# The Digital Competence Framework for Consumers

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**The Digital Competence Framework for Consumers (DigCompConsumers).**
The European Digital Competence Framework for Consumers, or "DigCompConsumers", offers a reference framework to support and improve consumers' digital competence. Consumer digital competence is defined as the competence consumers need to function actively, safely and assertively in the digital marketplace. This definition builds on existing work on consumers' competence, and on the general digital competences as defined in the DigComp 2.0 framework. This report introduces the conceptual reference model (DigCompConsumers) which outlines 14 competences and gives examples of each competence in terms of knowledge, skills and attitudes.

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# Foreword

The European Commission led by President Jean-Claude Juncker has set out, as one of its main goals, to create a Digital Single Market where citizens and businesses can seamlessly and fairly access online goods and services, whatever their nationality, and wherever they live.

Consumers are at the heart of making this Digital Single Market work. The Digital Single Market Strategy will simplify consumer rules for online purchases, and make data protection, copyright and telecom rules fit for the digital age. But better access for consumers to digital goods and services across Europe is not achieved through legislative changes alone. It also requires boosting digital skills and learning.

In the "New Skills Agenda for Europe", the Commission has therefore committed itself to supporting national efforts and playing a role in enhancing digital skills, and enabling digital skills learning.

This Digital Competence Framework for Consumers is based on the European Digital Competence Framework for Citizens (DigComp), a common reference framework of what it means to be a digitally-savvy citizen.

DigComp for Consumers aims to define the competence consumers need to function actively, safely and assertively in the digital marketplace.  Consumers will be in a better position to benefit from open digital markets if they acquire new knowledge, develop and practice new skills, and adopt a critical and balanced attitude to the digital world.

DigComp for Consumers is a joint research project of the Commission's Directorate General for Justice and Consumers and the Joint Research Centre (JRC). It is based on consultation with, and active input from, a wide range of experts and stakeholders. I would like to thank its authors, and all those who contributed their insights and energy.

I hope DigComp for Consumers will become a reference for the development and strategic planning of digital consumer competence initiatives, at both European and Member State levels.

I trust it will help and enable public authorities, consumer associations, teachers and teacher training institutions, and also private actors, to improve their guidance for teaching digital consumer skills to young and old.

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Tiina Astola<br>
Director-General<br>
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# Executive summary

This report presents the Digital Competence Reference Framework for Consumers, DigCompConsumers. Consumer digital competence is defined as the competence consumers need to function actively, safely and assertively in the digital marketplace.

DigCompConsumers outlines 14 competences that are grouped in three main areas: pre-purchase, purchase and post-purchase. The Framework illustrates each of the competences with concrete examples in terms of knowledge, skills and competences.

The expected users of the Framework are public education, consumer policy and other authorities, consumer associations, teachers and teacher training institutions, as well as private and civil society education or training actors.

**Policy context**

The DigCompConsumers Reference Framework is a joint action of DG Justice and Consumers and the Joint Research Centre (JRC). It works towards fulfilling the objectives of the New Skills Agenda for Europe and the Digital Single Market (DSM). Both these initiatives of the Juncker Commission have underlined the importance of citizens' digital skills and the need to improve their capacity to participate more deeply in our digital society and economy.

**Key conclusions**

This is a first version of the Digital Competence Reference Framework for Consumers, which is still relatively theoretical and conceptual. It will reveal its usefulness in day-to-day practice, and be adjusted accordingly.

| Competence areas | Competences |
|---|---|
| 1. Pre-purchase | 1.1 Browsing, searching and filtering information on goods and services |
| | 1.2 Evaluating and comparing information on goods and services |
| | 1.3 Recognising and evaluating commercial communication and advertisement |
| | 1.4 Managing digital identity and profile in the digital marketplace |
| | 1.5 Considering responsible and sustainable consumption in digital markets |
| 2. Purchase | 2.1 Interacting in the digital marketplace to buy and sell |
| | 2.2 Participating in collaborative economy platforms |
| | 2.3 Managing payments and finances through digital means |
| | 2.4 Understanding copyrights, licences, and contracts of digital goods and services |
| | 2.5 Managing personal data and privacy |
| | 2.6 Protecting health and safety |
| 3. Post-purchase | 3.1 Sharing information with other consumers in the digital marketplace |
| | 3.2 Asserting consumer rights in the digital marketplace |
| | 3.3 Identifying digital consumer competence gaps and limits |

**Related and future work**

DigCompConsumers is part of the work a wider series of studies the JRC is carrying out on competence frameworks in the areas of education and training, employment and lifelong learning. Examples of these include the Digital Competence Framework for Citizens 2.0 (Vuorikari *et al.,* 2016), the European Framework for Digitally-Competent Educational Organisations (Kampylis *et al.*, 2016), the Entrepreneurship Competence Framework for Citizens (Bacigalupo *et al.*, 2016) and the Digital Competence Framework for Educators (*forthcoming).*

# I.    Introduction

## I.I  The Digital Competence Framework for Consumers

This report introduces the Digital Competence Framework for Consumers (DigCompConsumers)[1].

> Consumer digital competence is defined here as <u>the competence consumers need to function actively, safely and assertively in the digital marketplace</u>. This definition builds on the previous work done on consumer competence and adapts it to digital environments (European Commission, 2011).

The publication of the Digital Competence Reference Framework for Consumers by the European Commission is intended as the first step towards achieving a shared understanding of the competences that consumers need in the digital marketplace. It aims to clarify common goals, and to raise their visibility amongst the stakeholders and the wider community. The Framework describes expected learning outcomes to those with an interest in digital and consumer education, and aims to encourage discussion of how to deliver high quality guidance, education and training, both at Member State and at EU level.

The DigCompConsumers Framework is a joint action of the Directorate General for Justice and Consumers and the Joint Research Centre (JRC), the Commission's science and knowledge service.

The work is carried out to achieve the goals set out by the European Commission in its two recent Communications of "A New Skills Agenda for Europe - Working together to strengthen human capital, employability and competitiveness" (European Commission, 2016) and "A Digital Single Market Strategy for Europe" (European Commission, 2015a). Both underline the importance of boosting digital skills and learning so that citizens can seize the opportunities of the digital society and economy.

This work also aims to contribute to the implementation of the relevant part of the OECD's revised Recommendation on Consumer Protection in e-commerce, in particular : *"Governments and stakeholders should work together <u>to improve consumers' digital competence through education and awareness programmes aimed at providing them with relevant knowledge and skills to access and use digital technology to participate in e-commerce</u>.*" (OECD 2016, p.18).

## I.II Consumers in digital markets

We live in a hyper-connected world. With a penetration rate of 97% in 2015 (International Telecommunication Union, 2015), the number of mobile phone subscriptions is approaching the number of people on earth. In 2015, 83% of households in the European Union's 28 Member States (EU28) had internet access (Eurostat 2015[2]). This reliance on and increased use of technologies for everyday activities has an effect on several aspects of citizens' lives, including their choices as consumers.

The complexity and multiplicity of digital marketplaces provide a plethora of opportunities and risks for consumers. Today consumers acquire "free" goods and services in exchange for their personal data, and data transfers pose new privacy and security risks. Digital content products and services raise questions about usage restrictions. Unsafe products are offered online across borders, and online platforms and

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[1]    https://ec.europa.eu/jrc/digcompconsumers
[2]    See:
       http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&pcode=tin00134&language=en

peer-to-peer marketplaces blur distinctions between traders and consumers and challenge legislative frameworks (European Commission, 2015b).

In this changing landscape, consumers need a new set of competences to engage in the online marketplace, to make informed choices, to increase their welfare, to be able to weigh the benefits against the risks. Given the fast speed of change, consumers' knowledge, skills and attitudes need regular updating, or they risk being out of step with the increasing sophistication of digital marketing practices. Competent online consumers will be empowered and confident consumers, and as such, contribute to making (digital) markets in general work well, and in particular the Digital Single Market.

## I.III Consumers and digital competence

This Framework focuses exclusively on those aspects that are relevant in the context of consumers' competences in digital environments. General digital competences that consumers as users of technologies will have to acquire as a pre-requisite to function in a digital environment are described in DigComp (Vuorikari *et al.*, 2016). Similarly, general consumer competences (e.g. Nordic Council of Ministers, 2009, Nordic-Estonian Consumer Education Working Group, 2010) that are not specific to the digital world are not included here either.

The Framework covers core consumer protection issues in electronic commerce, such as fair and transparent business and advertising practices; information about businesses, goods and services, and transactions; dispute resolution and redress mechanisms and payment protection. In addition, it also addresses issues of paying with data and data privacy/security, digital content issues, and peer-to-peer platform participation.

Digital consumers' competences as described in this Framework combine knowledge, skills, and attitudes (thus including values, habits, abilities). Competences are conceptualized in line with the Recommendation of Key competences for lifelong learning (European Commission, 2006), which defines competence as the sum of knowledge, skills, and attitudes.

The existing literature about consumers in the digital market tends to focus on the risks of fraud and deception that consumers are faced with in online environments. While this is of primary importance in the development of consumers' competences, the Framework focuses also on developing proactive competences that help consumers take advantage of the opportunities offered by the digital marketplace.

The overall objective of the Framework is to enhance consumers' confidence in digital purchasing and selling, and to allow consumers to play an active and assertive role in the digital marketplace.

In particular, the objectives are to help consumers:

- make informed choices in the digital marketplace;
- operate safely online and avoid falling victim to fraudulent or deceptive online marketing practices;
- understand digital marketing and advertising practices;
- manage online financial operations;
- understand the risks and advantages of digital data collection and of the emerging collaborative economy.

With these objectives in mind, the Framework is intended as a conceptual and reference model and aims to be open to cultural diversity. The examples of knowledge, skills, and attitudes that are given for each competence do not intend to be exhaustive. They are meant as a source of inspiration for local adaptation, or for adaptation to a specific target group or purpose.

A competence framework for digital consumers does not and cannot replace regulations and legislation that protect consumers, as both aspects - enhancing the digital competences of consumers and legislating the digital marketplace - must go hand in hand in providing a safe purchasing and selling experience for all.

The core audience to whom this framework is addressed is of a professional nature, such as public authorities, consumer associations, consumer education experts, and educational professionals such as teachers and teacher training institutions, as well as private actors and civil society.

## I.IV From DigComp to DigCompConsumers

The starting point for DigCompConsumers is the Digital Competences Framework for Citizens (DigComp), first developed in 2013 by the JRC on behalf of DG Education and Culture, and further developed on behalf of DG Employment, Skills, Social affairs and Inclusion[3].

The methodology for building this Framework therefore follows the same principles and modular structure as DigComp. DigCompconsumers in particular consists of:

- 3 areas that are grouped along the purchasing cycle,
- 14 competence titles and competence descriptors,
- 210 examples of knowledge, skills, and attitudes.

Though it is derived from DigComp, DigCompConsumers is a standalone framework and can be used independently.

The feasibility of developing a Digital Competence Framework for Consumers (DigCompConsumers) was first discussed at the 'EU Consumer Summit' in April 2014. On that occasion, consumer policy stakeholder representatives discussed during a workshop on 'Digital literacy needs for online consumers'[4] if and how to adapt the Digital Competences Framework for Citizens (DigComp) to the consumer context.

To follow-up, a joint research project was set up, consisting of two parts. The first part was a preparatory study to identify emerging issues and potential detriments in the digital consumer context, as well as best practices regarding digital competence in consumer education, as a basis for the DigCompConsumers Framework (Fielder *et al.*, 2016).

The second part was to develop the DigCompConsumer Framework itself. This was undertaken by the authors of this report with support from the JRC and DG JUST. Their initial outline was discussed at an expert workshop in December 2015 and the outcome validated through online consultations and a second expert workshop in April 2016, which also discussed the possible use cases of the Framework and ideas about proficiency levels.

The Framework itself is therefore the result of a joint effort. It was developed, reviewed and validated with the help of a selected group of digital and consumer education experts from EU, OECD and Member State levels, including national consumer authorities (FI, EE, AT, SE), consumer research institutes and academics (NL, F, NO), consumer associations (DE, EU) and others.

The Framework, and in particular its examples, will require review and updating, as new trends and challenges for consumers emerge in today's dynamic e-commerce marketplace.

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[3]  In June 2016, Phase 1 of the update was published. Phase 2 was completed at the end of the same year.

[4]  http://ecs.onetec .eu/2014/workshops5_en.html

The terminology and concepts used in DigCompConsumers aim to reflect both those used in DigComp 2.0, and those commonly used in a consumer policy context (see Annex 1 for Glossary).

In Chapter 2, each of the 14 competences that have been identified is presented in a table which includes: a title, a short definition of the competence, and examples of the knowledge, skills, and attitudes related to competence.

Chapter 3 briefly discusses possible uses of the Framework at national and international level, for policy formulation and support, instructional planning for education, training and employment, and assessment and certification.

Chapter 4 presents the conclusion of the report and some ideas for possible next steps.

Annex 1 presents the mapping between DigCompConsumers and the DigComp Framework; Annex 2 contains a glossary; and Annex 3 lists the participants at the workshops.

# II     The Digital Competence Framework for Consumers

The Framework tends to be descriptive rather than prescriptive. This means that the Framework is built to describe what competences are needed by consumers in the digital marketplace, without imposing norms for consumers' behaviour. It is neutral, it is – or at least aims to be - not culturally biased or exclusive. As such, it can subsequently be tailored to specific uses and target groups.

The Framework follows the consumer logic and is divided into three areas (or phases): pre-purchase, purchase and post-purchase.

**Table 1: The list of DigCompConsumers competences**

| Competence areas | Competences |
|---|---|
| 1.  Pre-purchase | 1.1  Browsing, searching and filtering information on goods and services |
| | 1.2 Evaluating and comparing information on goods and services |
| | 1.3 Recognising and evaluating commercial communication and advertisement |
| | 1.4 Managing digital identity and profile in the digital marketplace |
| | 1.5 Considering responsible and sustainable consumption in digital markets |
| 2.  Purchase | 2.1 Interacting in the digital marketplace to buy and sell |
| | 2.2 Participating in collaborative economy platforms |
| | 2.3 Managing payments and finances through digital means |
| | 2.4  Understanding copyrights, licences, and contracts of digital goods and services |
| | 2.5 Managing personal data and privacy |
| | 2.6 Protecting health and safety |
| 3.  Post-purchase | 3.1 Sharing information with other consumers in the digital marketplace |
| | 3.2 Asserting consumer rights in the digital marketplace |
| | 3.3 Identifying digital consumer competence gaps and limits |

## II.I   Competences, descriptors, and examples

This section provides, in a tabular view, the detailed Digital Competence for Consumers Framework, which is the core element of this report. For each area we propose a description of the area; and a list of competences that belong to that area. For every competence, we have detailed a description and a non-exhaustive list of examples of the knowledge, skills, and attitudes that can illustrate it. They aim to provide more detailed guidance on what is meant by that specific competence. They are therefore to be used as a source of inspiration for local adaptation, or for adaptation to a specific target group or purpose.

While we realise that there are some possible overlaps in examples between competences or areas, care has been taken to reduce these overlaps to a minimum.

The examples include some of the main notions of EU digital consumer rights, but do not aim to reflect all such rights, nor to reflect such rights in detail, or as they apply in individual countries. They also do not take any future legislation into account. The

examples aim to reflect current common practices and habits that consumers have developed in digital marketplaces.

As digital markets evolve, and as the applicable regulatory framework changes, both the examples and the competences themselves will need to be updated.

## Area 1: Pre-Purchase

Actions taken before purchasing goods and services in the digital marketplace, which focus on information search, comparing information, evaluation of alternatives, dealing with commercial communication, managing digital identity, and making responsible and sustainable consumption choices.

1.1 Browsing, searching and filtering information on goods and services

1.2 Evaluating and comparing information on goods and services

1.3 Recognising and evaluating commercial communication and advertisement

1.4 Managing digital identity and profile in the digital marketplace

1.5 Considering responsible and sustainable consumption in digital markets

| **1.1 Browsing, searching and filtering information on goods and services** | |
|---|---|
| To search for and access information related to goods and services using digital tools. To identify and select the information needed regarding goods, services, and transactions options. | |
| *Knowledge examples* | Recognising that search engines are not neutral, and that search results and ranking of search results of goods and services are influenced by advertising and marketing |
| | Being aware that different search engines may give different search results for goods and services |
| | Knowing that the internet gives access to online shops across the world, and that it may be worthwhile to check offers in other countries/languages |
| | Knowing about several digital tools (e.g. portals and apps) that facilitate online shopping |
| | Realising that many companies, shops and government agencies have e-commerce and e-government services available online |
| | Being able to name sites that sell goods at reduced prices |
| *Skills examples* | Using various different search engines, changing to a different search engine to obtain better results |
| | Filtering the search results to adjust searches |
| | Refining information searches and selecting specific words in order to find the desired goods and services |
| | Finding pertinent deals using digital tools and environments (e.g. by searching price comparison services) |
| | Identifying relevant search results from search outputs |
| | Checking search results beyond the first page |

| | |
|---|---|
| *Attitude examples* | Being proactive in searching for information about goods and services |
| | Valuing the positive impact that technologies have in making better informed consumer choices |
| | Being willing to acknowledge the limits in one's ability to process information and to resist stimuli offered by the digital marketplace |

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**1.2 Evaluating and comparing information on goods and services**

To compare and critically evaluate the reliability of digital sources of information on goods and services. To compare and critically evaluate information on goods, services, purchasing terms and conditions related to the digital marketplace. To compare commercial offers using comparison tools, websites and channels.

| | |
|---|---|
| *Knowledge examples* | Understanding that not all information online on goods and services is reliable or complete |
| | Understanding that that price comparison results may not be complete, can be inaccurate or impartial |
| | Knowing about digital tools (e.g. apps, portals, sites) that allow one to compare goods, services, prices |
| | Knowing how to find sites, communities, and social media groups where consumers share opinions on products and services |
| | Knowing how to check the reliability of e-commerce sellers and websites (e.g. verifying if the identity, address, contact details of the seller are complete) |
| | Knowing that e-commerce trustmarks[5] are a means of identifying reliable online shops |
| | Knowing to compare only total prices that include VAT |
| | Knowing that energy, telecommunication and financial services regulators make online comparison tools available |
| | Knowing that independent consumer associations make comparison tools and comparative testing available online |
| | Knowing that some (price) comparison tools' results may be influenced by advertising and/or marketing |
| *Skills examples* | Being able to compare, contrast, and integrate information from different sources regarding prices, quality, purchasing terms and conditions of goods and services. |
| | Being able to find relevant communities, networks, and social media groups where consumers share opinions about goods and services |
| | Being able to verify the reliability of sellers before making transactions |
| | Being able to adjust default settings for ranking of search results on platforms and portals |
| | Being able to use online price comparison tools or tools that compare quality and price |
| | Being able to assess the value of the information that is pushed at the consumer based on previous searches or visits via dynamic advertising or via social media pages or email |

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[5] http://www.ecommerce-europe.eu/trustmark

| Attitude examples | Values that making informed choices implies comparing offers from different providers |
| --- | --- |
| | Being critical regarding the presentation and alleged attractiveness of offers |
| | Valuing the possibility to make cautious and responsible purchasing decisions |
| | Critically evaluating the reliability, impartiality and accuracy of the information on comparison websites |
| | Recognising that people tend to choose default options |
| | Critically evaluating user reviews and ranking systems |

**1.3 Recognising and evaluating commercial communication and advertisement**

To recognise and critically evaluate different marketing and advertising methods and activities in digital environments. To recognise how advertising and commercial communication can influence one's choices as a consumer.

| Knowledge examples | Knowing that the purpose of advertising and marketing is to redirect attention and stimulate purchases, which may or may not be in line with one's intentions or needs |
| --- | --- |
| | Interpreting and analysing online marketing and advertising to understand whether the goods/services on sale are in line with one's interests and needs |
| | Realising that certain digital services are free of charge because they contain or facilitate marketing and advertising (e.g. through collecting personal data) |
| | Being aware of hidden advertisement techniques (e.g. when a blog writer or social media author is paid for writing a review) |
| | Understanding that some entries or comments on social media and/or consumers' reviews may be sponsored |
| | Recognising, analysing and interpreting embedded marketing practices in digital environments, e.g. on websites, in digital games, chats, social media |
| | Realising how consumers' digital trails (footprints) can be harvested, stored, analysed, traded and used for commercial purposes |
| | Being aware of drip pricing and hidden cost practices |
| Skills examples | Distinguishing between commercial messages (e.g. paid advertisement through social media) and unbiased consumer information in commercial communication |
| | Assessing the reliability of the information that is pushed at the user (e.g. advertisement through email and social media) |
| | Detecting unsolicited commercial messages and indicating one's unwillingness to receive these messages |
| | Exercising one's right to opt out of direct marketing |
| Attitude examples | Being critical towards advertising practices and being aware they may be misleading and/or disguised |
| | Adopting a critical attitude towards targeted advertising |
| | Being careful when making purchasing decisions and basing purchasing choices on information beyond advertisement |

**1.4 Managing digital identity and profile in the digital marketplace**

To understand that one's profile as a digital consumer can be built, modified, manipulated and exploited. To manage the data that one generates through different digital tools and services. To create and manage one or multiple digital identities (e.g. personal, professional) to maximize the benefits of the digital marketplace.

| | |
|---|---|
| *Knowledge examples* | Understanding the benefits of having one or more digital identities, e.g. professional, private, as a consumer |
| | Knowing that one's consumer data – such as past purchases, products viewed – are analysed for marketing purposes |
| | Knowing that companies use digital identity data to better target and personalise offers |
| | Knowing which kind of data are processed when using certain services (i.e. geo-location data) |
| | Being aware that commercial targeting is based on the knowledge that companies have about one's digital identity (e.g. through the recognition of IP addresses, through device tracking, through email/account tracking) |
| | Realising that in several cases profile data are neither portable nor interoperable |
| | Realising that companies value their digital identity, that companies' brands are built on their digital reputation among other factors. |
| *Skills examples* | Checking and modifying as appropriate the transaction details before confirming a purchase. |
| | Constructing one or multiple profiles that benefit one's needs as a consumer, e.g. by using different emails to register with different services |
| | Tracking one's own digital footprint as a consumer, e.g. knowing how to review and manage one's purchase history or browsing interests in a commercial platform. |
| | Taking advantage of the benefits of building one's online profile and reputation i.e. through positive reviews |
| | Using digital tools available to manage or delete one's consumer profile |
| | Using different digital profiles/identities to counterbalance the effects of dynamic pricing |
| | Managing different usernames and passwords that are needed to log in to different digital services (with or without a password manager application) |
| *Attitude examples* | Being critical towards tracking practices and claiming one's right to anonymity |

**1.5 Considering responsible and sustainable consumption in digital markets**

To understand how one's behaviour as a digital consumer affects the community, society and environment. To use digital technologies to make socially and environmentally responsible choices.

| | |
|---|---|
| *Knowledge examples* | Evaluating the effects of one's behaviour as a digital consumer on the environment and its ethical and social impacts |
| | Knowing that the transport of goods purchased online has an impact |

| | on the environment |
|---|---|
| | Understanding the environmental impact of computers and electronic devices and how they can be made to last longer (e.g. changing hard disks) or recycled |
| *Skills examples* | Being able to use digital tools to improve the environmental and social impact of one's consumer behaviour (e.g. by looking for local produce, by searching for collective deals, etc.) |
| | Applying one's understanding of socially responsible sustainable consumption to purchases in the digital marketplace |
| | Choosing digital means that have less impact on the planet (e.g. reading an online newspaper instead of print; sharing, re-selling and recycling goods through P2P digital marketplaces) |
| *Attitude examples* | Endorsing sustainable positions in the digital marketplace and advocating them (e.g. advocating sustainable production and/or consumption through social networking sites) |
| | Positioning oneself as a sustainable digital consumer |
| | Being critical about the excesses of consumption or unsustainable production and consumption |

## Area 2: Purchase

The actions related to purchasing: making a purchase, participating in collaborative economy platforms, managing payments, understanding copyrights, licenses and contracts for digital content, protecting data and health.

2.1    Interacting in the digital marketplace to buy and sell

2.2    Participating in collaborative economy platforms

2.3    Managing payments and finances through digital means

2.4    Understanding copyrights, licenses, and contracts of digital goods and services

2.5    Managing personal data and privacy

2.6    Protecting health and safety

| **2.1 Interacting in the digital marketplace to buy and sell** |
|---|
| To use digital marketplaces for buying and selling goods and services. |

| *Knowledge examples* | Knowing about the opportunities and risks of selling goods and services in digital marketplaces |
|---|---|
| | Knowing that, in the digital marketplace, goods and services can be bought and sold either through commercial transactions or through consumer-to-consumer transactions |
| | Knowing about tangible goods (i.e. those good that have a physical nature) and intangible goods (i.e. virtual or digital goods) |
| | Knowing that, in the EU, prices for goods and services offered for sale online must be inclusive of VAT |
| | Knowing that, in the EU, pre-ticked boxes for buying additional services are prohibited |
| | Understanding the different rules that apply when buying online from a company or from a private person (i.e. consumer-to-consumer |

| | transactions) |
|---|---|
| | Knowing that, in the EU, there is a 14-day right of withdrawal when buying online from traders |
| | Knowing how to check if a trader is based in one's own country, in the EU or elsewhere |
| | Knowing that the internet gives access to the global marketplace and that rules that apply (for example, for products and services that are prohibited) can be different by country. |
| | Knowing that EU online consumer rights also apply to online purchases from traders outside the EU if they direct their activities to EU consumers |
| | Knowing how to cancel an online purchase |
| *Skills examples* | Being able to sell goods using digital marketplaces (e.g. eBay) |
| | Checking if platforms that facilitate sales by a third party decline or accept (limited) liability for transactions concluded with third parties |
| | Being able to contact sellers and services providers through different digital means (e.g. email, forum, chats) and to interact according to one's needs |
| | Being able to use apps that manage passwords safely |
| | Checking that the description and pictures of a product/service correspond and are exhaustive. |
| | Checking whether platforms that facilitate sales by a third party (e.g. E-bay) decline or accept (limited) liability for transactions concluded with third parties |
| | Checking that no unwanted additional services are included before confirming a purchase |
| *Attitude examples* | Taking an active attitude in contacting sellers and services providers at the different stages of the purchase |
| | Proactively changing passwords for e-commerce accounts |

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**2.2 Participating in P2P and collaborative economy platforms**

To understand and participate in sharing or collaborative economy platforms. To engage in micro-selling practices (P2P). To recognise different and new digital business models.

| | |
|---|---|
| *Knowledge examples* | Knowing about peer-to-peer (P2P), sharing and collaborative economy platforms for (re)sale, exchange and renting/hiring of goods and services |
| | Understanding the risks and opportunities of using collaborative economy platforms |
| | Knowing that when buying goods and services from private persons or peers online, one's rights are different than when buying online from a trader (e.g. right to cancel a purchase) |
| | Knowing that there may be legal and tax issues when selling goods and services or when renting out rooms, apartments or houses via online platforms |
| | Knowing that regularly selling, renting out etc. via online platforms for a profit can add up to a professional activity that must be declared to the tax authorities and is subject to sectorial regulation |
| | Knowing that (in certain countries) a special legal statute exists for |

| | |
|---|---|
| | micro entrepreneurs |
| | Knowing that certain online platforms will provide assistance and insurance in case of problems with a transaction between peers |
| | Knowing how to distinguish crowdfunding and other collaborative platforms that facilitate gifts or exchanges from those facilitating sales/renting/hiring or investment |
| *Skills examples* | Being able to assess the reliability of a P2P, collaborative or sharing platform |
| | Being able to verify the reliability of the sellers and offers on online platforms, e.g. by using rating systems and user reviews |
| | Being able to assess if user reviews are valid and well argued, and sufficient in number to generate trust |
| | Being able to check for any rules and obligations applicable to one's activity on P2P platforms |
| | Being able to search and find local, national and international P2P platforms that respond to one's needs |
| | Being able to communicate with other peers on P2P platforms about details of transactions |
| | Being able to present offers correctly and with clear prices, including costs of payment, delivery and platform fees |
| *Attitude examples* | Critically evaluating the opportunities and cost-effectiveness of the peer-to-peer economy, and also its risks |
| | Proactively checking applicable rights and responsibilities when engaging in P2P, collaborative or sharing economy platforms |

| | |
|---|---|
| **2.3 Managing payments and finances through digital means** | |
| To safely make digital payments and use online financial services. To use digital technologies to keep track of and manage one's personal budget. | |
| *Knowledge examples* | Knowing that digital devices, including tablets, computers, smartphones, enable access to bank account and payment services anytime, anyplace |
| | Knowing that services and goods can be paid for through digital devices (e.g. mobile phone, smartphone) |
| | Knowing how digital wallet services work |
| | Knowing the risk related to using digital financial services |
| | Knowing the importance of safeguarding passwords, pin numbers, etc. |
| | Knowing that systems for authenticating online payments (e.g. code via SMS) offer a higher level of security |
| | Knowing that, in online payments, one should never give the four digit pincode of a debit/payment/credit card, as used for cash withdrawals or paying in offline shops |
| | Knowing not to send e-commerce a scan of credit cards or bank cards |
| | Knowing that the amount of the purchase can be taken from one's account immediately at the time of purchase, even if delivery is later, unless otherwise indicated by the seller |
| | Knowing that security software should be installed on devices to secure online payments |

| | |
|---|---|
| *Skills examples* | Being able to use access devices (e.g. authentication tools) and use digital financial services (e.g. banking, PayPal) safely |
| | Being able to recognise phishing or pharming attacks on online banking |
| | Being able to identify whether online payments are secure and encrypted by checking the address bar/URL for "https" instead of "http" and the closed padlock security sign |
| | Being able to challenge a payment in case of fraudulent use of a payment/credit card online and obtain reimbursement |
| | Being able to recognise whether a payment involves automatic repeat purchases of goods or automatic contract or subscription renewal |
| *Attitude examples* | Critically evaluating different types of security measures used in digital transactions and attaching importance to security (e.g. keeping pin numbers, passwords safe) |
| | Being aware of the benefits and risks of managing finances and financial transactions through digital means |

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|---|---|
| **2.4 Understanding copyrights, licenses, and contracts of digital goods and services** | |
| To understand and act upon rights and responsibilities related to digital content, goods and services. | |

| | |
|---|---|
| *Knowledge examples* | Knowing that some digital content (music, movies, books, etc.) are available for free and that others are for purchase |
| | Knowing that digital content (music, movies, books, etc.) can be subject to copyright and that downloading copyrighted material without permission is illegal |
| | Knowing that it is illegal to upload and share certain content such as music |
| | Knowing that sharing illegally downloaded content with others can give rise to legal sanctions |
| | Knowing that it is not possible to cancel the purchase of digital content once it has been downloaded |
| | Knowing which licenses apply to the goods and services one is interested in |
| | Knowing that most software is used under licenses, which need to be renewed once the license periods expire |
| | Being aware that that streaming and downloading movies, shows, books from pirate websites is illegal |
| | Knowing that some content (music, movies, books, etc.) may not be accessible because of one's location (i.e. geo-blocking) |
| *Skills examples* | Being able to check which sites offer illegal downloading or streaming |
| | Being able to select legal material for downloading or uploading. |
| | Being able to check and understand the right to use or re-use digital content and goods that one purchased |
| *Attitude examples* | Being respectful of copyright and contract terms and using official distributors for downloading movies, music, books |
| | Weighing the benefits of illegal downloading against the risks (e.g. viruses, sanctions) |

| **2.5 Managing personal data and privacy** | |
|---|---|
| To protect personal data and privacy in the digital marketplace. To understand how to share identifiable personal information while protecting oneself and others from risks. To know that digital services provide a "Privacy policy" to inform how personal data is used and acting upon this information. | |
| *Knowledge examples* | Being aware that every time one goes online, one shares information and data about oneself, one's purchasing interests and one's behaviour with the search engines, social media and/or the sites one visits |
| | Knowing it is not easy to delete personal data or information after having shared them, or to transfer them to another service provider |
| | Understanding that clicking "I accept" to a "Privacy policy" may mean that one agrees that one's personal data may be sold to third parties |
| | Knowing which measures to take to protect and manage personal data and privacy to avoid fraud |
| | Understanding that assumptions are made about behaviour and purchasing interests based on automated processing of data (profiling) |
| | Knowing where to go and who to talk to when one is concerned about personal data use |
| | Being aware that personal data are also collected, processed and stored outside the EU, and that different data protection rules may in some cases apply |
| | Knowing how to find out how personal data are being used by third parties |
| | Being aware that personal data can be sold and used by third parties for targeted marketing purposes |
| | Knowing that in the digital marketplace some goods and services can be acquired for "free" in exchange for one's personal data, and realising the implications of these exchanges |
| *Skills examples* | Reviewing privacy policies and identifying key terms about personal data use |
| | Identifying privacy policy terms that are a threat to data privacy |
| | Checking privacy policies to verify whether personal data are sold or transferred to third parties |
| | Being able to change the privacy settings on social media |
| | Checking what data protection rules apply and using one's rights to access, modify and suppress personal data |
| | Being able to access and modify or request deletion of personal data given to a seller |
| | Knowing how to claim the right to be forgotten[6] |
| | Verifying the level of security offered by e-commerce platforms, sites or apps and (free) digital services |
| | Setting privacy enhancing tools to protect the privacy of one's personally identifiable information |
| | Weighing benefits and risks when/if sharing data in digital environments |

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[6]  http://ec.europa.eu/justice/data-protection/files/factsheets/factsheet_data_protection_en.pdf

| | |
|---|---|
| *Attitude examples* | Being responsible for protecting one's and others' personal data when making online purchases |
| | Valuing the protection of personal data when shopping online |
| | Weighing the benefits of sharing personal and consumer data (e.g. to receive personalised suggestions, auto-complete forms) against the risks (e.g. profiling, identity theft, fraud, unsecure transactions) |

| **2.6 Protecting health and safety** |
|---|
| To understand and avoid physical and psychological health and safety risks related to information, goods and services in the digital marketplace. |

| | |
|---|---|
| *Knowledge examples* | Understanding that online purchasing behaviour can have addictive aspects |
| | Knowing that when buying products online, especially from e-commerce sites or apps located outside the EU/EEA, it is advisable to double-check whether the product complies with EU safety standards or is banned in the EU |
| | Knowing that online medical advice can be unreliable or sponsored by producers/sellers of medical or paramedical products |
| | Knowing that when buying medical products online, the EU logo for online sale of medicines indicates that the site or app is operating legally and not selling falsified and illegal products |
| | Knowing that second-hand products bought, rented or borrowed from other consumers online are not subject to product safety rules |
| *Skills examples* | Checking whether a product was subject to a recall or other restrictive measures on RAPEX website[7] and/or OECD portal on product recalls[8] |
| *Attitude examples* | Assuming responsibility for protecting personal health and safety when shopping in the digital market |
| | Critically evaluating the effects that digital and media-embedded merchandising can have on wellbeing |
| | Being vigilant regarding one's purchasing behaviour and evaluating the risk of addictive digital purchasing |

## Area 3: Post-purchase

Actions taken after purchase: sharing information, asserting consumer rights, updating digital consumer competences.

3.1 Sharing information with other consumers in the digital marketplace

3.2 Asserting consumer rights in the digital marketplace

3.3 Identifying digital consumer competence gaps and limits

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[7] http://ec.europa.eu/consumers/consumers_safety/safety_products/rapex/index_en.htm/
[8] http://globalrecalls.oecd.org/

| **3.1 Sharing information with other consumers in the digital marketplace** | |
|---|---|
| To share reviews, knowledge, advice, and experiences in the digital marketplace. | |
| *Knowledge examples* | Knowing about websites that offer users advice on products and services and understanding that their reliability may vary |
| | Understanding that information can be shared anonymously or through profiles |
| | Knowing how to find sites, communities, and social media groups where consumers help each other solve problems with products and services |
| *Skills examples* | Evaluating the information that peers are sharing digitally about goods and services. |
| | Judging the value of the content to share and the target audience to share it with |
| | Sharing experiences with fellow consumers on social media and digital platforms |
| | Providing advice to other consumers through social media, discussion fora, online rating, etc. |
| *Attitude examples* | Being active in sharing one's opinions regarding products and services |
| | Weighing the benefits and pitfalls of experiences and reviews shared by other consumers |


| **3.2 Asserting one's consumer rights in the digital marketplace** | |
|---|---|
| To know one's rights and responsibilities as a digital consumer. To assert one's rights after making a purchase and to know how to solve problems and disputes. | |
| *Knowledge examples* | Knowing that many basic digital consumer protection rules and rights are similar in all EU countries, but can be (very) different elsewhere |
| | Knowing about specific consumer rights that apply to online purchases only |
| | Knowing how to find help to solve disputes and post-purchase problems |
| | Being aware of one's right to be forgotten[9] |
| | Being aware of one's right to cancel online purchases of most goods within 14 days of delivery and get reimbursed without justification |
| | Knowing the main exceptions to the right to cancel a purchase (food, tailor made products, unpacked CD, DVD and software, opened hygienic and health products, travel products like hotels and tickets) |
| | Recognising the importance of accepting terms and conditions related to digital purchases and transactions in digital marketplaces and platforms, and the consequences this may have |
| | Knowing that online out-of-court redress options (Online Dispute Resolution) exist if there are problems with an online transaction |
| | Knowing that different types of redress options exist |
| | Knowing that one can cancel online purchases not delivered within 30 |

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| | |
|---|---|
| | days of purchase if timely delivery was essential, or if a reasonable additional delay is not respected |
| | Knowing that rights and responsibilities apply when buying online from a trader, and are not the same when buying from private citizens |
| | Realising that one can file a complaint with the authorities to solve a dispute with a trader |
| *Skills examples* | Finding independent advice on digital consumer rights and redress |
| | Being able to file a form for cancelling an online purchase or write an e-mail to cancel a purchase |
| | Using different means to assert rights after an online purchase, be it online or offline |
| | Exercising consumer rights in practical situations |
| | Finding information and/or digital platforms for redress and consumer rights |
| | Checking deliveries of online purchases before signing for receipt |
| *Attitude examples* | Being motivated to assert one's consumer rights and filing a complaint if necessary |
| | Being confident in taking action with after-sales services if an online purchase is not as desired |

**3.3 Identifying digital consumers competence gaps and limits**

To understand gaps and limits of one's digital consumer competences. To keep updated with developments in the digital marketplace that have an influence on one's opportunities and risks as a digital consumer.

| | |
|---|---|
| *Knowledge examples* | Understanding and evaluating the opportunities and risks that technology offers consumers |
| | Understanding that one's knowledge of the digital domain as a consumer might be limited and that the rules of the digital marketplace evolve rapidly |
| | Understanding the need to update one's digital competence to benefit most from the opportunities offered by the digital marketplace |
| *Skills examples* | Possessing the skills to update one's own knowledge about the purchasing and selling possibilities offered by digital technologies |
| | Being able to adapt to new practices of the digital marketplace |
| *Attitude examples* | Being confident and willing to experiment with new digital tools and digital practices that could benefit one's digital purchasing experience |
| | Following technological developments and being vigilant as regards the benefits and risks that one faces as a consumer |

# III. DigCompConsumers possible uses

This section gives first ideas for possible uses of the Digital Competence Framework for Consumers at national and international level. The two main categories of use are policy formulation and support, and instructional planning for education, training and employment, including assessment and certification uses.

## III.I    Policy formulation and support

In consumer policy research, the Framework could be used for benchmarking the actual level of competences of various population groups through surveys or behavioural experiments. The knowledge and skills items, for example, could be used for drafting survey questionnaires. This data could support consumer policy development, to help evaluate the impact of different types of measures on consumers in general, or on specific consumer groups in particular, and to further develop the concepts of vulnerable consumer and average consumer.

Both academic and policy types of research could also be used to create an evidence base for consumer education, for example to develop indicators to measure the need for and the impact of consumer education efforts. The absence of this type of data has been identified as one of the main obstacles to consumer education development by the OECD and at national level.

At national level, the Framework could become a useful instrument for developing a dialogue between consumer policy and education ministries about the incorporation of digital consumer education into school curricula and adult education. National consumer policy strategies and consumer education policies could use the Framework for the purpose of updating and conducting gap-analysis.

## III.II    Instructional Planning and Assessment

The Framework could be used for instructional planning by teacher training institutes and universities, by private and public educational organisations and by individual teachers.

The Framework could also be used by national and EU level consumer education platforms for the classification of existing teaching materials, for identifying gaps in materials regarding digital competences, or as guidance for teachers.

In addition, the Framework could form the basis for the development of assessment tools, either for self-assessment purposes or for testing competences in an education or training environment.

# IV. Conclusions

This is the "Science for Policy" publication of the Digital Competence reference framework for Consumers, DigCompConsumers. It outlines 14 competences that are grouped in three main areas: pre-purchase, purchase and post-purchase. The framework illustrates each of the competences with concrete examples in terms of knowledge, skills and competences.

The overall objective of the framework is to enhance consumers' confidence in digital purchasing and selling, and to allow consumers to play an active and assertive role in the digital marketplace.

With these objectives in mind, the framework is intended as a <u>conceptual and reference model</u>. The examples of knowledge, skills, and attitudes that are given for each competence do not intend to be exhaustive. They are meant as a source of inspiration for local adaptation, or for adaptation to a specific target group or purpose.

The DigCompConsumers framework may require further updating for two main reasons: first because digital competence must evolve as technologies and practices change; and secondly because the framework is still theoretical and conceptual, and needs to be tested in practice.

Its practical implementation and use will reveal its usefulness, necessary adaptations and the need for proficiency level development for specific purposes. While recognising that learning or achieving proficiency does not always occur linearly, such proficiency levels can offer ways to define steps of progression. First proposals for possible uses and proficiency levels are published as part of the full DigCompConsumers report available from DG Justice and Consumers[10] and can be further elaborated in view of practical use made of the framework.

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[10] at http://ec.europa.eu/justice/index_en.htm

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# ANNEX I: Glossary

**Collaborative economy and consumption**: the term refers to business models that facilitate market places for the temporary usage of goods or services between (peer) suppliers and (peer) consumers or users. The collaborative economy involves three categories of actors: (i) service providers who share assets, resources, time and/or skills — these can be private individuals offering services on an occasional basis, or service providers acting in their professional capacity (ii) users of these; and (iii) intermediaries that connect — via an online platform — providers with users and that facilitate transactions between them ('collaborative platforms'). Collaborative economy transactions generally do not involve a change of ownership and can be carried out for profit or not-for-profit.

**Copyright**: A bundle of intangible rights granted by statute to the author or originator of certain literary or artistic productions, whereby, for a limited period, the exclusive privilege is given to that person (or to any party to whom he or she transfers ownership) to make copies of the same for publication and sale.

**Digital content**: any type of content that exists in the form of digital data that are encoded in a machine-readable format, and can be created, viewed, distributed, modified and stored using computers and digital technologies, e.g. the internet. The content can be either free or pay content. Examples of digital content include: web pages and websites, social media, data and databases, digital audio, such as mp3s, and e-books, digital imagery, digital video, video games, computer programmes and software (Vuorikari *et al,* 2016).

**Digital consumer**: a person who buys, shares, sell goods and services using digital environments.

**Digital environment**: a context, or a "place", that is enabled by technology and digital devices, often transmitted over the internet, or other digital means, e.g. mobile phone network, Records and evidence of an individual's interaction with a digital environment constitute their digital footprint. In DigComp and DigCompConsumers, the term digital environment is used as a backdrop for digital actions without naming a specific technology or tool (Vuorikari *et al,* 2016).

**Digital identity**: Digital identity is the sum of all digitally available information about an individual. It is becoming increasingly complete and traceable, driven by the exponential growth of available data and the big data capabilities to process it (BCG 2012). For instance, one person could use one email account for personal reasons, and another one for his/her consumption transactions.

**Digital marketplace**: in the context of DigCompConsumers, the digital marketplace is the array of websites, webshops, apps, games, platforms where consumers can sell, share, and buy goods and services.

**Personal data**: "personal data" shall mean any information relating to an identified or identifiable natural person ('Data Subject'); an identifiable person is one who can be identified, directly or indirectly, in particular by reference to an identification number or to one or more factors specific to his physical, physiological, mental, economic, cultural or social identity (EU Data Protection Directive (95/46/EC)).

**Privacy policy**: the term related to the protection of personal data, for example, how a service provider collects, stores, protects, discloses, transfers and uses information (data) about its users, what data are collected, etc.

**Sustainable consumption**:  Sustainable consumption is the consumption of goods and services that have minimal impact upon the environment, are socially equitable and economically viable whilst meeting the basic needs of humans, worldwide. Sustainable

consumption targets everyone, across all sectors and all nations, from the individual to governments and multinational conglomerates[11].

**Sustainable production and consumption:** "The use of goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardize the needs of future generations." (UNCSD, 1994).

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[11]   http://www.gdrc.org/sustdev/concepts/22-s-consume.html

## ANNEX 2: Mapping between DigComp and DigCompConsumers

The table below shows how the competences defined in the DigCompConsumers framework are underpinned by the Digital Competence Framework for Citizens (DigComp 2.0).

| DigComp | | DigCompConsumers |
|---|---|---|
| 1.1 | Browsing, searching and filtering data, information and digital content | Browsing, searching and filtering information on goods and services |
| 1.2 | Evaluating data, information and digital content | Evaluating and comparing information on goods and services |
| | | Recognising and evaluating commercial communication and advertisement |
| 1.3 | Managing data, information and digital content | |
| 2.1 | Interacting through digital technologies | Interacting in the digital marketplace to buy and sell |
| 2.2 | Sharing through digital technologies | Sharing information with other consumers in the digital marketplace |
| | | Participating in collaborative economy platforms |
| 2.3 | Engaging in citizenship through digital technologies | Asserting consumers' rights in the digital marketplace |
| | | Managing payments and finances through digital means |
| 2.4 | Collaborating through digital technologies | |
| 2.5 | Netiquette | |
| 2.6 | Managing digital identity | Managing digital identity and profile in the digital marketplace |
| 3.1 | Developing digital content | |
| 3.2 | Integrating and re-elaborating digital content | |
| 3.3 | Copyright and licences | Understanding copyrights, licences, and contracts of digital goods and services |
| 3.4 | Programming | |
| 4.1 | Protecting devices | |
| 4.2 | Protecting personal data and privacy | Protecting personal data and privacy |
| 4.3 | Protecting health and well-being | Protecting health and safety |
| 4.4 | Protecting the environment | Considering responsible and sustainable consumption in digital markets |
| 5.1 | Solving technical problems | |
| 5.2 | Identifying needs and technological responses | |
| 5.3 | Creatively using digital technologies | |
| 5.4 | Identifying digital competence gaps | Identifying digital consumer competence gaps and limits |

# ANNEX 3: Participants at the workshops

## Workshop in Brussels on 14-15 December 2015

| | |
|---|---|
| Frank Molcker | ECDL Foundation |
| Hanna Turetski | The Consumer Protection Board of Estonia |
| Cristophe Bernes | INC Paris |
| Sissel Annie Husebråten | Ministry of Children, Equality and Social Inclusion, Oslo |
| | Austrian Ministry of Social Affairs |
| Taina Mäntylä | The Finnish Competition and Consumer Authority |
| Vera Fricke | Federation of German Consumer Organisations |
| Anna Fielder | |
| Anita Forsnäsgård | Consumer Agency of Sweden |
| Mattia Tempini | EC DG JUST |
| Julien Brugerolle | EC DG JUST |
| Katja Viertio | EC DG JUST |
| Anita Fokkema | EC DG JUST |
| Silvia Pella | EC DG JUST |
| Riina Vuorikari | EC JRC |
| Yves Punie | EC JRC |
| Martin Ulbrich | EC DG CONNECT |
| FAURE Jean-Pierre | Secretariat, CES |
| Emanuele Ciriolo | EC DG JRC |
| Barbara Brečko | Expert |

## Workshop in Sevilla on 28-29 April 2016

| | |
|---|---|
| Hanna Turetski | The Consumer Protection Board of Estonia |
| Taina Mäntylä | Finnish Competition and Consumer Authority |
| Vera Fricke | Federation of German Consumer Organisations |
| Cristophe Bernes | INC France |
| David Martin | BEUC - European Consumer Organisation |
| Rieko Tamefuji | OECD |
| Muriel Santoro | Expertise France |
| Ingrid Kjorstad | National Institute for Consumer Research (SIFO) |
| Eva van Reijmersdal | Faculty of Social and Behavioural Sciences University of Amsterdam |
| Yves Punie | EC JRC |
| Riina Vuorikari | EC JRC |
| Stephanie Carretero | EC JRC |
| Nuria Rodriguez | EC JRC |
| René Van Bavel | EC JRC |
| Anita Fokkema | EC DG JUST |
| Barbara Brečko | Expert |
| Anusca Ferrari | Expert |

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