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Protecting and Empowering Consumers in the Purchase of Digital Content Products

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DIRECTORATE FOR SCIENCE, TECHNOLOGY AND INDUSTRY
COMMITTEE ON CONSUMER POLICY

REPORT ON PROTECTING AND EMPOWERING CONSUMERS IN THE PURCHASE OF DIGITAL CONTENT PRODUCTS

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FOREWORD

This report, which is part of the Committee on Consumer Policy's review of the OECD's 1999 *Guidelines for Consumer Protection in the Context of Electronic Commerce*, examines trends and consumer challenges in the purchase of digital content products. It was discussed by governments, businesses and civil society at a roundtable and a workshop on digital content products organised, respectively, in April 2011 and April 2012, at the OECD.

The report, which was further discussed by the committee at its 84th session in October 2012, was prepared by Brigitte Acoca, with the assistance of Ayako Terauchi, of the OECD's Directorate for Science, Technology and Industry. It was approved and declassified by the committee on 8 March 2013.

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SUMMARY

This report has been prepared in support of the committee's review of the 1999 *OECD Guidelines for Consumer Protection in the Context of Electronic Commerce* (OECD, 1999). Its purpose is to examine: *i)* how e-commerce in digital content products is evolving; and *ii)* which issues may need to be addressed to ensure continued development of the market in ways that enhance transparency, promote informed consumer decision making and protect against misleading, fraudulent or unfair commercial practices.

The report focuses on digital content products that are purchased *via* e-commerce (i.e. where the confirmation of orders is carried out electronically) and are subsequently provided to consumers electronically *via* streaming, downloads or storage on cloud computing platforms. It therefore excludes digital content products that, while ordered through the Internet, involve subsequent shipment to consumers in a tangible format [*i.e.* on a physical medium, such as music on a compact disk (CD)].

Key points

The growing availability and distribution of digital content products have provided consumers with numerous benefits, including ready access to a wide range of high quality products, often at reduced cost. In addition, consumers have increasingly been provided with better online access to information about businesses and their digital content products *via* product and price comparisons and social networking platforms which often also provide consumer ratings and reviews.

As the market has developed, however, a number of issues that consumers are facing have emerged. These issues, which, in many instances, raise information disclosure challenges, and which, in a number of jurisdictions, are being addressed through regulatory and self-regulatory initiatives, are as follows:

Contractual information

The terms and conditions included in end-user licensing agreements (EULAs) or contracts for the supply of digital content products are often not easily accessible, and are long and complex, making it difficult for consumers to understand what their rights and obligations are. Moreover, terms and conditions are not always provided in a conspicuous manner to consumers. They are often contained in footnotes or scattered in more than one area on a website.

Copyright

Copyright laws provide creators of copyrighted works, which include virtually all digital content products, with rights to control ways in which material may be used by other parties. Copyright laws set out the possibilities for consumers to play, make and distribute copies of such works, which, in the digital economy, include virtually all digital content products. Many consumers, however, do not fully understand these laws and how they apply in the digital economy, where content can be developed and shared easily by many parties. The adequacy and transparency of information related to copyright restrictions, the nature and scope of such restrictions and the ability of consumers to fully comprehend their rights and responsibilities in this area have raised issues which need to be addressed. A number of countries are

reviewing their copyright frameworks to determine what changes might be required to better address emerging challenges in the digital (and Internet) economy.

Functionality and interoperability

A number of measures have been taken by digital content providers to control the usage of their products (including both products that are protected by copyrights and products that are not). Such measures can limit a consumer's ability to *i)* use, copy and share digital content products (functionality limitations); or *ii)* play products on different devices (interoperability limitations). The limitations can be included in the terms and conditions of end-user licensing agreements (EULAs), or they may be implemented through technical measures, which are commonly referred to as digital rights management (DRM). Information on functionality and interoperability limitations is sometimes not communicated to consumers in a clear, conspicuous, or timely manner.

Product access

Problems concerning consumer access to intangible digital content products have emerged. These involve service or Internet access interruptions, the crashing of online selling platforms and problems with corrupted software.

Problems also concern consumers' ability to: *i*) access products that they have purchased in one jurisdiction but are unable to access when in another; and *ii*) purchase digital content products offered in other jurisdictions. Such limitations are, in many instances, due to geographical licensing restrictions or limitations placed on a product by suppliers.

Product quality

Consumers may encounter problems with the quality of products that are downloaded or streamed. This involves visual or sound quality which is poorer than expected. It also includes problems related to technical issues or corrupted content.

Unauthorised charges

Unauthorised charges relating to, for example, the purchase of "apps" for mobile devices, have been identified as an emerging challenge for consumers. This is becoming particularly problematic when such products are purchased by children without the knowledge and/or consent of their parents or guardians. Issues relating to the adequacy of information disclosure, awareness raising and the need for more effective tools to control purchases, have been raised.

Misleading or unfair commercial practices

A number of misleading or unfair commercial practices have been identified in countries. These practices include suppliers withdrawing content without notice to consumers and/or with no remedy offered. Other practices concern a lack of consumer information, prior to making a purchase, on the types of devices that could be used to access content purchased (i.e. interoperability). The legal characterisation of such practices as misleading or unfair is sometimes difficult and may vary from one case to another, making it difficult to find ways to address problems effectively.

Privacy

The collection of personal information as a condition for acquiring or using digital content products has raised privacy concerns, particularly when such information is: *i*) not necessary for the conclusion of a

transaction or for the product purchased to work; and *ii*) shared and used with third parties without consumer knowledge or consent.

Digital competence

Consumers' ability to fully profit from digital content products provided electronically depends, to a great extent, on their knowledge and awareness of the digital environment and of their rights and responsibilities. How such digital competence could be enhanced through education and awareness raising initiatives is a challenge for all stakeholders.

Dispute resolution and redress

The OECD's *2007 Council Recommendation on Consumer Dispute Resolution and Redress* provides guidance to countries on the types of mechanisms that should be available to consumers acting individually and collectively, both domestically and across borders, to address disputes. The importance of effective mechanisms is high in the context of digital content products purchases where a large number of parties are involved.

Information on the dispute resolution mechanisms available to consumers purchasing digital content products is not always readily available and when it is, it is not always easily accessible. Consumers purchasing "apps" from third party developers on online platforms, for example, may have difficulties determining the role of the various parties involved. Issues concerning the relevant jurisdiction for resolving cross-border problems have also arisen, as have the practical difficulties consumers would likely face when the relevant jurisdiction is a foreign venue.

With respect to redress options, in a number of OECD countries, legislation does not indicate whether intangible digital content products and related services, which enable consumers to access and use content, are goods or services. This is an important point as the product's status may, in some countries, affect consumer rights (such as rights of withdrawal) and remedies (such as refunds, price reductions and replacement of products).

REPORT ON PROTECTING AND EMPOWERING CONSUMERS IN THE PURCHASE OF DIGITAL CONTENT PRODUCTS

Background

The 1999 OECD *Guidelines for Consumer Protection in the Context of Electronic Commerce* (OECD, 1999) aim to provide consumers with the same level of protection in online shopping as that afforded when buying from local stores or ordering from catalogues. The guidelines contain a set of basic principles designed to ensure that consumers benefit from fair commercial practices, adequate disclosures, secure payment mechanisms, and that their privacy is protected.

In 2009, the Committee on Consumer Policy (CCP) launched a review of the guidelines to examine the adequacy of the principles in the rapidly changing digital economy. A conference was organised with government, business and civil society representatives in December 2009. At the meeting, a number of emerging challenges faced by consumers in the purchase of digital content products were identified.[1] Discussion of these issues continued at an OECD roundtable held on 13 April 2011 (OECD, 2011*a*) and at an OECD workshop held on 23 April 2012. The discussion drew on work previously carried out by the CCP on copy control technologies and digital rights management (OECD, 2006), and by the OECD's Working Party on the Information Economy (WPIE).[2] The WPIE has since been looking into general developments in e-books (OECD, 2011*c*) and the digital content marketplace (OECD, 2012*a*); it is currently carrying out a study on applications ("apps"), which are standardised pieces of software that are generally downloaded over the Internet and run on computing platforms (including fixed computers and mobile devices) (OECD, 2013*a*).

This report focuses on the key issues concerning consumer access and usage of digital content products which are delivered electronically, *via* the Internet or related ICT platforms. The report contains the following three main sections:

- Market trends and developments.
- Overview of consumer issues.
- Assessment of consumer issues.

Scope

Digital content products have been traditionally supplied on physical media including CDs and DVDs, but they are increasingly being provided electronically, *via* the Internet and other ICT channels. The products are being offered commercially (some at no cost to consumers), through traditional e-commerce

1 See www.oecd.org/ict/econsumerconference.

2 A synthesis of the WPIE's work is contained in OECD, 2010*a*, p. 181-189; it is accessible at www.oecd.org/sti/digitalcontent.

platforms, and, increasingly, through social media (including blogs and social networking sites). Digital content products can be downloaded or streamed online; they can also be stored on, and accessed *via* cloud computing channels, which are online servers and platforms that may be remotely accessed by consumers and third parties from multiple devices. These platforms enable consumer access to digital content products for either a fixed period of time, or, in some cases, indefinitely.

For the purposes of this report, digital content products include goods and services that are purchased *via* e-commerce (i.e. where the confirmation of orders for goods and services is carried out electronically) and stored, accessed and/or received electronically. The report therefore excludes orders for digital content products that, while ordered on the Internet, are subsequently shipped to consumers in a tangible form, such as music on a CD. Products include:

- Media items, such as film, music, literature, e-books, magazines, journals, images, news and online information databases, and Internet protocol TV services ("IP TV services").
- Games, including online gambling, and virtual worlds.
- User created content, such as videos, material generated on social networking sites and blogs.
- Personalisation services/add-ons, including ringtones and screensavers.
- System software, such as operating, anti-virus and firewall software.
- Software-as-a-service, including location-based services, "apps," online translation services, and image editing.

The definition is close to that being used in other *fora*. For example, the EU Directive on consumer rights defines digital content as "data which are produced and supplied in digital form, such as computer programs, apps, games, music, videos or texts, irrespective of whether they are accessed through downloading or streaming, from a tangible medium or through any other means." (EC, Directive on consumer rights, 2011b, paragraph 19 of Preamble).

The scope of this report is restricted to commerce involving persons who purchase products for purposes which can be regarded as outside the scope of their professions (i.e. business-to-consumer transactions).

I. Market trends and developments

Competition, innovation and entrepreneurship are driving development of the market, providing large and small sellers alike with access to more markets and consumers, across countries. Growing consumer demand for digital content products has been driven by a number of factors, including the following:

- Most consumers have ready access to the Internet through fixed computers, Internet-enabled TVs, and mobile devices, which include smartphones, tablets, console games, and e-book readers.
- The development of high speed broadband has enabled consumers to download large files containing high quality products relatively quickly and at relatively low cost in many jurisdictions. The uptake of mobile broadband subscriptions has been growing rapidly in recent years (OECD, 2012*a*, Chapter 5).

- The range of "intangible" digital content products that are available electronically through, for example, downloading and streaming, is continuously expanding, as are the types of platforms through which they are being provided; social networking and blogging platforms, for example, are becoming more prominent in this regard. The products include virtual products used in online games, such as *Farmville* (www.farmville.com), "apps" designed for mobile devices, as well as IP TV services.

- Consumers have increased possibilities to access and store digital content products on cloud computing platforms. Some predict that by 2016, consumers will store more than a third of their digital content products on such platforms (Gartner, 2012*a*).

- New payment mechanisms which have been increasingly designed to facilitate digital content purchases are providing consumers with a safer and more convenient e-commerce experience (OECD, 2012*c*).

- Improved consumer access to information about sellers and their products *via* product and price comparison websites, combined with the availability of consumer rating and reviews on online trader and social networking platforms, are also contributing to growing consumer demand. In this context, the European Commission has predicted that by 2020, digital content products and related applications will be almost entirely delivered online in the European Union (EC, 2010*a*).

Content providers and intermediaries

With the increase in online transactions, the number and activities of content providers and intermediaries involved in the sale and distribution of content are expanding. In addition to media owners, digital content platforms, application developers, and advertisers, new entities have engaged in content distribution. These include Internet service providers (ISPs), mobile network operators (MNOs), online payments providers, traditional retailers and equipment and software manufacturers (OECD, 2010*a*).

Competition and business models

The competitive landscape in digital content markets has been changing in recent years. A growing number of commercial partnerships have been formed by "brick and mortar" firms and new players specialising in digital content products. In the area of music downloads, for example, record companies, streaming platforms, ISPs and mobile operators have been joining forces. In 2009 in Sweden, *Telia*, the country's largest ISP and mobile operator, concluded a partnership with *Spotify* (a streaming services portal) offering consumers the possibility to subscribe to *Telia*'s Internet and mobile services while getting access to *Spotify* premium services (The Local, 2009). In Italy, in November 2010, *Fastweb* (the main broadband telecommunications operator in Italy) launched a music service, *Fastweb Music*, in partnership with *Dada.net* (a company providing goods and services through web and mobile) enabling its customers to access a large catalogue of songs for a fixed monthly fee (Billboard.Biz, 2010). Commercial partnerships have also been formed in the area of cloud gaming. In France, in January 2012, *Bouygues Telecom* announced a partnership with a cloud platform (*Playcast*) to launch a console-quality gaming service on its pay-TV channel, which will allow players to access a wide range of games on their TV sets without having to buy DVDs or additional devices such as consoles (InfoDSI, 2012).

With respect to "apps," some systems operators provide closed platforms where only their own device, which is specifically designed for their operating system, can be used by developers to market their "apps" (such as Apple's iOS); other systems provide open platforms where any devices can be used by developers to market their "apps" (such as Google's Android).

Business models are also becoming more diversified, ranging from the selling of individual items to subscriptions for a "basket" of items. Subscriptions are expected to be a major driver in the global market for digital music. Ovum, a research firm, expects the market to expand from USD 7.5 billion in 2010 to USD 20 billion by 2015, with subscriptions increasing by 60% in value over the period (The Telegraph, 2011). The number of consumers subscribing to music services is estimated to have increased by 65% in 2011, from 8.2 million in 2010 to more than 13.4 million in 2011 (IFPI, 2012). Free content supported by advertising is also being developed (e.g. *Lala.com*, *MySpace*, *Dailymotion* and *Jiwafm.com*). Some streaming platforms, including *Deezer* and *Spotify*, combine free advertisement-supported streaming offers and premium paid-for services, whereby consumers can pay a fee to access and play products which are not yet available in the free catalogue; this is known as the "*freemium*" model. IP TV services provide another example of new business models. These services, which are subscription-based, can be customised in light of consumer preferences; for example, some additional features, such as access to specific TV broadcasts including sporting events, can be added to basic plans.

In addition to advertising and subscription-based digital content, new payment systems for purchasing digital content products online, or through mobile devices, are facilitating growth. In February 2011, *Google* introduced *One Pass*, a content service which enables publishers to sell newspapers and magazines online and through mobile devices using *Google*'s payments services (*Google Checkout*) (TechCrunch, 2011).

Telecommunications operators are also investing in this market. In Italy, in May 2011, a number of telecom operators launched a common platform open to their respective customers for paying for digital services and content (Total Telecom, 2011). Under the framework, consumers may make a payment using their mobile phones or *via* the Internet by entering their phone number and a password. In February 2010, *PayPal* launched a developer library for mobile payments through its *PayPal X Payments Platform* whereby "apps" developers can accept "in-apps" purchases *via PayPal* without requiring them to store consumer personal information. Such information remains with *PayPal* while also enabling consumers to pay through the "app" without having to leave the application.

The new payment systems enable purchases of virtual goods (such as *Facebook's* gifts or *Farmville* items), which are developing quickly through the rapid spread of social networking applications. In the United States, in June 2009, *Boku*, a mobile payment services provider, launched a payment service allowing users to purchase virtual goods *via* their mobile phones on social networking sites and game portals. Since then, the company has developed mobile payment processing relationships with a large number of game and application developers. Its mobile payments service is available from 190 carriers worldwide in 58 countries (OECD, 2012c).

Customisation of consumer digital content experiences

Media and entertainment (M&E) companies are exploring new revenue streams. Digital distribution is today becoming increasingly sophisticated with new ways being developed to provide consumers with individualised and more convenient access to content. For example, reward and loyalty programmes have been successfully implemented in recent years as an effective way to attract and keep regular customers. An illustration of such a programme is *Amazon Prime* whereby consumers pay an annual subscription fee, for which they get free two-day shipping with no minimum size order, unlimited instant streaming of a large number of movies and TV shows, as well as a limited free lending of e-books for those consumers owning *Amazon*'s e-reader device (*Kindle*). These advantages may also be passed on to a third party of the subscriber's choice. Some have pointed out that such loyalty programmes provide an effective means to expand sales. In *Amazon's* case, sales grew by 30% in 2009, at the time when the number of sales of the company's competitors was declining (Le Monde, 2011). A subscription plan model implemented by

Netflix offers its subscribers, based on a monthly fee, access to a wide range of video streaming and a wider collection of films and TV shows which can be ordered by DVD (Forbes, 2011).

Providing more individualised and convenient experiences to consumers has included enabling them to purchase single music tracks instead of full albums, or selected chapters of a book. Moreover, on-demand offers for film and TV allow consumers to watch premieres of TV events or movies. Companies such as *Hulu* (the video platform of News Corp, Walt Disney and NBC Universal) are now expanding their on-demand windows offers by enabling a consumer to watch the full season of a TV series based on a monthly subscription fee. Consumers can do so from a variety of platforms including smartphones, console game players, Internet enabled TVs, and PCs.

Consumer demand

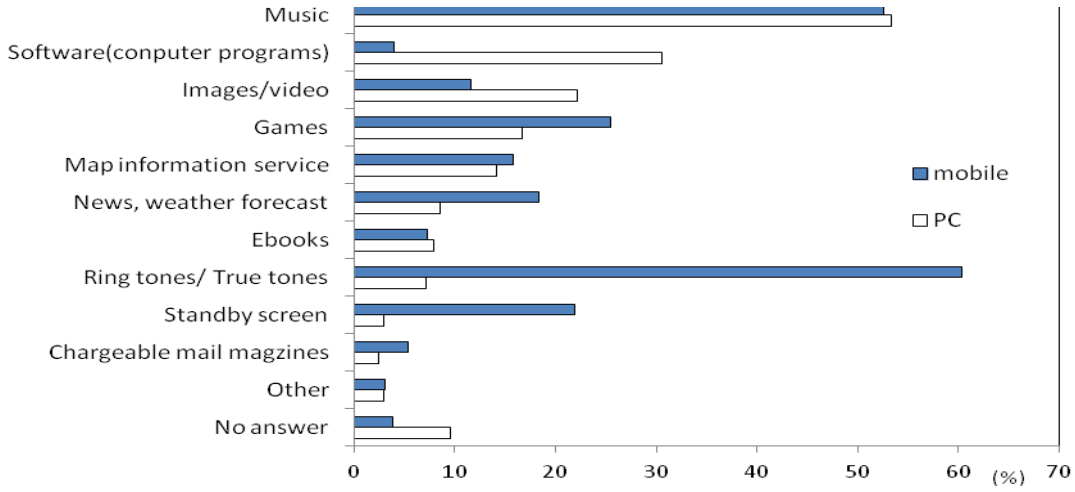
Growing global consumer demand for digital content products concern multiple channels and platforms. According to an OECD survey, almost 30% of individuals in the OECD area used the Internet for playing or downloading music and games in 2010 (OECD, 2012*a*), with children and young adults taking an active role in such purchases. In 2011, games were leading global consumer demand, accounting for an estimated 42% of companies' digital revenues. The value of the digital channels, the United States being the largest marketplace in this area, accounted for about 32% of record companies' revenues globally, which is more than three times the combined online revenues share generated by the book, film and newspaper industries (IFPI, 2012).

With the spread of smartphones in recent years, consumer demand for mobile applications has also been on the increase. Some notably predict that global consumer spending on mobile "apps" and content will continue to rise, from an estimated USD 18 billion in 2012 to USD 61 billion by 2016 (Gartner, 2012*b*).

Predictions indicate that global consumer spending on e-books, online news, magazines and information services will also rise, from USD 5 billion in 2012 to USD 16 billion by 2016 (Gartner, 2012*b*). Development of cloud computing services should also expand growth as they provide consumers with additional ways to store and use information using a variety of devices, from anywhere and at any time.

In Japan, consumers with PCs and mobile devices were surveyed in 2010 to determine the extent to which the devices were being used to purchase digital content products. The results indicate that 60.4% of persons purchased ringtones, 52.6% purchased music, and 25.5% purchased games, *via* mobile phones; music, software and videos topped purchases made through PCs (MIC Japan, 2011) (Figure 1). The survey shows that, on average, JPY 8 647 (about EUR 90) was spent on digital content products using PCs, per person, and JPY 4 813 (about EUR 50) was spent using mobile devices (MIC Japan, 2011). Downloaded music, however, decreased for two consecutive years after having peaked in 2009 (Recording Industry Association of Japan, 2012).

Figure 1. Percentage of consumers who used their PCs and mobile phones to purchase digital content products in Japan, in 2010



Source: Ministry of Internal Affairs and Communications (MIC) (2011), *Communications Usage Trend Survey 2010.*

In Australia, between November 2010 and April 2011, some 34% of consumers purchased audio or video content online, while 26% purchased CDs & DVDs online (Australian Communications and Media Authority, 2011).

In the United States, a survey shows that 65% of online users paid to download or access online content, in 2010 (Pew Internet & American Life Project, 2010). Music and "apps" were the most popular digital content product purchases. While free "apps" are the most common downloaded, paid "apps" are also becoming more popular, particularly in the areas of games, maps/navigation, music, and books (Nielsen, 2011). Figures for newspaper, magazine and/or journal articles or reports were much lower, with just 18% of consumers saying they had never paid to access or download that type of digital content. More users preferred paying for subscription services (23%) than downloading individual files (16%) or streaming content (8%) (Pew Internet & American Life Project, 2010). Research indicates that in 2011, digital content and subscriptions were the fastest growing e-commerce category, with 26% growth rate, followed by consumer electronics. An increase in e-book downloads was a strong driver of this growth (ComScore, 2012, p. 28). The average amount of spending on a monthly basis for online content was USD 10 (Pew Internet & American Life Project, 2010).

Growth has been significant in Europe as well. In the United Kingdom, in 2009, some 34% of consumers streamed videos online and 20% purchased music online (Consumer Focus, 2010). In France, between March 2011 and March 2012, digital music sales increased by 15.7% while total sales of the music market declined by 9% (Table 1). Subscriptions and streaming revenues amounted to 39% of total digital revenues, compared to 34% in the first trimester of 2011; Internet downloaded music revenues amounted to 53% of total digital revenues, compared to 51% in the first trimester of 2011 (SNEP, 2012).

Table 1. Digital music sales growth in France, March 2011-March 2012 (in EUR millions)

Digital content	Mar 2011	Mar 2012	Change
Tangible market	47.5	41	-13.6%
Intangible market	8.9	10.3	+15.7%
Total	**56.4**	**51.3**	**-9%**

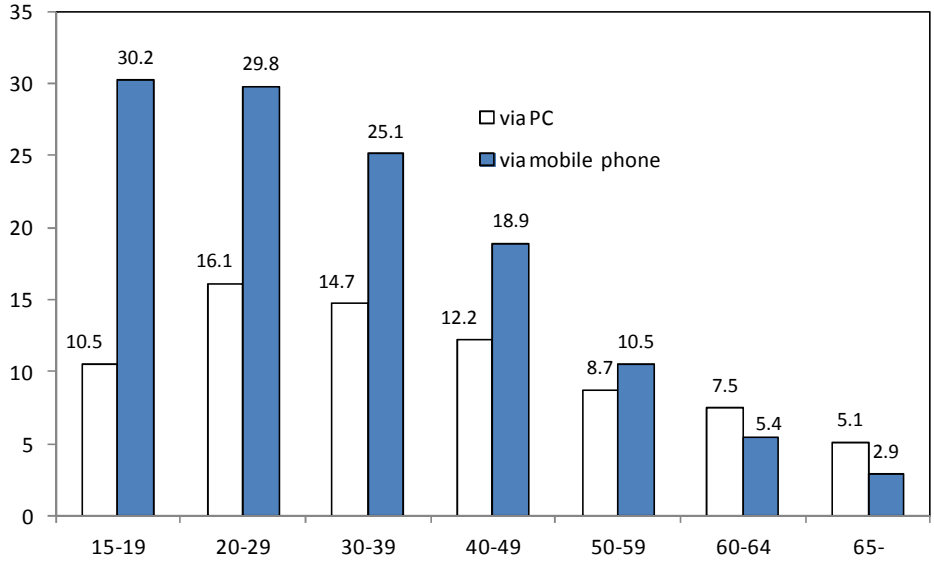
Source: SNEP (2012), Le Marché de la Musique Enregistrée : Résultats du Premier Trimestre 2012.

A 2010 Nielsen survey of consumers in 52 countries in North and Latin America, Europe, Asia, Pakistan, Africa and the Middle East further found that online consumers may be more willing to pay for certain categories of digital content products (movies, games, TV shows and music), than for others (news, blogs and user-created videos). The survey reported that 57% of surveyed consumers in the Middle East, Pakistan and Africa were open to advertising to subsidise the cost of online content, as compared to 40% of North Americans (Nielsen, 2010*a*). A Nielsen survey suggests that consumer behaviour differs according to the devices used. *IPad* users, for example, were found to be twice as receptive to advertising and have greater interest in accessing videos, books and magazines than *iPhone* users (Nielsen, 2010*b*).

The purchase and use of digital content products are also influenced by age. A 2011 survey commissioned by the European Commission (hereafter referred to as "the 2011 EC study") and conducted in 12 EU member states and the United States, indicated that young adults and teenagers would be more willing to use digital content products than those aged 55-64. The survey reveals that, on average, 92% of 16 to 24-year-olds used music services compared to 58% of 55-to-64-year-olds (Europe Economics, 2011, p. 17-18). In the United Kingdom, a survey shows that in 2012 (Q1), 16-24-years-olds were more likely than other age groups to access and use digital content such as playing games, downloading video clips, and watching webcasts (Ofcom, 2012, p. 62, Figure 1.46). In the United States, in 2011, youths aged 13-to-34-years old purchased more paid subscriptions to newspaper, magazines and the like, using PCs and mobile apps than consumers aged 35-to-64 years old (McKinsey, 2012).

In Japan, in 2010, teenage and young adult Internet users were also highly active in the purchase of digital content products, particularly through mobile phones. Overall 11.6% of persons over 15-years-old purchased products using a personal computer (PC), while 19.2% did so using a mobile device. Figure 2 provides information according to age groups. Some 30.2% of Internet users aged 15-to-19 years-old purchased digital content products *via* mobile phones, compared with 10.5% purchasing *via* a PC.

Figure 2. Purchasing experience of intangible digital content products *via* the Internet, in Japan, by age category in 2010



Source: Ministry of Internal Affairs and Communications (2011), *Communications Usage Trend Survey 2010.*

Technological and contractual developments

Advances in technology are affecting ways in which consumers can access content. Development of more powerful mobile devices, including smartphones, and newer devices, such as portable tablet computers, are driving these developments. According to research, in June 2011, spending on digital platforms accounted for 26% of all spending on M&E and was expected to increase to nearly 34% by 2015 (PwC, 2011).

Further, digital content products are becoming increasingly available on a global basis. While in some instances consumers can only access some products available in the country of their residence, some new products associated, for example, with cloud computing can today be accessed easily across countries. For example, *Sony Corporation's Music Unlimited* is a cloud-based music streaming service which enables its subscribers to store music on remote servers for use in a range of Internet connected devices such as smart phones, game consoles, television (TV) and Blu-ray players. The service was launched in the United Kingdom and Ireland in late 2010 and in the United States in early 2011. In November 2011, *Google* launched *Google Music* in the United States; it is music service for the Android platform through which consumers can purchase individual songs or albums which are delivered to the cloud from where they can be streamed to multiple devices. Also in November 2011, *Apple* launched *iTunes Match*, a service enabling users to access their music libraries across a range of devices, for a set yearly fee of USD 25 (IFPI, 2012).

Technological advances have also affected the ways that consumers can confirm e-commerce transactions, including those involving the electronic delivery of digital content products. Such transactions are generally made *via* so-called "web-wrap" or "click-wrap" contracts which are usually presented to consumers in the form of dialogue boxes available on the web merchant's online platform. The box contains standard terms and conditions of the proposed transaction which the consumer is encouraged to review and consent to by clicking on a button or checking a box which is, in most instances, included at the end of the dialog box.

II. Overview of consumer issues

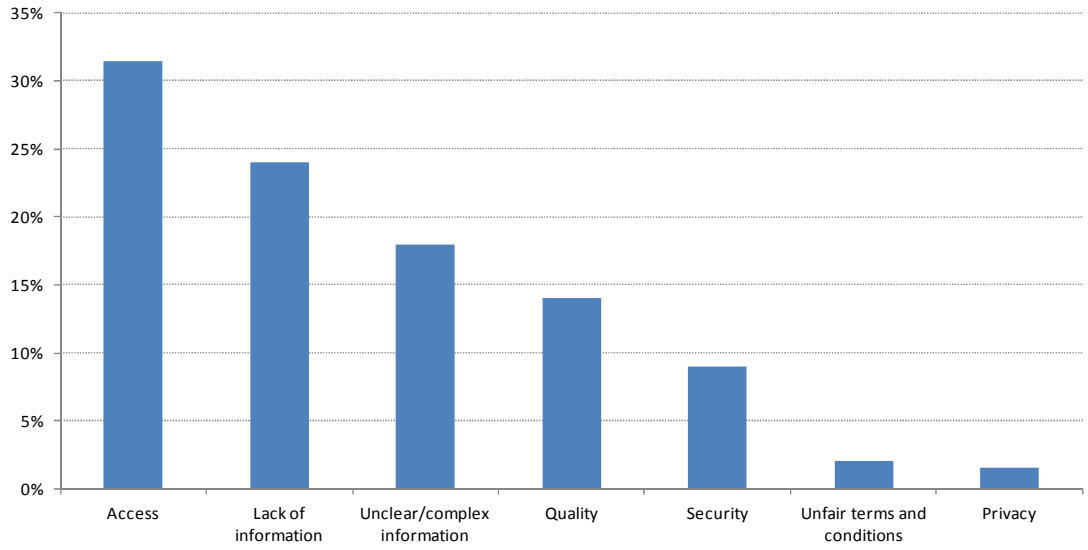
Consumer experiences

Insights into the issues that have raised concerns with consumers can be gained through an examination of information developed through consumer surveys and information collected *via* consumer complaints. While such information has limitations, it can provide indications of the areas requiring attention (see OECD, 2012*b* and OECD, 2012*d*).

Surveys

Surveys carried out in the European Union, Korea, the United Kingdom and Estonia reveal different aspects of the problems being faced by consumers. The 2011 EC survey suggests that up to around one-third of the online population in the EU had had at least one problem with digital content services over the previous 12 months. The 2011 EC survey cites access and disclosure as leading issues (Figure 3). These include: information disclosure problems (42%) resulting from a lack of clear information on the essential characteristics of a digital content service (24%), unclear/complex information on the terms and conditions, hidden information, and timing in which information is being provided to consumers (18%); problems related to product access (31%), quality (14%), security (9%), the fairness of the provisions and commercial practices governing the use of digital content products (2%).

Figure 3. Problems experienced by EU consumers with digital content services (as a share of total problems)



[1] Note: Digital content services in this survey include music, games, social networking sites, e-mail, ringtones, position and navigation services, anti-virus software and e-learning.

Source: Europe Economics (2011), *Digital Content Services for Consumers: Assessment of Problems Experienced by Consumers.*

In Korea, a survey conducted in December 2010 reveals that about half of smartphone users (48.2%) encountered problems with mobile paid applications. The problems included: *i)* poor quality of the product (48.6%); *ii)* misleading and deceptive information on the product features, labelling and ads (44%); and *iii)* problems in downloading applications (40.4%) (Korean Consumer Agency, 2011).

In the United Kingdom a 2011 survey concerning consumer contracts revealed that less than 1% of all consumers faced contractual problems with software subscriptions and digital downloads (UK OFT, 2011).

In Estonia, in a survey carried out in 2010, some 3% of respondents reported infringements of consumer rights in content services bought *via* mobile devices or the Internet (Estonia Consumer Protection Board, 2010).

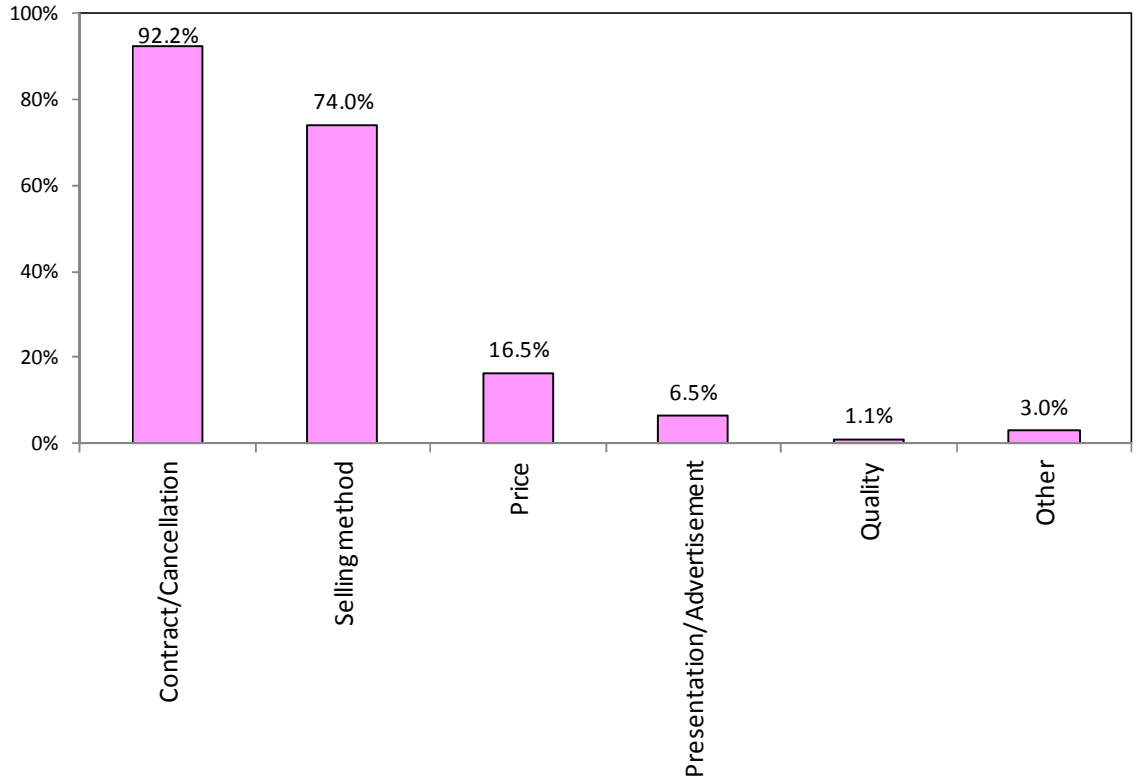
Consumer complaints

Information on consumer complaints on digital content products is available in a number of countries, though such information is often classified differently by jurisdictions. In some instances, digital content products complaints are included in broad categories, such as "e-commerce" or "Internet shopping." In other instances, tangible and intangible products are not distinguished: complaints about streamed music would fall under the category of music while complaints about e-books may fall under the category of books (EC, 2010*b*). Finally, it should be noted that complaints information does not generally distinguish between products ordered *via* e-commerce, and those ordered by other means.

Overall, the level of consumer complaints with respect to the purchase and use of digital content products is relatively low. This may reflect general satisfaction with products. Some research, however, indicates that complaints information on digital content products is likely to understate the scope of problems. In the case of low-cost digital services, for example, consumers may have little incentive to file complaints, and therefore may not bother to do so, thus masking problems that, in aggregate, might otherwise be significant. This is supported by survey work carried out in Korea in December 2010, which shows that about 30% of consumers who had experienced problems with paid mobile applications had filed a complaint (Korean Consumer Agency, 2011). Respondents had spent an average of KRW 10 269 (about EUR 7) on a monthly basis on mobile applications The reasons why consumers did not file a complaint were *i)* the damage was too low (44.2%); *ii)* consumers were not aware of contract terms and standards for compensation (39%); and *iii)* consumers could not reach out to the business easily, like phone calls (36.4%). An Australian survey further found that the financial threshold that consumers consider significant for filing a complaint is AUS 540 (about EUR 443) (Australia Treasury, 2011).

In Japan, some 300 499 complaints concerning digital content products were recorded during 2010 and 2011 in the country's PIO-NET database (NCAC, 2012). In 2010, these complaints accounted for 16% of overall complaints. About 92% of the complaints related to contractual problems, such as contract cancellation, followed by those concerning selling methods (Figure 4). About one-fourth of complainants involved persons aged 30 to 39 years old (Table 2). Fewer complaints were filed by younger persons. In 2011, 47 120 consumer complaints on digital content products were reported to consumer affairs centres; the complaints involved products valued at JPY 1.1 billion (about EUR 10.2 million) (NCAC, 2011).

Figure 4. Nature of consumer complaints on digital content product in Japan, 2010 (share of total complaints)



[1] Note: As some complaints involved several issues, the sum of share surpasses 100%.

Source: NCAC (2012), *PIO-NET database*.

Table 2. Consumer complaints about digital content products in Japan, 2010, by age group (%)

Age group	Under 20	20-29	30-39	40-49	50-59	60-69	Over 70	Don't know
Share	14.8	19.5	24.7	19.1	9.9	6.1	1.9	3.9

Source: NCAC (2012), *PIO-NET database.*

In the United States, the number of complaints related to digital content products in the *Consumer Sentinel* database was relatively small but rising between 2009 and 2011 (Table 3). The complaints represented about 2.3% of total complaints in 2011. Such complaints concerned the following: unauthorised charges, and corrupted downloads; privacy; negative options marketing,[3] including free trials and in-app charges; identity theft; restrictions on sharing or failure to provide notice regarding associated fees; unauthorised or unannounced deletion of content; and geographical restrictions (such as requiring a United States address to complete a transaction). Additional information on inquiries (which generally are requests for information about a firm) and complaints by the Better Business Bureaus of Canada and the United States is provided in Table 4.

[3] "Negative options" refer to the practice whereby a company takes a consumer's failure to take an affirmative action as acceptance of an offer and permission to bill them (OECD, 2012*c*).

Table 3. Number of consumer complaints related to digital content products in the *Consumer Sentinel* Database (between 2009 and 2011)

Category	2009	2010	2011
Magazines	10 047	11 154	17 522
Computer software	24 783	21 462	13 435
Books	1 068	1 389	4 346
Social networking services	9	575	2 669
Internet games	157	288	2 041
DVD/video/film	536	597	906
Music: all format	572	674	603
Mobile downloads	369	380	325
Total	37 541	36 519	41 847

Note: Computer software, Music, DVD/Video/Film, books and magazines include tangible and intangible products.

Source: US FTC (2012*a*) *Consumer Sentinel Network Databook 2011*.

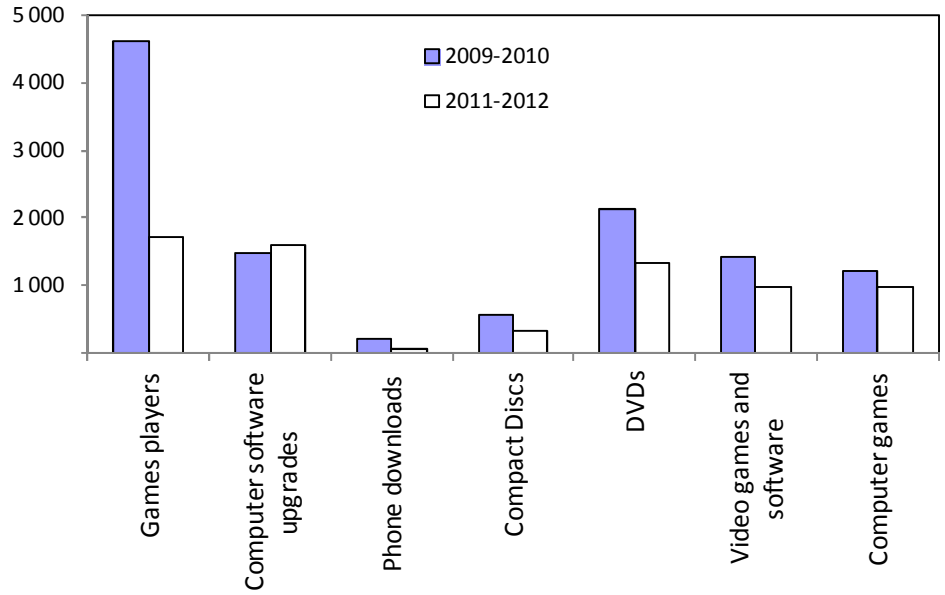
Table 4. Consumer inquiries and complaints related to digital content products reported to the Better Business Bureau in the United States and Canada (2009-2011)

Category	Year	Number of inquiries	Number of complaints
Internet gaming	2009	15 772	621
	2010	74 112	1 133
	2011	118 073	1 552
Online publications	2011	441	22
Mobile apps	2011	1 419	84

Sources: US and Canada BBB (2009) (2010) (2011)*, Complaints and Inquiry Statistics.*

According to complaints filed with *Consumer Direct* in the United Kingdom, the number of complaints concerning digital content products decreased by about 40% from 2009-2010 to 2011-2012 (Figure 5); the number accounted for 1% of the total number of complaints in 2009-2010 and for 0.8% in 2011-2012.

Figure 5. Number of complaints reported to the UK *Consumer Direct* database in 2009-10 and 2011-12



Source: UK OFT (2010), *Annual report 2009-2010;* and UK OFT (2012), *Annual report 2011-2012*.

In Korea, during the period January 2005 to September 2007, some 7 252 consumer complaints related to digital content products were reported to consumer organisations, while the number of total complaints filed to the Korean Consumer Agency was 263 815 in 2007 (Korea Consumer Agency, 2009). Problems associated with e-learning products topped the list, with 3 697 complaints; these included problems with the cancelling of services (75%) and content quality (20.6%). Other issues concerned Internet games (1 984 complaints). The value of the digital content products that were the subject of consumer complaints was USD 475 652 in 2005, USD 380 869 in 2006 and USD 285 217 in the first nine months of 2007 (Korea Consumer Agency, 2012).

Consumer detriment

Consumer detriment concerns the harm that consumers experience as a result of problems with products or markets that do not operate in a fair or efficient manner. The detriment can be financial in nature, but it also includes non-financial aspects, such as the disappointment that consumers may experience with products that do not meet expectations.

Oftentimes, information on consumer complaints is used as an indicator of the magnitude and scope of detriment. Beyond this, little work seems to have been done to quantify detriment with the exception of the 2011 EC study (Europe Economics, 2011), which assessed consumer detriment in relation to eight digital services (Table 5).

Table 5. Types of digital services covered in the 2011 EC study

Type	Description
Media	Visual and audio content which is downloaded or streamed, with no overt interaction required by the user.
Gaming	Services where the leisure component of the service outweighs other interests and consumers actively interact with the digital content.
User-created content	Services that require an active contribution from users in the form of creating own content, moderating and reviewing existing content or otherwise interacting with the creations of other users.
Personalisation services/add-ons	Content and services that enable consumers to personalise existing hardware or software, very common not only for mobile phones but also for searches, websites and personal profiles, such as those on social network sites.
Communication	Services that allow consumers to interact with others via a digital medium without changing the existing content or creations of other users.
System software	Services that help run the computer hardware and computer system, and provide a platform for running application software.
Software-as-a-service	Software where applications are hosted by a vendor or service provider and made available to customers over a network, typically the Internet.
E-learning	The delivery of a learning, training or education programme by electronic means.

Source: Europe Economics (2011), *Digital Content Services for Consumers: Assessment of Problems Experienced by Consumers.*

The principal conclusions of the study are summarised in Box 1. It concludes that the online EU population experienced more than 2 billion problems over a 12-month period in 2010-2011, giving rise to aggregate gross financial losses (i.e. excluding any compensation that may have been provided to consumers) of EUR 29.6 billion and losses associated with the time spent to resolve the problems of EUR 34.9 billion, for a total of EUR 64.5 billion. Compensation that consumers received to address detriment was estimated at EUR 5.6 billion. The estimate does not include detriment in the form of inconvenience, stress, anger/annoyance and the disappointment in receiving a product which did not satisfy the purpose for which it was intended. It should be noted however, that despite this high estimate of consumer detriment, the EC study finds that an overwhelming majority of users (approximately two thirds) had not experienced any problems with the digital content services studied. It should also be noted that the largest source of detriment identified by the study was access to e-mail, due to unexpected service interruptions. The study notes that access issues typically relate to Internet connection problems.

Box 1. Consumer detriment in digital content services in the European Union

- Anger, annoyance, loss of time and inconvenience were by far the most common types of detriment experienced.
- In a majority of cases, problems did not lead to any compensation by suppliers.
- Where financial compensation was provided, the most common forms were full or partial refunds. Non-financial compensation (*e.g.* in the form of free downloads or free extensions of a contract) were more common in cases involving social networking sites, e-learning and anti-virus software.
- The combined value of financial losses and the value of lost time resulting from problems encountered in the 12 month period covered was estimated at approximately EUR 64 billion for the online population in the EU 27. The financial loss and value of lost time across the eight individual services ranged between EUR 1 billion and EUR 23 billion.
- In a majority of cases, consumers indicated that they would not stop using the services with which they experienced problems.

Source: Europe Economics (2011), *Digital Content Services for Consumers: Assessment of Problems Experienced by Consumers.*

The study shows that while "access" was reported as the largest consumer problem in terms of the number of problems, the financial loss borne by consumers as a result of "lack of information" accounted for the largest financial losses (Table 6).

Table 6. Number of problems in digital services and detriment associated with those problems, in the EU, by type of problem

Type	Number (million)	Net financial loss (EUR million)
Access	508	2 243
Lack of information	407	9 344
Unclear/complex information	313	8 064
Quality	217	2 686
Security	126	3 531
Unfair terms and contracts	37	956
Privacy	24	183
Total[1]	1 632	27 005

[1]The data in this table cover does not include information on all problems experienced.

Source: European Economics (2011), *Digital Content Services for Consumers: Assessment of Problems Experienced by Consumers.*

Estimates of detriment from a number of other jurisdictions are contained in Table 7.

Table 7. Estimates of financial losses in Japan, Korea and the United Kingdom

Jurisdiction	Assessment
Japan	Consumer financial losses on online digital content products were estimated, in 2011, at JPY 8.3 billion (EUR 83 million). The estimate was based on information provided in consumer complaints in the NCAC.
Korea	Financial losses associated with digital products were estimated at USD 8.4 million per year of 2005-2007. The estimate was based on information provided in consumer complaints.
United Kingdom	Consumer detriment in digital content products was estimated at GBP 17.6 million (EUR 22.5 million) to GBP 30.5 million (EUR 39.0 million), in 2010. Consumer detriment on digital downloads was estimated at GBP 25.3 million (EUR 32.4 million).

Sources: NCAC (2012), Korea Consumer Agency (2012). Presentation made at the *OECD Workshop on Digital Content* (April 2012); and BIS UK (2012*a*), *The Supply of Digital Content - Impact Assessment*.

III. Assessment of consumer issues

Following is an assessment of the key consumer issues that have emerged in the work carried out on digital content products. These issues, which, in many instances, raise information disclosure challenges, cover ten principal areas: *i*) contractual information; *ii*) copyright; *iii*) functionality and interoperability, *iv*) product access; *v*) product quality; *vi*) unauthorised charges; *vii*) misleading and unfair commercial practices; *viii*) privacy; *ix*) digital competence; and *x*) dispute resolution and redress.

Contractual information

The terms and conditions included in EULAs or contracts for the supply of digital content products are often long and too complex for many consumers to understand and digest. This is in part due to the difficulties companies face in balancing the need to provide consumers with key and easily understandable terms and conditions, while at the same time providing full and complete disclosure. The 2011 EC survey shows that 47% of consumers who bought goods and services online had not read, or had only partially read, the terms and conditions, due to their length and complexity, and the time that would have been needed to read them (EC, 2011*b*, p. 142). In such instances, consumers may not be sufficiently aware of their rights and responsibilities when purchasing digital content products electronically. This was confirmed in a mystery shopping survey carried out in 2010 in the United Kingdom, which revealed that only 43% of shoppers understood their responsibilities when buying intangible digital products (Consumer Focus, 2010). This has suggested to some that more consideration needs to be paid to issues concerning "information overload," information quality, and user friendliness, particularly when providing consumers with pre-contractual information (University of Amsterdam, 2011, p. 6).

In some countries, it has been pointed out that, in addition to being long and complex, contractual and related information associated with the purchase of digital content products is sometimes not provided in a conspicuous way; rather, it is contained in footnotes or provided in more than one area on a website. In France, a tribunal decided that information about restrictions associated with the use of music, which could only be accessed indirectly through a link to a separate website, prevented consumers from being quickly and easily made aware of such restrictions (Tribunal of First Instance, Nanterre, 2006). In Finland, concerns have been raised about a lack of consumer information regarding the contractual relationship between content producers and IP TV service providers. In some instances where consumers had had problems with the channel packages they had ordered from a content producer's web platforms directly, they had not been informed that their order had in fact been forwarded to an IP TV service provider.

The challenges are exacerbated for consumers using mobile devices with small screens where the ability of consumers to read the terms and conditions that are presented in scrolling boxes is limited.

To address the issue, it has been suggested that a summary of key information be provided to consumers early on in the purchasing process, in a conspicuous manner and in plain and user-friendly language, with the possibility for consumers, if interested, to access more detailed information elsewhere. Underlying this is the idea that consumers should be provided with basic information that is directly relevant to their immediate decision, rather than information which is provided simply for the sake of full disclosure (OECD, 2010*b*, p. 82).

Likewise, it has been suggested that a minimum set of standards of consumer expectations be developed in relation to the accessibility, functionality and safety of digital content products (Helberger, 2011). Some content companies and vendors have adopted such an approach by reformulating their terms and conditions so as to provide consumers with the main elements of information, with the possibility for them to then access more detailed information, should they wish so (Europe Economics, 2011, p. 96, paragraph 4.112). It has been further suggested that such standards should be broad enough to encompass all types of digital content products and that the standards should evolve with advances in technology.

Some stakeholders have however cautioned against the adoption of a set of standards, as failure to adopt the standards could be construed as a violation of consumer protection laws. The value of guidelines has, however, been recognised in some jurisdictions. In the United States, for example, guidelines have been developed by consumer protection law enforcement authorities to help "app" developers comply with general and basic truth in advertising standards (US FTC, 2012*c*).

Copyright

Copyright laws provide creators of copyrighted works with rights to control ways in which their material may be used by third parties; these rights can be transferred or sold to other parties. The legal protection provided by copyright creates an environment that enables creators to profit from their work, which is seen as providing incentives for further product creation and innovation (OECD, 2011*d*). This, in turn, can be beneficial to consumers. At the same time, copyright protection sets out the possibilities for other parties to use the material and/or make and distribute copies of the material. How copyright laws operate is however oftentimes not well understood by consumers, in particular in today's digital economy where content is easily and freely shared, copied and transformed (Hargreaves, 2011, p. 43, paragraph 5.10). A UK survey indicated that 73% of consumers were unsure about what was permitted or not under existing copyright law, and how the law would be applied in specific circumstances (Consumer Focus, 2011).

A number of countries are reviewing their copyright frameworks to determine what changes might be required to better address emerging challenges in the digital (and Internet) economy.

In Australia, in June 2012, the Law Reform Commission (ALRC) initiated a review of the existing copyright framework to see how the framework affected participation of users, consumers, creators and other interested parties in the digital economy. The ALRC published a consultation paper in August 2012 (ALRC, 2012) in which it notes that the increasing use, by consumers, of cloud computing services to store copyrighted material which they and other parties (for example, family and friends) may access and use, raised copyright issues (see ALRC, 2012, p. 27; and see Box 2). The ALRC is developing a discussion paper with proposals for reform; a final report is expected by 30 November 2013.

Box 2. Cloud technology and copyright exceptions - Federal Court of Australia, *Optus v. NRL Litigation* (2012)

In July 2011, Optus TV's *Now* service was launched allowing its consumers to select and record free to air television broadcasts using an electronic programme guide and Optus' remote storage facilities. Optus customers were able to view their recording during the following month using a mobile phone, tablet or personal computer. Optus customers with *Apple* devices could view a recording of a live television broadcasts shortly after the broadcast begun.

Optus initiated proceedings against the National Rugby League (NRL) and the Australian Football League (AFL) for unjustified threats of legal proceedings; the companies were claiming that Optus' *TV Now* service infringed their copyright in broadcasts made on free to air television of sporting events played between teams in their respective competitions.

On 2 February 2012, the Federal Court of Australia found that Optus did not infringe AFL and NRL's copyrights. The court indicated that the recording fell within the exception of copyright infringement provided under section 111 of the *Copyright Act 1968*, whereby an individual can record a television or radio broadcast for private and domestic purposes for watching at a more convenient time. The court considered Optus' *TV Now* service as a modern equivalent of a personal video recorder.

In Canada, a proposal for legislation amending existing copyright laws (the *Copyright Modernization Act*) received royal assent in June 2012. The act aims to legalise a number of consumer practices including; *i*) using a personal video recorder to record a TV show for later viewing ("time shifting"); *ii*) copying music from a purchased CD to an MP3 player ("format shifting"); and *iii*) editing existing copyrighted material on the condition that this be made for non-commercial purposes ("mashing-up"). The bill includes restrictions on these practices to ensure that the legitimate interests of rights holders are respected, for instance by not permitting the circumvention of Technical Protection Measures to make a copy, and prohibiting mash-ups from being used for commercial purposes or from interfering in markets for the original work (Government of Canada, 2012).

In Ireland, a Copyright Review Committee (CRC) was established in May 2011 with a view toward examining the existing copyright framework and identifying areas where attention would be required to, notably, adapt to the digital economy (CRC, 2012). Based on discussion with a wide range of stakeholders (including business and consumer organisations), the CRC is expected to issue recommendations by the end of 2012 (DJEI, 2012).

In Norway, in 2012, the Consumer Council suggested that a specific digital content directive be developed to notably "include a list of specific terms to be presumed/deemed unfair; introduce mandatory consumer rights (back-up copies, use across multiple platforms, *etc*.)" (Consumer Council of Norway, 2012).

Functionality and interoperability

A number of measures have been taken by digital content providers to control the usage of their products (including both products that are protected by copyrights and products that are not so protected). Such measures can limit a consumer's ability to: *i)* use, copy and share digital content products (functionality limitations); or *ii)* play products on different devices (interoperability limitations). The limitations can be included in the terms and conditions of EULAs, or they may be implemented through technical measures, which are commonly referred to as digital rights management (DRM) (OECD, 2006). Restrictions can include the number of times or the length of time during which a product may be downloaded; consumers may also, in some instances, be prevented from recording content through, for example, IP TV services (for example, a live TV sport event).

Information on functionality limitations is sometimes not communicated to consumers in a clear or timely manner. In one case, a supplier of e-books imposed limits on the number of times a book could be

downloaded, after which re-purchase was required. Mention of the limit was however neither included in the license agreement, nor in the terms of use. In contrast, under the license agreement, consumers were given a non-exclusive right to keep a permanent copy of the applicable digital content product and to view, use, and display such a product an unlimited number of times (The Consumerist, 2009).

Disclosures of limitations on the types of devices that products could be played on or accessed with have also raised concerns in countries. In France, in 2006, a company offering music download products was found liable by a French court for failing to clearly inform consumers of the impossibility to play the music downloaded on certain devices (Tribunal of First Instance, Nanterre, 2006).

Determining what key product information consumers should be generally provided with, and when in the transaction process, is subject to discussion and is unclear in a number of jurisdictions. In France, copyright law calls for consumers to be informed about the usage which can be made of a copyrighted digital content product, in accordance with a general obligation of informing consumers about the essential characteristics of a contract and related product (see French *Intellectual Property Code*, Article L 336-4 and French *Consumption Code*, Article L 111-1).

A number of proposals and measures have been developed to help address issues and shape consumer expectations in digital content products. These include information disclosure initiatives as well as providing consumers with a wider range of usage rights.

One expert has suggested, for example, that uniform logo-based methods be adopted for disclosing the use of DRM technology. Standardised logos would be used, to which text would be associated and included in "mouse-over" boxes that would appear when a user would position their cursor over one of the logos (Aldrich, 2008). Others have suggested that, as mentioned earlier, standards should cover the type of information that should be provided to consumers, as well as the form in which such information should be disclosed (University of Amsterdam, 2011, p. 289). This would help to narrow the gap between the information consumers expect to receive before purchasing and using digital content products and what they actually get. Research suggests that such standards would be particularly useful when mobile devices are being used to purchase digital content products (Europe Economics, 2011, p. 164, paragraph 6.40). Some have however cautioned that to the extent that stakeholders attempt to develop generalised standards regarding consumer expectations with respect to digital content products, such standards should focus on information disclosures, especially with respect to any restrictive or invasive technologies being used, given that consumer expectations will necessarily vary across products and formats, and will evolve over time as consumers gain greater familiarity with new technologies.

In the European Union, the consumer rights directive provides that, in addition to general information requirements, consumers purchasing digital content products should receive specific information about the functionality and interoperability of a product (*Directive on Consumer Rights*, 2011, Article 6). In that regard, consumers should be informed about region coding or tracking and monitoring tools (including cookies), as well as any other restrictive technologies. Consumers will be able to inform themselves on their key rights, including what information must be provided about digital content products in the upcoming *Code of EU Online Rights*, which will summarise existing digital users' rights in the European Union (EC, 2010*a*).

Greater flexibility on the use of digital products is being pursued in some areas. *Amazon*, for example, offers its US customers the possibility to loan *Kindle* e-books once to other consumers for a 14 day period. Others have taken the view that abandoning DRM would also help, albeit partially, to resolve consumer information-related problems. For example, in 2009, *Apple* changed its policy and made its *iTunes* music DRM-free, thereby making it playable on devices other than those provided by *Apple* (Forbrukerombudet, 2009). In recent years, new business models enabling access to products through cloud services (such as

Google Music or *iTunes Match*) have been developed to respond to consumer demand for greater interoperability. In late 2011, a consortium of major movie studios, consumer electronics manufacturers, retailers, network hardware vendors, systems integrators and DRM vendors launched *Ultraviolet*, a digital rights authentication and cloud-based licensing system enabling a consumer to: *i*) make a digital copy of an *Ultraviolet* certified purchased CD, DVD, Blu-ray disk, or content delivered in an electronic format; *ii*) store it onto a server in the cloud, and *iii*) stream and/or download that copy from a certain number of devices (up to 12) connected to the Internet. Under the initiative, consumers can create an account. Up to six members will be able to sign up for this account and access the purchased product from the cloud without having to pay any additional charges.

The benefits of interoperability, however, need to be evaluated against any costs. A Hearing on Competition in the Digital economy organised in 2012 by the OECD's Competition Committee concluded that while interoperability may help to lower barriers to entry and avoid consumer lock-in, it may, at the same time, limit the rights of copyright holders and undermine innovation by reducing incentives to develop new technologies (OECD, 2012*e*).

Product access

Product access problems concern interruptions in access to a service, bugs, and the crashing of e-commerce platforms (Europe Economics, 2011). The ability to identify and seek redress in such cases can be complicated for consumers as they may have more difficulty providing evidence of the potential sources of problems than in the case of tangible products. For example, when access to an online game is problematic, it may be difficult for consumers to identify the source of the problem as it could be the digital content product itself (the game), or access to the Internet.

There is evidence that short-term access restrictions generally concern Internet connection problems, requiring action by Internet service providers rather than the suppliers of the digital content (BIS UK, 2012*a*, p. 13). Problems with Internet connections have been pointed out as particularly problematic in situations where consumers pay for a service which should be available at all times, such as IP TV services. In such cases, the operational speed of a broadband connection could, if too slow, impede effective access. As highlighted above, the parties to turn to in order to resolve issues is not always apparent.

While consumers might expect that products delivered electronically, such as streamed music, e-books or cloud computing games, would be accessible wherever they are located, in practice, access to such products is sometimes restricted to certain geographic regions (Consumer Focus, 2010, p. 12). This can be due to the manner in which copyright holders exercise their distribution rights (to which businesses using that content must comply), or it can reflect the actions taken by content providers as part of their marketing strategies. The rights of copyright holders, it should be noted, are governed by international agreements that are applicable across borders. Whether relaxing geographical restrictions would be beneficial to consumers, or not, may depend on specific circumstances. Some industry stakeholders have pointed out that a relaxation of territorial restrictions could raise costs, thereby possibly excluding some innovative services from launching and/or being successful in markets.

In the European Union, digital music distribution rights are generally administered by domestic collecting societies and are generally subject to territorial restrictions. As a result, for digital music to be accessible across the European Union, licences from the relevant collecting society in each of the 27 EU member states would need to be obtained. While such licences have already been obtained across the EU for music streaming and cloud services such as *Deezer*, *eMusic*, *iTunes*, and *7Digital*, other products, such as *Kindle*'s e-books, can only be accessed from a store based in a consumer's country of residence, or based on the country where their credit card is registered. This is in contrast with the availability of physical books which may be purchased online from *Amazon* (of which *Kindle* is a part), regardless of

consumers' country of residence. Another issue which has surfaced in this regard concerns prices, which may differ across the sites operated by a supplier, according to the location of the purchaser (see BEUC, 2009, p. 14).

Product quality

The most reported problems in relation to quality involve corrupted content and poor visual or sound quality (Europe Economics, 2011). Consumers experiencing such problems are not always provided with remedies. The lack of standards or adequate disclosure on product quality can further complicate the matter, to the extent that consumer expectations are not met (see BIS UK, 2012*a*, p. 22). In the United Kingdom, a new *Consumer Bill of Rights* is being developed with a view towards clarifying consumer protection legislation and regulation, and providing consumers with stronger protection, in the case, for example, of faulty digital content products.

Unauthorised charges

A number of issues have been raised with respect to "apps." at both the OECD April 2011 roundtable on digital content (OECD, 2011*a*), the payments workshop (OECD, 2011*b*) and in the CCP's policy guidance on online and mobile payments (OECD, 2013*b*). The pricing of the "apps", often enables consumers to acquire them at low or no cost, which can be highly beneficial. Moreover, offering a trial version of an "app" for free can provide consumers with an opportunity to try the "app" to determine if they want to purchase it; consumers are thus in position to make a better informed decision. Sometimes, however, consumers have been misled into believing that the "apps" that they were acquiring were free, when in fact this was not the case. Moreover, free "apps" sometimes provide the possibility to purchase items, called "in-app" purchases. This can be problematic in the case of products targeting children, where parents may not be aware of the possibilities that their children might have to acquire products without their knowledge (see OECD, 2011*c*).

The need for better disclosure and more effective technical mechanisms for controlling purchases have been highlighted, in particular in cases where children are likely to be involved (OECD, 2013*b*). In the United States, businesses offering "free trials" for "apps" are to comply with all relevant laws and guidance pertaining to negative options marketing (US FTC, 2000). Such guidance provides that in order to evaluate whether a disclosure meets legal standards, sellers should examine the disclosure's prominence, presentation of information, placement on the page, and proximity to the offer (US FTC, 2009).

In Finland, the Consumer Agency worked with the business community to develop an opt-in procedure whereby mobile content is delivered to consumers only after confirmation has been given, through, for example, an SMS.

In Italy, in 2009, the Competition Authority imposed fines on companies that had sent out unsolicited SMSs aimed to entice consumers into automatically and unwittingly activating a subscription to products such as ringtones or wallpaper downloads (Italian Competition Authority, 2012).

In Sweden, following a review of the existing e-commerce framework conducted on behalf of the government, it has been proposed that a new law be developed to address issues related to "in-apps" negative options schemes. The proposal provides that a consumer should be able to terminate a fixed-term contract within three weeks of reception of a payment request for a new period, in the case where the consumer had not been informed in writing prior to the expiration of the contract term, about a possible extension and related terms and conditions.

Misleading or unfair commercial practices

The 2011 EC study identified a number of misleading or unfair commercial practices in the field of digital content products (Europe Economics, 2011, p. 57, paragraph 4.7, 4.8, and 4.12). The practices identified in the study, which are amplified with material from additional sources, include:

- *Liability*: Businesses generally use disclaimers in EULAs to limit liability. Such practice has been regarded in some countries as unfair in cases where liability exclusion applied to problems related to the non-performance of the product purchased (BEUC, 2009). In some other OECD jurisdictions, such as the United States, courts have upheld this practice.

- *Product access*: Suppliers have sometimes amended or removed content without providing notice to affected consumers. For example, one provider of digital products removed purchased e-books remotely from customers' devices when it was found that the sale had violated a copyright, with no notice to the customers involved (New York Times, 2009).

- *Product modification*: Products are sometimes modified, as are the terms and conditions of use, without prior notification to consumers. For example, in Finland, some IP TV service providers have changed the content of package programmes which had been subscribed to. The issue has been discussed in the United Kingdom within the context of a government consultation launched in 2012 on ways that legislation relating to the supply of digital content products could be clarified and simplified (BIS UK, 2012*b*). Based on responses received from stakeholders to the consultation, the government is of the view that product changes and updates may be legally made without consumer notification as long as such changes conform to the contract terms and conditions and do not affect the quality of the product.

- *Buried or hidden charges*: These are fees which may be added to the downloading of a product without clear notification to consumers.

- *Disabling products*: Suppliers can sometimes disable functions, applications, or computer programs created by third parties (Consumer Focus, 2010).

- *Restrictions on product use*: As discussed earlier, limitations of the use of purchased digital content products may in some cases be viewed as unreasonable.

- *Misleading and deceptive marketing*: Consumers are sometimes induced into buying: *i*) additional products that they did not intend to purchase; or *ii*) content devices, such as e-book readers, based on advertising that misleads consumers on the available volume of content that may be accessed from such devices (Rakuten, 2012).

- *Redress*: In some instances, consumers are not entitled to redress for undelivered or defective intangible digital content products.

In Canada, in September 2012, the Competition Bureau launched legal proceedings against three national telecommunication service providers and a Canadian wireless industry association requiring them to stop misleading advertising that promoted premium-rate digital content products. The Bureau took the view that the fees that had to be paid for such products had not been adequately disclosed to consumers who were misled into believing that the products were free (Competition Bureau Canada, 2012).

It should be noted that the characterisation of practices as misleading or unfair often differs among jurisdictions. Much depends on the circumstances and applicable law. For example, suppliers may

sometimes disable "apps" created by third parties without prior notification to consumers but with a view towards protecting their customers from potential security risks.

Privacy

The purchase of digital content products often requires consumers to provide a significant amount of personal information in order to conclude a transaction. In some countries, concerns have been raised about unnecessary disclosures of personal data when purchasing products electronically.

In many instances, consumers may not realise what may be done with their personal information, to what extent it is needed to be able to complete an e-commerce transaction, with whom it may be shared, and for what purposes it could be used. Explanations can be unclear, incomplete, and/or absent.

The OECD's Working Party on the Information Economy is currently exploring these issues under its "app" economy project, focusing notably on the conditions under which consumers may be granting permissions (perhaps unknowingly) when purchasing "apps" for their mobile devices (OECD, 2013*a*). With respect to *Apple*, "apps" that collect or transmit a user's contact data without the company's prior permission are in violation of its guidelines. Moreover, *Apple* requires that explicit user approval be secured before contact data could be accessed. However, once the "app" has been downloaded, consumers have no possibility to review the permissions they have granted. With respect to Android, prior to installing an "app" on a mobile device, consumers must be informed about the permissions that they are granting. Following the download of the "app," consumers can access the list of permissions they have provided, but may not change these permissions.

Additional concerns have been raised as regards "apps" that enable developers to access data stored and processed through mobile phones, without consumer knowledge and/or consent. This would include address books, consumers' location, phone number, call logs, unique identifiers (such as an *iTunes*' user's account number) and personal information being transmitted to a business during a mobile payment process through the use of near field communications technology (New York Times, 2012).

As underlined earlier in this report, the issue of the collection and use of personal data *via* "apps" is of particular concern in the case of children (OECD, 2013*b*). In the United States, the Federal Trade Commission has called on industry to provide parents with greater transparency about businesses' data practices (US FTC, 2012*b*). The action is being taken under the provisions of the US Children's Online Privacy Protection Rule (COPPA), which requires operators of online services, including mobile "apps," to provide notice and get parental consent prior to collecting information from children under the age of 13.

Cloud computing services may raise further issues in relation to the handling and sharing of personal data. Potential storage of consumer data in multiple jurisdictions may confuse both companies offering services in the cloud and consumers who may have difficulty determining who may have access to the data and whether such access is lawful (OECD, 2011*c*).

Digital competence

The ability of consumers to fully profit from e-commerce depends to a great extent on their knowledge and awareness of the digital environment. As highlighted in the CCP's consumer education recommendations, consumers need to know how to protect their own and others' privacy while online, and they need to know how to protect themselves from online fraud and unsolicited marketing; more generally, they need to be aware of their rights and responsibilities when engaging with digital media (OECD, 2009, Annex II). A consumer survey conducted in the United Kingdom by Consumer Focus in February 2012 suggests that this is not always the case. The survey revealed that the legal rights that consumers have to

replace or receive refunds for digital products when problems arose were recognised by only 55% and 52%, respectively (Consumer Focus, 2012).

In addition to government initiatives, multi-stakeholder collaboration in the development and implementation of education tools that enhance digital competence have been pursued in a number of jurisdictions. Social networking sites, blogs, online games and videos are proving to be useful in this regard.

In Australia, within the context of the roll out of the country's National Broadband Network (NBN), the government will establish a *Digital Hub* which will provide residents in local communities with training in digital literacy skills to help them to participate more effectively in the digital economy. Individuals who are not active online are being focussed on. *Digital Hubs* will deliver training sessions and one-on-one tutorials covering e-health, education, business and household uses. Such activities will be provided by local organisations, including public libraries, local councils, adult education institutions and community groups. The programme will be supported by the government's *Internet Basics* website which provides information in video and text format on how to connect to, use, and stay safe on the Internet. Moreover, information and communication technology capability, which includes capability to address intellectual property, information security and personal security issues, is one of the seven major pillars in the Australian general school curriculum (The Australian Curriculum, 2012).

In Canada, a number of programmes have been developed to enhance digital competence. These programmes, which are contained in the curriculum of elementary and high schools, vary from one provincial jurisdiction to another.

In the European Union, the proportion of individuals who obtained internet and computer skills through formalised educational institutions increased from 20% in 2005 to 28% in 2011 in EU 27 countries (Eurostat, 2012). Some 72% of individuals aged 16-24 years old obtained IT skills through formalised educational institutions in 2011 (EC, 2012).

In Japan, the Ministry of Internal Affairs and Communications (MIC) has started to develop an indicator for measuring the Internet literacy of students (MIC, 2012). The Internet Literacy Assessment Indicator for Students (ILAS) will assess the ability of users to manage illegal and harmful content on the Internet, the ability to use the Internet properly taking into account the cost and time spent and the ability to manage personal privacy and security risks. ILAS is currently being tested and will be implemented in 2013.

In Korea, stakeholders have worked together to define the concept of *digital goods competence* as the "cognitive and technical ability that allows consumers to function efficiently and responsibly as members of the knowledge-based society, with ability to search and compare information about digital goods and to use and maintain digital goods." The definition served as basis for the development of an empirical index measuring consumer digital consumption knowledge, attitude, and skills (Park, Rha, and Widdows, 2011). Surveys show that digital competence is influenced by the number of digital devices that consumers use, the frequency of digital goods purchased, consumer experiences with digital goods and consumer attitudes toward technology (Consumer Agency, Korea, 2012).

Nordic countries have developed a consumer education strategy (*Teaching Consumer Competence – A Strategy for Consumer Education*) which includes core contents related to digital content, including: data transfer (downloading games or videos from the Internet on a mobile phone); use of online technology; copyright issues; concluding transactions and the use of money online; privacy protection in the digital environment; and unsolicited marketing (Nordic Council of Ministers, 2010).

In Norway, Vox, which is an agency of the Ministry of Education and Research that focuses on lifelong learning, developed a framework comprising three levels of digital competence (Table 8). In 2010, some 35% of Norwegians were estimated to have attained level 2, which is deemed basic for using digital content, while 41% were estimated to have attained level 3 (Vox, 2011).

Table 8. Three levels of digital competence in Norway

Level	Examples of digital competence
Level 1	Can find information on the web by means of a search engine, can receive and send text messages
Level 2	Can use various functions of mobile phones, can download and run files from the Internet in a safe manner
Level 3	Can assess information sources in relation to security and quality, can make and publish his/her own web page

Source: Vox (undated), *Competence goals, Digital competence*.

In the United Kingdom, the Office of Fair Trading conducted a survey to evaluate the effects of *Skills To Go,* a consumer online education programme, from August 2007 to April 2008. According to the survey, consumer confidence in buying products *via* the Internet improved from 45% in the pre-pilot programme to 64% in the post-pilot programme. Consumer confidence in writing complaint letters or sending complaints *via* e-mail also improved (UK OFT, 2009). In 2012, the government launched a *Digital Licensing Framework* contest with the aim of challenging start-ups and companies to develop innovative systems and services that help facilitate the exchange of licensing information between copyright holders and users. Successful candidates will be awarded a contract to develop information prototypes (Technology Strategy Board, 2012).

In the United States, in 2012, the FTC launched an updated version of its information resource website, *OnGuardOnline.gov*, which provides consumers with free practical tips and resources on how to be safe, secure and responsible online. The web site includes information specifically tailored to educators, parents, IT and cybersecurity professionals, small businesses, the military and children. *OnGuardOnline*'s new features include a cybersecurity blog and information updates *via* e-mail. The blog offers cybersecurity news from the government, "how-to" articles and videos, and insights from federal officials.

Dispute resolution and redress

The OECD's *2007 Council Recommendation on Consumer Dispute Resolution and Redress* (OECD, 2007) provides guidance to countries on the types of mechanisms that should be available to consumers acting individually and collectively, both domestically and cross-borders. Many of these principles are particularly important in the context of digital content purchases, given the potential problems that could arise.

Dispute resolution procedures

Information on the dispute resolution processes provided to consumers purchasing digital products is not always readily available and when it is, it is not always easily accessible. A mystery shopping survey carried out in 2010 in the United Kingdom revealed that 56% of mystery shoppers could not find information on dispute resolution in the terms and conditions of their digital transactions, even though such information was in most instances available (Consumer Focus, 2010).

The situation may be particularly difficult for consumers purchasing products like "apps" from third party developers on online platforms. The role of the platform provider can be unclear. In some countries, such as Poland and Spain, the law requires the online platform to provide consumers with information on the third party vendor. In other countries, such as Hungary, consumers need to be informed simply that a third party may be supplying a service to consumers (University of Amsterdam, 2011, p. 56).

When products do not conform or are not delivered, consumers can have difficulty determining who, from the content vendor, the developer, the online platform or, in some instances, the mobile operator, they should contact to resolve a problem, or get redress. The potential role being played by payment providers, including MNOs, in providing effective dispute resolution in the purchase of digital content, is an important issue that is being explored by the Committee on Consumer Policy in the context of its work on online and mobile payments. The question is also relevant in the context of cloud computing, where a number of parties are involved, including: *i*) cloud providers, who create, configure, run and distribute cloud services; *ii*) network providers, who offer access to the network and enable the distribution of services from the cloud provider to users and *iii*) device providers, who offer the mediums (including mobile devices and PCs) through which consumers will be able to access cloud products (Kushida, et al, p. 216).

In France, e-commerce platform providers are usually responsible for resolving product-related issues, either in cases where products are sold on behalf of the platform itself, or on behalf of a third party vendor (such as on *Google*'s *Android Market* platform, for example). The issue was discussed at the April 2011 roundtable by representatives from the United Kingdom who indicated that there were no clear and specific legal rules in the country governing responsibilities for settling disputes involving digital content products. It was however suggested that if purchases were treated like goods, remedies could be obtained by consumers from an on-line retailer. Under most other EU country legislation, on-line platform providers are liable if a product was sold under their own brand, or if the contact details of the vendor provided were inaccurate, thereby making it impossible for the consumer to contact the vendor; such liability would also apply in a case where a platform negligently allowed a third party vendor to use its platform (University of Amsterdam, 2011, p. 123).

In order to facilitate the resolution of problems, some digital content providers are turning to alternative dispute resolution mechanisms such as mediation and arbitration. Dispute resolution is also increasingly being carried out through the use of online media, such as instant messaging, and chat rooms; this is common in cross-border cases (Packard, 2010, p. 99).

Jurisdiction and applicable laws

Consumers purchasing products online from foreign parties may have difficulties determining which jurisdiction they should turn to when a problem arises. If it is a foreign jurisdiction, further complications could be experienced due to language differences and the practical difficulties and expense in pursuing a case in another jurisdiction. When consumers subscribe to a cloud computing service, for example, the location of the consumers, the service provider and the server could be relevant in determining the venue, or venues, where action could be taken. In some instances, it may not even be clear where the service provider and servers are located, which could further complicate efforts to resolve a problem.

Redress

Determining whether digital content products are to be treated as goods or services may have important implications for consumer rights (such as a right of withdrawal from a transaction) and remedies (BIS UK, 2010, p. 5). In some jurisdictions, the level of consumer protection accorded to digital content products differs from that accorded to physical goods, with the former receiving less legal protection, and lower levels of protection from sellers (Box 3).

Box 3. Treatment of digital content as goods or services

In some countries, such as Austria, Germany and Switzerland, digital content products, like software which has been downloaded electronically, have been treated by courts in the same manner as goods (Rott, 2010). Some of the court decisions in these countries have drawn a distinction based on whether the digital content is transferred to the consumer for permanent or temporary use. In the former case, general consumer protection rules (including sales law and rules on guarantees for lack of conformity) apply. In the latter case, where, for example, consumers stream content or purchase video-on-demand products, general consumer protection rules would not apply.

Decisions in other jurisdictions have tied product classification to the method of supply; digital content products delivered on tangible supports are considered goods, while those delivered in an intangible format are considered services. Under Australian case-law for example, the software that is bundled with computer hardware is considered a sale of a good. In the United Kingdom, software supplied on a tangible support, such as a CD, has been regarded by courts as a sale of a good. In contrast, software downloaded from the Internet or uploaded from a CD or data key and which is retained by the supplier and not supplied to the consumer has not been regarded as a sale of goods (BIS UK, 2010, p. 14). In Mexico, PROFECO interpreted Article 92 of the country's *Federal Consumer Protection Law*, which pertains to a consumer's right to return or exchange a product, get refund, and/or compensation, as applying to all types of digital content products regardless of the form in which they are delivered to consumers.

In the European Union, the consumer rights directive (which applies to EEA countries) (*Directive on Consumer Rights*, 2011) treats digital content that is supplied on a tangible medium as a good. Digital content which is supplied in an intangible format, however, is neither treated as a good or as a service. The directive provides specific information requirements to be provided by businesses when selling tangible and intangible digital content products. Consumers purchasing digital content supplied on a tangible medium enjoy a 14 day right of withdrawal or up to 12 months from the end of the initial withdrawal period in the case where a vendor would not have clearly informed its customers about the right to return products. Consumers purchasing intangible digital content products enjoy a right of withdrawal up until the downloading of the product begins, if *i*) the performance has begun with the consumer's prior express consent, and *ii*) the consumer has acknowledged his/her agreement to thereby lose his/her right of withdrawal (*Directive on Consumer Rights*, 2011, Article 16m). Some have called for the development of a digital content directive which would provide a comprehensive regime for digital content products which would specify, among other issues, what rights consumers have in the purchase of such products (Consumer Council of Norway, 2012).

In Australia, digital content supplied in an electronic format is treated as a service. Under the country's consumer law, such services must be *i*) rendered with due care and skill; *ii*) reasonably fit for any purpose, or capable of achieving any result that the consumer makes known to the supplier (whether expressly or by implication); and *iii*) supplied within a reasonable time. Where there is a "minor" failure by a supplier to comply with one of the consumer guarantees, a consumer may seek a remedy for the failure, within a reasonable time; if the supplier fails to do so, consumers can seek to recover their costs or terminate the contract. Where there is a "major" failure, or the failure cannot be remedied, consumers may terminate their contract or, if they choose to accept the service, seek compensation.

In New Zealand, in 2001, the *Consumer Guarantees Act* 1993 was amended to include all forms of computer software, as goods. In France, all forms of software are also treated as goods; moreover, copyright law expressly provides that technical protection measures should not affect products' interoperability (French Intellectual Property Code, Article L 331-5, paragraph 4).

In the United States, intangible downloaded products have not been consistently treated as goods or services. Some courts have decided to regulate downloaded software as a good under the Uniform Commercial Code, while others have refused to extend the definition of a good to include downloaded digital content, such as e-books. Other courts have looked at what the digital content product does to make the determination; for example, a software program that continuously scans for viruses may be more likely to be treated as a service than a good. The few courts that have heard online game disputes applied the common law of service contracts to resolve issues. Streaming digital products are defined as a service under the US *Copyright Act*. In order to stream digital music or videos over the Internet, streaming service providers must obtain public performance licenses from individual copyright holders. The service provider is then able to stream the digital product to consumers' computers in the form of a public performance.

The classification issue has also been the subject of discussion in regional and international organisations, including the WTO where, however, the issue remains unresolved (Wunsch-Vincent and Hold, 2011).

With respect to goods, in most countries, consumers generally have the right to: *i*) receive goods which conform to the description made in the sales contract, and are of satisfactory quality and reasonably fit the designated purpose; *ii*) have a defective product replaced; *iii*) get a refund or price reduction in cases where products do not conform with the sale or are defective; and *iv*) claim damages for loss suffered as a

result of a defective product or merchant's breach of contract. In the supply of a service, consumers are usually protected against the failure of a trader to take reasonable care in the performance of such a service. In such a case, a consumer will have to prove that the supplier has been negligent in the provision of the service and that such negligence resulted in a serious breach of the contract (BIS UK, 2010).

With respect to tangible digital content products, it is often not possible to return them, once a packaging seal has been broken. Whatever remedies that exist for defective or undelivered digital content products are often available only at the discretion of retailers.

The situation is further complicated when digital content products are delivered electronically. As indicated above, whether intangible digital content is to be treated as a good or service is unclear in many jurisdictions.

As discussed at the OECD workshop in April 2012, it seems that retailers do not generally provide consumers with redress for non-conforming, defective or undelivered digital content products, in particular for products accessed *via* downloading or streaming (see University of Amsterdam, 2011, p. 229; and see Article 173.1 of the proposed optional regulation on a common European sales law – EC, 2011*a*). According to a mystery shopping survey carried out in the United Kingdom in 2010, most terms and conditions of contracts excluded liability for damaged software (Consumer Focus, 2010, p. 24).

In some instances, countries have addressed issues in a generic fashion which does not depend on the nature of the product. In Finland, for example, where there has been a lack of, or misleading, information provided to consumers, problems are being addressed similarly for all products, focusing on the issue of non-conformity.

In the United Kingdom, in 2012, the government launched a public consultation with a view towards identifying the types of redress rights that should be available to consumers when problems with faulty or low quality digital content products occur. In this context, a distinction has been made between: *i*) the digital content product itself (such as a game); and *ii*) the service supplied by the content provider that allows consumers to access and use the digital content product and download other products (so-called "related services"). Stakeholders noted that in the case of problems with accessing or using the digital content, consumers generally have difficulty determining whether the content itself or the related service is faulty. Given the link between the digital content product and the related service, stakeholders have been asked to comment on; *i*) whether a related service should be regarded as a good or as a service, and how to assign liability; and *ii*) whether related services should be treated as a combined digital content product/services contract where the ability of the provider to limit its liability for a related service would be restricted (BIS UK, 2012*b*).

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