts of providing such advice

Possible negative impacts of ICT procurement advice centres were also highlighted in the survey. The existence of specialised supporting institutions for public procurement could pose a risk of reducing the incentives for procurers to know and understand their ICT needs, what the market offers and what the procurement rules are. Where there exist problems of accountability (whereby the public sector is not made responsible for costly mistakes in ICT procurement), the use of advice from external support institutions may magnify this. Furthermore, there is a risk that advice centres would not have the time or incentives to develop a full understanding of each public authority's procurement need, and that the advice provided may be too formulaic and impede innovation.

Therefore it is important to emphasise that individual public authorities (i.e. the real owners and users of the ICT systems) must also take responsibility for procurement decisions and ensure that they fully understand the consequences of their choices. It is also important that the provision of advice by Member States is a continuous activity, and that material (such as guides or templates and ready-text) is updated regularly to keep up with changes in the ICT landscape and with public authorities' needs.

More generally, increasing the emphasis placed on advice from public sector organisations might have the unintended consequence of making market processes more bureaucratic and so less efficient. However, the policy options considered here are all limited to the provision of advice, and that in a flexible form, and to increasing the information available to the market participants. It is reasonable to assume that increased information will enable the market for public sector ICT procurement to function more efficiently, and that any excessively bureaucratic approaches would not be effective.

5.1.6 Benefits of assessing standards

The assessment of existing standards and publication of this information will have a number of benefits that will ultimately encourage the appropriate use of standards in ICT procurement. Member States would be free to organise the assessment of standards in a way that best suited the needs of the public sector, but for the purposes of this impact assessment we base our analysis on the setting up of an assessment board. The goals of such a board described here could be achieved through other means. Example models presented in the Appendix are the Dutch Standardisation Board and Forum and the UK's proposed standards assessment procedure.

Being provided with information on the characteristics of standards, public authorities would be in a better position to select those standards that:

- Are widely implemented by the market.
- Are developed through an open and transparent process and do not favour limited suppliers of vendors.
- Will not have unintended negative consequences of restricting competition or increasing a risk of lock-in.

The assessment of standards could also be accompanied by the cataloguing of lists of recommended standards to be used within an ICT strategy. This would have the benefit of reducing the confusing choice for public authorities of many overlapping standards and could enhance interoperability within the public sector by ensuring that the same core standards are used as widely as possible.

Interviews with ICT suppliers suggest that information about assessed standards and the development of recommended lists could provide more certainty to the market about what standards to implement in their products and solutions, thus reducing costs of re-engineering products to implement different standards required by different public organisations.

5.1.7 Extent of benefit of the assessment of standards

Results of our survey indicate that the existence of a structure to undertake assessments of standards and develop lists of recommended standards would be valuable.⁴⁰ Of the respondents to the question, 26 per cent were aware of such structures, and of these 92 per cent thought such structures were helpful or very helpful. Of the remaining respondents who did not have access to such structures, 78 per cent thought these would be helpful or very helpful.⁴¹ The current existence of such initiatives appears to be low, which suggests that the added value of this policy option could be high.

5.1.8 Possible negative impacts of standards assessments

Information gathered through our survey and other research highlights a number of negative impacts of this policy option, in particular around the development of mandated standards for use by public procurers. These negative impacts are largely related to the perceived ‘heavy handedness’ of mandating or recommending standards.

A number of respondents to our survey (both suppliers and expert groups) indicate that encouraging or requiring public authorities to use a limited list of standards may restrict flexibility and innovation in the ICT market and ultimately the choice of products and services available to public authorities.

In addition, where lists of standards recommend just one of many similar or overlapping standards, this could reduce competition between standards. The value of competition between standards is widely debated. Some actors believe competing standards fuels innovation and competition.⁴² However, others believe that choosing to recommend one functionally equivalent standard over another will enhance interoperability among public authorities and minimise confusion among procurers.⁴³

Such negative impacts would be greatly reduced if Member States approach the assessment and recommendation of standards in a flexible way, and only recommend specific standards that are essential for achieving a clear ICT strategy. Member States can also benefit from sharing

⁴⁰ Full survey results can be found in the Appendix. A total of 176 responses were received from a range of procuring authorities, ICT suppliers and interest groups of varying sizes across most Member States and sectors.

⁴¹ Please see the discussion around Figures A2.15, A2.16 and A2.17 in the Appendix

⁴² The value of competition among standards was endorsed unanimously by participating national bodies of ISO/IEC Joint Technical Committee (JTC-1) in Resolution 49 ‘Clarification on Consistency of Standards vs Competing Specifications’ in ISO/IEC JTC 1 N9417 (2008-11-18). The value of competition in standard-setting is further highlighted in the European Commission’s horizontal agreement guidelines, which recognise that “there exist different models for standard-setting and that competition within and between those model is a positive aspect of a market economy” See Communication from the Commission — Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements Text with EEA relevance, paragraph 279 [http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52011XC0114\(04\):EN:HTML](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52011XC0114(04):EN:HTML)

⁴³ See, for example, Egyedi, T (2012) ‘To Select or Not? Dealing with Competing Standards in Public IT Procurement’ Delft University of Technology. Indeed, some procurers responding to our survey indicated that where their national ICT strategy recommended more than one standard for the same application, this created confusion and reduced interoperability between departments.

information about assessing standards, such as through the CAMMS community or the newly set up Multistakeholder platform, which could improve information about the effects of recommending certain standards over others.

5.1.9 *Costs of Option 3*

The direct costs of complying with this policy option would include:

- Costs to Member States of setting up and running central forms of advice, including the provision of training and development of templates and ready-text
- Costs to procuring authorities of seeking advice and adjusting their tenders and procurement practice accordingly, including conducting full business appraisals.
- Costs to Member States of setting up structures to assess standards and develop recommended lists

A detailed description of the costs is included in the Appendix. We present a summary here.

The annual costs to Member States of providing **central forms of advice and training** are estimated at between €6.8 million and €10.8 million across the EU27.

We note that these costs do not include one-off set-up costs. This is because the recently adopted proposals to modernise the Procurement Directives⁴⁴ recommend Member States to provide procurement support structures offering legal and economic advice, guidance, training and assistance in preparing and conducting procurement procedures in order to improve procurement outcomes.⁴⁵ These knowledge structures are intended to be very flexible, and therefore we consider it possible and desirable for the provision of ICT-specific procurement advice to be incorporated into these existing structures to avoid the burden of setting up entirely new structures. Therefore the additional costs of our recommended policy would be limited to the provision of specific, ongoing IT-related advice within these wider procurement support structures.⁴⁶

The incremental **costs to public procurers** of accessing the advice is considered negligible as this would represent a change in the source of information that is gathered during a procurement exercise rather than the amount of information. Indeed, for some authorities the central advice centres should save time.

⁴⁴ D European Commission (2011 “Proposal for a Directive of the European Parliament and of the Council on public procurement” COM(2011) 896 final

⁴⁵ Offering, for example, legal and economic advice, guidance, training and assistance in preparing and conducting procurement procedures.

⁴⁶ Discussions with DG MARKT are still required to formalise whether the provision of ICT advice could be included within these general procurement structures. However, as these structures are intended to be flexible we do not foresee a barrier to Member States in doing so.

The one-off costs to all Member States of setting up **structures to assess standards** is estimated at between €6.6 million and €11 million, and the ongoing costs of running these structures at between €13 million and €22 million per year.⁴⁷

The ongoing costs of **assessing standards and providing related information** are estimated at between €4.9 million and €8.2 million a year across all Member States.

The table below summarises the costs of Option 3. We present the ongoing costs per year and as a present value over five years.⁴⁸ The total one-off costs of the option across all Member States range between approximately €7 million and €12 million, and the annual ongoing costs range between approximately €25 million and €41 million.

Table 5.2: Total Costs for all Member States of Option 3 (€000s)

	One-off (min)	One-off (max)	Ongoing (min)	Ongoing (max)
Advice resources			6,505	9,757
Templates	405	1,215		
Training			344	688
Assessment structures	6,597	10,994	13,193	21,989
Assessment of standards			4,948	8,246
Total EU27	7,002	12,209	24,990	40,680
Present value over 5 years			112,830	203,401

Source: Europe Economics estimates

Option A: The European Commission sets up an online platform for the sharing of best practice, and facilitates a network of Member States to address key problem areas

5.1.10 Benefits of platform and network

This additional policy option is a key complementary measure to Option 2 and Option 3.

The sharing of best practice via an online platform would improve the quality of a range of aspects of procurement, such as how best to incorporate standards into ICT procurement; what the best standards are in various application fields; and how to migrate away from legacy systems and avoid vendor lock-in. Such a platform would also raise awareness of ICT procurement issues and the importance of the use of standards and would thus improve the effectiveness of the other options.

⁴⁷ These figures exclude Member States that already have assessment structures in place.

⁴⁸ This timeframe is considered appropriate for public authorities to consolidate better ICT procurement practices and address issues of lock-in. Future costs have been discounted to net present value (NPV) using the standard discount rate of 3.5%.

Our survey gathered a large number of additional best practice examples and useful sources of information relevant to a range of ICT domains. In addition, a significant proportion of respondents (35 per cent) specifically stated that more ‘best practice’ examples could usefully be included in the Guidelines, including examples of ‘good’ tenders. This suggests that there is a large body of best practice and information sources that could be usefully shared among procurers. The central role of the European Commission would be ideal to facilitate this sharing.

Our survey results also show that the sharing of best practice is considered valuable by the majority of respondents, both by those who currently have access to sources of best practice, and by those who do not. Over 90 per cent of both categories of respondents (or 71 per cent of the total sample) indicated that the sharing of best practice is or would be useful or very useful.⁴⁹

The success of such a platform would depend on the extent to which public authorities were willing and able to share information sources and examples of best practice. Part of running the platform should therefore entail resources (e.g. a knowledgeable researcher) to identify and compile relevant material.⁵⁰

The benefits of facilitating a network of Member States could be significant. There is currently *ad hoc* interaction between Member States on issues of ICT procurement, and this could be enhanced and extended to other countries through the lead of the European Commission. Member States would be able to discuss key problems and valuable studies could be commissioned through the work programme to fill in develop solutions to these problems. The central role of the European Commission would enable all Member States to benefit from the same discussions and research without duplicating resources.

5.1.11 Costs of Option A

The costs to the European Commission of setting up an **online platform** to facilitate the sharing of best practice are based on existing costs of running the ePractice platform maintained by DG DIGIT.⁵¹ It is highly recommended that this platform is included into an existing one to avoid duplicating full start-up costs. A recommended option is the CAMMS online community within the ePractice website, through which participants share information about the assessment of standards.

⁴⁹ Please see the discussion around Figures A2.13 and A2.14 in the Appendix

⁵⁰ Information received from the JoinUP platform suggests that in order to create a good online community at least one full-time equivalent who is very knowledgeable on the subject should be employed to drive the initiative. This person’s role would include researching stories to report on, gathering evidence and writing up news items and case studies. Based on the experiences of JoinUp it can be difficult to encourage governments to contribute case studies on their own and therefore a dedicated researcher is needed to search, interview, follow-up, translate — in essence create a ‘buzz’ around the platform and ensure that relevant people are interested and involved.

⁵¹ ePractice is an online platform bringing together news, expertise and events in the fields of eGovernment, cInclusion and eHealth. Of particular relevance is the sharing of case studies and projects <http://www.epractice.eu/en/home/>

Minimum costs for the running the platform, including researching and filing of content (for example case studies, news, library items) are estimated at approximately €200,000 per year, and the organisation of workshops to share knowledge and expertise (a key feature of the collaborative ePractice platform) is estimated at €100,000 for six workshops. Our ongoing cost estimates therefore range from €200,000 to €300,000 per year.⁵² The one-off costs of setting up the platform within an existing website are estimated at between €6,000 and €12,000.⁵³

The annual costs to the European Commission of facilitating a **network of Member States and an associated work programme** include holding at two annual meetings at the European Commission premises (€100,000); and providing a budget for projects (between €750,000 and €1 million). Costs to **Member States** of attending meetings are estimated at between €40,000 and €48,000.⁵⁴

The table below summarises the costs for Option a. The present value of the total costs of this option over five years is between approximately €5 million and €6.5 million.

Table 5.3: Costs for Option A(€000s)

	One-off costs (min)	One-off costs (max)	Ongoing costs min	Ongoing costs (max)
Setting up online platform	6	12		
Running platform			200	300
Work programme budget			750	1,000
Meetings (x2)			100	100
Member States attending (x2)			40	48
<i>Total for EC</i>			<i>1,050</i>	<i>1,400</i>
<i>Total for Member States</i>			<i>40</i>	<i>48</i>
Grand total	6	12	1,090	1,448
Present value over 5 years			4,921	6,538

Source: Europe Economics estimates

5.1.12 Summary of the costs of the policy options

The above discussion presents the benefits of the policy options in achieving the specific and operational objectives of this initiative, namely increasing the use of ICT standards in public procurement and improving procurement practices. The table below summarises the direct costs of each policy option, detailing who would incur the costs, and the present value over five years.⁵⁵

⁵² Note that these costs assume an existing website run by the European Commission. Cost estimates for starting up and running a website from scratch, including the costs of developers, bandwidth and servers, is estimated at €1.2 million per year.
⁵³ Between 4 and 8 weeks of IT developers’ time
⁵⁴ This covers between 50 and 60 delegates attending two meetings a year, with an average daily travel and subsistence of €400.
⁵⁵ Present value calculated using the standard 3.5 per cent discount rate.

Table 5.4: Summary of Direct Costs of Policy Options (€000s)

Annual costs (€000s)	Incurred by	One-off (min)	One-off (max)	Ongoing (min)	Ongoing (max)
Policy option 1 Do Nothing					
Policy Option 2 Communication and Publication of Guidelines	European Commission	1,000	1,500		
Policy Option 3 Recommendation for advice and standards assessment	Member States	405	1,215	6,849	10,445
Policy Option A Platform and network	European Commission	6	12	1,050	1,400
Policy Option A Network	Member States			40	48
TOTAL		8,008	13,721	26,080	42,128
Present Value over 5 years				117,751	190,211

Source: Europe Economics estimates

5.2 Wider Impacts of the Policy Options

The policy options all contribute to the final objectives of this initiative, namely to promote competition in the ICT market and increase the value for money of the public procurement of ICT by alleviating the risk of lock-in and enhancing interoperability. This will be achieved by the increased use of appropriate standards and improved ICT procurement strategies. The above discussion of the direct impacts of the policy options has shown that they are all likely to contribute to the increased use of standards in ICT procurement and to improved procurement practices and strategies, although some options may be more beneficial than others.

The wider impacts of the policy options are shown through the following mechanisms of effect:

- Public authorities have access to good advice about the impacts of using certain standards → encouraged to use standards more in procurement → avoid using standards that result in lock-in or discriminate against suppliers → avoid using brand names in tenders → increased value for money of procurement and competition in the supplier market
- Published lists enable public authorities to select the same standards for certain domains on which to base their procurement of ICT → increased interoperability across the whole public sector → increased ability for public authorities to re-use and share ICT across departments/ministries → increased value for money of ICT procurement
- Published lists give certainty to suppliers about which standards will be used in procurement → suppliers gain security of investment in products incorporating these standards → increased production of such products → increased competition on product quality and innovation
- Templates and ready text increase the ease of referencing standards in tenders and avoiding brand names → increased ability of suppliers to respond to tenders and increased quality of

bids → increased value for money of ICT procurement and improved competition in market

- Training leads to improved business appraisal of options → reduced lock-in → increased value for money of ICT procurement and improved competition in market
- Sharing of best practice → improved use of standards in public tenders → improved development of ICT strategies → improved procurement outcomes → increased value for money of ICT procurement
- Network of Member States and targeted research projects → improved procurement outcomes → increased value for money of ICT procurement

5.2.1 Description of wider impacts

The wider impacts described below include economic and social impacts, as described in the European Commission's Impact Assessment guidelines. These impacts are summarised here. An important detailed discussion of the wider impacts is presented in the Appendix. The economic impacts are summarised as:

- *Functioning of the internal market and competition:* the use of standards and reduction of lock-in will increase the ability of procurers to write open tenders for which a range of suppliers can compete. This will reduce barriers to participation and improve competition in the supplier market. Where common standards are used across Member States (e.g. through the sharing of assessments and best practice) the ability of suppliers from different Member States to compete for the same public sector contracts may be enhanced.
- *Operating cost of businesses and SMEs:* the increased use of standards in procurement may increase costs to suppliers as they implement the standards in their products and services. Cross-border trade may be impeded if Member States mandate the use of different standards. On the other hand, greater certainty regarding which standards are to be preferred by public authorities may reduce investment uncertainty for suppliers. SMEs may face other barriers to participating in procurement (such as large administrative burdens) which may offset some of the advantages of an increased use of standards.
- *Public authorities:* public authorities should ensure greater value for money in their IT procurement in the long run by being better able to share and re-use solutions and being able to switch to cheaper solutions/suppliers without being locked in. Short-run costs may arise through the need to undertake additional training or information gathering.
- *Innovation and research:* an increased use of standards could promote innovation and quality through increased competition. The use of standards is considered valuable in encouraging innovation around the standard. Intellectual property rights are unlikely to be affected given the fact that standards are made available on a fair, reasonable and non-discriminatory (FRAND) basis which included the option of protecting IP, although the sales prospects of the leading suppliers may be adversely affected if new entrants are enabled to compete more effectively.

- *Consumers and households:* consumers have greater choice in the IT products they use when interacting with public authorities.

The social impacts are summarised as:

- *Employment and labour markets:* any improvement in the competitiveness of the EU economy should be helpful to the long run prospects for secure employment.
- *Social inclusion:* to the extent that the use of standards improves interoperability between public initiatives such as public health, education and accessibility and citizens, this will enhance the inclusion and protection of certain groups.
- *Governance, participation, good administration:* to the extent that the use of standards promotes interoperability among governments and the enhancement of e-government, participation will increase.

5.3 Analysis of Costs and Benefits

It is not possible to accurately estimate the wider benefits of the policy options in terms of improving value for money of public procurement of ICT and improved competition in the supplier market for a number of reasons. This is due to the absence of empirical evidence on the real impact of standards on procurement outcomes. There is also a vast range of ICT procurement projects and application domains that are likely to be affected differently by the increased use of standards and improved procurement practice.

However, in order to decide whether or not to adopt the set of policy options, all that needs to be established is whether the benefits are likely to outweigh the costs. Given our cost estimates, we are able to determine the level of benefits required to make the policy options worthwhile, or to ‘tip the balance’ in favour of the policy options. This simple ‘tipping point’ analysis is approached as follows:

- We present illustrations of the size of the problem of lock-in and poor procurement practices and estimate the extent to which the policy options would have to reduce this problem for the costs to be covered.
- An informed judgement on the likelihood of the policy options achieving these required benefits can then be made based on the qualitative evidence gathered through our previous research and input from our interviews and survey.

We consider all policy options together as they all have similar mechanisms of effect through to the wider impacts. In section 6 we discuss the relative merits of the individual policy options.

As presented in Section 2 and the Appendix, there are a number of examples that illustrate the potential size of the problem of vendor lock-in and poor procurement practices. Whilst these examples are by no means reflective of the full problem across the EU, they provide a useful benchmark against which to assess the relative benefits of the policy options. In this exercise we

use the maximum annual total cost of the combined policy options (one-off and ongoing) of €56 million — the scale of the benefits that the policy options need to achieve may therefore be lower in practice.

- *Increased value for money from public procurement.* ICT project failure results in a significant amount of waste for public authorities. The lack of investment businesses cases and procurement strategies, poorly specified requirements and over-dependence on large dominant developers or systems integrators appear to be significant factors. A report for the UK government in 2009 suggested that there was scope for efficiency savings in the UK IT expenditure of up to 20 per cent, equivalent to €3.6 billion per year.⁵⁶ The policy options, in particular the provision of standards and procurement advice, are likely to lead to public authorities paying more attention to full business appraisals of ICT investments, including all possible costs of the decisions; more clearly considering and defining their user requirements using standards where necessary; implementing common standards; and requesting open data formats and knowledge documentation to facilitate switching suppliers to avoid further failures. If the policy options help to achieve just **1.5 per cent** of the possible efficiency savings in the UK alone then the costs would be offset. Similar efficiency savings at the EU level would amount to €15.6 billion; if the policy options accounted for just **0.36 per cent** of this saving they would be worthwhile.⁵⁷
- *Improved competition in the ICT market through increased use of standards.* The 2004 competition case against Microsoft described in Section 2 illustrates the perceived cost of reduced competition arising from the obstruction of interoperability. Microsoft was fined €497 million for abusing its market power in the market for PC operating systems by deliberately restricting interoperability between Windows PCs and non-Microsoft work group servers and impeding the ability of alternative vendors to develop competing products. (Microsoft was fined a further €899 million for non-compliance with the 2004 decision). If the value of interoperability and common standards is reflected in the fines levied on Microsoft, this is another indication of the potential benefit of promoting the more efficient use of standards in public procurement. The policy options would only have to contribute **11 per cent** to the reduction of the costs indicated by this case alone for the achievement of this benefit to be worthwhile.
- *More open procurement processes increasing the number of bidders.* Results from Europe Economics' 2011 assessment of good procurement practices⁵⁸ found that open tendering

⁵⁶ HM Treasury, Operational Efficiency Programme Final Report, April 2009

⁵⁷ We estimate the level of EU IT public procurement at approximately €78 billion in 2010. This is based on a figure for UK government expenditure on IT of €18 billion in 2010 and research that indicates the UK makes up 23 per cent of EU public IT expenditure. We cross-checked this figure with an estimate of €54 billion obtained from the MAPPs database of public sector ICT contracts based on relevant IT CPV codes (this figure is likely to be an underestimate given the fact that only above-threshold contracts are published on the OJEU, and that not all IT-related procurements are classified within IT CPV codes.

⁵⁸ The work was centred on econometric analysis of the MAPPs database in order to quantify more precisely the benefits of good practice in procurement.

procedures are very effective in attracting increased numbers of bidders, and that doubling the number of bidders lowered contract value by around nine per cent, controlling for other differences. Using this ratio of increased bidders to reduced costs, our estimate of EU ICT public procurement of €78 billion and the maximum total cost of the policy options of €56 million, the policy options would have to increase the number of bidders by only **0.8 per cent** to achieve an offsetting reduction in contact value. Feedback from our survey and interviews implies that this would not be unreasonable, with the majority of respondents indicating that an increased use of standards in public procurement would increase the ability of firms to participate in tenders.

There is also evidence of significant savings that can be made in specific situations. An example from a Swedish Police department illustrates the benefits of undertaking a detailed appraisal of the full costs of migrating away from legacy systems: in this case, savings of the new system compared with the old were estimated at €19 million (50 per cent lower than the original solution).⁵⁹ In order to offset the maximum costs of all policy options, similar savings by would have to be made by only **three public departments** across the whole EU each year (assuming that the entire savings could be attributed to the policy options).

We note that any *one* of these savings described above would be sufficient to offset the costs of all the policy options. The potential benefit of the options could be greater if more than one saving is made.

The table below summarises our tipping point analysis:

Table 5.5: Scale of Benefits Required to Offset Cost of Policy Options

Type of benefit	Illustrative value of benefit	Cost of policy options (maximum combined)	Contribution required from policy options to offset cost
Savings from increased efficiency and value for money	€15.6 billion	€56 million	0.36% increase in efficiency and value for money
Increased competition (illustration)	€497 million	€56 million	11% increase in competition
Increased number of bidders	100% increase in bidders could result in a 9% decrease in contract value in EU public procurement	€56 million	0.8% increase in the number of bidders needed to achieve equal savings from public ICT contracts in the EU

⁵⁹ In 2006 the Swedish National Police launched a project that led to the implementation and migration from an ICT infrastructure based on proprietary products to an ICT server and database platform based on Open Source software and open standards. The previous ICT platform was very costly and obliged the Police to remain with a hand full of vendors. The aim was to cut costs, avoid vendor lock-in, achieve better performance, and introduce open standards. Before the migration took place, a thorough study was conducted to calculate costs and benefits.

As discussed in the section of direct impacts, evidence gathered from our survey of procuring authorities and suppliers, interviews with experts and other information sources suggests that the added value of the policy options is likely to be high, and that the required scale of benefits needed to offset the costs of the policy options are by no means unreasonable. Furthermore, the scale of the problem arising from poor procurement practices and lock-in that is used in the tipping point analysis is based on illustrative examples and almost certainly underestimates the true scale of the problem and thus the potential for significant benefits from any intervention.

It must be noted that there are also some potential negative impacts of the policy options, in particular regarding the mandating of specific standards over and above others, and the risk of subjecting the market to overly bureaucratic processes. These negative impacts can be avoided if the implementation of the policy recommendations is flexible and appropriate to each individual Member State’s ICT needs. Indeed, the goal of all policy options is to increase the amount and quality of information available to public procurers rather than to mandate certain ways of behaving

5.4 Summary of Impacts

The table below summarises the costs and benefits of the policy options.

Table 5.6: Summary of Impacts of Policy Options

Policy Option	Annual costs (one-off and ongoing)	PV of costs over 5 years (one-off and ongoing)	Benefits
Option 2: European Commission issues Communication and publishes and disseminates the ICT procurement Guidelines	Under €2million	n/a	Key in raising awareness among procurers of the importance of standards and good procurement practices
Option 3: Member States encouraged to provide a range of ICT procurement advice, and to assess standards and provide related information	€32 million - €53 million	€120 million - €216 million	Clear advice on appropriate standards and templates to assist the use of standards and design on tender documents to ensure favourable outcomes. Expert assessment of standards and dissemination of relevant information to ensure that standards with the appropriate impacts are used.
Option (A) European Commission facilitates the sharing best practice and a network and work programme to address specific ICT procurement issues	Under €2 million	Under €7 million	Wide range of advice and best practice available to be shared to increase public authorities’ procurement practices and suppliers’ market information at little additional cost

6 COMPARING THE OPTIONS

Whilst all of the options have benefits and would have greatest impact if used together, at an individual level some are likely to have a greater benefit than others.

The Communication from the European Commission and publication of the ICT procurement Guidelines (Option 2), although arguably of limited value on its own, is an important catalyst to the success of the other policy options through its role of raising awareness and encouraging public authorities to seek relevant advice and information.

A Recommendation by the European Commission (Option 3) for Member States to provide ICT procurement advice and to assess standards would be much more effective in ensuring that action is taken to help public authorities follow the ICT procurement Guidelines. This is the most costly option, although these costs would be spread across all 27 Member States. It is important that this option is implemented among Member States in a way that is suitable to their individual needs and that over-bureaucratic structures are avoided.

The additional Option A would add value to both Option 2 and Option 3 by raising awareness of the need for procurement advice and information about assessed standards, and by helping Member States address common ICT procurement challenges. Public authorities are likely to make the best use of advice and recommended standards if they have a clear idea of the importance of doing so.

Feedback from experts and practitioners in the field of ICT procurement reflects general consensus on the merits of the policy options. However, we do note the concern among industry about the risks of overly restrictive implementation of the policy options, in particular possible distortions to the ICT market of mandating or recommending a limited number of standards over and above others. The area of ICT procurement is a large and complex one and unintended consequences of restrictive policy recommendations could be severe. The main aim of our options is to increase the quality and dissemination of information regarding the use of standards and good procurement practices, and they should be implemented in this light.

7 MONITORING AND EVALUATION

7.1.1 Core indicators of progress towards meeting the objectives

As policy options will be voluntary, both for Member States to implement and procuring authorities to utilise, a key measure of their success and effectiveness will be the extent to which the various provisions (guidelines, online community and network, the provision of advice and standards assessment structures) are accessed by procurers and suppliers.

Other indicators of success could include the prevalence of brand names in tenders; the number of suppliers participating in public procurement bids; and assessments of value for money of ICT procurement.

7.1.2 Broad outline for possible monitoring and evaluation arrangements

Follow-up surveys (longitudinal) of procurers: Follow-up surveys of procurers and suppliers on the usefulness of the measures would be an effective and simple method of evaluating the policy options. Surveys could be short and easy to answer and distributed through a range of channels (e.g. advertised on central procurement websites; distributed via email; promoted by industry and policy groups).

Statistical evaluation of procurement practices: Data on IT procurement, for example from the MAPPS database, could be analysed at periodic intervals to assess whether there are visible changes to key indicators such as contract value and number of bidders. It is likely that these impacts would take some time to materialise in the market and thus statistical evaluations could be conducted every few years.

Other monitoring: Existing monitoring exercises such as those carried out by Open Forum Europe on the use of brand names in tenders, could provide additional information on changes in key indicators.

Reporting and reviewing : In order to encourage public authorities to undertake steps to improve their procurement practices (in particular, to undertake full evaluations of the ICT need and to consider the options of procuring systems based on standards, or more generally moving away from lock-in), a requirement or recommendation could be made for them to:

- Report on the procurement process, recording evidence of undertaking evaluations and business appraisals.
- Review the procurement process and report on what worked and what could have been done better in order to encourage future best practice.⁶⁰

⁶⁰ Such reports are currently undertaken by over half of survey respondents, with 81 per cent sometimes or regularly being subject to internal review. An encouragement for this to take place for all procurers could be made at relatively little additional burden.

APPENDIX 1: ADDITIONAL INFORMATION

This appendix provides additional material to complement the analysis of the main text.

A1.1 Scale of the problem

This section provides more details on the likely scale of the problem related to ICT procurement. Given the varying definitions of ‘lock-in’ within the ICT literature, and the absence of any comprehensive source of information about the issue, evidence of the likely scale of the problem to be addressed is presented in illustrative terms only.

- *The possibly inappropriate use of brand names in tenders:* The majority of the 244 procurers responding to Europe Economics’ survey use brand names in tenders, with 23 per cent either always or often referring to brand names, and just under 40 per cent only sometimes doing so. Similarly, 37 per cent of the 172 suppliers stated that brand names are always or often used in tenders. Open Forum Europe’s (OFE) procurement monitoring report on EU Member States acquiring computer software packages and information systems found that 13 per cent out of a total of 441 screened tender notices from 2010 made use of reference to trademarks.⁶¹ Similarly, research presented in Ghosh (2005) found that the EU’s public procurement portal identified 149 recent tenders including the term ‘Microsoft’.⁶² An analysis of 94 Dutch calls for tender for the delivery of software published from January to June 2010 found a similar preference for named proprietary products.⁶³ In 36 per cent of cases a clear preference for a named closed source product or vendor was found, with the result that other vendors did not have a fair chance of winning the tender.
- *The use of restrictive technical specifications in tenders:* Just under 60 per cent of suppliers to Europe Economics’ survey consider that public tenders either always or often refer to very specific technology that only a few suppliers can provide, and just over 50 per cent of respondents reported that tenders either always or often refer to proprietary technical specifications. Other examples of discriminatory criteria within tenders can be found in Europe Economics’ report.⁶⁴
- *Procuring ICT that is based on standards:* A significant number of procuring authorities responding to Europe Economics’ survey stated that they had difficulties in using standards

⁶¹ Open Forum Europe, (2011), ‘OFE Procurement Monitoring Report: EU Member States practice of referring to specific trademarks when procuring for Computer Software Packages and Information Systems between the months of February and April 2010’ (May), p 6. Please note that the 2012 version of the Monitoring Report will shortly be published.

⁶² R.A. Ghosh (2005), ‘An Economic Basis for Open Standards’ Maastricht, FLOSSPOLs project (December), p 15.

⁶³ Paapst, M. ‘Affirmative action in procurement for open standards and FLOSS.’ *International Free and Open Software Law Review* Vol.2 No.2 p.184-185

⁶⁴ ‘Guidelines for Public Procurement of ICT Goods and Services; D2 – Overview of Procurement Practices’ SMART 2011/0044’ A report by Europe Economics for the European Commission, page 26 and the Tender Analysis appendix on page 146

when procuring ICT, with just under 50 per cent citing a lack of expertise to decide which standards are relevant and appropriate for the particular ICT need.⁶⁵

- *The procurement of ICT that limits the choice of vendor by citizens who are obliged to interact with the public authority:* a number of examples are quoted in Europe Economics' report,⁶⁶ including a survey that revealed 83 per cent of citizens lived in Swedish municipalities that were either unable or unwilling to process ODF documents (a file format based on a royalty-free standard), and that 35 per cent of the responding municipalities preferred proprietary document formats.⁶⁷ Indeed public authorities may not even be aware of the implicit obligation their organisation places on those accessing their ICT applications, which could include specific systems (such as online tax systems that only work with certain, possibly very popular, browsers) and also more subtle forms of obligation such as the use of proprietary file formats that can only be accessed through specific proprietary applications (that might be conceived as a standard according to the respondents since most of the population uses this product anyway).
- *The lock-in of public authorities to ICT vendors, suppliers or developers.* The perceived extent of lock-in is shown in a number of sources:
 - The survey conducted by Europe Economics in support of this impact assessment shows that of the 244 procuring authorities surveyed, just under 40 per cent considered that changing their existing brand of ICT solution would be too costly as other systems would need to be adapted as well, and 25 per cent felt they would not be able to change their ICT solutions for fear that their information would not be transferable.
 - Research undertaken on behalf of the UK Cabinet Office on the total cost of ownership of Open Source Software (OSS) showed that reducing vendor lock-in was the most commonly cited driving factor behind the acquisition of OSS among the respondents (80 per cent cited this).⁶⁸
 - A survey by North Bridge on the future of open source software found that 18 per cent of the 455 respondents listed freedom from vendor lock-in as the main driving force behind the adoption of open source.⁶⁹

⁶⁵ the majority of responding procurers stated that they did make use of standards when procuring ICT, but these revealed difficulties and our tender analysis suggests this use of not optimal.

⁶⁶ 'Guidelines for Public Procurement of ICT Goods and Services; D2 – Overview of Procurement Practices' SMART 2011/0044' A report by Europe Economics for the European Commission, page 26 and the Tender Analysis appendix on page 146

⁶⁷ Lundell, Bjorn. "Public sector ICT procurement policy and practice: experience of standard document formats and office applications in the Swedish public sector." Presentation to Digital Agenda Assembly workshop on Interoperability and Standards, slide 4.

⁶⁸ [http://eprints.lse.ac.uk/39826/1/Total_cost_of_ownership_of_open_source_software_\(LSERO\).pdf](http://eprints.lse.ac.uk/39826/1/Total_cost_of_ownership_of_open_source_software_(LSERO).pdf)

⁶⁹ <http://www.futureopensource.net/media-gallery/detail/346/1106>

(Even though the above two items refer to Open Source Software and not to standards, we include this reference for the sake of indicating the extent of the lock-in problem).

- Results from a recent survey by Beltug⁷⁰ of 70 ICT managers show that 47 per cent are concerned about lock-in in terms of becoming more dependent on single suppliers.
- Research undertaken in Sweden of document formats and documents owned by 291 Swedish municipalities found that in many cases the files could not be opened in applications other than those from the same provider as the original one (even supposedly open file formats), thus requiring the municipalities to continue using the proprietary applications in order to access their files. The authors recommend that public sector organisations should only refer to a software or file format standard if the standard has been implemented in a sustainable open source software implementation to avoid the risk of future lock-in to an unsustainable proprietary implementation.⁷¹
- Research into the UK government’s IT expenditure has revealed that many departments are locked into services by large systems integrators who have developed highly bespoke and complex systems; lack of documentation and the use of intellectual property rights mean that few other companies can maintain or extend these systems, which have often been built up over time and represent legacy systems.^{72, 73}

A1.2 Underlying causes of the problems in standards-based ICT procurement

This sections details the three main underlying problems in standards-based ICT procurement.

Practical difficulties of procurement in a technical and fast-developing area

Public organisations can become locked in to vendors or service providers through a lack of knowledge about the implications of their procurement practices, and a lack of technical expertise that causes them to be reliant on the skills and influence of suppliers.

Organisations may fail to consider the legitimate length of time for which they could be tied to a particular vendor at the outset of the ICT procurement. For example, if future upgrades or compatible components can only be obtained from the original vendor, this should be factored into the total procurement cost at the outset (whole life costing); failure to do so may result in the

⁷⁰ Beltug is the largest Belgian user group of ICT managers http://www.beltug.be/page/3/Who_is_BELTUG/

⁷¹ Lundell, Bjorn. 2011. “e-Governance in public sector ICT procurement: what is shaping practice in Sweden”. *European Journal of ePractice* No.12

⁷² Stephen J, Page J, Myers J, Brown A, Watson D and Magee I (2011) ‘System Error: fixing the flaws in government IT’ Institute for Government, UK

⁷³ The UK National Audit Office’s landscape review stated that ‘at present 80 per cent of central government IT work is undertaken by 18 suppliers’ National Audit Office (2011), Information and Communications Technology in government: Landscape review, para 2.8.

organisation unexpectedly tied to the original vendor beyond the contract period originally defined at the outset of the procurement.

Procuring organisations may fail to include in contracts provisions for efficient handover at the end of the contract, should a different supplier be selected at that stage. This includes ensuring that the original supplier makes available the full documentation and other information necessary to enable technical handover. It also includes requesting the correct IPR licencing to enable the public organisation to share or re-use the ICT solutions should they wish.

Even if an organisation undertook full life costing at the outset of the procurement, innovation and technological change could result in the development of new products (or entrance of new vendors) that provide (unexpected) better alternatives than the original procurement. The organisation may therefore regret their initial procurement decision but - in the absence of provisions in the contract that would allow such flexibility - be unable to change.

Similarly, unexpected lock-in could occur if the vendor takes actions to impose additional barriers to the organisation's ability to switch beyond the expected timeframe, for example by introducing changes to the technical specifications of their products which make them unexpectedly incompatible with other systems (although distinguishing this from more beneficial forms of innovation is difficult).

ICT Standards

A second underlying cause of the problem is that ICT standards, which may play an important role in preventing the reliance on single vendors for products and system components that implement desired technologies by identifying the key element of the technology required and ensuring that its use is not limited to a specific product or service, are often difficult to understand and evaluate. Products and services from different producers can, in principle, be made interoperable by using such standards; this may enhance competition in the products and services that apply a particular standard. In this way organisations can still retain the benefit of their ICT networks whilst not being dependent on a single supplier for all new components or products. However, this potential is not exploited where public authorities are not sure which standards to use.⁷⁴

Public authorities face a number of difficulties in making greater use of standards when procuring ICT goods and services. There a number of underlying reasons for this, discussed in more detail in the D2 report.⁷⁵

- It is difficult to assess the quality of a standard or the impact that specifying the use of a particular standard in an ICT solution will have on competition or in other ways. This

⁷⁴ To illustrate the potential scale of this issue, there are over 2,000 standards published by ISO's Joint Technical Committee on information technology alone

⁷⁵ 'Guidelines for Public Procurement of ICT Goods and Services; D2 – Overview of Procurement Practices' SMART 2011/0044' A report by Europe Economics for the European Commission,

applies to both standards that are set through formal standard setting organisations and specifications developed by industry and are available on an open and non-discriminatory basis and implemented equally across the market.

- Standards can be implemented in different ways and there can be parts of a product or solution that are left up to implementers to design. The fact that an ICT product or system incorporates a certain standard may not guarantee interoperability with products using the same standard from other suppliers.
- There are technologies and specifications that appear to be widely implemented (and could be erroneously considered a ‘standard’) but have not passed through a standard setting process (i.e. through a standard setting organisation or an established alternative forum or consortia) and in reality could be implemented by only a few suppliers, increasing the risk of being locked into a limited number of suppliers or vendors.
- There are a large number of standards available and many different standards can reflect similar underlying technologies. Selecting ICT products implementing only certain standards may exclude alternative products implementing different standards which may better support the functional needs of the purchase.
- For certain ICT purchases the necessary standards may not yet exist.
- Standards are of varying quality and are always liable to change.

Strong market positions and network effects

ICT markets can become overly concentrated due to network effects, whereby the benefits to a single user are significantly enhanced if there are many other users of the same technology. New technologies need to overcome the value of the network effect of the old technology, often resulting in the dominance of particular products (and vendors) in their application areas.

In the case of incumbent vendors that already have a large market share, limiting the degree of compatibility and interoperability of their products and systems with those from other vendors can be a way of maintaining their market share. (It must be emphasised, however, that interoperability can also be very valuable for ICT firms, hence the major role played by industry in the development of standards.)

If an organisation has invested in a proprietary system for which new components are available from only one or a limited number of vendors, then it will be obliged to continue to use the

incumbent vendors' products and components in the aftermarket even if better (but incompatible) alternatives exist.⁷⁶

The use of standards can reduce aftermarket monopolisation such that organisations can retain the benefit of their networks whilst not being dependent on a single supplier for all new components or products.⁷⁷

There are a number of examples of market dominance in the ICT market linked to a lack of interoperability and potential lock-in:

- In 2004 Microsoft was fined €497 million for abusing its market power (near monopoly) in the market for PC operating systems by deliberately restricting interoperability between Windows PCs and non-Microsoft work group servers.⁷⁸ The European Commission ordered Microsoft to disclose on reasonable⁷⁹ and non-discriminatory terms complete and accurate interface documentation which would allow non-Microsoft work group servers to achieve full interoperability with Windows PCs and servers. This will enable rival vendors to develop products that can compete on a level playing field in the work group server operating system market.⁸⁰ Later in 2008, MS was fined €899 million for non-compliance with the 2004 decision.
- In 2008 the European Commission also initiated proceedings against Microsoft under the Article of the TFEU relating to abuse of a dominant position. The main concern was that Microsoft had a dominant share of the PC operating system market (roughly 90 per cent), and it was leveraging this by tying its web browser Internet Explorer to its operating system (Windows), thus gaining a large share of the web browser market. Furthermore, content providers' and software developers' products which are tailored to Internet Explorer enjoy a potential audience which is equal to Microsoft's share of the client PC operating system market. Due to the fact that Internet Explorer lagged behind its competitors in a number of areas and was the least standards-compliant of the main web browsers (such that content developed for Internet Explorer was less likely to be interoperable with other web browsers), the Commission took the preliminary view that the tying of Internet Explorer to Windows limited innovation in web development. The case was resolved after Microsoft made a commitment to enable equipment manufacturers to

⁷⁶ Even if the procurer was aware of this from the beginning, the limited competition in the foremarket arising from the network effects would 'taint' all subsequent purchases of the vendor's products.

⁷⁷ See the Appendix for a discussion about completion in the fore- and aftermarkets.

⁷⁸ These are operating systems running on central network computers that provide services to office workers around the world in their day-to-day work such as file and printer sharing, security and user identity management.

⁷⁹ To the extent that any of this interface information might be protected by intellectual property in the European Economic Area, Microsoft would be entitled to reasonable remuneration. The disclosure order concerns the interface documentation only, and not the Windows source code, as this is not necessary to achieve the development of interoperable products.

⁸⁰ Case summary found at http://europa.eu/rapid/pressReleasesAction.do?reference=IP/04/382&format=HTML&aged=0&language=EN&guiLanguage=en#file.tmp_Foot_3

‘turn off’ Internet Explorer and install any web browser of their choice. For then current users, an update would be sent which would display a ‘choice screen’ which would give users a choice to install all the major browsers, along with descriptions of each.

- Cisco, which accounts for 75 per cent of the world’s internet infrastructure equipment, has been accused of abusing this dominant position by tying necessary software updates for its equipment to other services, notably its maintenance services SMARTnet. According to the complaint, updates are available only to customers that have purchased SMARTnet, and as a result Cisco has excluded rivals from the network maintenance services market for Cisco equipment.⁸¹ Whilst this tying does not appear to involve technical compatibility issues, the high concentration in the market provides scope for the incumbent to lock customers into its services.
- On 13 May 2009, the European Commission adopted a decision finding that Intel Corporation infringed Article 82 of the EC Treaty by abusing its dominant position in the x86 central processing unit (CPU) market. The decision imposed a fine of EUR 1.06 billion and obliged Intel to cease the identified illegal practices, to the extent that they are ongoing, and not to engage in the same or equivalent practices in the future.

Market power and the existence of legacy systems can also affect the ICT service domain. Indeed, evidence from stakeholders (e.g. gathered through Europe Economics’ background research⁸² and the public workshop held in Brussels in December 2011) suggests that lock-in in terms of dependence on a single IT developer or systems integrator for their knowledge of the organisation’s IT systems is more common and serious than technical lock-in.⁸³ (Migrating away from products and systems is generally technically possible, although such a move can be prohibitively costly if extensive changes are required to ensure compatibility and interoperability). Having ICT that is based on standards can help reduce these migration costs.)

In order to change service providers, particularly where bespoke, non-standard systems have been developed, the organisation requires access to a range of knowledge and skills such as architecture documentation, access to the software build, test, deployment and productions systems, and access to the history of the project. This access is often not built into contracts.

A1.3 Benefits of Option 3 – Provision of advice

This section provides a fuller description of the benefits of providing advice to assist ICT procurers.

⁸¹ <http://betanews.com/newswire/2012/02/01/multiven-files-antitrust-complaint-against-cisco-systems-with-swiss-competition-commission/>

⁸² ‘Guidelines for Public Procurement of ICT Goods and Services; D2 – Overview of Procurement Practices’ SMART 2011/0044’ A report by Europe Economics for the European Commission,

⁸³ For example, the UK National Audit Office’s landscape review stated that ‘at present 80 per cent of central government IT work is undertaken by 18 suppliers’ National Audit Office (2011), Information and Communications Technology in government: Landscape review, para 2.8.

The availability of advice in *promoting and developing ICT strategies* to guide the public procurement of ICT goods and services would be beneficial as such strategies facilitate consistency in the use of standards across public sectors, which in turn can enhance interoperability and increase the ability of public authorities to share, re-use and change ICT solutions and products. This is particularly valuable given the wide range of standards available. In addition, ICT strategies can solve problems of inefficient decision-making, whereby individual departments make choices that are optimal for them, but could be inefficient across a wider section of the public sector. This is particularly relevant in the context of networks and legacy systems, where moving to a better ICT solution may only be cost-effective if done at a broad level, thus requiring higher coordination in order to reach a global optimal solution. Other benefits include the ability to plan and aggregate procurements and thus achieve economies of scale; the pooling and sharing of expertise across the public sector; and the provision of long-term information to the market to enable suppliers to best respond to public authorities' needs. The influence of ICT strategies may be wide-reaching and thus great importance should be attached to their development, including the use of sufficiently expert people. The existence of an advice centre that consolidates such expertise would therefore be valuable.

The nature of ICT strategies will have an important influence on their benefits. For example, feedback from our survey highlights some problems that could arise from the use of ICT strategies that are not technology neutral (i.e. that promote the use of certain standards and technologies to the exclusion of others), as this can provide disincentives to the participation of ICT firms in the public procurement market (including foreign firms) and limit competition and innovation. As discussed later in this section, procurement decisions should be based on a full assessment of the organisation's need, taking into account the total life costs of the procurement (including accounting for the risks of possible lock-in); the choice of ICT product or service should not be unreasonably constrained by strict adherence to certain technologies or standards identified as part of a wider strategy.⁸⁴ Furthermore, as ICT strategies have the potential for wide-reaching influence over public ICT procurement, the negative consequences of poorly designed strategies, or those that are unduly influenced by private actors, could be large.

Advice on standards available in each ICT domain that could be used in procurement would improve the awareness of ICT standards that are available and help those developing ICT tenders to base procurement on standards where relevant. Some respondents to the survey felt that standards can only be implemented successfully if all parties using them fully understand both the standard and the framework or strategy within which it needs to be used. The availability of a dedicated form of advice could ensure that this need is met. However, given the large number of

⁸⁴ For example, the Dutch Court of Auditor's 2011 report relating to the Dutch ICT strategy of promoting open source software and open standards concluded that the various advantages and disadvantages, risks and opportunities of the strategy differed according to the specific situation of each organisation, and could only be determined through specific research into the needs and situation of the public organisation and the available ICT products and services. See http://www.courtsofaudit.com/english/Publications/Audits/Introductions/2011/03/Open_standards_and_open_source_software_in_central_government

standards in many domains, additional advice to highlight the advantages of various standards would add value. This could include either recommending certain standards, or providing more information about the impact of using a standard. The sharing of best practice, such as examples of tenders for similar ICT products that have used standards, has been highlighted as being particularly valuable. These elements are included in other policy options.

For common ICT needs, where branded products are often used, available descriptions of the products in performance-related and non-proprietary terms would make it easier for procurers to avoid the inappropriate use of brand names. These *templates* or *ready texts* would be particularly valuable in the case of (small) procuring departments with limited access to IT expertise which would be responsible for procuring common ICT products.

Our tender analysis⁸⁵ revealed that standards were seldom referenced properly in tenders (e.g. only high-level standard names were cited without further detail on the version or organisational affiliation of the standard). The availability of *templates that fully reference commonly used standards* would avoid confusion and ensure that respondents to tenders incorporate the correct version of the standard.

Our discussion on the problem of lock-in⁸⁶ shows that a significant cause of lock-in is the failure of organisations to conduct a proper appraisal of ICT procurement options that take into account all future costs of the procurement (including the likely costs of migrating away from the procured solution or supplier) and to consider the risks of being tied to a particular vendor or supplier. If procurers are assisted in *fully evaluating their procurement options* and choosing the one that offers the greatest value for money after accounting for all costs and risks, then the prevalence of unexpected lock-in is likely to be greatly reduced.⁸⁷ Ready text to assist in drafting contracts that would facilitate handover from one supplier to another might be a useful part of this.

The provision of *training* on how to conduct full business appraisals and properly assess the whole life costs of ICT procurement decisions would be an additional means of support for public authorities. Feedback from our survey and workshop suggests that such training would be very beneficial and should be available to all those involved in ICT procurement, e.g. both IT managers and procurement officers alike. Again Member States would be free to provide training as they see fit, but options could include advertising commercial training courses, or including modules about standards-based ICT procurement in tertiary IT or procurement courses.

The demand for (and therefore value of) ICT procurement advice will be influenced by the awareness of the need to procure ICT that is based on standards. The *monitoring of calls for tenders for ICT procurements* would be an effective means of awareness of the need for advice.

⁸⁵ Conducted as part of D2 – Overview of Procurement Practices. See the Tender Analysis Appendix

⁸⁶ See the Problem Definition section above, and also our previous deliverables D2 – Overview of procurement practices and D3 – Guidelines on the procurement of ICT based on standards.

⁸⁷ We reiterate that an organisation remaining with a certain supplier or solution over the years should not be considered ‘lock-in’ if this has been assessed as the best option to meet the organisation’s needs.

The biggest perceived advantage of the advice centre set up as part of the Dutch NOiV programme⁸⁸ lay in its role of monitoring public sector calls for tender and providing unsolicited feedback and advice to the public authorities involved. This included challenges to the authorities on the use of brand names and restrictive technical specifications, or on the failure to reference recommended ‘comply or explain’ standards where appropriate.⁸⁹ Experience from the programme suggests that public authorities would not actively seek advice about the use of standards in ICT procurement if they did not acknowledge there were problems with the way the tender documents were drawn up. In most cases, it was only after a public authority had been challenged on a tender that it sought further advice on how better to incorporate standards or make the tender more open and competitive.

An additional benefit of a central form of advice is the provision of a means by which suppliers can highlight poor procurement practices, with the hope of challenging the public authority concerned before the tender process is over (and thus avoiding costly legal fees). In the Dutch experience, a number of small suppliers sought the help of the advice centre.

It is likely that a significant percentage of poor procurement practices that discriminate against suppliers and increase the risk of lock-in result from ignorance of EU procurement rules (such as those that require contracting authorities to treat their vendors in an equal and non-discriminatory manner; act transparently; not draw up technical specifications in such a way as to exclude products that meet their requirements; and refrain from referring to a specific make, source, or process).⁹⁰ Therefore, the benefits of a central form of advice in raising awareness among procurers about poor procurement practice are likely to be large.

A1.4 Costs of Option 3

This section details the costs for Option 3.

We base the costs of **providing advice and monitoring tenders** on the example of the advice helpdesk used during the NOiV programme in the Netherlands, for which the main cost was adequately qualified personnel. The resources required for an advice centre will of course depend on the exact remit and scope of the centre, as well as the size of the public sector. In the Netherlands, the advice centre used two full-time equivalent (FTE) days a week for the monitoring of tenders and provision of advice, at an annual cost of €120,000. However, those involved in the centre indicated that there would have been scope for several others, at least 10 FTE days per week.

⁸⁸ Netherlands Open in Connection, the programme implemented to encourage the adoption of open standards and open source software among the public sector in the Netherlands

⁸⁹ Based on an interview with the head of the advice centre

⁹⁰ Feedback from Open Forum Europe, a body that undertakes regular monitoring exercises of ICT procurement in the EU. See for example Open Forum Europe, (2011), ‘OFE Procurement Monitoring Report: EU Member States practice of referring to specific trademarks when procuring for Computer Software Packages and Information Systems between the months of February and April 2010’ (May), p 6. Please note that the 2012 version of the monitoring report will be published early 2012

The incremental costs of this policy option will depend on the existence of similar advice centres within Member States. Results from the survey and our desk research suggest that while elements of advice are provided in some Member States, it is unlikely that all roles described in this option are covered within any Member State (in particular, the monitoring of calls for tender does not appear to exist in any Member State other than the Netherlands). We therefore assume that the provision of ICT-related advice would be an additional cost in all Member States. However, given the existence of wider procurement knowledge centres, as proposed by the recently adopted proposals to modernise the Procurement Directives, we consider it reasonable for ICT procurement advice to be provided within these structures. Therefore our costs are limited to the ongoing costs of providing ICT procurement advice, and do not duplicate any start-up costs.

Extrapolating the costs of the Dutch example across the EU, taking into account relative sizes of public sector procurement (the more ICT procurement activity taking place in a country the greater the demand for advice) and hourly labour costs, we estimate the cost of providing ICT procurement expertise to be between €6.5 million and €9.8 million per year across the EU27.⁹¹ Data on the size of public procurement and average IT earnings were gathered for all EU Member States from Eurostat, and converted into ratios relative to the figures for the Netherlands. The costs from the Dutch example were then multiplied by these ratios, and the final figures for each Member State summed together.

The costs of **providing training** on specific elements of ICT procurement will be heavily influenced by the need for such training within each Member State and the way in which it is provided. Cost estimates for commercial ICT procurement training courses are approximately €2,000 per course. We cannot know the extent to which such training would be adopted, but if we assume that between 10 and 20 public procurement officials or IT managers within each Member State are sent on such a training course every year, the aggregate costs across Member States would be between approximately €344,000 and €688,000 per year.⁹²

The costs of **developing templates and ready-text** are based on examples in the UK and Germany, with an average cost of approximately €15,000 per template of nine standards (formed mainly from the cost of expert personnel).⁹³ Accurately estimating these costs across the EU is not possible given the wide variation in the number and scope of such templates that could be developed in each Member State. (For example, the German guidance relates only to PCs and notebooks, and the UK Toolkit relates only to Open Source Software). Even where Member States currently develop templates there may be scope for the provision of additional templates to cover new areas. Based on a simplifying assumption that each Member State would develop between

⁹¹ This assumes a minimum of 10 FTE a year and maximum of 15 FTE days a year in the Netherlands. The FTE days are adjusted for the size of public procurement, and the cost per FTE is adjusted for wages rates of ICT personnel.

⁹² Costs of training are adjusted for average wage rates within each Member State

⁹³ The UK government's 'Open Source Toolkit', BITKOM's non-proprietary performance templates in Germany and the Standardisation Board and Forum's standards referencing advice.

one and three sets of templates, the one-off cost of this option is estimated at approximately between €405, 000 and €1.2 million across the EU.

The additional **costs to procuring authorities** of seeking advice from the centres are unlikely to be high. Feedback from interviews suggests that when developing tenders for ICT procurement, procurers and IT managers already need to access information about the products or suppliers available, and technical and legal requirements for the tender. The existence of advice centres could represent a change in the way this information is sourced, rather than an additional burden on the procuring authorities.

Conducting full business appraisals of ICT investments could increase the costs to public authorities of their procurement processes. This burden will be heavily influenced by the nature and size of the procurement, and it is not possible to estimate what the aggregate costs across all public authorities could be.⁹⁴ Evidence on the use of business appraisals in the IT field, in particular total cost of ownership assessments, suggests that while such assessments are time consuming and require information and data that is not always available, they do result in cost savings and cost avoidance.⁹⁵ The existence of advice centres to provide assistance in these appraisals is likely to reduce the burden on individual authorities.

The costs of standards assessment structures

The costs of this policy option are based on the cost of running the Netherlands' Standardisation Board and Forum. These include the development and maintenance of lists of recommended standards. The costs of assessing standards is estimated at €30,000 per standard, and the associated annual project costs are approximately €1.6 million. One-off set up costs are estimated at 50 per cent of running costs. We note that the structure of the Dutch Board is such that the Forum (made up of CIO experts) and Board (higher civil servants in the Netherlands) are not paid, and meet on a voluntary basis. The main costs are therefore incurred by the secretariat. Costs of such a structure may therefore be higher in Member States if Board members are remunerated.

Our survey results suggest that a number of Member States already have in place some kind of standards assessment initiative.⁹⁶ However, our own research suggests that the existence of such initiatives is less common — in addition to the Netherlands we identified that France, Malta, Slovakia and the UK have or are developing national standards assessment structures. (It is possible that respondents may have confused the existence of national standardization bodies that set and develop standards, with boards that assess existing standards as per the policy option.)

⁹⁴ For example, a Swedish police department undertook a full assessment of the options of remaining with its existing ICT solutions or procuring open solutions. The assessment was a substantial project that spanned a number of years and included consultation with many different stakeholders and experts; however, this related to the overhaul of the entire ICT system and was significantly larger than usual procurement projects.

⁹⁵ See for example Maha Shaikh and Tony Cornford (2011) 'Total cost of ownership of open source software: a report for the UK Cabinet Office' London School of Economics and Moyle, K (2004) Total cost of ownership and open source software' Department of Education and Children's Services, South Australia

⁹⁶ This was highlighted by respondents from 18 Member States

Therefore the costs of this policy option exclude costs for those Member States with these structures already in place.

We assume that between 12 and 20 standards would be assessed in each Member States a year (the Netherlands aims to assess 12 a year, but given the large number of standards Member States may wish to assess more).

All costs have been adjusted for wage differences between the Netherlands and other Member States. In the case of procurement advice costs, the number of FTEs required has also been adjusted to take account of different sizes of public procurement.

Table 7.1: Total Costs for all Member States of Option 3 (€000s)

	One-off (min)	One-off (max)	Ongoing (min)	Ongoing (max)
Advice resources			6,505	9,757
Templates	405	1,215		
Training			344	688
Assessment structures	6,597	10,994	13,193	21,989
Assessment of standards			4,948	8,246
Total EU27	7,002	12,209	24,990	40,680
Present value over 5 years			112,830	203,401

Source: Europe Economics estimates

A1.5 Wider impacts detailed discussion

This section presents a more detailed discussion of the wider impacts of the policy options.

A1.5.1 Increased value for money from public procurement of ICT

An increased focus on standards and good procurement practices could increase value for money of public ICT procurement in a number of ways.

The procurement of ICT that is based on standards will help enhance interoperability among public sector departments and organisations. This will be particularly effective in the context of a wider ICT procurement strategy that, for example, sets out the range of preferred standards for use across all departments. Public authorities would be better able to share and re-use products and data. The importance of interoperability is highlighted by the European Interoperability Framework and associated initiatives.⁹⁷

⁹⁷ European Interoperability Framework (http://ec.europa.eu/isa/documents/isa_annex_ii_eif_en.pdf).

Procuring ICT that is based on standards can reduce vendor lock-in, thus providing long-term savings for public authorities (if they are able to switch more easily to cheaper options or suppliers) and resulting in better performing ICT systems (assuming that lock-in implies an inability to migrate to a solution that provides greater value for money).

Reduced lock-in may also indirectly reduce the market power of large vendors or systems integrators, facilitating competition in the ICT market and improving cost/quality ratios of solutions provided by firms. Survey results suggest that an increased focus on standards would increase the quality of solutions proposed by suppliers (a significant proportion of our sample – 57 per cent – stated this)⁹⁸ and decrease the long-term cost of solutions proposed by suppliers (41 per cent of our sample stated this).⁹⁹

The extent to which standards in themselves can reduce vendor lock-in is, however, debatable. Feedback from a number of survey respondents and interviewees suggest that technical aspects of lock-in (i.e. those that can be addressed through technical standards) are in general less of a problem than service-related aspects, and that there is a greater risk of being locked into developers or systems integrators than products.¹⁰⁰ For this reason, the greatest value of the policy options is likely to be in helping public authorities to specify in their tenders the need for suppliers to document all developments and keep the solutions sufficiently open so as to allow supplier migration at the end of the contract (templates would be particularly useful here). Help in conducting full business appraisals would also be of great value to make procurers aware of all possible costs of different procurement options so that they are not faced with unexpected costs of migration.¹⁰¹

A1.5.2 Competition in the ICT market

The increased use of standards in public procurement of ICT and improved procurement practices will have a number of indirect impacts on the ICT market.

An increase in the number of suppliers able to respond to public calls for tender is likely to arise from public authorities procuring ICT products and services that incorporate standards that can be implemented by all suppliers. In addition, a reduction in vendor lock-in implies that public authorities would be better able to choose among different ICT vendors and products, which would reduce discrimination among suppliers and further increase the ability of suppliers to compete for ICT contracts.

⁹⁸ Please see the discussion around Figure A2.18 in the Appendix

⁹⁹ Please see the discussion around Figure A2.19 in the Appendix

¹⁰⁰ For example, a survey response from a public procurer indicated that technical lock-in was not a significant problem, and that their biggest challenge was to ensure that systems developed by suppliers are not too bespoke as this increases the risk of supplier (and to a certain extent product) lock-in.

¹⁰¹ For example, a respondent from Germany felt that public administrations should change the entire way in which ICT is purchased, and that the main problem is that IT procurement projects are too often based on tactical short term goals, despite the fact the systems will last for a long time.

The majority of survey respondents (49 per cent) thought that an increased focus on standards in ICT procurement would increase the number of bidders for public contracts – only 13 per cent thought this number would decrease, and 15 thought there would be no change.¹⁰²

Similarly, the reduction in the use of brand names and proprietary technical specifications in tenders will reduce discrimination between suppliers and increase competition in the market for publically procured ICT. However, the extent to which is likely to be achieved through an increased focus on standards is unclear. Just over a third of our survey respondents (36 per cent of the total sample) thought that an increased focus on ICT standards would decrease the use of brand names in tenders, whilst 22 per cent thought the use of brand names would increase and 19 per cent thought there would be no change.¹⁰³

Overall, the majority of our survey respondents (53 per cent of the total sample) thought that an increased focus on ICT standards in procurement would increase competition in the ICT market.¹⁰⁴

However, there is also evidence that an increased focus on standards may have a negative impact on suppliers' ability to bid for public sector contracts. An increased focus of standards may increase suppliers' costs through the need to reengineer their products or solutions to implement the required standards. Research conducted on the costs of complying with mandatory technical requirements in the telecommunications industry indicates that additional production costs of implementing different standards could be between 5 and 10 per cent.¹⁰⁵ This will be a particular issue if public authorities are inflexible on the standards that they require.

Our survey results do not provide a clear indication of the likelihood of this impact — 32 per cent of respondents suggest that costs to suppliers would decrease as a result of an increased focus on standards, while 23 per cent felt they would increase and 19 per cent foresaw no change.¹⁰⁶ Any cost increases are likely to be more significant in the short run (provided public authorities maintain long-term consistency in the standards they request); an increase in the short term costs of suppliers' solutions was cited by the majority of suppliers (30 per cent) with only 15 per cent indicating that these costs would decrease. Responses suggest that that the long-term costs of solutions would decrease (41 per cent of respondents state this).¹⁰⁷

The ability of suppliers to compete for cross-border public sector contracts will also be impacted by an increased focus on standards. Where standards are not harmonised across Member States, an increased focus on them in procurement could impede cross-border trade and the competitiveness of firms in different Member States. A study undertaken by the OECD found that cross-border trade will be particularly impeded for small firms if faced with different requirements for technical

¹⁰² Please see the discussion around Figure A2.18 in the Appendix

¹⁰³ Please see the discussion around Figure A2.18 in the Appendix

¹⁰⁴ Please see the discussion around Figure A2.18 in the Appendix

¹⁰⁵ OECD (2000) 'An assessment of the costs for international trade in meeting regulatory requirements' TD/TC/WP(99)8/Final

¹⁰⁶ Please see the discussion around Figure A2.18 in the Appendix

¹⁰⁷ Please see the discussion around Figure A2.19 in the Appendix

standards across Member States.¹⁰⁸ In addition, survey results obtained for the impact assessment on the Utilities Procurement Directive¹⁰⁹ found that a significant proportion of businesses (59 per cent of respondents) felt that different kinds of technical specifications demanded by authorities in other Member States were a barrier to cross-border bidding.

A further consideration of the impact of standards on competition in the ICT market should take into account the many other barriers that firms face in bidding for public sector contracts.¹¹⁰ Feedback from both surveys suggests that ICT firms, in particular SMEs, are disadvantaged by onerous administrative requirements in public calls for tender that are unrelated to technical aspects of the product or solution, such as turnover thresholds and liability clauses.¹¹¹ Increased participation by SMEs resulting from the policy options may therefore be impeded by other barriers.¹¹²

¹⁰⁸ OECD (2000) ‘An assessment of the costs for international trade in meeting regulatory requirements’ TD/TC/WP(99)8/Final. One of the product groups addressed was telecommunications equipment, where the costs of compliance were compared across The United States, the United Kingdom, Germany and Japan.

¹⁰⁹ European Commission (2011) ‘Impact assessment accompanying the document: Proposal for a Directive of the European Parliament and of the Council on procurement by entities operating in the water, energy, transport and postal sectors’ Commission staff working paper SEC(2011) 1585 final

¹¹⁰ For example, one supplier suggested that the best method to achieve reductions in costs (short term and long term) whilst increasing innovation is to make entry to the public sector much easier for small to medium ICT suppliers. This could be done through the use of an accepted business standard and less onerous administrative requirements in tenders.

¹¹¹ Examples were given of ICT domains where standards are widely (and strictly) used and implemented by all suppliers, and where SMEs still battled to access public contracts for non-technical reasons.

¹¹² That said, the new Procurement Directives do focus on the participation of SMEs, and this situation may therefore improve in the future. European Commission (2011) ‘Proposal for a Directive of the European Parliament and of the Council on public procurement’ COM(2011) 896 final

APPENDIX 2: STANDARDS SURVEY RESULTS

A2.1 Analysis of Survey Results

The results from the survey were extracted from the Interactive Policy Making tool into excel. Where options existed for respondents to reply 'other' (type of organisation and sector) responses were coded and additional categories added to the results.

Summary charts and tables were created for each question, as presented below. Responses per question include 'N/A' when the respondent did not answer the question. Unless otherwise stated, responses to questions are expressed as a proportion of only those answering the question, rather than the total sample size of 176.

Evaluation has been done on a country level where possible, with analysis restricted to the eight countries from which there were received at least eight survey responses.¹¹³

A2.2 Part 1 - Overview of Respondents

A survey of public authorities, ICT suppliers and policy groups was undertaken in order to gather views on the Guidelines and information on the impacts of accompanying practical implementation measures.

The survey was open from 16 December 2011 until 14 February 2012.

The sample of respondents indicates that a good range of both public authorities and ICT suppliers were captured by the survey, with representation from most Member States, public authorities spread across different sectors and organisations of different sizes.

In total, 176 responses were received. Of these responses, 99 came from public authorities, 40 from ICT suppliers, 10 from a policy group and 27 from other types of organisation.¹¹⁴

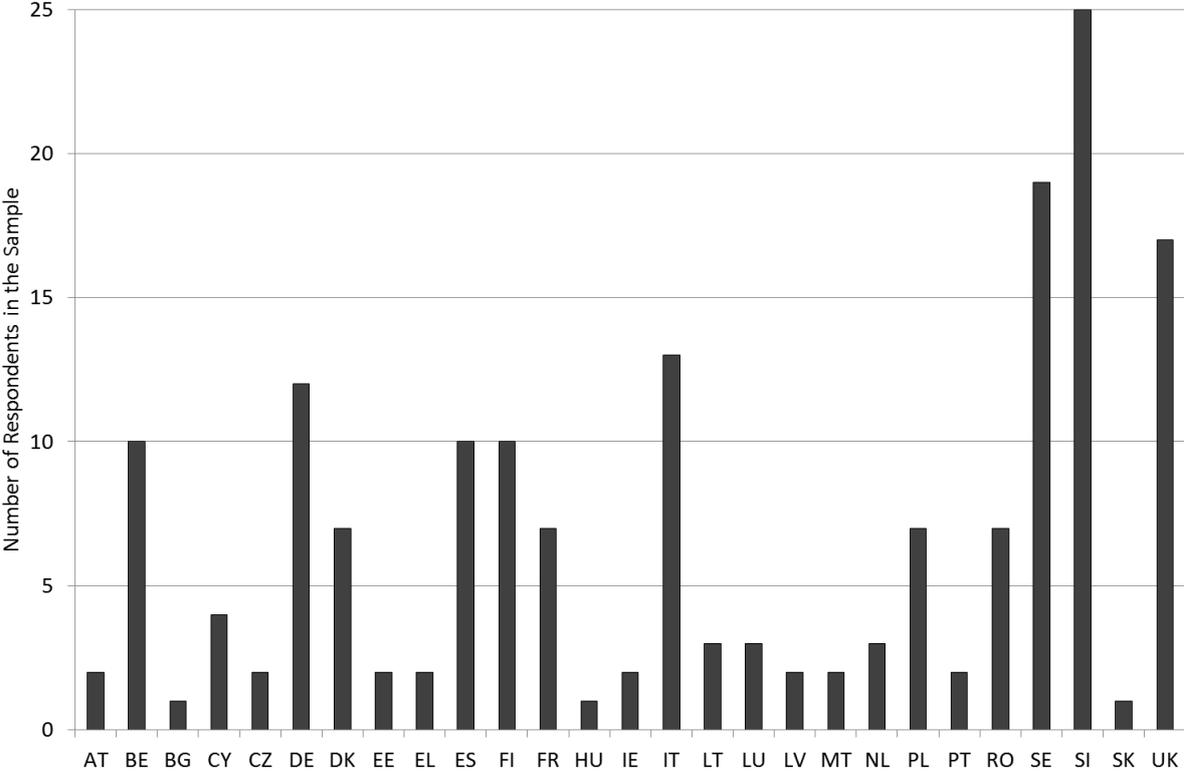
The best represented Member State is Slovenia, with 25 respondents (14 per cent of all respondents), followed by Sweden with 19 respondents, UK (17) and Italy (13). There were 12 responses from Germany, 10 from Spain and seven from France, so all five of the largest economies were reasonably well represented.

¹¹³ Belgium, Germany, Spain, Finland, Italy, Sweden, Slovenia and the UK

¹¹⁴ Other types of organisation responding included four consulting companies, four standards organisations, six publically funded organisations and two universities

Question B.6: Member State in which your Organisation is located

Figure A2. 1: Number of Organisations by Member State



Source: Europe Economics Standards Survey Question B.6

Public authorities that responded came from a wide range of sectors, as shown in the table below.

Question B.4: If public authority, which sector does your organisation operate in?

Table A2. 1: Public Procurers' Sectors¹¹⁵

Sector of Organisation	Number of respondents	Percentage of respondents
Economic affairs	22	22%
Education	15	15%
Environment/Agriculture	6	6%
Health	10	10%
Housing and community amenities	4	4%
Local authority	4	4%
Municipality	3	3%
National Government	2	2%
Public order and safety	9	9%
Recreation, culture and religion	1	1%
Social Protection	3	3%
ICT/Media	4	4%
Transport	1	1%
Other	11	11%
N/A	4	4%
Total	99	100%

Source: Europe Economics Standards Survey Question B.4

Table A2.2 below shows the size of the responding organisations ranges from less than ten employees to over 1000. Large organisations¹¹⁶ (over 1000) make up the majority of the sample (36 per cent). Small organisations (less than 50) made up 28 per cent of the sample.

¹¹⁵ Sectors defined using the United Nations 'Classification of the Functions of Government', and include additional sectors where there were commonly identified by respondents, such as transport, national government; municipality and local government.

¹¹⁶ Large is classified as over 1000 employees, medium as between 50 and 1000, and small as less than 50

Question B.8: Size of organisation (number of employees)

Table A2. 2: Proportion of Organisations by Size (employees)

Number of employees	Number of respondents	Percentage of respondents
Less than 10	17	10%
11 – 50	33	19%
51 – 250	33	19%
251 – 500	10	6%
501 – 1000	10	6%
More than 1000	63	36%
N/A	10	6%
Total	176	100%

Source: Europe Economics *Standards* Survey Question B.8

The size distribution of organisations, according to annual turnover or budget, is similarly weighted towards the large values, as shown in Table A2. 3 below.¹¹⁷

Question B.9: Annual turnover or budget for the last set of audited accounts (expressed in euro).

Table A2. 3: Size Distribution of Organisations (turnover or budget)

Turnover or budget	Number of respondents	Percentage of respondents
Less than €500, 000	20	11%
€500,000 – €1 million	11	6%
€1 million – €5 million	19	11%
€5 million – €10 million	14	8%
€10 million - €50 million	35	20%
More than €50 million	40	23%
N/A	37	21%
Total	176	100%

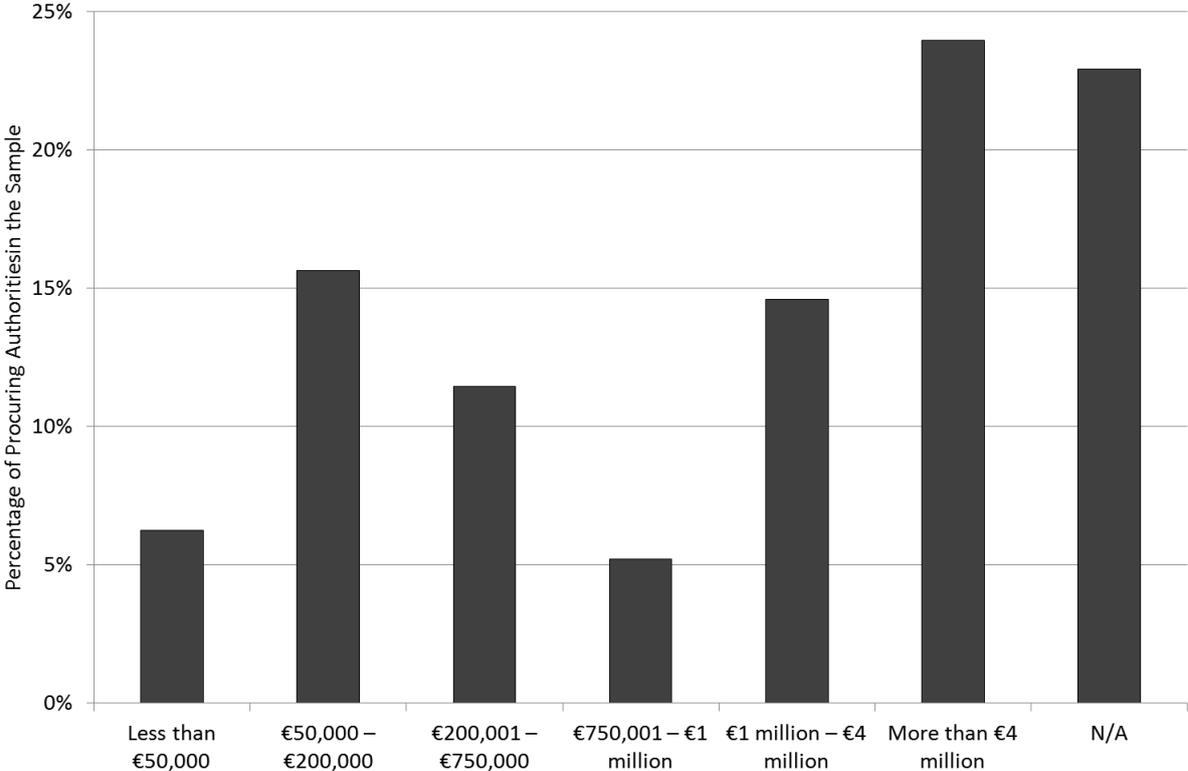
Source: Europe Economics *Standards* Survey Question B.9

The procuring authorities that responded to the survey typically had undertaken a large total value of ICT procurement over the last year, with 39 per cent having procured over €1 million.

¹¹⁷ Annual turnover or budget for latest year for which records are available

Question B.10: If you are a public authority, what was the total value of ICT procurement for your organisation in the last year for which you have records? (Expressed as euro)

Figure A2. 2: Proportion of Procuring Authorities by Size (ICT expenditure)



Source: Europe Economics Standards Survey Question B.10

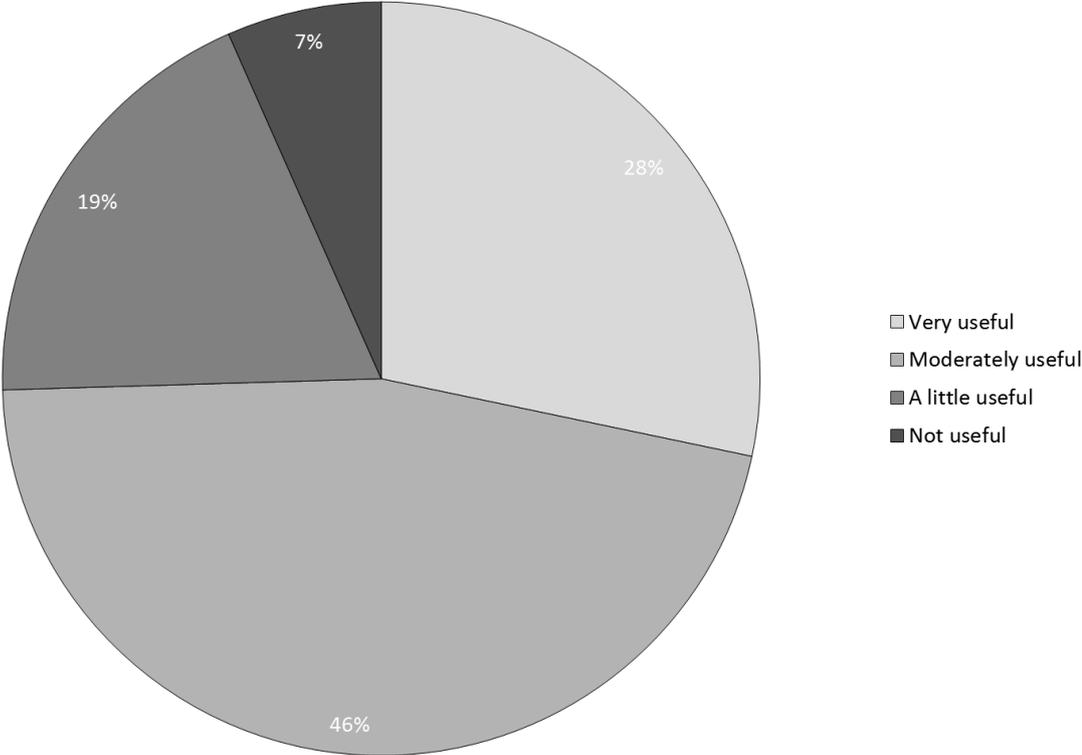
A2.3 Part 2 - Comments on Guidelines

We asked respondents for their views on our draft Guidelines for ICT public procurement.

For those respondents that gave a view on whether our Guidelines address all problems in ICT public procurement, just over half of them (52 per cent) felt that all problems were addressed, whilst just under half (48 per cent) felt that they were not.

Question C.3: If you are a public chief information architect or public procurer, is this guidance useful to procurers?

Figure A2. 3: Opinion of public chief information architects and public procurers on the usefulness of Europe Economics’ ICT public procurement guidance to procurers



Source: Europe Economics Standards Survey Question C.3

Question C.5: Could any additional best practice be included?

Of those that provided a view, over half (60 per cent) thought that additional best practice examples could be included in the guidance document

A2.4 Part 3 - Improving the Procurement Process

A2.4.1 ICT procurement strategy

Survey respondents were asked if they were aware of any ICT procurement strategies in place at an organisational, sectoral, regional or national level. Of those that answered these questions, the highest percentage were aware of a strategy at a national level (42 per cent), followed closely by strategies at organisational level (34 per cent) and sectoral level (31 per cent). Fewest respondents were aware of an ICT procurement strategy at a regional level, with only 19 per cent recording this.

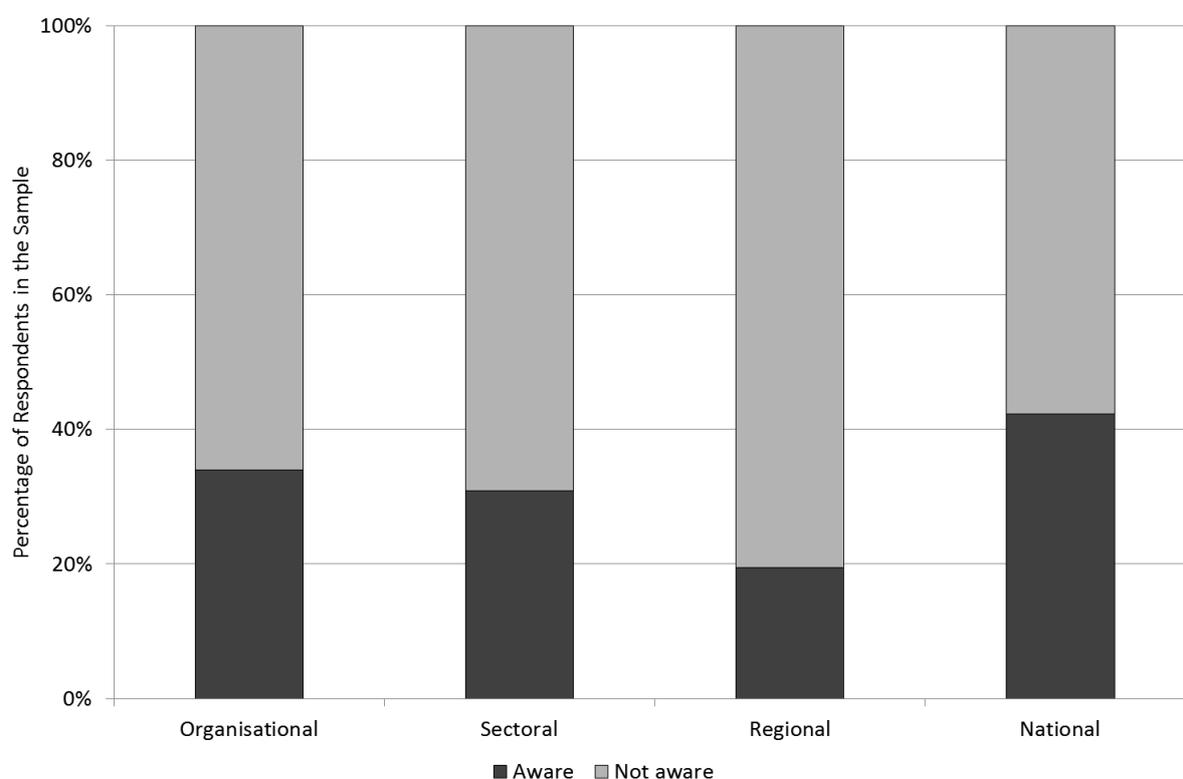
Question D.A.1: Are you aware of any such ICT strategy at an organisational level (e.g. individual public bodies)

Question D.A.5: Are you aware of any such ICT strategy at a sectoral level (e.g. strategies applicable to certain areas such as transport or health)

Question D.A.9: Are you aware of any such ICT strategy at a regional level (e.g. across regions or groups of municipalities)

Question D.A.13: Are you aware of any such ICT strategy at a national level

Figure A2. 4: Awareness of ICT strategies at different levels



Source: Europe Economics Standards Survey Question D.A.1, D.A.5, D.A.9 and D.A.13

These figures show a low general level of awareness of ICT procurement strategies across Europe. Evaluating at a country level, Belgium, Germany, Spain and Finland all had relatively high levels of awareness of ICT procurement strategies. Of those that provided an answer to this question, around three quarters of respondents from each of these countries were aware of ICT procurement strategies at a national level and at least half of respondents from each of these countries were aware of ICT procurement strategies at an organisational level. In both Finland and Germany, awareness of strategies at an organisational level reached 70 per cent. In addition, over half of respondents from Belgium, Spain and Finland were aware of strategies at a sectoral level.

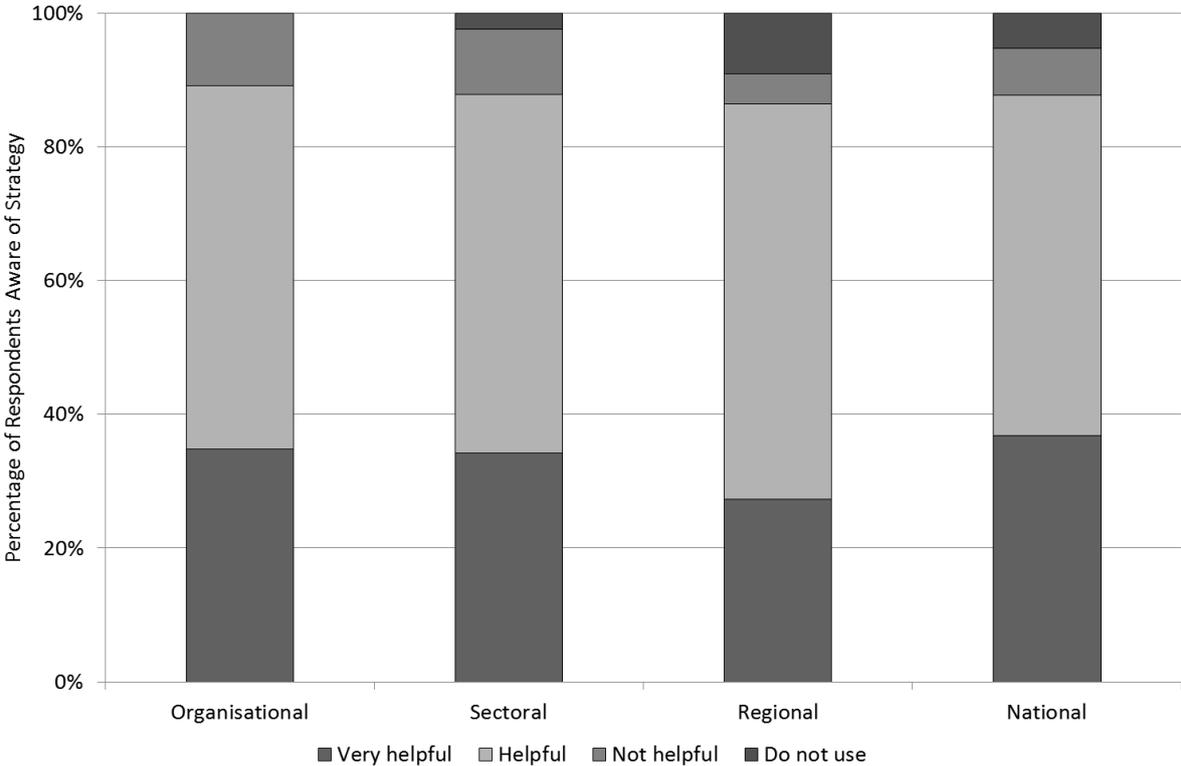
In comparison, awareness in Italy, Sweden, Slovenia and the UK was very low. At all levels, fewer than half of respondents knew of strategies in place. At a national level, the UK had the highest

awareness of ICT procurement strategies in place at 40 per cent, followed by Italy at 30 per cent and Sweden and Slovenia the lowest at 25 per cent.

For those that were aware of ICT procurement strategies at different levels, the vast majority felt that these were very helpful or helpful in each case. Strategies at regional level were slightly less utilised than those at other levels, with 9 per cent of respondents answering that they did not use these and an additional five per cent finding the strategies at this level unhelpful. Strategies at a national level were seen to be the most helpful, with 37 per cent of respondents finding them very helpful and an additional 51 per cent finding them helpful. Only seven per cent of respondents felt that national strategies were not helpful and only five per cent did not make use of national ICT procurement strategies.

Question D.A.3, D.A.7, D.A.11 and D.A.15: If yes, how helpful are they?

Figure A2. 5: Current value of ICT procurement strategies at different levels

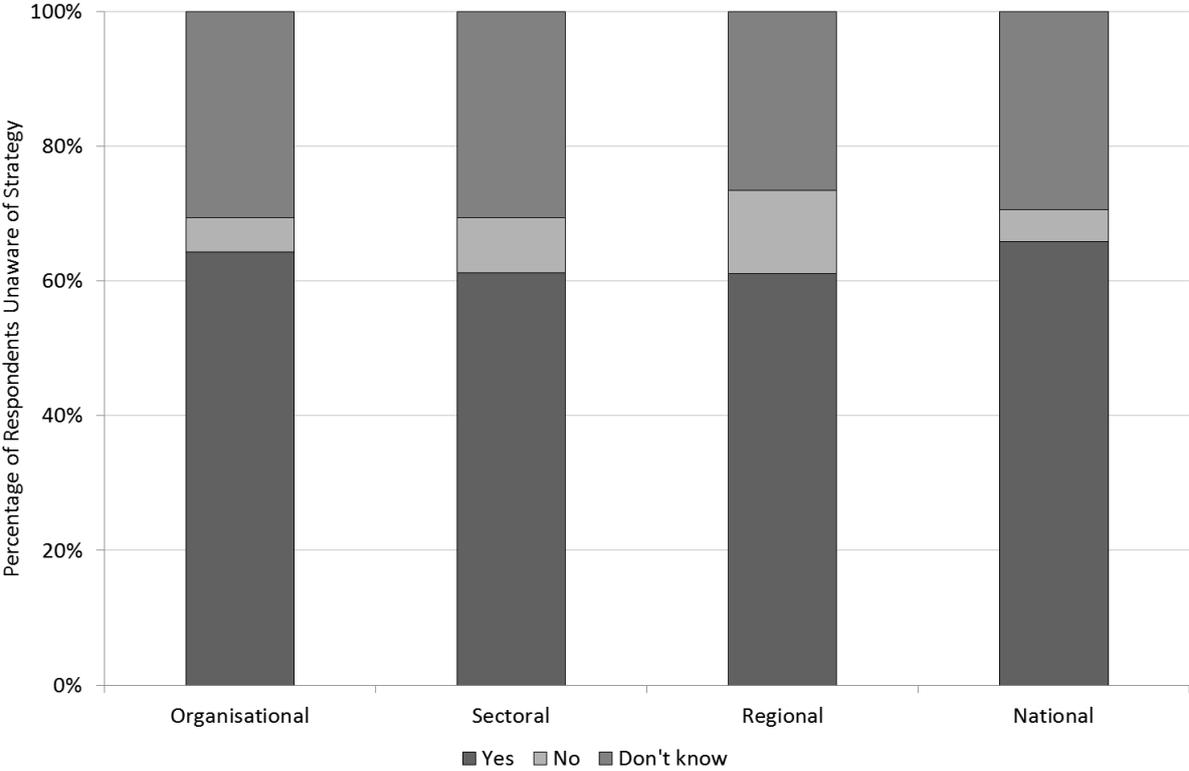


Source: Europe Economics Standards Survey Question D.A.3, D.A.7, D.A.11 and D.A.15

Of those respondents unaware of an ICT procurement strategy at the different levels, most felt that such strategies would prove to be helpful sources of guidance. At each of the various levels similar proportions felt that ICT procurement strategies would be beneficial, with the ratio varying between 61 per cent for sectoral strategies and 66 per cent for national strategies.

Question D.A.4, D.A.8, D.A.12 and D.A.16: If no, would such a strategy be a helpful source of guidance to the public procurement of ICT?

Figure A2. 6: Envisaged benefits of ICT procurement strategies at different levels



Source: Europe Economics Standards Survey Question D.A.4, D.A.8, D.A.12, D.A.16

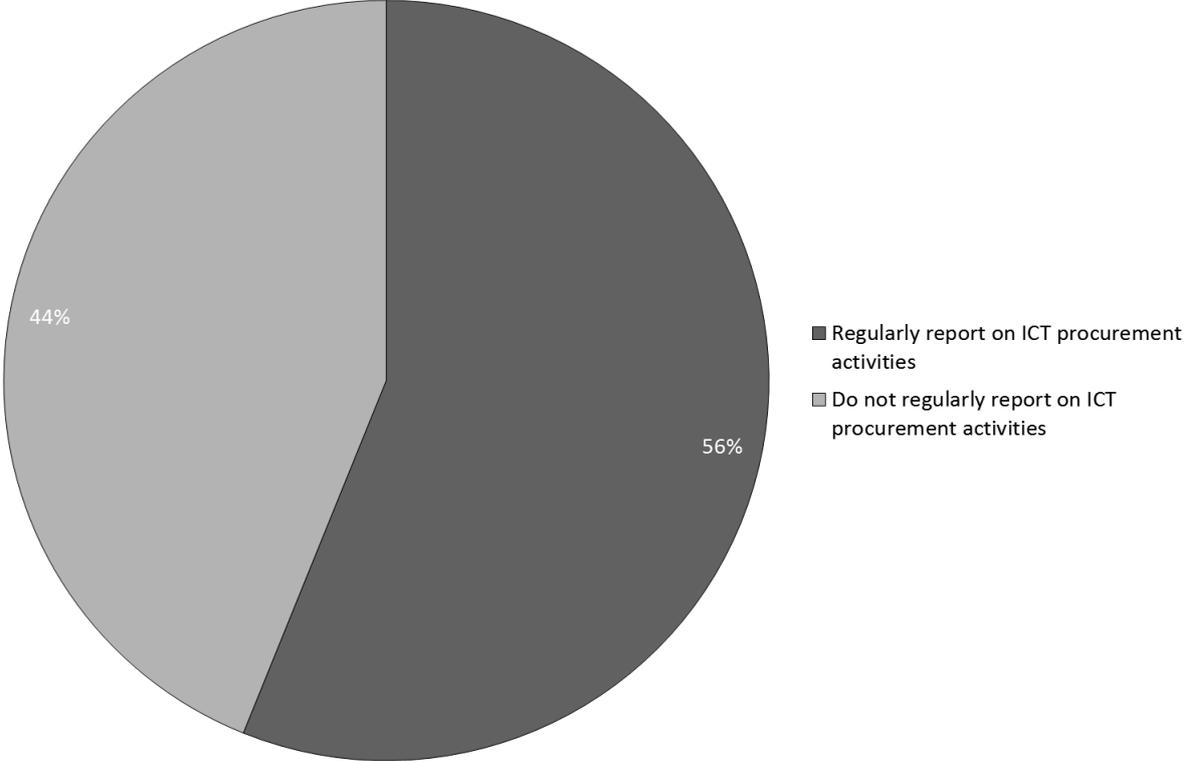
However, in each case, large numbers of respondents felt unable to provide an opinion of the value of such strategies, showing that they could not immediately see any clear benefits of these strategies in guiding public procurement of ICT. The benefits of organisational and sectorial strategies were least clear, with 31 per cent of respondents not knowing if these would prove to be a helpful source of guidance. Those believing that ICT procurement strategies at the different levels would be no help in providing guidance to the public procurement of ICT were the minority in each case. The value of regional strategies attracted the highest number of negative reactions, with 12 per cent of respondents expecting that a strategy at this level would not be helpful, compared to eight per cent at sectoral level and five per cent at both organisational and national level.

A2.4.2 Reporting and reviewing

Just over half (56 per cent) of respondents recorded that they regularly report on their ICT procurement activities.

Question D.B.1: Do you report regularly on your ICT procurement activities?

Figure A2. 7: Regularity of reporting on ICT procurement activities

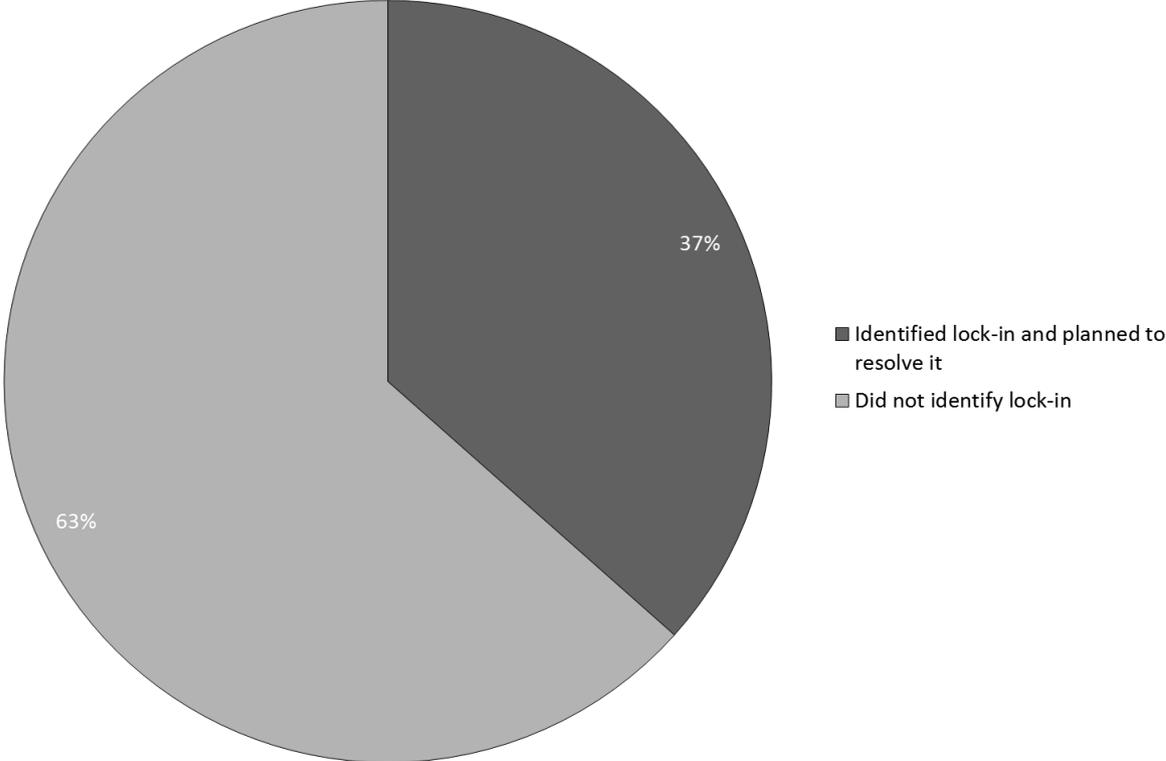


Source: Europe Economics Standards Survey Question D.B.1

Of those that did regularly report on their ICT procurement activities, 37 per cent had previously identified and planned to resolve a lock-in situation.

Question D.B.2: If yes, have you ever identified a lock-in situation and planned to resolve it?

Figure A2. 8: Instances of lock-in situations being identified and resolved



Source: Europe Economics Standards Survey Question D.B.2

Elaborations of instances of lock-in situations:

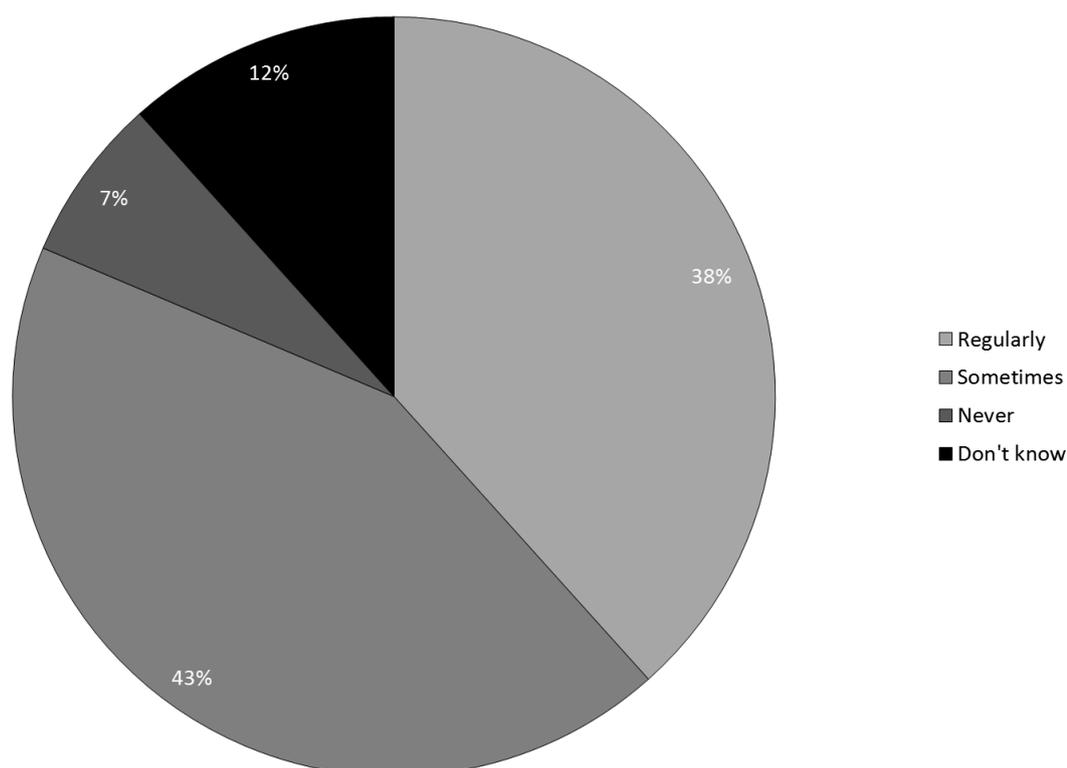
- (a) A public authority in Cyprus had experienced lock-in after the purchase of Oracle products and GPS equipment and software.
- (b) A public authority in Spain had experienced lock-in with document formats and web portal products. They felt that the decision was forced by politics, against the standardised ENS (Spanish National Security) and ENI (Spanish National Interoperability) frameworks published by Spain in 2010 and against technical recommendations.
- (c) A public authority in the UK noted that if they found themselves locked into a supplier and the situation was considered either costly or counter-productive then opportunity was taken to tender the solution or identify options to address the lock-in. Pressure was also put on suppliers to facilitate integration with other applications where required.
- (d) A public authority in Slovenia had been dependent on one supplier because of specific IT technology used for taxation. No other provider in the state was equipped with sufficient knowledge of both the specific technological issues and the business processes that the authority dealt with.

- (e) A public authority in Finland noted that legacy systems are based on closed architecture, such that the conversion process to new open architecture takes 10 to 15 years.
- (f) A public authority in Germany had previously experienced a lock-in situation from the use of Oracle/SUN. They subsequently replaced this with a combination of LINUX and commodity hardware.

A reasonable proportion (38 per cent) of organisations responded that they regularly undertake internal reviews of their ICT procurement practices. A slightly larger number (43 per cent) noted that they sometimes undertake reviews, leaving only seven per cent of organisations who never undertake reviews and 12 per cent of respondents who did not know if internal reviews were undertaken.

Question D.B.4: Are your ICT procurement practices reviewed internally in your organisation?

Figure A2. 9: Frequency of internal reviews of ICT procurement practices

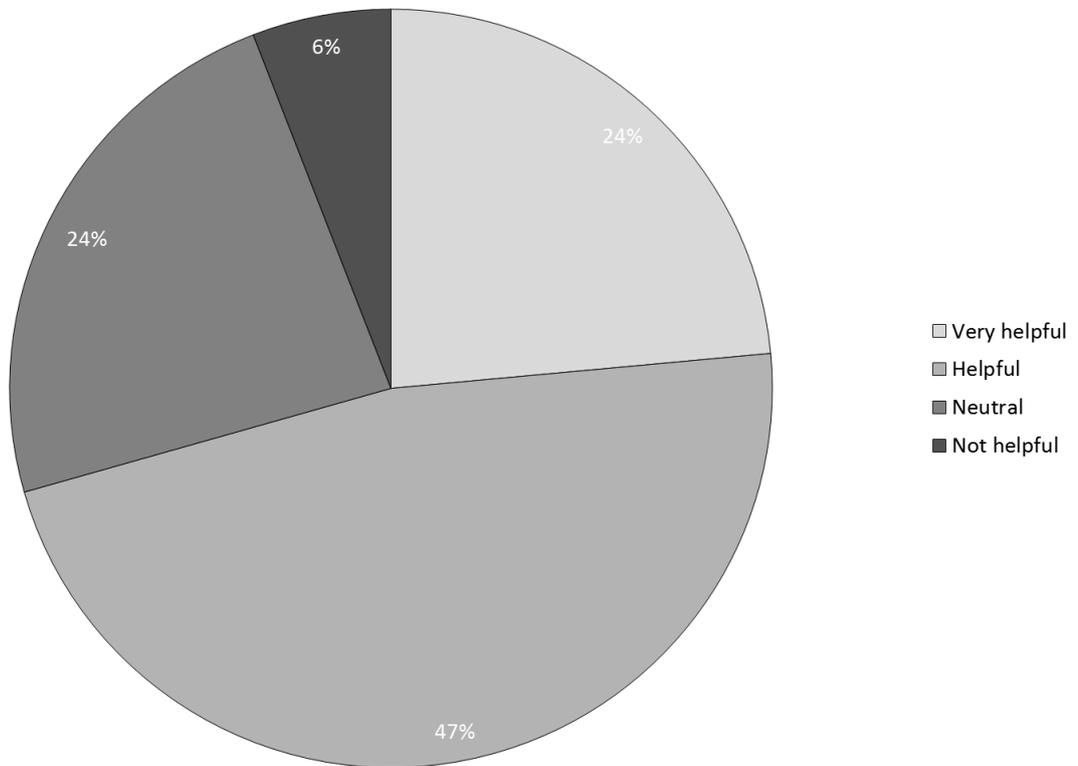


Source: Europe Economics Standards Survey Question D.B.4

Of those respondents whose organisations currently undertook internal reviews of ICT procurement practices, most did not have strong views on the value of such reviews in encouraging good practice in ICT procurement, with the majority (71 per cent) feeling that reviews were either helpful (47 per cent) or had neutral feelings towards them (24 per cent). Just under a quarter (24 per cent) of respondents felt they were very helpful and only six per cent of respondents felt that they were not helpful at all.

Question D.B.5: How helpful are such internal reviews in encouraging good practice in ICT procurement?

Figure A2. 10: Value of internal reviews of ICT procurement practices

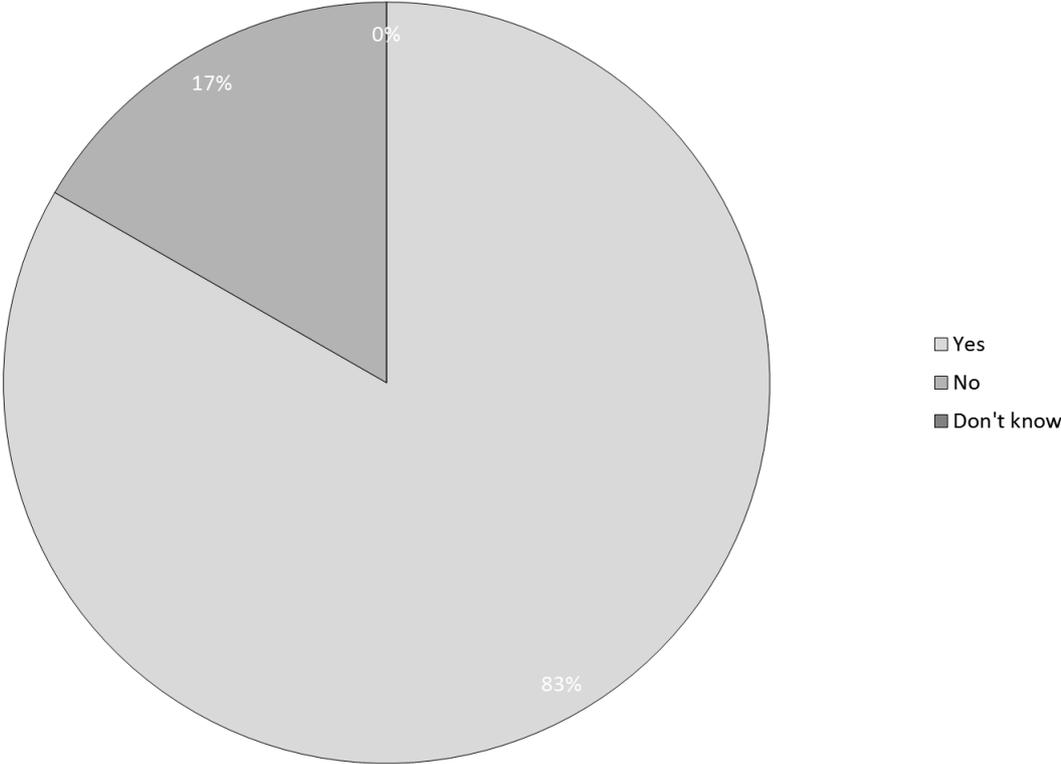


Source: Europe Economics Standards Survey Question D.B.5

Out of the six respondents from organisations currently never undertaking reviews, five felt that the inclusion of such reviews within annual reporting requirements would be a useful discipline and only one felt that it would not.

Question D.B.6: Would the inclusion of such reviews within annual reporting requirements be a useful discipline?

Figure A2. 11: Views on whether internal reviews of ICT procurement practices would be useful



Source: Europe Economics Standards Survey Question D.B.6

A2.4.3 Provision of procurement advice

Respondents were asked if they were aware of any central sources of advice for procurers (e.g. helpdesks; websites). The type of information the largest proportion of respondents were aware of a source for within their Member State was advice on following procurement law (62 per cent). The next highest level of awareness for an information source was for general principles of procurement best practice (52 per cent), followed by ready text or templates for inclusion within tenders (47 per cent) and training on good procurement (38 per cent). The two types of information for which respondents were least aware of a source were advice on analysing purchasing needs (24 per cent) and sharing of best practices (31 per cent).

Question D.C.1: Advice on following procurement law: Are you aware of any such sources within your Member State?

Question D.C.4: General principles of procurement best practice: Are you aware of any such sources within your Member State?

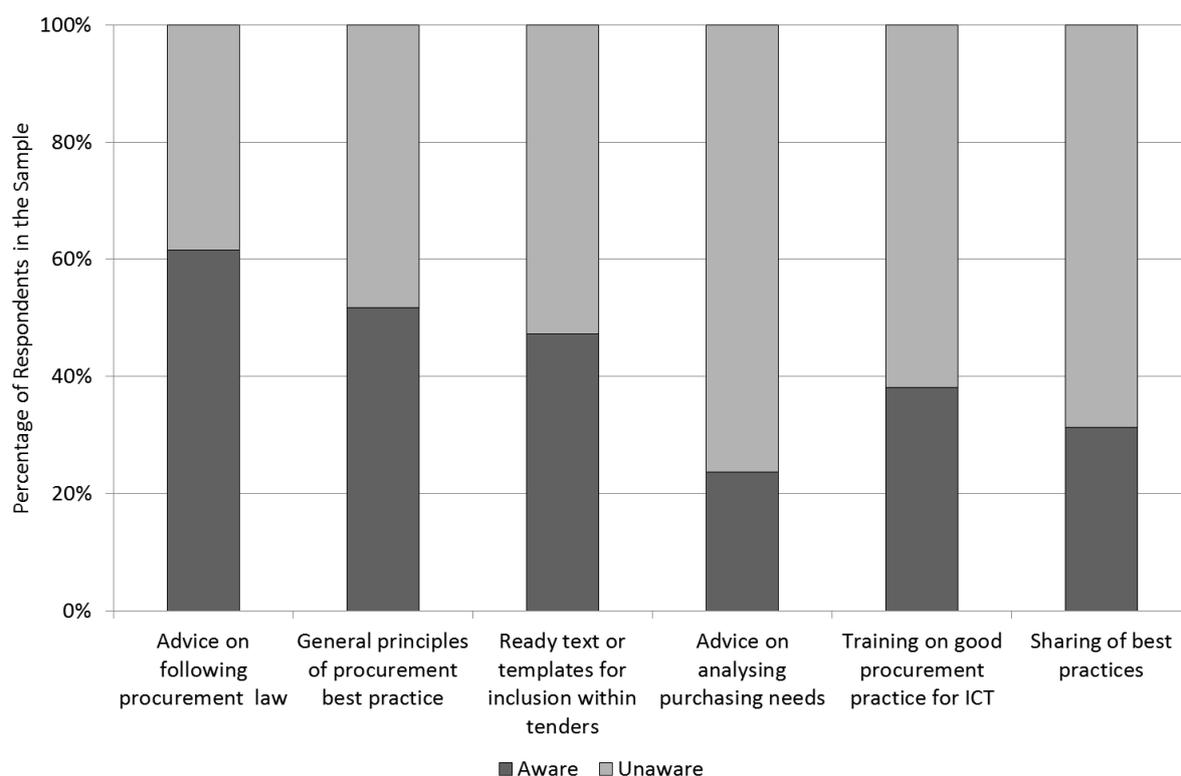
Question D.C.7: Ready text or templates for inclusion within tenders: Are you aware of any such sources within your Member State?

Question D.C.10: Advice on analysing purchasing needs: Are you aware of any such sources within your Member State?

Question D.C.13: Training on good procurement practice for ICT: Are you aware of any such sources within your Member State?

Question D.C.16: Sharing of best practices: Are you aware of any such sources within your Member State?

Figure A2. 12: Awareness of sources of information related to procurement practice



Source: Europe Economics Standards Survey Question D.C.1, D.C.4, D.C.7, D.C.10, D.C.13 and D.C.16

On a country by country level:

- (a) In both Slovenia and the UK, fewer than average respondents were aware of sources of advice on following procurement law, whilst in Belgium, Spain and Finland, greater than average numbers knew of sources of such advice.

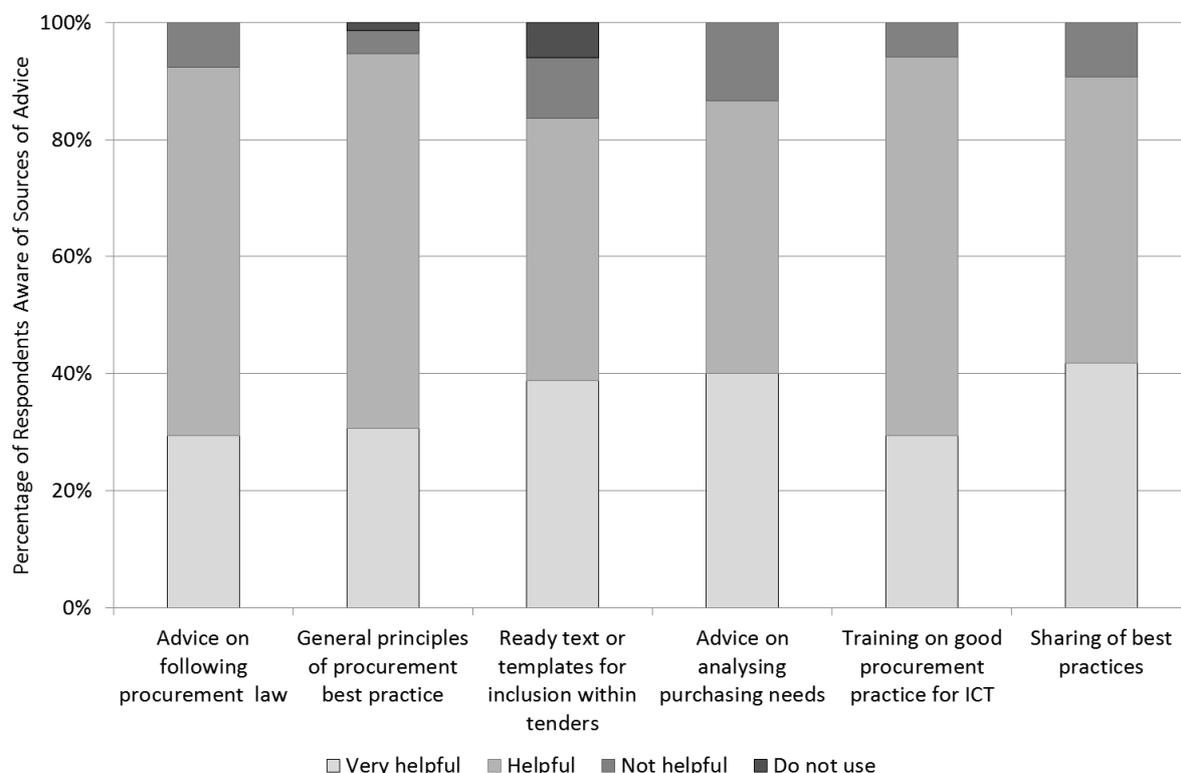
- (b) In Germany, Finland and Italy there were relatively low levels of awareness for sources of information on general principles of procurement best practice. Whilst in the UK, there was good awareness of such a source.
- (c) Each of Germany, Sweden, Slovenia and the UK had lower than average levels of awareness of sources of ready text or templates for inclusion within tenders. Belgium, Spain, Finland and Italy all had greater than average proportions of respondents aware of such sources.
- (d) Relatively good awareness of sources of information related to advice on analysing purchasing needs was seen in Finland. Whilst particularly bad awareness of such sources was recorded in Belgium (0 per cent) and Slovenia (9 per cent).
- (e) In Belgium, Spain and Italy, there were high levels of awareness of sources for training on good procurement practice for ICT. In comparison, Slovenia and the UK recorded relatively low levels of awareness of such sources.
- (f) Spain (56 per cent) and the UK (53 per cent) recorded much greater than average awareness of sources of information related to the sharing of best practices. Whilst Germany, Finland, Italy, Sweden and Slovenia showed very low awareness, with levels of awareness in Sweden (12 per cent) particularly low.

There was no real evidence of respondents from the Member States where we had identified best practice in each of these areas being more aware or the sources of information than in other countries. An exception perhaps is in training on good procurement practice for ICT, where Italy, the Netherlands and Sweden between them recorded 43 per cent awareness, compared to the sample average of 38 per cent.

Of the current sources of information respondents were aware of, the highest percentage of very positive views were given for the sharing of best practices, with 42 per cent of those respondents aware of such a source finding it very helpful. The second highest proportion of very positive views was given on sources of advice on analysing purchasing needs, with 40 per cent of respondents finding these very helpful, followed by ready text or templates for inclusion within tenders, which 39 per cent of respondents found very helpful. However, despite these two sources of information receiving the second and third highest percentages of very positive views, the value of these two information types also proved the most divisive. For ready text or templates for inclusion within tenders, awareness frequently did not lead to use – with six per cent of those aware of such information not making use of it. On top of this six per cent, 10 per cent of respondents noted that they found these pieces of ready text or templates unhelpful. The eleven respondents recording these negative views on the available text or templates were not confined to a particular Member State, but were instead spread across ten different countries. Similarly, for advice on analysing purchasing needs, a relatively high percentage of respondents (13 per cent, each from a different country) felt that the information provided was not helpful.

Question D.C.2, D.C.5, D.C.8, D.C.11, D.C.14 and D.C.17: If so, how helpful is it?

Figure A2. 13: Helpfulness of current sources of information related to procurement practice



Source: Europe Economics Standards Survey Question D.C.2, D.C.5, D.C.8, D.C.11, D.C.14 and D.C.17

At the other end of the scale, relatively few respondents (31 per cent) found advice on general principles of procurement best practices to be very helpful, however this was also the area where fewest found the information either not at all helpful or did not use (five per cent). Fewest respondents found advice on following procurement law or training on good procurement practice for ICT very useful (both 29 per cent).

Comments:

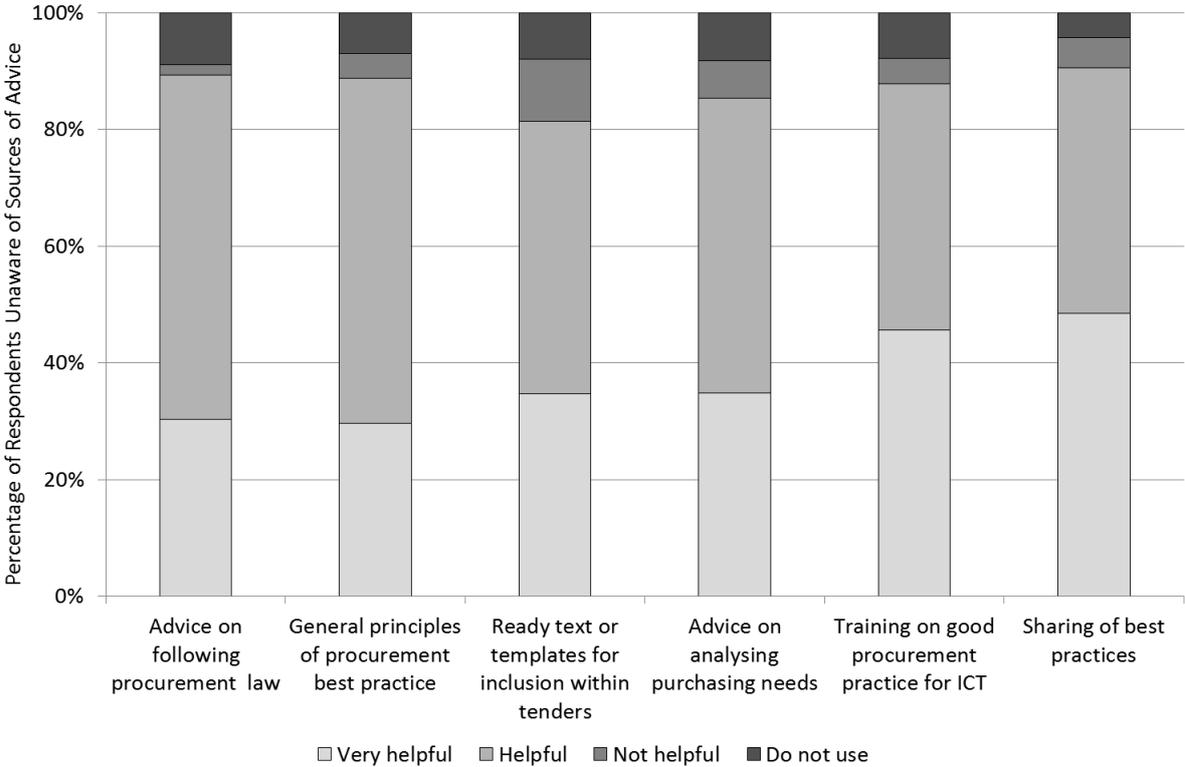
- (a) A public authority in the UK recorded that, although sources were available providing information on general principles of procurement best practice and ready text or templates for inclusion within tenders, they did not find these helpful. They explained that the UK used to maintain a standard template set of documents for ICT procurements and a procurement guide (as well as a set of standards); however, these had not now been formally updated since 2007. They did feel that an update to these documents would be really helpful.

For those respondents not aware of current sources of information in each of these areas, the greatest potential value was seen in the provision of a central body to facilitate the sharing of best practices. A total of 48 per cent of respondents expressed the view that such a source would be very helpful, as well as 42 per cent thinking it would be helpful. At four per cent, this measure also

had the smallest proportion of respondents that thought they would not make use of such a resource. After this, the next most positive views were expressed on the expected value of the provision of training on good procurement practice for ICT, with 46 per cent of respondents thinking this would be very helpful and 42 per cent expecting it to be helpful.

Question D.C.3, D.C.6, D.C.9, D.C.12, D.C.15 and D.C.18: If no, how useful would such advice be to procurers?

Figure A2. 14: Potential value of the provision of sources of information related to procurement practice



Source: Europe Economics Standards Survey Question D.C.3, D.C.6, D.C.9, D.C.12, D.C.15 and D.C.18

The least positive views were expressed on the potential value of the provision of sources of information relating to general principles of procurement best practice and for the provision of advice on following procurement law. In each case, only 30 per cent of respondents thought that such a provision would be very helpful, with an additional 59 per cent thinking they would be helpful. The source of information that the greatest proportion of respondents thought they would not use or would not be helpful was ready text or templates for inclusion within tenders. A total of 11 per cent of respondents thought such a source would not be helpful and another 8 per cent predicted they would not make any use of it.

Regarding advice on analysing purchasing needs, 35 per cent of respondents thought this would be very helpful whilst 15 per cent thought either they would not use such a resource or that it would not be helpful.

Comments:

- (a) A Swedish ICT supplier thought that training on good procurement practice for ICT would be very helpful, since they felt that too many tenders were managed by incompetent individuals on the purchasing side. In some cases, they noticed that the procurement manager had not even been able to correctly spell the necessary procurement terms. Problems had not only been experienced with small tenders, but even for procurements valued in the range of one million euros.
- (b) An independent publically funded body in the UK responded that advice on analysing purchasing needs would be very helpful; explaining that clear guidance on how to do a needs assessment would be useful in light of the fast pace of the market place.
- (c) A public authority in the Netherlands was concerned that the setting up of specialised supporting institutions for public procurement would pose the major risk of reducing the incentives for procurers to know and understand what they need, what the market offers and what the rules are. They noted that there was already a problem of managers in the public sector rarely being made answerable to costly mistakes in IT procurement and felt that with the specialisation of support there would be a risk of increasing this problem of unaccountability. It was assumed that support specialists would likely have neither the time nor the correct incentives to ensure they really understood the needs of procuring organisations. Instead, the likely outcome was expected to be that the support organisation would develop its own idiosyncratic policies and miss out on the emergence of important innovations in standardisation.
- (d) Conversely, two respondents thought that greater centralisation would be very beneficial. An ICT supplier from Sweden complained that the current mechanisms for public procurement were too dependent on the competence of the individual or body managing the procurement. Instead, they felt that a national board or body should be set up to manage all public procurements. Similarly, a public authority in Germany recommended the centralisation of all general or standardisable procurement in one national authority. They noted that such centralised authorities already existed in Germany at a central state level and state level, but that it would be beneficial to extend this centralisation to the creation of just one public authority to support local government procurement in all 1,100 municipalities. They felt that such a central procurement authority would increase the quality and range of public procurement, bringing about the best technology and value for money to local government. However, they recognised that this might not be legally possible in Germany.

A2.4.4 Provision of help with ICT standards

Respondents were asked if there existed any central body in their Member State promoting the use of ICT standards through different types of information (for example, the Dutch Standardisation Board and Forum). In general, the level of awareness of bodies providing help with ICT standards in Member States was far lower than the awareness of sources of information related to

procurement practice (as explored in the previous section of the questionnaire). The awareness of sources of types of information related to procurement practice ranged from 31 per cent to 62 per cent, whilst the awareness of types of information promoting the use of ICT standards ranged from 16 per cent to 26 per cent.

The types of information the largest proportion of respondents were aware they had access to were published catalogues of appropriate ICT standards and assessments made of existing ICT standards (both 26 per cent). The next highest level of access availability was for the provision of ready text or templates to be included in tenders referencing standards (24 per cent). The two types of information that respondents had lowest access to were advice on which ICT standards to use for particular needs (23 per cent) and ready text or templates on how to avoid the inappropriate use of brand names in tenders (16 per cent).

Question D.D.1: Undertake assessments of existing ICT standards: Is there access to such a source of information in your Member State

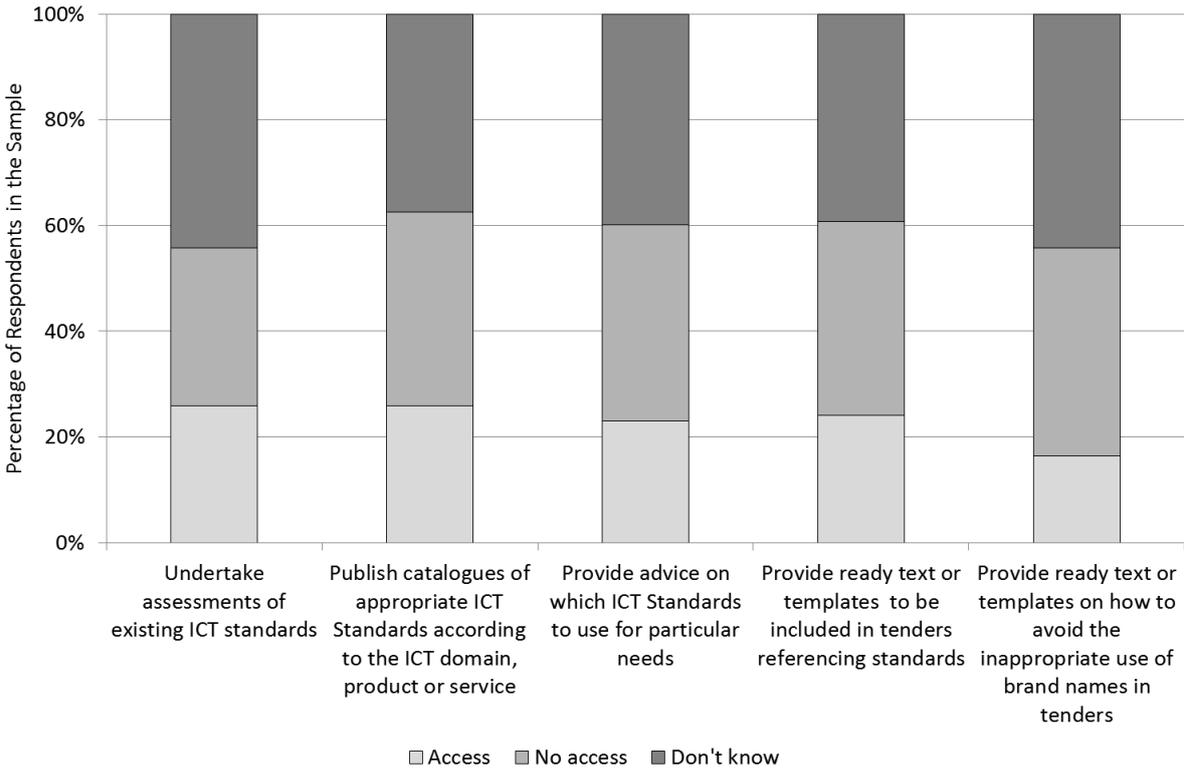
Question D.D.4: Publish catalogues of appropriate ICT Standards according to ICT domain, product or service: Is there access to such a source of information in your Member State

Question D.D.7: Provide advice on which ICT Standards to use for particular needs: Is there access to such a source of information in your Member State

Question D.D.10: Provide ready text or templates to be included in tenders referencing standards: Is there access to such a source of information in your Member State

Question D.D.13: Provide ready text or templates on how to avoid the inappropriate use of brand names in tenders: Is there access to such a source of information in your Member State

Figure A2. 15: Availability of access to sources of information providing help with ICT standards



Source: Europe Economics Standards Survey Question D.D.1, D.D.4, D.D.7, D.D.10 and D.D.13

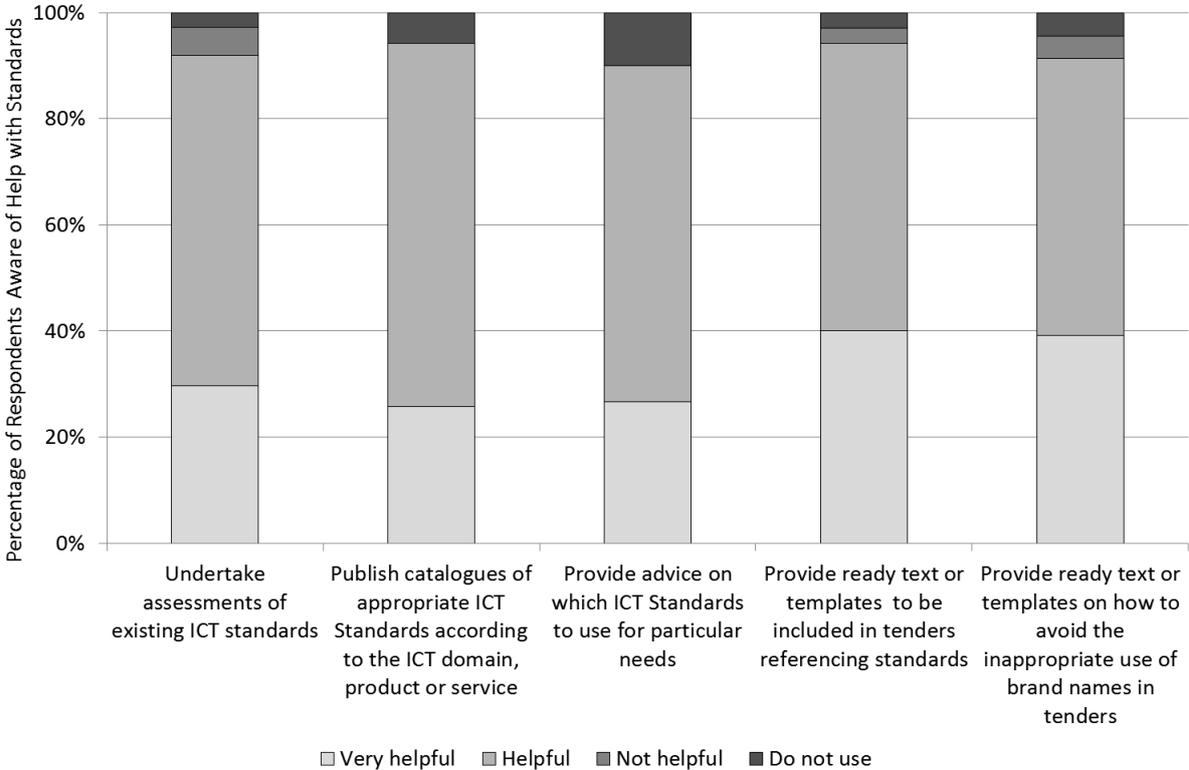
For each of the different types of information, the level of knowledge on access availability was roughly equal, with between 37 per cent and 44 per cent of respondents not knowing whether they had access to such sources of information in each case.

Respondents then evaluated how much value they felt they derived from current access to sources of information providing help with ICT standards. The type of information respondents felt was most helpful to have access to was the provision of ready text or templates to be included in tenders

referencing standards – 40 per cent of respondents found this very helpful. After this, the next most useful resources were ready text or templates on how to avoid the inappropriate use of brand names in tenders (39 per cent) and assessments undertaken on existing ICT standards (30 per cent). The two least useful sources were perceived to be the published catalogues of appropriate ICT standards (26 per cent) and advice provided on which ICT standards to use for particular needs (27 per cent).

Question D.D.2, D.D.5, D.D.8, D.D.11 and D.D.14: If yes, how helpful is it?

Figure A2. 16: Value of current access to sources of information providing help with ICT standards



Source: Europe Economics Standards Survey Question D.D.2, D.D.5, D.D.8, D.D.11 and D.D.14

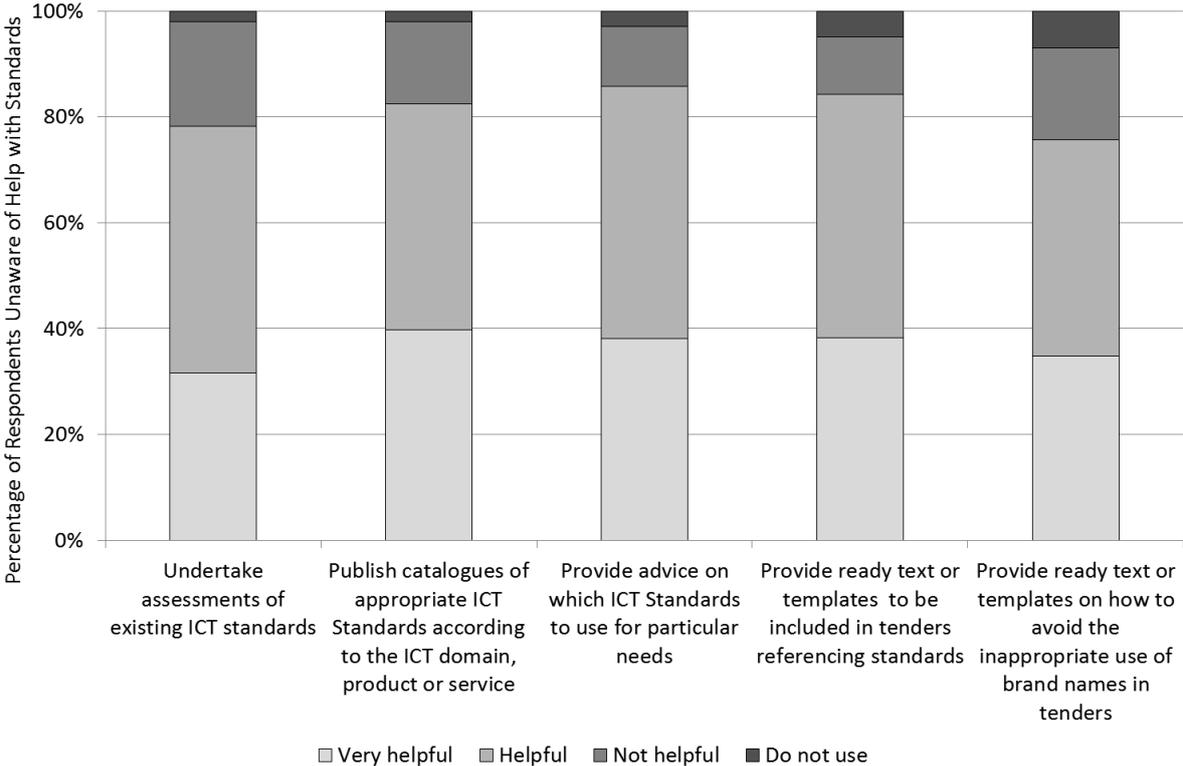
Those respondents who either were aware they did not have access to, or did not know if they had access to a source providing the different types of information then gave an opinion on how valuable they felt access to such a source would be. The most potential value was seen to lie in the provision of published catalogues of appropriate ICT standards, with 40 per cent of respondents thinking this would be very helpful and an additional 43 per cent thinking it would be helpful. This is in contrast to the feelings of those respondents who already had access to such a resource, where this was seen to be the least useful of all the five resources.

After this, the information source from which it was expected that the second highest value could be derived was advice on which ICT standards to use for particular needs– 38 per cent of respondents thought such a catalogue would be very helpful and an additional 48 per cent thought it would be helpful. A similar amount of value was expected to be gained from access to ready text

or templates to be included in tenders referencing standards; 38 per cent of respondents recorded a very positive view, expecting such advice to be very helpful, whilst only 16 per cent felt that either they would not make use of this advice source or the advice provided would not prove helpful.

Question D.D.3, D.D.6, D.D.9, D.D.12 and D.D.15: How helpful would such a resource be to procurers?

Figure A2. 17: Potential value of access to sources of information providing help with ICT standards



Source: Europe Economics Standards Survey Question D.D.3, D.D.6, D.D.9, D.D.12 and D.D.15

Access to a source of information providing ready text or templates on how to avoid the inappropriate use of brand names in tenders was expected to be very helpful by 35 per cent of respondents, but with a high number also thinking that it would not be helpful (17 per cent), or would not be used (seven per cent). Similarly, a relatively large proportion of respondents felt that having a central body provide assessments of existing ICT standards would not be helpful (20 per cent) or would not be used (two per cent), compared to the 32 per cent thinking it would be very helpful.

Comments:

- (a) An ICT supplier from Germany noted that the value derived from undertaking assessments of existing ICT standards varies depending on the area to which the standards relate, though overall they thought such assessments were very helpful. They felt that important areas should be singled out and a dedicated evaluation applied. The examples of macro languages of document exchange formats and web standards were given.

- (b) A German standards body responded that they had neutral feelings regarding the value of the provision of ready text or templates on how to avoid the inappropriate use of brand names in tenders. This was due to the belief that, as long as the tender included a way to check compliance against standards or specifications, the brand names mentioned met the compliance requirements and the standards used were open, then the inclusion of brands names did not matter. Under these conditions, the inclusion of brand names was just comparable to providing examples of compliant products i.e. the brands named could always be swapped to name the current supplier. The organisation currently operated such a compliance testing programme for hundreds of products.
- (c) An independent, publically funded body in the UK felt that clear, brief guidance of rules and regulations/standards that could be applied would be useful. They responded that there were no current sources for advice on which ICT standards to use for particular needs or advice on following procurement law – both of which they felt would be helpful.
- (d) A university in Finland noted that occasions frequently occurred when the availability of a source of advice on using standards would be useful. However, such advice should not be followed without thought on the part of procurers, as the use of standards should not be assumed to be practical in every case.

A2.4.5 Additional comments

Respondents were invited on provide any additional comments they might have on the improvement of procurement through the better use of standards:

- (a) An ICT supplier from Lithuania felt that, in order to increase the actual use of standards in procurement, there would need to be a mandatory requirement for public authorities who wish to procure ICT solutions not based on standards to explicitly argue their decision. In addition, approval to undertake such a procurement should also require approval from a higher level administration body or national public procurement agency. Documents giving the explicit explanation, along with the high level approval, should then form part of the tender conditions.
- (b) An ICT supplier from Sweden and a consultant from Greece both doubted procurement would be improved significantly through the better use of Standards in situations where the procuring authority already has a preferred supplier in mind. They noted that the flexibility procurers have in their choice of evaluation procedure means that, even if tenders included more references to standards, the evaluation procedure could still be pre-arranged to favour one supplier (for instance, by crediting “soft subjective values” higher than price or quality).
- (c) A Belgian public authority felt that, due to the low level of knowledge typically held by procurers, a greater use of standards would make the procurement process easier for them. However, a university in the UK felt that standards in any form, open or

proprietary, could only be implemented successfully if all of the parties using them fully understood both the standard and the framework within which it needed to be used. They felt that this would require procurers, implementers and suppliers to all receive better training in the standards, frameworks, supporting tools and infrastructure. In addition, training would need to be reinforced by experience – with the production of detailed, open worked examples required. Without this, the respondent was concerned that the implementation for each standard would become proprietary and the value of the standard subsequently reduced.

- (d) An ICT supplier from Germany expressed the view that, in order to improve procurement through the better use of Standards, it would be absolutely critical to define clearly, and in language that could be commonly understood, what standards are, which standards were to be accepted and who had the authority to define future standards. Similarly, a policy group from France felt that a clear definition of what standards are, in particular describing the valuable characteristics of open standards, would be essential to ensure public bodies benefit the most from their IT choices.
- (e) A German ICT supplier felt it was very important to have the same standards used by all public authorities across Europe. Similarly, a policy group in Belgium thought that public procurement processes should not be fragmented and divergent between different Member States, but instead should be used to support the development of the EU single market. Backing up these views, a standards authority in Belgium highlighted the importance of an integrated approach to standards issues. They recommended that pre-standardisation activities should be undertaken at a European level, more work should be done to bring European requirements in line with international standards and European Standards should be prepared whenever this is possible and relevant.
- (f) A public authority in Germany highlighted that, although they agreed that following standards in procurement was a good idea in theory, the costs involved in such practices also needed to be considered. Additional resources would be required to conduct such procurements and the operational risk would be higher. In some cases, it could therefore be more costly to follow standards than to be locked in; examples given of MS-Office, SAP, Oracle and SAS.
- (g) A standards body in Belgium put forward the view that European Standards do play an important role in the European public procurement market. These standards allowed public authorities to set clearer tender specifications and enabled a more transparent procurement process, of particular benefit to SMEs. They also believed that the promotion of the use of European Standards in public procurement would aid the achievement of other societal goals, such as environment protection, energy efficiency, innovation and social inclusion.

- (h) A public authority in Sweden highlighted the importance of considering transaction, learning and adjustment costs when undertaking ICT procurement. Since each of these were dependent on the current IT structure and competence within individual organisations, work towards more open standards should help to make these transitional costs decrease in general in the future. However, the respondent was concerned that the current procurement laws in Sweden did not facilitate procurement based upon best value for taxpayer's money in this way, with processes subjected to a high degree of bureaucracy and unreasonably lengthy court trials.
- (i) An independent, publically funded body in the UK commented that they felt that most IT contracts were currently extremely biased towards apportioning risk to the purchasing organisation rather than the supplier. Purchasing organisations typically held the risk of projects overrunning their budget or IT providers not delivering final products of systems or software that were actually fit-for-purpose. They were concerned that the implementation of standards such as running speeds could prove prohibitive for some IT suppliers, causing them to go out of business and hence lead to a reduction in competition in the market.

Question D.E.1: Any additional comments on the improvement of procurement through the better use of Standards?

A2.5 Part 4 – Wider Impacts

Question E.1: In your opinion, would an increased focus on ICT Standards in the procurement of ICT goods and services have an effect on:

Question E.1.1: The use of brand names or proprietary technical specifications in tenders

Question E.1.2: Number of suppliers responding to public ICT procurement tenders

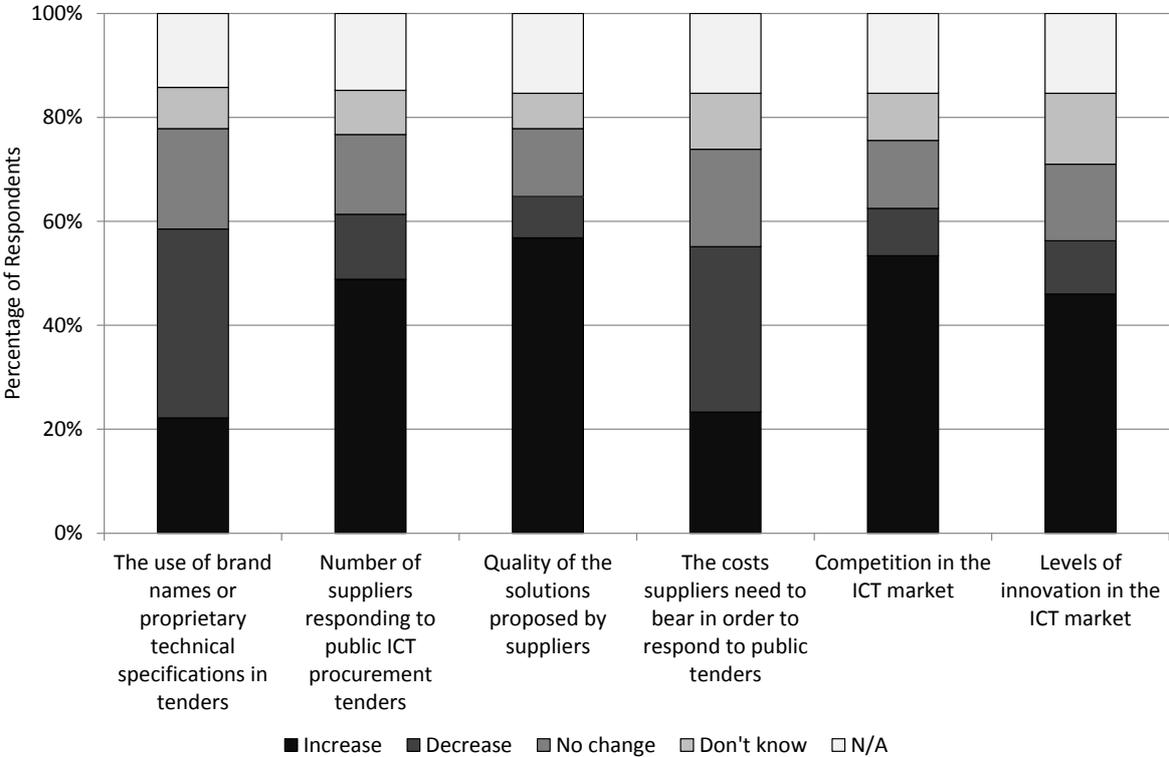
Question E.1.3: Quality of the solutions proposed by suppliers

Question E.1.4: The costs suppliers need to bear in order to respond to public tenders

Question E.1.5: Competition in the ICT market

Question E.1.6: Levels of innovation in the ICT market

Figure A2. 18: Effects of an increased focus on ICT Standards in the procurement of ICT goods and services



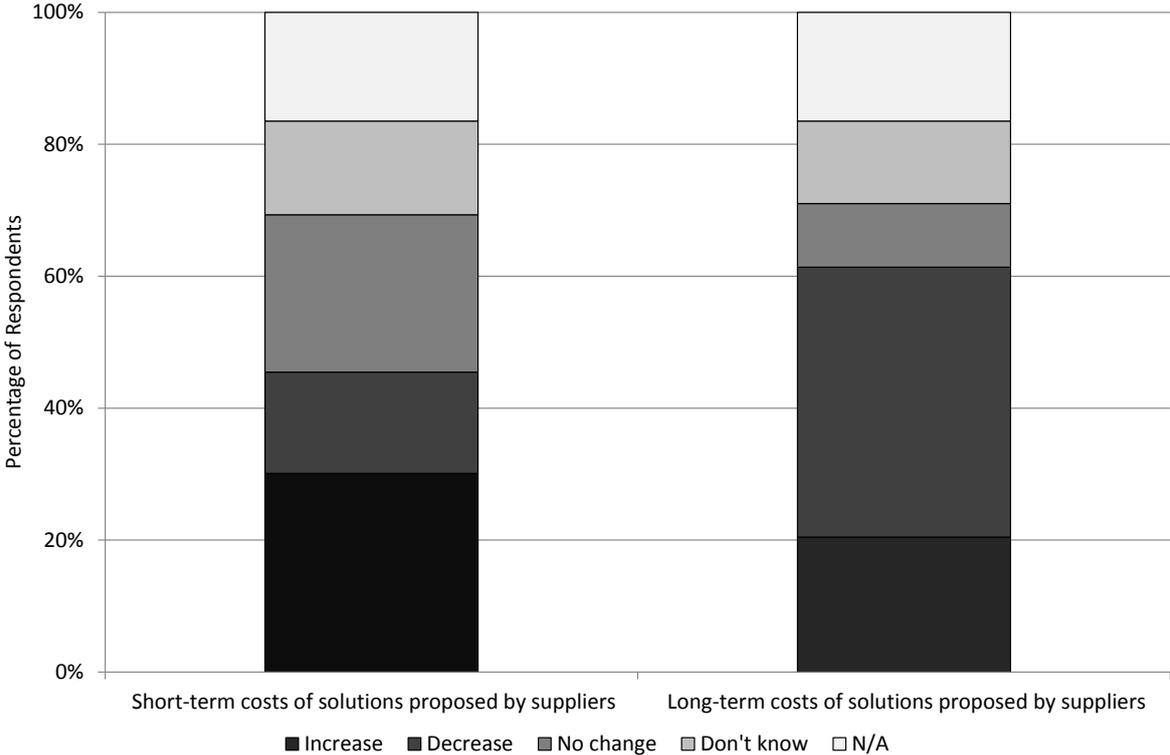
Source: Europe Economics Standards Survey Question E.1

Question E.2: Would public authorities requesting standards-based ICT systems have an effect on:

Question E.2.1: Short-term costs of solutions proposed by suppliers

Question E.2.2: Long-term costs of solutions proposed by suppliers

Figure A2. 19: Availability of access to sources of information providing help with ICT standards



Source: Europe Economics Standards Survey Question E.2