Digital Europe: Diversity and Opportunity

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Overview

This report on "Digital Europe: Diversity and Opportunity" by Enders Analysis (www.endersanalysis.com), has been commissioned for the "Let's Go Connected" (www.letsgoconnected.eu) event on 8-10 May 2012 in Brussels by Bertelsmann, NBC Universal and Vivendi. It contains only the opinions of Enders Analysis.

The report concerns digital music, video-on-demand (VOD) and ebooks in the European Union. It reports on demand and supply factors relevant to the advent of a Single Market in Digital Cultural Products, part of the EU's Digital Agenda. We conclude that the EU27 represent a diversity of opportunity for e-commerce in digital cultural products, but a more significant opportunity in the future, provided continued progress is made on the core enablers of e-commerce.

An extraordinary diversity and density of licensed digital film and music offers are available to purchase or consume in the EU27. Data from IFPI indicates 543 licensed interactive music services in the EU27, in addition to hundreds of ad-supported non-interactive webcasting services. Most music services are served on local storefronts to address the whole market and respect local linguistic and cultural preferences. For films, the European Audiovisual Observatory reports 264 licensed online VOD services in EU27, to which must be added the VOD services of pay-TV operators, free-to-air (FTA) broadcasters, VOD channels on iTunes, 612 channels serving professional content on YouTube (in February 2012) and those on other video-sharing sites. The population of the EU27 access licensed online VOD services from any location (except when non-local IP addresses are blocked by geo-localisation), along with hundreds of unlicensed online services offering films and music. The market for ebooks is nascent and closely tied to the adoption of tablets, which are platform-specific.

E-commerce enablers for digital cultural products

The hierarchy of core enablers for e-commerce in digital cultural products when supplied nationally are: disposable income/ability to spend on cultural products, the acquisition of internet skills and high-speed broadband connectivity, credit/debit cards and e-payment systems, licensing and anti-piracy activity.

Licensing by content owners is a necessary condition, but potential suppliers seek it more frequently for markets with an appropriate commercial opportunity. Consumer spend on cultural products, of which digital is a subset, is highest in absolute terms in the UK, Germany and France. Adding in Italy and Spain, the top five markets represent over 75% of expenditure on cultural products in the EU. These markets are amply supplied with offers of local digital cultural products. Smaller markets have adequate supply in relation to their smaller customer bases.

Licensed online content exploitation may be pay-for or free to the user. If pay-for, then an e-commerce transaction is required. Despite steady progress towards the Digital Agenda Scoreboard targets, the disparity amongst the EU27 in terms of the level of core e-commerce enablers is the principal barrier to the emergence of a Single Market in Digital Cultural Products.

Promoting national e-commerce is a route to cross-border e-commerce in digital cultural products. In the absence of EU-level convergence of the regulations concerning e-payments and consumer protection for cross-border transactions, a Single Market in Digital Cultural Products lacks an essential pillar.

The existence of 23 official and working languages in the EU segments the market for digital cultural products. As a result, suppliers adapt their exploitation strategies to local market conditions, including linguistic and cultural preferences. Consumption of books and films requires knowledge of the language of the product, and only those with strong cross-border commercial potential are translated. Music is more international because its enjoyment does not require knowledge of its language.

Piracy is the 'free' option

Digital piracy of music, films and increasingly books is widespread because it is 'free' to the user. In relation to e-commerce, piracy has fewer enablers: only a broadband connection is required. It is safe to assume that the vast majority of piracy concerns illegally obtained copies of works that are available to purchase or consume legally, rather than copies of works locked by licensing.

In the presence of a licensed offer, piracy by consumers reduces the demand for digital cultural products. Markets where anti-piracy action is undertaken therefore offer a greater commercial opportunity. For example, Spain is estimated to have one of the highest levels of music piracy in Europe, and the number of licensed digital services in Spain is lower than the Netherlands, Denmark and Sweden, despite the latter three markets being much smaller in terms of GDP.

Action to combat piracy will enable the market for digital cultural products to reach its fullest potential. France's HADOPI anti-piracy regime has been successful in curbing P2P activity. However, because it does not address the exchange of pirated content online through non-P2P means (e.g. streaming sites), consumers are likely to use non-P2P piracy as a result. Content owners have also successfully targeted sites hosting pirated content for 'take down' (e.g. cyberlocker Megaupload was closed in January 2012), or required ISPs to block access to sites. However, the supply of unlicensed sites is virtually limitless.

Digital music

Music was the first digital cultural product to emerge, via piracy, in the early 1990s. Tracks were ripped from CDs to computer hard drives into MP3 format and shared online via email, instant messaging or through hosting sites. The culture of piracy became a global phenomenon. In this early stage of digital music, there was a notable absence of licensed digital music services, but despite their subsequent advent, piracy remains entrenched.

Based on data from IFPI, we calculate there are currently 543 licensed interactive digital music services in the EU27 and hundreds of non-interactive digital music services, such as licensed webcasting sites and online sites of radio broadcasters.

In terms of interactive digital music services, consumers in most markets have the choice of a download-to-own storefront (iTunes, served in English to 20 markets), an 'access' service, and a 'smart radio' service. However, the choice of service is wider and denser in the top three markets (UK, Germany and France) where consumers spend the most on recorded music. Smaller markets for recorded music such as Cyprus, Latvia, Lithuania and Malta are served by just a few services.

Subscription-based 'access' services like Spotify and Deezer operate multi-territory exploitation models, serving their European markets from a common technical platform, often with a local storefront. The super reduced VAT rate applicable to digital cultural products supplied from Luxembourg makes this country the preferred choice for establishment. VAT divergences are also interfering in cross-border e-commerce of goods. The European Commission's (hereafter, the Commission) agenda to achieve VAT harmonisation by 2015 is key to achieving the potential of e-commerce in goods and services.

Video-on-demand

On-demand video services or VOD are supplied through-the-middle (TTM) to TV sets by pay-TV operators using a dedicated connection, and over-the-top (OTT) to internet-connected computers, TVs and devices. Catch-up TV TTM VOD services are often bundled with the pay-TV package, while OTT services are pay-for (e.g. Netflix), or free to the user and supported by advertising (e.g. YouTube). Many consumers also use piracy to consume video, as noted above.

Volume 2 of the European Audiovisual Observatory's 2011 Annual Report contains the first compendium of VOD services in the EU, and indicates that:

- The main cable, IPTV, satellite and DTT operators in Europe each offer catch-up TV VOD services
- iTunes and pay-TV operators offer transactional VOD services
- There are 264 online VOD services
- Video-sharing sites serve channels of 'professional content' (e.g. YouTube)

Film studios and distributors adapt their licensing strategies to local market conditions to maximise revenues. The usual sequence of release windows is: theatrical (cinema), packaged media (DVD/Blu-Ray), video-on-demand (VOD), pay-TV and FTA TV. These release windows are negotiated between rights holders and distributors, with endorsement by legal instrument in France and Portugal, and a link between film subsidies and cinema release windows in Germany and Austria.[1]

[1] "Green paper on the online distribution of audiovisual works in the European Union: opportunities and challenges towards a digital single market", COM(2011) 427 final,

Cinemas in particular consider their window to be a core driver of their business model. There would be less of a motivation to go to the cinema to view a newly released film if it was also available to buy at retail. Similarly, pay-TV operators view premium content such as films – whether supplied on film channels or on their catch-up TV services – to be a key differentiator in relation to FTA models. The agreements between pay-TV operators and rights holders protect this differentiation, subject to competition policy. Consequently, licensing is a constraint on the availability of films to OTT VOD services supplied on subscription.

A number of VOD services (e.g. the OTT catch-up TV services of UK FTA broadcasters) are not accessible to computers connecting from outside the territory (geo-blocking). However, a Commission-sponsored report issued in 2012 has found a low level of potential cross-border demand for video services.[2] The principal customer base is the EU's 'migrant' population of 17.6 million people or 3.6% of the EU's total population of 490 million. Within this group, 85% already consume licensed programming cross-border, mainly via TV or online. Just six million migrants or 1.2% of the EU's population would be willing to consider paying €10/month for a cross-border offer of all premium channels.

Finally, it is widely recognised that the exploitation strategies for films adopted by the content owners and their commercial partners are the source of the edifice of value worth about €86 billion to the EU in 2009: theatrical exhibition revenues of €6.5 billion, pay-TV revenues of €28.6 billion, television advertising spend of €27.3 billion and public income to television and radio of €23.3 billion. These revenues fund investment in programming, including original production in the EU, along with thousands of jobs.

ebooks

The market for ebooks is nascent in relation to films or music. It has become significant in the UK, reaching 8% of the invoiced value of book sales in 2011 according to the Publishers Association, but has yet to rise above 1-2% of revenue in other markets. This is partly due to the timetable by country established by the major platforms for the rollout of tablets, and the fact the consumer must purchase either an ebook reader or a general purpose device such as a tablet or smartphone, if they do not already have one, adding to the cost of the experience. Another factor accounting for the nascent state of the ebooks markets in the EU27 is the availability of titles to purchase in electronic format, which depends on local publisher decisions. There is possibly also a consumer preference for the printed format (e.g. Germany).

The ebooks market features integrated platforms, wherein a single company controls the end-to-end experience: the catalogue of ebooks, the purchase and payment and the reading experience. Hence, Amazon has its own dedicated ebook reader device for sale, and also makes dedicated apps for all the major mobile computing platforms: iOS, Android, Windows Phone and RIM. Apple has built its own parallel system, iBooks, which is available only on iOS devices (i.e. the iPhone, iPad and iPod Touch).

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http://ec.europa.eu/internal_market/consultations/docs/2011/audiovisual/green_paper_COM2011_427_en.pdf

[2] Plum Consulting (2012), "The economic potential of cross-border pay-to-view and listen audiovisual media services", http://ec.europa.eu/internal_market/media/docs/elecpay/plum_tns_summary_en.pdf

Each of these platforms uses its own proprietary digital rights management (DRM) system to encrypt ebooks (despite the existence of a notional industry standard), and no platform can read the DRM used by another. However, all of the major platforms will accept ebook files from third parties that do not use DRM. Publishers, with a few exceptions, apply DRM in order to try to reduce piracy.

The end effect is to make it impractical for consumers to switch between different ebook platforms. This is a small issue on tablets, which can run reading apps from different platforms, but means that ebook readers can only display books bought from the platform provider. For book publishers, a higher degree of interoperability in the ebook market would permit readers of ebooks to access them on all sorts of devices no matter from where or whom they have bought them.

Each of the leading integrated platforms serves each European country through a local storefront. Typically, different platforms have different sized inventories in any given country, depending on their progress and investment in securing commercial deals with local publishers.

Conclusions

Along with the efforts to develop the high-speed broadband networks that will deliver digital cultural products to consumers, we recommend the Commission establish the following priorities for policy action to foster demand for digital cultural products:

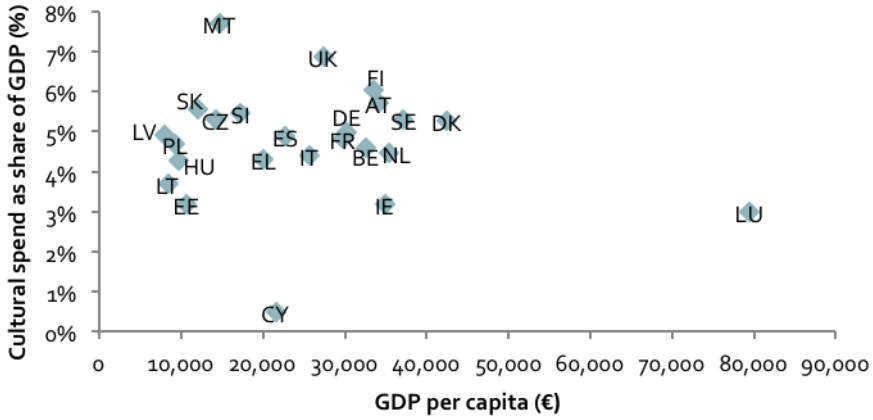
- Strengthening linguistic and cultural affinities
- Fostering national and cross-border e-commerce through e-payment systems and harmonised consumer protection regulations
- VAT harmonisation
- Anti-piracy action
- Greater interoperability of platforms and devices

Demand for digital cultural products

Expenditure on cultural products

Consumer expenditure on recreation and culture as a share of GDP varies widely across the EU27: 6.9% in the United Kingdom, 3.2% in France, and so forth (Figure 1). Malta spends relatively the most on recreation and culture despite having relatively low per capita income, while Luxembourg spends relatively little despite having the highest per capita income. Most EU Member States spend 4-6% of GDP on recreation and culture.

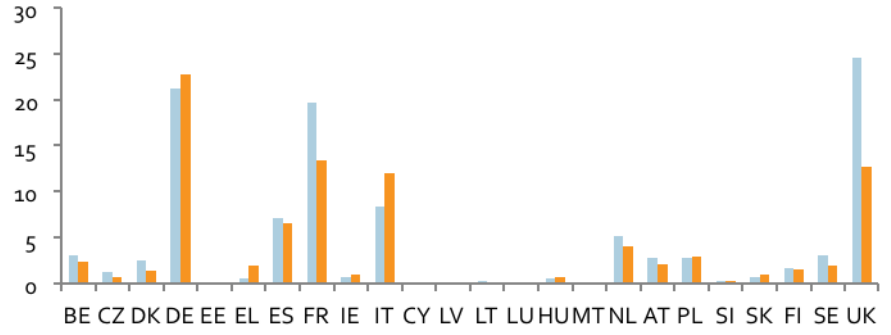
Figure 1: GDP per capita (€) and cultural spend as share (%)



Note: cultural spend refers to spend on recreation and culture
[Source: Eurostat]

However, what matters for suppliers of digital cultural products is the absolute size of national markets for cultural products (Figure 2). The UK is the largest national market for 'audiovisual products', followed by Germany and France, while Spain, whose GDP is on a par with that of the UK, is worth just a third of its value. For 'newspapers, books and stationary', Germany is the top market followed by France, the UK and Italy. The top five markets account for over 75% of consumer spend on cultural products, making these markets of particular interest in relation to other national markets.

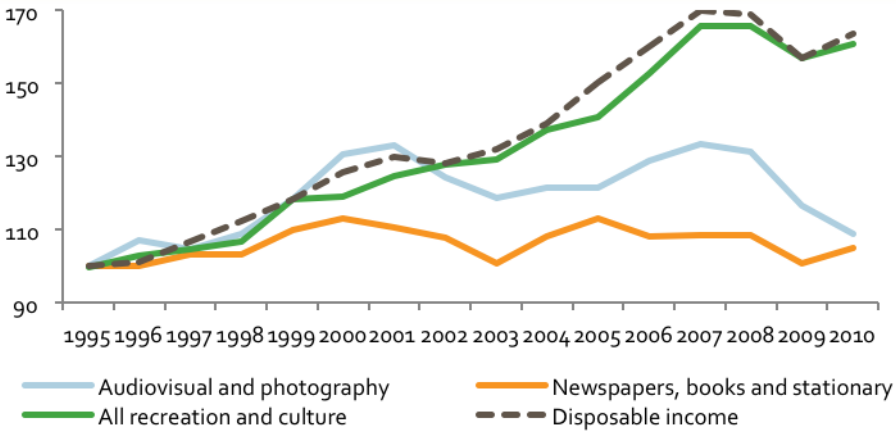
Figure 2: Cultural product market sizes, 2010 (€bn)



Data unavailable for EE, CY, LV, LT, LY, MT
[Source: Eurostat]

Historically, expenditure devoted to cultural products has risen along with disposable income across the EU27 Member States. However, with respect to audiovisual products, the sharp decline of recorded music sales during the physical-to-digital transition, partly due to piracy, has 'decoupled' expenditure from per capita disposable income trends. Between 2000 and 2010, per capita income rose by 30%, while IFPI reports that total trade revenues from recorded music sales in the European Economic Area (EEA) fell by 51%. In addition, the decline in the consumption of newspapers has also decoupled expenditure from per capita disposable income trends.

Figure 3: Per capita indices across EU27 (1995=100)



[Source: Eurostat]

Accordingly, a key enabler of the development of the market for digital cultural products is economic growth, which raises per capita income and fosters the skills, literacy and leisure time to consume cultural products. There are other enabler, which we discuss in more detail later in this report: the multiplication and development of licensed content services is important and action against piracy is also required, as this is a well-known and significant factor behind recorded music sales decline, and also affects films and ebooks.

Cross-border trade in cultural products

With respect to the demand for cross-border digital cultural products, available studies have focussed only on trade in physical cultural products (DVDs, CDs, print editions of newspapers and books), where data are available. One study has associated "large volumes of trade in cultural goods to strong social and cultural ties", resulting from "sharing a common border, language, history, harmonious political relations, as well as large migration stocks."[3]

The cross-border demand for printed works in particular is adversely affected by the existence of 23 official and working languages of EU27. While 48 million Europeans have a second language, this is mainly English.[4] Cross-border demand for English-language ebooks (US or UK) is higher than for ebooks in other EU languages. Translation is an effort confined to works with the highest international sales potential, given the costs involved (e.g. Stieg Larsson's *Millennium* trilogy). For example, in the UK, just 0.6% of the value of book sales is from foreign language editions.

This limited cross-border demand for original language content is also true of audiovisual media services (AVMS), according to a recent report sponsored by the Commission.[5] The services in question are pay-TV and FTA broadcasts, as well as their online off-shoots. The report notably identifies migrants and Europeans with a second language as the key target groups:

- With respect to migrants: "By country of origin/citizenship most intra-EU migrants come from Romania, Poland, Portugal and the five most populous EU countries (Germany, UK, France, Italy and Spain). Most migrants (over 75%) reside in the five largest countries." The bulk of migrants reside in the five largest EU Member States, and their potential demand mainly concerns content originally produced in Romania, Poland and Portugal. The study estimates that this group represents 17.6 million (3.5% of 500 million)
- According to surveys of this group, 85% already watch non-local programming, mainly via TV or online (see *Video-on-Demand*). 34% (of 17.6 million, so six million) would consider paying €10/month for a premium cross-border content service offering all channels from their country of origin. The potential revenues from supplying this group with pay-for premium content services is valued at €780 million to €1.6 billion, which compares with an EU pay-TV market size of €28.6 billion, television advertising spend of €27.3 billion, and public income to television and radio of €23.3 billion in 2009, in total €79 billion
- While the 108 million Europeans with a proficiency in, or learning, non-national languages might also be a potential market for cross-border AVMS, telephone surveys failed to uncover sufficient interest in paying for them. This may be due to the fact that linguistic skills do not translate into the same cultural affinities that make migrant populations interested in and willing to pay for news, sports or film programming produced for their country of origin

Given the existence of 23 languages in the EU, a single platform serving EU27 in English would not be able to effectively contest all these markets. A storefront in English automatically reduces the addressable customer base in any market to the

[3] Cheptea, A. (2007), "Trade and cultural affinity", https://editorialexpress.com/cgi-bin/conference/download.cgi?db_name=res2007&paper_id=643
[4] Plum Consulting (2012), "The economic potential of cross-border pay-to-view and listen audiovisual media services", http://ec.europa.eu/internal_market/media/docs/elecpay/plum_tns_summary_en.pdf
[5] Plum (2012), "The economic potential of cross-border pay-to-view and listen audiovisual media services", http://ec.europa.eu/internal_market/media/docs/elecpay/plum_tns_summary_en.pdf

few with a proficiency in English. Experience shows that it is the supplier with a local storefront and respect for local linguistic and cultural preferences that is more effective at meeting consumer needs.

The low level of demand for cross-border AVMS suggests that the absence of cross-border licensing is not in fact the most significant barrier to a Single Market for Digital Cultural Products.[6] Policy action to strengthen the linguistic and cultural ties between the populations of the Member States could eventually lead to higher levels of cross-border demand for cultural products. Depending on local market conditions, suppliers would have a strong commercial interest to respond to this demand with an appropriate commercial model.

[6] "A coherent framework for building trust in the Digital Single Market for e-commerce and online services", COM (2011) 942, http://ec.europa.eu/internal_market/e-commerce/docs/communication2012/COM2011_942_en.pdf

E-commerce enablers

Overview

The European Union's vision of a vibrant market for digital cultural products requires co-ordinated progress on a number of core e-commerce enablers among the 27 Member States. These enablers encompass a multitude of factors, as is recognised by the Digital Agenda Scoreboard targets, on which progress is steady.

In terms of their hierarchy (Figure 4), we regard disposable income, adoption of broadband,[7] payment systems, licensing and anti-piracy activity to be the core enablers of e-commerce, in that order. In other words, licensing is a necessary condition for offers to be made available, but potential suppliers are only interested in markets presenting the appropriate commercial opportunity.

Figure 4: Enablers of e-commerce in digital cultural products

Enabler	Attributes
Disposable income	Literacy, education, skills and employment Leisure time to enjoy cultural products Money to spend on communications, devices, and on digital cultural products
PCs/fixed-line	Investment in fixed-line telecoms networks Broadband (>10MBit/s to enable seamless consumption of audiovisual digital products) Reasonably priced flat-rate data plans
Smartphones or tablets/mobile broadband	Investment in mobile networks Reasonably priced flat-rate data plans Reasonably priced devices
Trust	In sellers of digital cultural products In making online transactions
Means of payment	Bank account Debit, credit and e-money cards PayPal
Licensed suppliers	Global players such as Amazon, iTunes, Netflix, Spotify and Deezer Local players such as TV channels, internet service providers (ISPs) and ebook publisher sites
Absence of piracy	Presence of legal alternatives to pirated products Anti-piracy regime, ISP action to take down sites

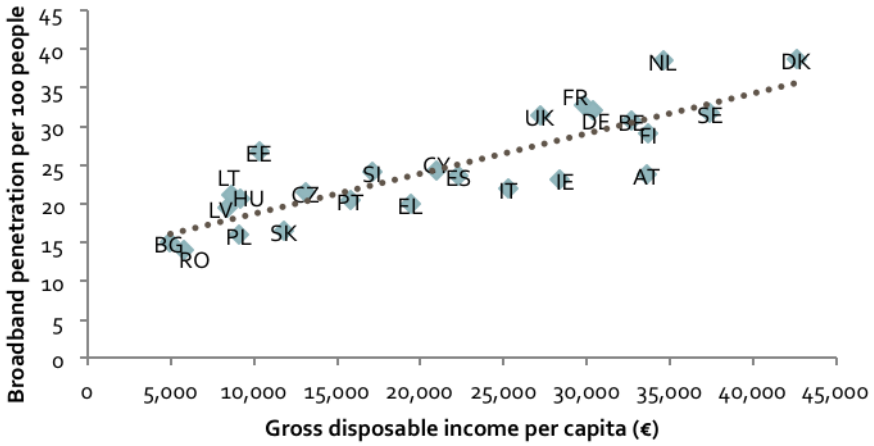
[Source: Enders Analysis]

Disposable income and broadband

The European Union remains 27 distinct national markets with significant disparity in the state of core e-commerce enablers. Disposable income (income after taxes) is the core metric of the literacy, skills, leisure time and ability to spend required by internet users to engage in e-commerce. Disposable income is relatively high in Northern Europe and much lower in Southern and Eastern Europe. The correlation between per capita disposable income and fixed-line broadband penetration is well established (Figure 5). Accordingly, a key enabler of the adoption of fixed-line broadband connectivity is economic growth, which raises per capita income.

[7] Broadband includes: DSL, wired fixed (cable, fiber, Ethernet, PLC), fixed wireless (satellite, WiFi, WiMax) and mobile wireless (3G/UMTS).

Figure 5: Disposable income and broadband penetration 2010

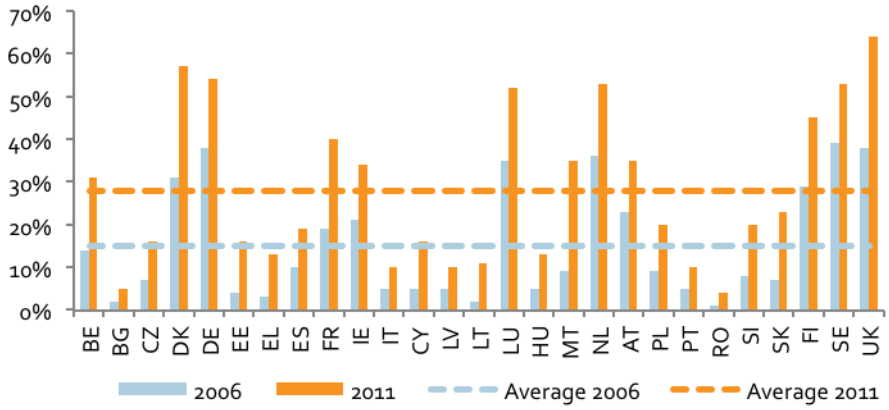


[Source: Enders Analysis based on Eurostat]

E-commerce adoption

The share of the population buying products online is increasing in all EU27 markets (Figure 6). The unweighted average of the population's adoption of e-commerce in the 27 markets of the EU was 28% in 2011, almost double the level in 2006. However, the spread across countries remains substantial, with e-commerce activity notably higher in Denmark, Germany, Luxembourg, the Netherlands, Finland, Sweden and the UK than in other markets.

Figure 6: Population buying online in the last 3 months (%)



Base: All individuals; last updated in April 2012
[Source: Eurostat]

We endorse the Commission's 2009 summary of e-commerce adoption:

- "A mature market in Northern Europe, including the United Kingdom, Germany, and the Nordic countries, where between 60% and 80% of internet users are online purchasers
- A growth market in France, Italy and Spain, where the number of online purchasers is lower compared to the numbers of internet users, but where the number of new online purchasers is growing fast, signalling a strong potential for growth in the short and medium term

- An emerging market in Eastern Europe, but for which statistical data are lacking"[8]

The Commission's follow-up report of 2011 indicates a very low share of e-commerce users conducting cross-border trade: "During 2008-2010, domestic business-to-consumer e-commerce has grown from 28% to 36% of the [total EU] population making an online domestic purchase, while cross-border e-shoppers have only grown from 6% to 9%."[9] The Commission notes that the 'gap' between adoption of national e-commerce and cross-border e-commerce is growing.

This low share of cross-border e-commerce can be explained by either demand or supply factors. Certainly, the enablers of cross-border e-commerce in goods and services are more demanding than for e-commerce carried out on a national basis. On the demand side, users must possess the language skills to access websites served in another language, an e-payment method that is accepted on sites located outside the home market, and often have more acute trust issues with e-merchants located outside the scope of national contract law and consumer protection regulations. These negative factors outweigh the potential savings from realising an e-commerce transaction by picking the cheapest priced good.

A study published by the Commission in 2009,[10] concerning a mystery shopping exercise, found that consumers seeking to purchase goods on sites outside the home country have had their orders refused, or have not been able to complete the transaction, in six of 10 cases. This suggests obstacles remain in terms of the legal and regulatory underpinnings of cross-border e-commerce in the EU.

These obstacles are also likely to adversely impact cross-border trade in digital cultural products, although the Commission has not investigated the matter. One barrier mitigated by the digital nature of the product is the fact that cross-border delivery of digital cultural products does not require physical delivery from the warehouse, so returns are not an issue.

On the supply side, few merchants serve cross-border customers because of the incremental costs involved, as well as legal and regulatory barriers. In particular, the Commission noted in 2009: "Payment systems have also been the focus of EU action aimed at increasing interoperability and creating a seamless cross-border market, either through legislation (Directive on payment services) or by supporting industry-led initiatives (the Single Euro Payments Area). However, for consumers and traders (in particular SMEs), making and receiving payments cross-border online throughout the EU still remains a challenge and a major deterrent to cross-border trade."[11]

When packaged for purchase, cultural products are generally considered to be small ticket items. Merchants' margin on the sale of such products may be reduced by the minimum payment required on a transaction by the supplier of the payment system. This makes consumer adoption of e-money cards a key enabler of e-commerce since suppliers can receive the full amount, before settling VAT with the taxation authorities. (See *Payments* under *State of e-commerce enablers*.)

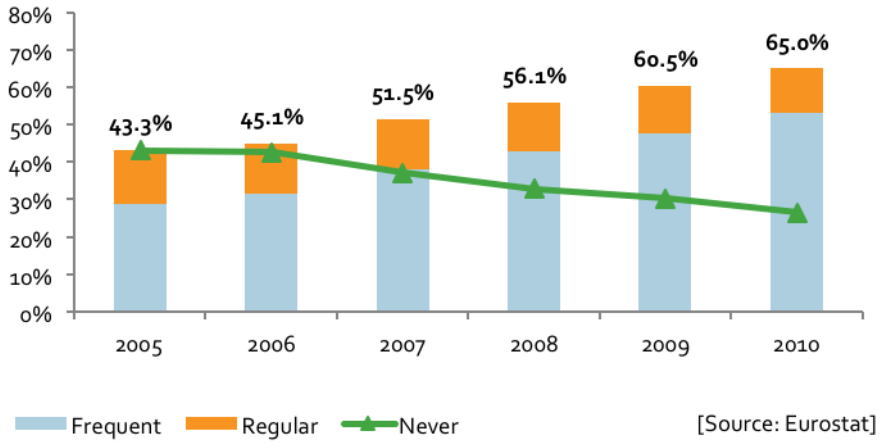
[8] "Report on cross-border e-commerce in the EU", SEC (2009) 283 final, http://ec.europa.eu/consumers/strategy/docs/com_staff_wp2009_en.pdf
[9] "Bringing e-commerce benefits to consumers", SEC (2011) 1640, http://ec.europa.eu/internal_market/e-commerce/docs/communication2012/SEC2011_1640_en.pdf
[10] YouGov Psychonomics (2009), "Mystery shopping evaluation of cross-border e-commerce in the EU", http://ec.europa.eu/consumers/strategy/docs/EC_e-commerce_Final_Report_201009_en.pdf
[11] "Cross-border business-to-consumer e-commerce in the EU", COM (2009) 557 final, para 45, http://ec.europa.eu/consumers/strategy/docs/COM_2009_0557_4_en.pdf

State of e-commerce enablers

Internet access

The proportion of Europeans who used the internet 'regularly' (at least once a week) in 2010 had increased to 65%, according to the latest comprehensive data on EU27 from Eurostat (Figure 7). The proportion of 'frequent' internet users (using the internet daily) closely matches the share of regular users.

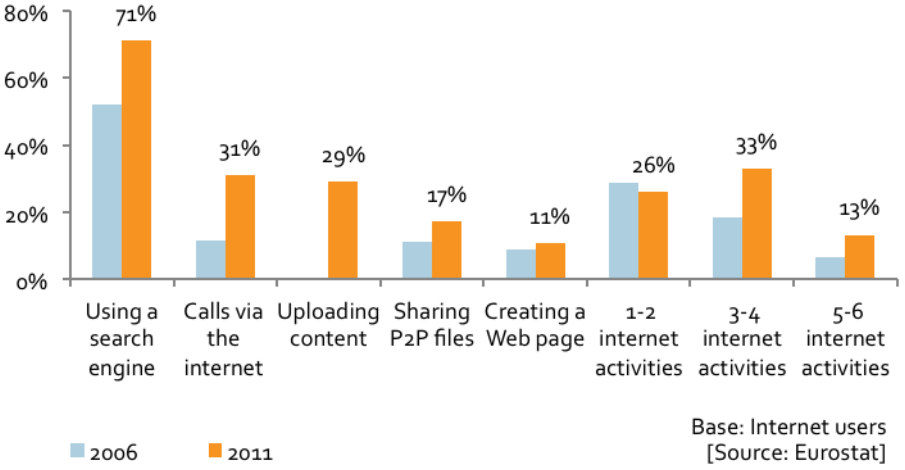
Figure 7: European internet users (%)



[Source: Eurostat]

Broadly speaking, as the European internet user base grows, the share of users engaging with the internet for a variety of tasks is increasing. By far the single most common activity is using a search engine, used by 71% of internet users in 2011, up from 52% in 2006 (Figure 8), according to a Eurostat survey. The survey also revealed that the share of users engaged in piracy, such as sharing P2P files, increased from 12% in 2006 to 17% in 2011 (noting that truthful answers to survey questions on piracy cannot be assumed).

Figure 8: Share of individuals that have engaged in...

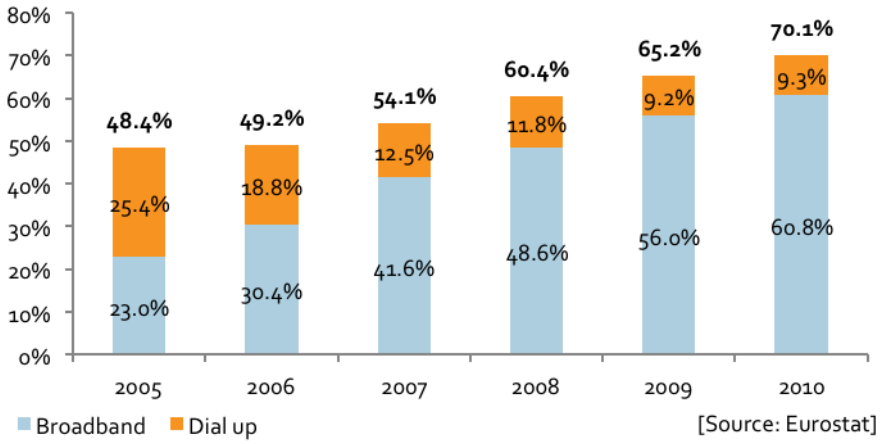


Base: Internet users
[Source: Eurostat]

Fixed-line internet access

Across the EU27, fixed-line internet access has grown to 70.1% of European households in 2010, compared to just under 50% in 2005 (Figure 9). During this five year time period, broadband has become the dominant access technology with penetration rising to 60.8% of homes in 2010 compared to just 23% of homes in 2005.

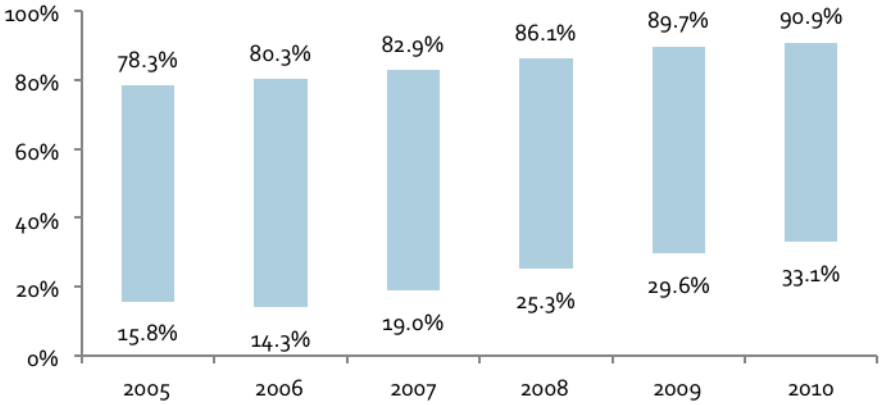
Figure 9: European fixed line connections/100 households (%)



[Source: Eurostat]

Although connectivity is rising in the EU as a whole, the spread among EU27 remains significant. In 2010, Bulgaria had the lowest level of fixed-line internet penetration at 33.1% and the Netherlands, at 90.9% had the highest (Figure 10). However, there is small progress towards convergence: the absolute difference in penetration rates stood at 57.8% in 2010, compared to 62.5% in 2005.

Figure 10: Spread of fixed-line connections per 100 households (%)

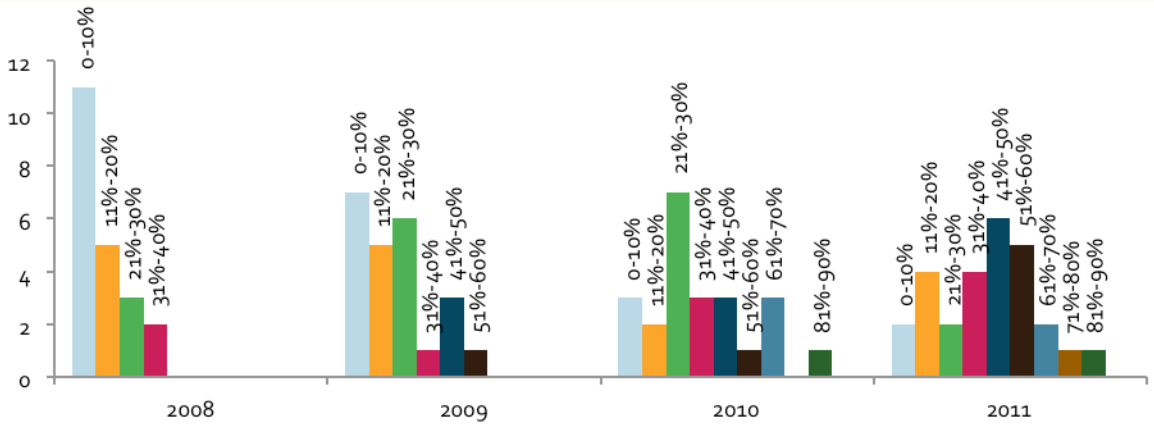


[Source: Enders Analysis based on Eurostat]

In term of broadband adoption, the leading country, Sweden, had 82.6% penetration in 2010, compared to Romania's 22.8%, making for an absolute difference of 59.8%. Within each country, there are often significant disparities between urban and rural environments, between wealthy and poorer regions. Such disparities in broadband adoption are also a factor in the adoption of digital consumption of books, films and music.

High-speed broadband connections, e.g. fixed-line broadband connections with download speeds in excess of 10 Mbit/s, are required to easily download or stream digital audiovisual products. Over time, the number of such broadband lines has increased, but the modal proportion was 41%-50% by 2011 (Figure 11).

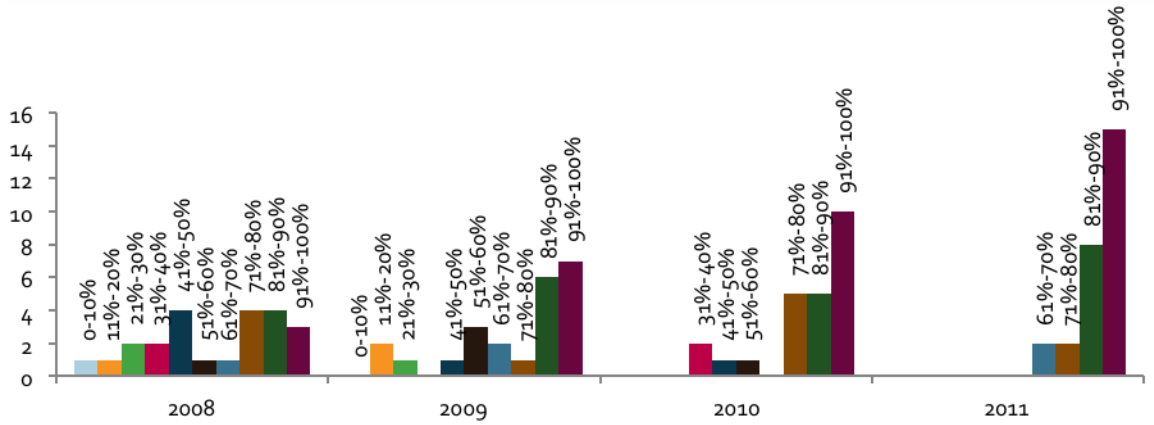
Figure 11: Distribution of countries by proportion of 10Mbit/s fixed broadband



[Source: Enders Analysis based on Eurostat]

The basic level of fixed-line broadband download speed has also improved significantly. As Figure 12 illustrates, all of the EU27 countries report that at least 60% of lines are of 2 Mbit/s or better, while 23 have at least 80% of lines.

Figure 12: Distribution of countries by proportion above 2Mbit/s fixed broadband

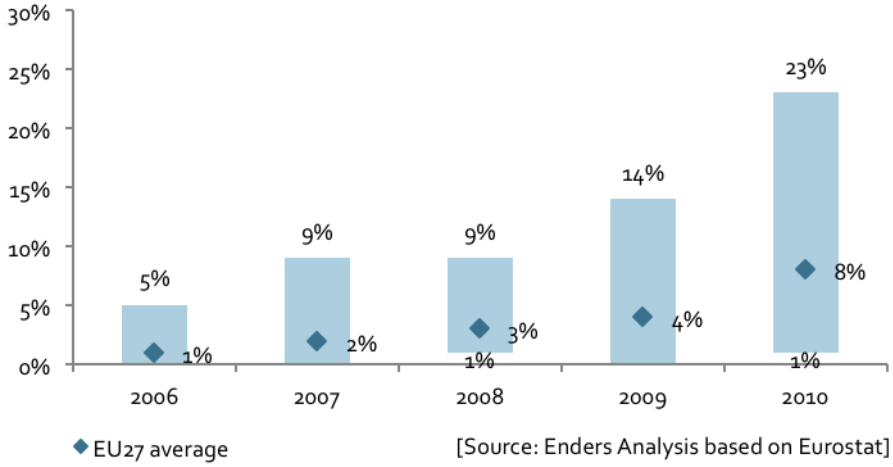


[Source: Enders Analysis based on Eurostat]

Mobile internet access

Growth in internet enabled handsets is occurring at such a rapid pace that Europe-wide data, for which there is a significant time lag, is of little use. Eurostat reports that mobile internet penetration across the EU27 reached 8% of the population in 2010, up from 4% in 2009. This average masked a significant spread in terms of individual markets (Figure 13): mobile internet penetration is high in the UK, France, Germany, Denmark, Iceland, Luxembourg, Norway and Sweden; while Cyprus, Ireland, Malta and many East European countries are lagging.

Figure 13: Spread of mobile internet users/100 people (%)

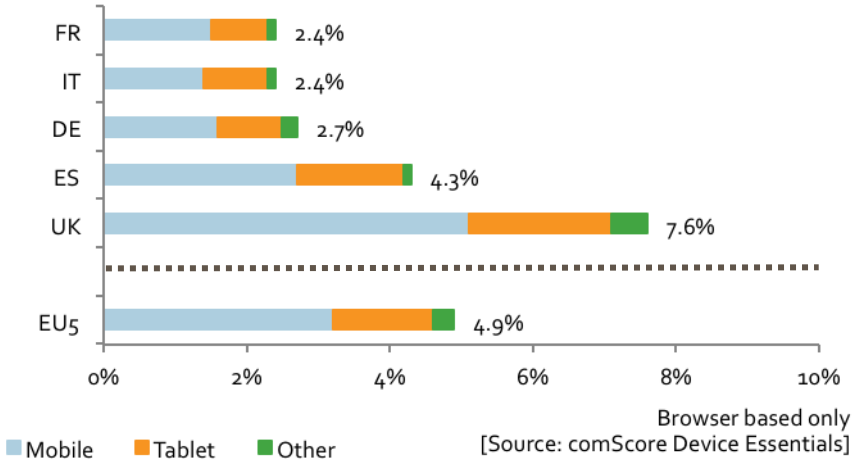


Smartphone adoption is additional, rather than substitutional to PC use. Even in those countries where smartphone penetration is high, internet usage remains a PC-centric experience.

Time spent per user is lower on mobile than on PC. Mobile internet consumption is constrained by smaller screens, 'on the go' use and more expensive data pricing. These constraints do not affect tablets to the same degree: screens are larger, usage is weighted more towards the evening hours when users are at home, and most traffic is through Wi-Fi connections.

Across the EU5, non-PC page views accounted for 4.9% of internet page views in December 2011, with mobile accounting for 3.2% and tablets for 1.4% (Figure 14). It is harder to find reliable data across all EU27 countries. StatCounter, which monitor a sample of three million websites, estimate that mobile devices accounted for 4.5% of traffic in 2012, up from 0.5% in 2008.

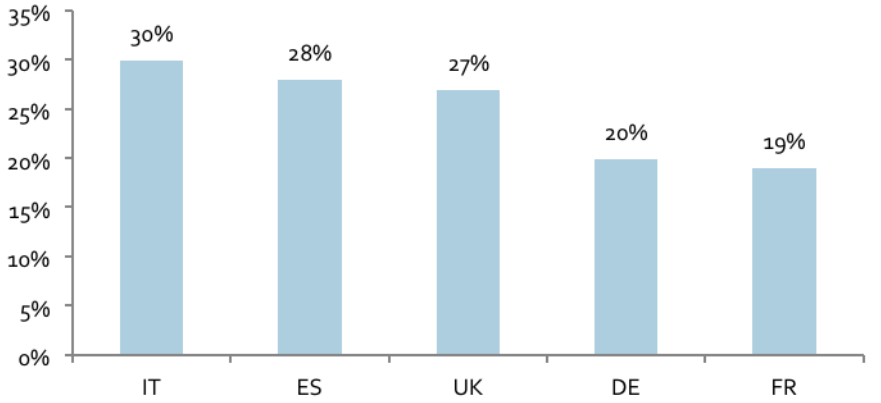
Figure 14: Share of internet page views, Dec-11 (%)



Mobile devices: smartphones

The launch of the iPhone in 2007 invigorated the smartphone market (we define smartphone as any phone with a QUERTY keyboard, whether touchscreen or not), Smartphone penetration of the mobile handset base was between a fifth and a third in the EU5 in March 2011 (Figure 15). But smartphones accounted for 56% of new handset sales across these markets.

Figure 15: Smartphone penetration of handsets, Mar-11 (%)



[Source: Enders Analysis]

The UK, Germany and France all have a relatively high penetration of internet-centric smartphones (Apple, Android, BlackBerry), with the majority (75-80%) of smartphone users connecting to the internet on their handset. In contrast, Italy and Spain still have a high share of older, Symbian handsets in the base, with these handsets less likely to be used for data.

Apple's share increased in Q4 2011 following its launch of the iPhone 4S in October, but the adoption of iPhones is constrained by the expense of the devices and its own vertically integrated business model and launch cycle. Android smartphones now account for 31% of all handsets across the EU5, up from 2.2% in March 2010. Symbian remains in decline.

The adoption of mobile broadband has been smooth and rapid to date, but there is a bump in the road ahead. Smartphones now dominate contract sales, but still have a modest share of prepay sales. Consumers are seeking good quality smartphones at prepay price points, but prepay subsidy cuts (especially in the UK for instance) are not helping, and current economic conditions are not conducive to consumers investing in more expensive devices.

Mobile devices: tablets

The iPad launched in France, Germany, Italy, Spain, Switzerland and the UK in May 2010. Since then, Apple has now sold 55.3 million iPads, 15.4 million in Q4 2011 alone. Around 4.7 million 'premium' Android tablets sold in Q4 2011.

In general, Android tablets are competing against Apple far less well than Android phones. Android phones are half the price or less of the iPhone, but would-be iPad competitors are the same price or higher. There are a great many cheap tablets running older versions of Android not intended for tablets: they have low specifications and cannot run many apps, but have found a market by selling at

$100-150. With the continued absence of a meaningful content ecosystem for Android tablets, they will not gain much share from the iPad.

In contrast, the strongest-selling competitive tablet was probably the Kindle Fire – at half the price ($200) and with a coherent content proposition from bundled Amazon services.

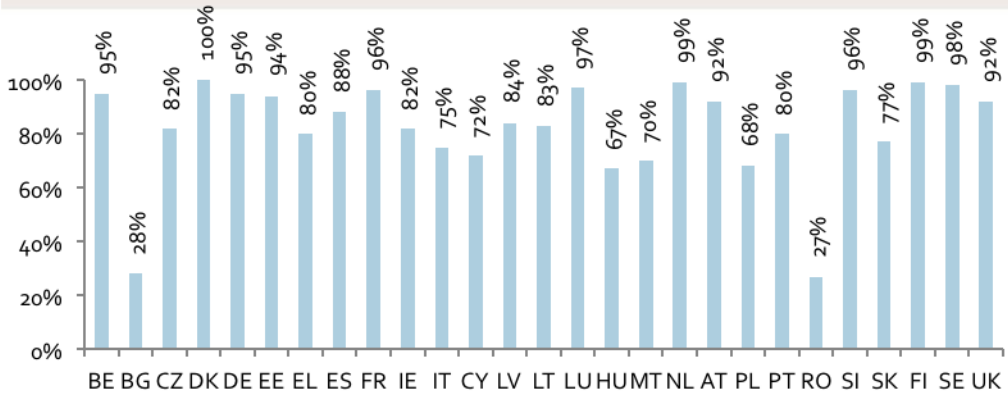
Currently, the tablet audience in the EU5 is predominantly male (61.9%).[12] The most extreme gender divide was amongst German tablet owners where 65.3% of users were men. Amongst the smartphone audience, the UK was closest to an equal gender divide with 47.6% of all smartphone users being female. Users aged 25-34 accounted for the largest share of tablet owners at 22.3%, while those aged 35-44 accounted for an additional 19.6%.

The nature of internet consumption is markedly different on tablets than PC (which is a 'lean forward' experience) and smartphones (which is 'on the go'). Tablet usage on weekdays experienced the highest relative percentage of its activity in the late evening between 21:00 and 23:00, according to comScore, the 'in bed' and 'sofa' moments. Tablets offer a distinct and new opportunity.

Payment systems

EU27 exhibit high penetration rates of current banking accounts (Figure 16), which are a necessary precursor to the debit and credit cards frequently used in e-commerce. Penetration is high in Western Europe (86%) and Scandinavian member countries (99%), followed closely by Eastern Europe (74% excluding Romania and Bulgaria). This implies a strong base of consumers to whom e-commerce via e-payment systems can be leveraged.

Figure 16: Current account penetration (%)



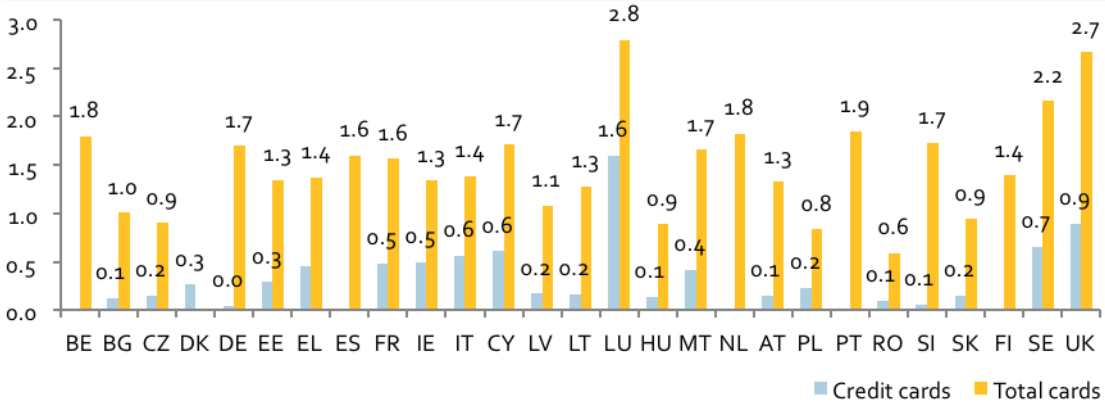
Based on a survey of 26,856 EU citizens aged 15+
[Source: Flash Eurobarometer]

Market preferences for payment methods vary significantly across the EU: credit cards are less popular in the Netherlands and Germany (Figure 17) who instead prefer e-wallets like PayPal. Data on online shoppers in Eastern Europe indicate lower usage of credit cards and higher usage of cash on delivery (which is impossible to apply to transactions of digital cultural products) and mobile payment systems. E-wallets pay the e-merchant without revealing the underlying

[12] comScore (2012), "Connected Europe: How smartphones and tablets are shifting media consumption", http://www.comscore.com/Press_Events/Presentations_Whitepapers/2012/Connected_Europe

card information, thus helping the 'digitally nervous' or 'digitally excluded' to engage in e-commerce.[13]

Figure 17: Payment cards per capita, 2010



Some data unavailable for certain countries
[Source: Enders Analysis based on Bank of International Settlements and ECB data]

Credit cards are the prevalent means of transacting online, as well as e-wallet systems like PayPal. Credit cards are also typically used to make subscription payments for VOD and pay-TV services, with online payment as one option amongst others. Customers often feel safer communicating their payment details offline than online, given the latter's perceived risks.

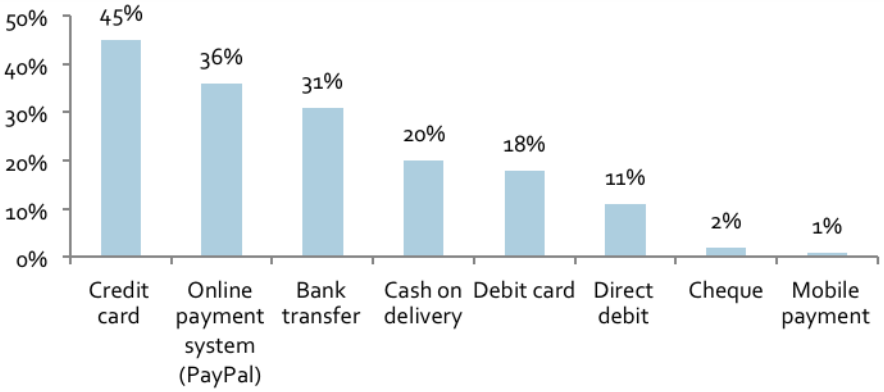
For sales of small ticket items, like most digital cultural products, credit card charges adversely impact the revenues realised by suppliers of digital cultural products. In turn, suppliers increase their margin when e-money cards are used.[14] However, despite EU-level policy action to foster their adoption, e-money is not as prevalent a payment system as debit and credit cards (Figure 18), according to a 2011 report sponsored by the Commission.[15]

[13] Total losses from card fraud in 2009 amounted to €494 million in the UK, €266 million in France and €78 million in the Netherlands. Welch (2010), "European Payment Card Fraud Report 2010", http://www.paymentscardsandmobile.com/Payments-Cards-Mobile-Affiliates/fraud-report/PCM_Fraud_Report_2010.pdf

[14] According to DG Internal Market: "Electronic money is a digital equivalent of cash, stored on an electronic device or remotely at a server. One common type of e-money is the 'electronic purse', where users store relatively small amounts of money on their payment card or other smart card, to use for making small payments. But e-money can also be stored on (and used via) mobile phones or in a payment account on the internet."
http://ec.europa.eu/internal_market/payments/emoney/index_en.htm

[15] Civic Consulting (2011), "Consumer market study on the functioning of e-commerce and Internet marketing and selling techniques in the retail of goods", http://ec.europa.eu/consumers/consumer_research/market_studies/docs/study_ecommerce_goods_en.pdf

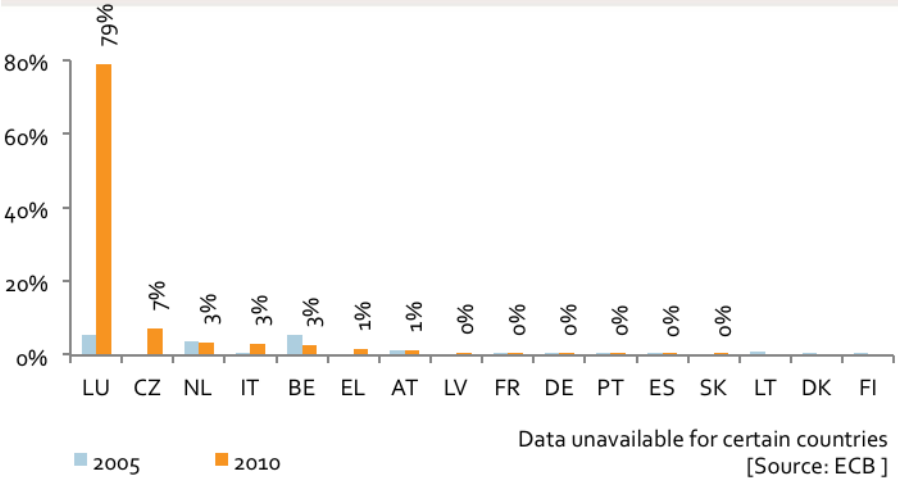
Figure 18: E-commerce payment methods, 2010 (%)



Based on a sample of 25,940 online shoppers across the EU
[Source: Civic Consulting, European Commission]

Data on e-money transactions in each of the EU27 is not available. For those countries where data is available, the share of e-money in non-cash transactions is generally low, with the outstanding exception of Luxembourg (Figure 19).

Figure 19: E-money share of non-cash transactions (%)



Data unavailable for certain countries
[Source: ECB]

As noted earlier, the issue of payments is recognised as one of the main barriers to e-commerce in the EU. Key issues identified in the Commission's public consultation on the matter include a highly fragmented payment system landscape across member states, high transaction costs for merchants and consumers and lack of consumer confidence in electronic payments systems.[16]

Mobile payment systems

Mobile wallets or 'm-wallets' are, as yet, nascent. Visa and Vodafone plan to launch an m-wallet to the latter's subscribers in Germany, the Netherlands, Spain, Turkey and the UK in 2012, and Telefonica's O2 launched theirs in the UK in April 2012. Vodafone, Telefonica and Everything Everywhere have made a joint submission to the Commission to launch Project Oscar, a mobile wallet for their subscribers while Apple and Google are also preparing to enter this space.

[16] "Towards an integrated European market for card, internet and mobile payments", COM (2011) 941 final, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0941:FIN:EN:PDF

Digital piracy

Overview

Digital piracy is the 'free' option for all consumers of digital cultural products. Typically, it does not require any spend or payment method, just an internet connection. Due to the number of licensed offers to purchase and consume books, films or music, the fact that pirated content is 'free' is probably the principal motivation for the 27% of European internet users who visited at least one unlicensed site in the month of November 2011, according to Nielsen/IFPI.[17]

A licensed option to consume or purchase content is the bedrock of action against piracy. Sections of this report on music, films and books detail the density and diversity of the offers available in the EU27. With the exception of the exclusive window for the theatrical exhibition of films, there is invariably a legitimate option in each market of the EU to purchase or consume music, books and films licensed for territorial exploitation. While the cross-border supply of content is limited, the evidence suggests that demand for this type of non-local content concerns mainly the EU's migrant population of 17.6 million, 3.4% of the EU's population. (See *Demand for digital cultural products*.)

In the presence of licensed offers, digital piracy reduces the revenues of Europe's creative industries at both the wholesale and the retail level, and adversely impacts their investment in services, innovation and job creation. Digital piracy is especially prevalent in the music, film, TV series and software retail markets. In these markets, suppliers of licensed digital cultural products face an uneven playing field in relation to unlicensed suppliers. Markets for cultural products that are mired in digital piracy reduce the commercial opportunity for suppliers.

Piracy was slower to affect the book industry, given the prevalence of the printed format. However, this is changing with the rise of tablets, especially the more 'open' ebook readers such as the iPad, Nook and Sony Readers, which support ePub and PDF formats from virtually any source. This makes it easy to copy and disseminate files. In October 2011, the Association of German Book Trade reported that 60% of ebook downloads in Germany are illegal.[18]

From a technical perspective, digital piracy broadly divides between peer-to-peer (P2P) file sharing and non P2P channels. Without solutions for P2P *and* non P2P, users will migrate from one to the other:

- P2P file sharing often uses BitTorrent protocol and requires a modicum of technical skill. Files are hosted across a dispersed network of users, making site blocking an ineffective remedy. Sites such as The Pirate Bay are not hosting content; they simply offer magnet links, which allow content to be referenced without the need for a continuously available host. Graduated response anti-piracy regimes (such as HADOPI in France) have focused on combating P2P piracy by consumers
- Non P2P channels are a fast-growing problem. These include blogs, cyberlockers, forums, easy-to-access streaming sites, smartphone based applications and stream ripping applications. These sites actually host the content, which requires bandwidth, and often operate on an ad-supported basis. Website blocking measures are intended to deal with non P2P

[17] IFPI (2012), "Digital Music Report 2012", http://www.ifpi.org/content/library/DMR2012.pdf
[18] Ibid.

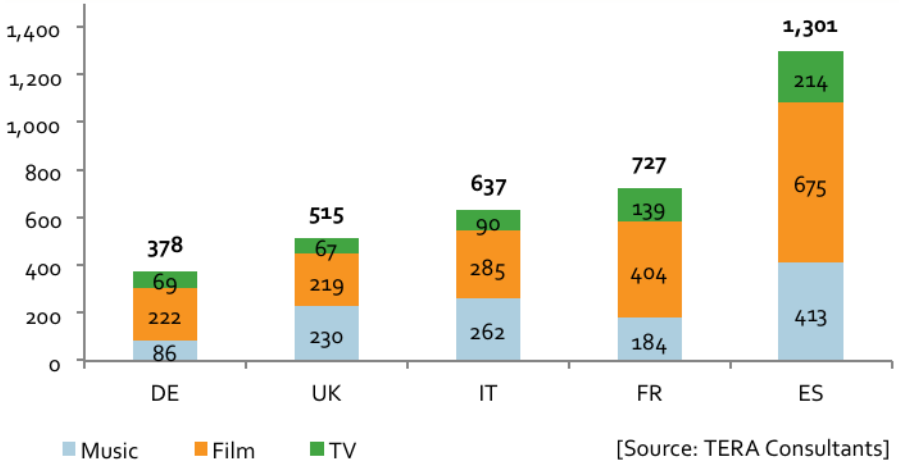
Measuring digital piracy

Many studies have been undertaken in the past decade to place a value on the foregone revenues of the creative industries due to piracy. It is widely agreed that not all piracy is a substitute for purchase, most notably when discovery is the motive. Determining foregone consumer expenditure from piracy is a very demanding exercise by virtue of the complex interaction between piracy and market outcomes, as well as the absence of reliable customer surveys.

In 2010, TERA Consultants estimated that the European Union's audiovisual industries (film, TV series and recorded music – they exclude books) experienced retail revenue losses of €4,745 million due to digital piracy in 2008.[19] The model TERA Consultants used to construct these estimates took the number of copyright infringements, applied a substitution rate and multiplied by the retail value. The overall estimate for EU27 was arrived at by scaling up the losses estimated for the EU5 based on the GDP of the remaining 22 Member States.

Out of the EU5, TERA Consultants estimated that Spain was the top market for digital piracy of music, film and TV series (Figure 20). Indeed, 92% of 16-24 year-old internet users and 70% of 45- to 55-year-olds in Spain admitted to using P2P networks, according to IDC.[20] Unsurprisingly, Spain is less attractive to suppliers of licensed digital content than the UK and is therefore not as amply supplied: there are 72 licensed digital music suppliers in the UK, compared to just 32 for Spain (see *Recorded Music*). The estimate for piracy in France predates the implementation of the HADOPI regime in October 2009 (see below for early results).

Figure 20: Revenue loss due to digital piracy, 2008 (€m)



[19] TERA Consultants (2010), "Building a Digital Economy: The Importance of Saving Jobs in the EU's Creative Industries", http://www.iccwbo.org/uploadedFiles/BASCAP/Pages/Building%20a%20Digital%20Economy%20-%20TERA(1).pdf

[20] IFPI (2012), "Digital Music Report 2012", http://www.ifpi.org/content/library/DMR2012.pdf

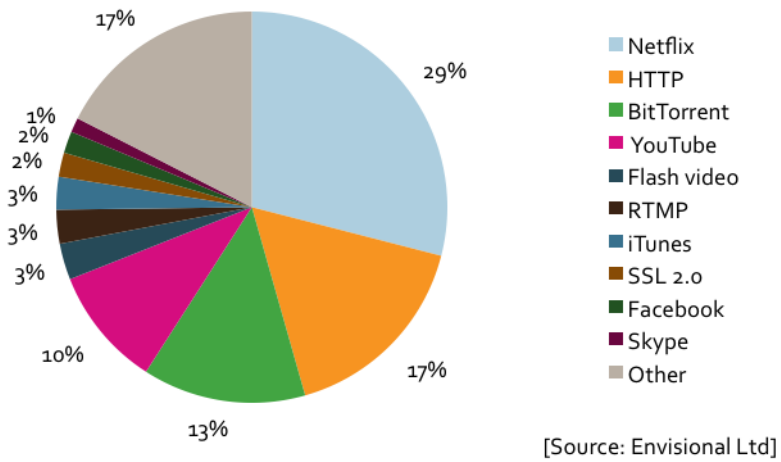
Digital piracy: the need for legal alternatives

There is evidence that consumers will move to legal alternatives where convincing, affordable services are available. It is important to note, however, that the shift to a legal alternative is not always a shift from free to pay-for content.

Vevo, for example, is a free music video service, which aims to shift users away from pirated videos on YouTube. If a track is on Vevo, duplicate and pirate copies are removed from elsewhere on YouTube. Vevo offers a secure environment for content including advertising, audience measurement, personalisation (login through Facebook) and sponsorships. For the consumer, Vevo's attractiveness is the quality of the experience. (We consider the offer of licensed services available in greater detail in our *Recorded music*, *Video-on-demand* and *Books*.)

In the US, Netflix accounted for 29% of bandwidth consumption in December 2010, while BitTorrent accounted for only 13% (Figure 21). In Europe, BitTorrent accounted for 28% of bandwidth consumption in December 2010 (Figure 22), noting Netflix launched in 2011 in the UK and Ireland.[21]

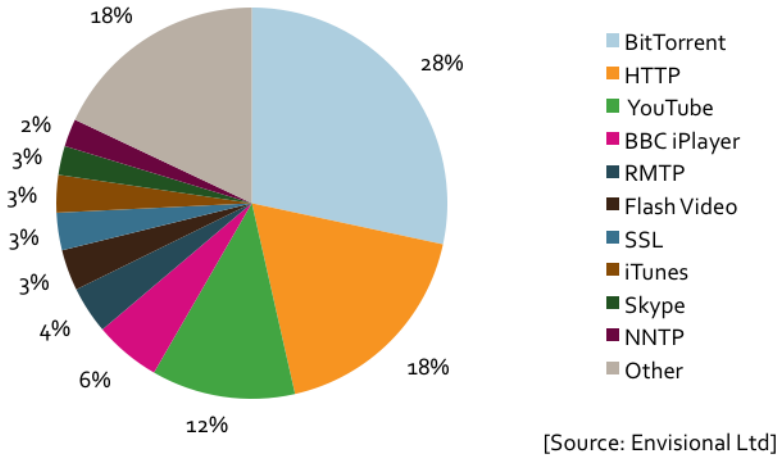
Figure 21: US bandwidth consumption share, Dec-10 (%)



[Source: Envisional Ltd]

[21] Envisional (2012), "State of Digital Piracy", http://www.teamlightbulb.com/Broadband/Price_Evisional.pdf

Figure 22: Europe bandwidth consumption share, Dec-10 (%)



[Source: Envisional Ltd]

Combating digital piracy

Rights holders have pursued a strategy to combat piracy for the past decade which emphasises regulation and the co-operation of intermediaries, including ISPs, mobile network operators (MNOs), credit card companies, advertisers, search engines and content hosting sites. In addition, content owners typically take legal action to 'take down' sites that are hubs for piracy (e.g. Megaupload).

EU legislation

In January 2011 the Commission launched a consultation on its report on the implementation of the Directive on the enforcement of intellectual property rights.[22] The report concluded that the Directive should be reviewed to deal in particular with the challenge posed by infringement on the internet, including increased involvement of intermediaries given their ability to contribute to curbing online infringement. The Commission plans to publish a proposal to review the Directive in the second half of 2012.

Content filtering and its difficulties

In February 2012, the Court of Justice of the European Union (ECJ) ruled that social networks cannot be forced to actively observe its users and filter content to prevent copyright infringement (SABAM v. Netlog). This followed the decision in April 2011 where it found that no ISP could be forced by national courts to filter the internet, and particularly not to enforce copyright law (SABAM v Scarlet).[23] Such a

[22] "Application of Directive 2004/48/EC of the European Parliament and the Council of 29 April 2004 on the enforcement of intellectual property rights", SEC (2010) 1589 final, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0779:FIN:EN:PDF

[23] In SABAM v Scarlet, Advocate General Cruz Villalón made the following recommendation to the ECJ: "[T]he Court of Justice should declare that EU law precludes a national court from making an order... requiring an internet service provider to install, in respect of all its customers, *in abstracto and as a preventive measure*, entirely at the expense of the internet service provider and for an unlimited period, a system for filtering all electronic communications passing via its services (in particular, those involving the use of peer-to peer software) in order to identify on its network the sharing of electronic files containing a musical, cinematographic or audiovisual work in respect of which a third party claims rights, and subsequently to block the transfer of such files." [*Emphasis added*], Court of Justice of the European Union (2011), PRESS RELEASE No 37/11, http://europa.eu/rapid/pressReleasesAction.do?reference=CJE/11/37&type=HTML

system would fall afoul of the key principle in Article 15 of the EU e-commerce Directive, which releases ISPs and hosting services from monitoring the content they transmit or store, or to actively seek facts or circumstances that indicate illegal activity.

Previously, in March 2011, an Italian court had ordered Yahoo! to actively observe its users, and monitor and filter all instances of copyright infringement in relation to unauthorised links to the Iranian film *About Elly*. This would have required Yahoo! to constantly monitor all linked web content. In June 2011, Yahoo! appealed the order and it was revoked. The Court reaffirmed the principle of non-responsibility of the provider.

Blocking specific URLs

ISPs and MNOs can block users' access to infringing websites. However, expense, time and effort are required to litigate such actions through the courts.

Italy and Spain are working on legislation that will streamline this process. Currently, rights holders must win a court injunction against an ISP to block infringing content. Often, ISPs appeal the case. The AGCOM (in Italy) and Intellectual Property Committee (Spain) will have the power to quickly force domestic websites to remove infringing content, and ISPs and MNOs to block access to infringing websites, without recourse to the courts.

In Germany courts have continued to rule that ISPs are not required to block access to specific URLs. The Ministry of Economics in Germany is currently looking into a graduated response policy (see below for France's HADOPI regime).

Site blocking can have a powerful impact. In Belgium, monthly users to The Pirate Bay dropped by 84% (according to comScore), following a ruling by the Antwerp Court of Appeal that ISPs Belgacom and Telenet block access to the site. Website blocking has had a similar effect in Italy, Denmark, Austria and Finland according to the IFPI/Nielsen.

However, there are two problems with site blocking. Firstly, when one site is taken down, another quickly takes it place. This is particularly true of sites simply offering magnet links to content hosted across a P2P network. Secondly, it is well known that determined users can easily circumvent any blocking methods an ISP may implement. Many courts conclude nevertheless that the time, effort, skill and cost involved in such circumvention means that site blocking is an 'effective enough' remedy. This is where ISP co-operation is all important. Netherlands ISP Ziggo was ordered to block access to The Pirate Bay in February 2012, but provided instructions to users on how to get around the block.

In future, governments and courts will have to consider the consistency of site blocking with net neutrality legislation. Currently, across Europe, only the Netherlands has legislated on this.

Graduated response

The 'graduated response' approach targets those internet users who repeatedly access infringing content. Rights holders use third party services to locate the IP addresses that are being used to infringe copyright, and then alert ISPs and MNOs. ISPs then match IP addresses to subscriber details. Users who repeatedly infringe copyright receive notices and may face fines, temporary account suspension, bandwidth throttling or protocol blocking.

France is currently the only European country with a fully implemented, nationwide graduated response regime: HADOPI. Approved by the Constitutional Council in October 2009, the law only covers the download of copyrighted media on P2P networks; it does not cover other means of piracy.

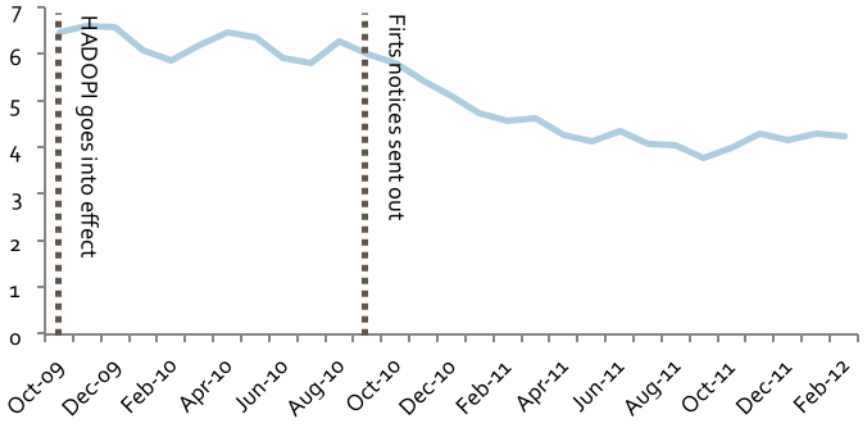
For P2P activity, the law is firm. HADOPI, the authority responsible for implementation, has regularly reported its progress, which includes making its mission known to the public and issuing labels to identify licensed from unlicensed services. The regime adopts the following process:

- **Step 1:** An email is sent to the internet subscriber based on the IP address involved in the claim lodged by the copyright holder. The subscriber is invited to install a filter to secure their connection, and the ISP monitors the connection (which some are refusing to do)
- **Step 2:** If, in the six months following step 1, a repeat offense is suspected by the copyright holder, the ISP or HADOPI, an email and a certified letter are sent to the subject subscriber. The letter contains similar content as the original email message
- **Step 3**: During the year following reception of the certified letter, and upon accusation of repeated offenses by the copyright holder, the ISP or HADOPI, an expedited criminal procedure may lead a judge to suspend internet access for a specified period of one month and impose a fine of €1,500

HADOPI began sending out notices in September 2010. Since that date, the number of P2P users has declined, from 6.3 million in August 2010 to 4.3 million in February 2012, according to the IFPI and Nielsen (Figure 23). This equates to a decline of -32%, or 2.0 million users. Over this period, IFPI reports that 920,000 warning emails and 80,000 follow-up letters were sent to infringers, and 250 cases are under the third phase of investigation. The volume of files found on P2P networks has also fallen, suggesting users have reduced their activity.

This is corroborated by an Ipsos Media CT online survey, conducted on behalf of the IFPI and MPA in November 2011. The survey of 1,380 online adults aged 15-50 years old suggested that France had one of the lowest levels of P2P use.

Figure 23: Decline in P2P users in France (m)



[Source: IFPI/Nielsen]

A study reports that HADOPI has had a positive impact on digital music sales in France.[24] Increased consumer awareness of HADOPI caused iTunes digital track and album sales in France to increase by 23% and 25% respectively, relative to changes in the control group (countries without a regime).

Graduated response regimes are in various stages of development in the UK, Finland, Denmark and Germany (Figure 24). In Ireland, ISP Eircom reached an agreement with record labels whereby customers who were found to have illegally downloaded copyrighted material three times would have their internet access suspended for seven days. However, these measures were rejected as unlawful by the Data Protection Commissioner on privacy grounds in December 2011.

[24] Danaher, Smith, Telang, Chen (2012), "The Effect of Graduated Response Anti-Piracy Laws on Music Sales: Evidence from an Event Study in France", http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1989240

Figure 24: Summary of copyright legislative positions for selection of countries

Country	Notes	Site blocking	Graduated response
France	HADOPI approved Oct-09 under *Creation and Internet* law. Following repeat infringements by users, HADOPI passes user data to criminal courts, where a single judge is empowered to order the suspension of internet access for up to one month and a €1,500 fine.	✓	✓
Ireland	In Jan-12, the Irish government passed a law allowing Irish courts to ask ISPs and other intermediaries to block access to infringing websites. ISP Eircom has been sending notices and disconnecting repeat infringers despite privacy concerns.	✓	Eircom only
UK	In Apr-12, the High Court ruled that ISPs must block access to The Pirate Bay (TPB). This follows a similar injunction against Newzbin2 in Oct-11. DCMS have delayed enforcement of the DEA until 2014. The act would involve measures including sending notices and disconnecting repeat infringers.	✓	Pending
Denmark	In Feb-11, ISP 3 blocked Grooveshark (following precedent in May-10 with TPB). ISPs are co-operating. In Apr-11, the Ministry for Culture recommended a law requiring ISPs to keep details of repeat infringers.	✓	Pending
Finland	In Oct-11, a court ordered ISP Elisa to block TPB. In 2008 and 2011, courts issued injunctions requiring ISPs to disconnect repeat infringers. A graduated response draft bill is currently being amended.	✓	Pending
Italy	Since Dec-09, magistrates have had power to force ISPs to block infringing websites. Amendments currently being discussed will give AGCOM power to force (a) domestic websites to remove infringing content and (b) ISPs to block access to infringing websites, without recourse to courts.	✓	×
Spain	Sinde Law passed Feb-11 (but not implemented until Jan-12) empowers an Intellectual Property Committee to take action against those providing illegal content and ISPs, within 10 days of a complaint. It was previously almost impossible to block a site or issue a fine for infringement.	✓	×
Belgium	In Sep-11, the Belgium Court of Appeal ordered two ISPs to block 11 domain names associated with TPB. A court initially ordered ISP Belgacom to block infringing content *in abstracto*. However, the ECJ found this broad injunction to be incompatible with European law.	✓	×
Netherlands	In Jan-12, a court ordered the blocking of TPB by ISPs Ziggo and XS4all. In Oct-11, the Government promised to improve enforcement measures, emphasising the role of ISPs in site blocking. A bill is expected this year.	✓	×
Austria	In May-11 a court issued an injunction requiring ISP UPC to block copyright infringing site kino.to. In Nov-11 the appeal from UPC was overruled	✓	×
Norway	In Nov-09 a court rejected demands from rights holders TONO against ISP Telenor, to have TPB blocked. Consultation for a bill on internet piracy, requiring ISPs to delete or block infringing websites is under discussion.	Pending	×
Germany	In Jan-12 a court ruled that ISPs are not required to block access (following a similar decision in Dec-11). The Ministry of Economics is considering a graduated response approach. It expects to make a decision before Jul-12. Germany is backing away from ACTA	×	Pending
Poland	Backing away from ACTA following strong opposition from the leftist Palikot's Movement	×	×

[Source: Enders Analysis based on IFPI and other sources]

Supplying digital cultural products

Value added tax

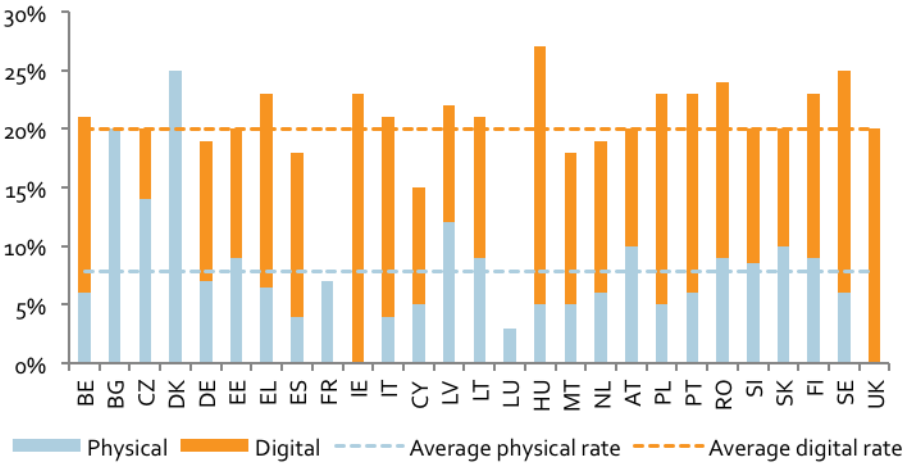
Multi-territory e-commerce suppliers often choose to supply the EU by establishing in the market offering the most favourable VAT regime. The Commission is aware that the absence of VAT harmonisation is an obstacle to efficient intra-EU trade and prevents consumers and businesses from realising the full benefits of the single market. The Commission has also concluded that "the existing application of reduced rates translates into significant subsidies."[25] The EU is working towards reshaping the application of VAT.

In the case of e-commerce in digital cultural products, VAT is currently assessed on a country-of-origin basis in B2C transactions. This means the benefit of e-commerce in terms of its contribution to fiscal receipts is not uniformly shared in the EU.

In terms of retailing of digital books, music and video, there are two areas that require analysis: the differential application of VAT to physical and digital products within a specific country, and the differential application of VAT to products between countries. Of specific interest is the use of a 'super reduced rate' of 3% in Luxembourg that is applied to the sale of digital products.

Figure 25 illustrates the VAT rates applied to physical and digital books throughout the EU. In the UK, physical books are VAT exempt, but ebooks have VAT applied at the standard rate, currently 20.0%. On average, the VAT rate applied to physical books is 7.8%. In contrast, every country applies VAT to ebooks, generating an average rate of 20.0%. Within the EU, three countries apply the same VAT rate to both book formats: the Czech Republic, France and Luxembourg.

Figure 25: Rate of VAT applied to books by format (%)

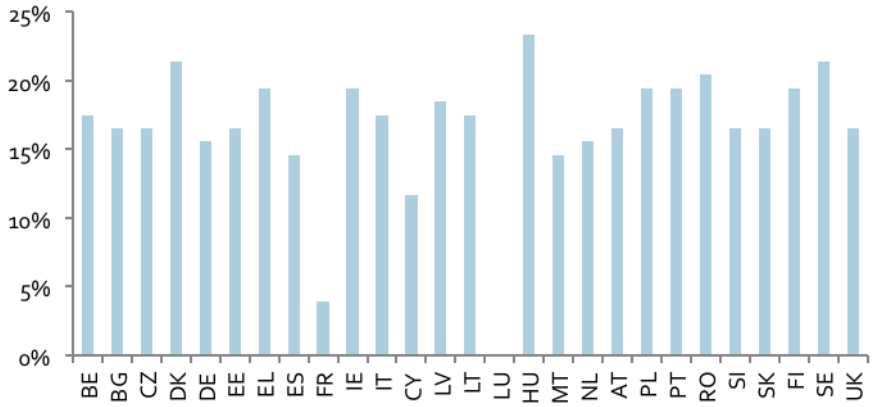


[Source: European Commission]

[25] "Towards a simpler, more robust and efficient VAT system tailored to the single market", COM (2011) 851 final, http://ec.europa.eu/taxation_customs/resources/documents/taxation/vat/key_documents/communications/com_2011_851_en.pdf

Apart from the differential application of VAT to book formats within countries, the difference in VAT rates between countries for ebooks is key consideration. As the figure above highlighted, Luxembourg applies the lowest level of VAT to ebooks at 3%. This provides businesses that provide ebooks from Luxembourg with a significant cost advantage in some instances. Figure 26 shows the implied higher pricing caused by the different VAT rates. An ebook sold in Hungary would cost 23.3% more than one sold in Luxembourg with the same pre-VAT price. The average increase in price is 16.5%. This prevents a uniform retail price from prevailing in all the markets of the EU.

Figure 26: Effect of VAT rates on ebook pricing (%)



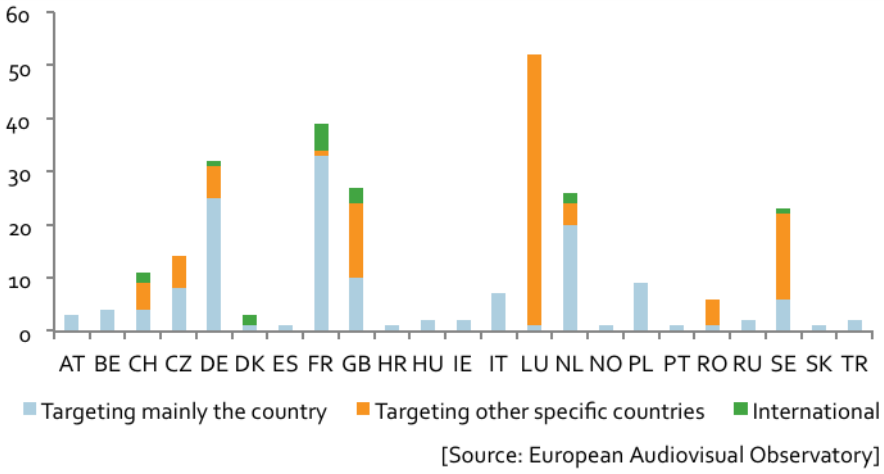
[Source: Enders Analysis based on the European Commission]

Implications of VAT regimes

One of the primary consequences of the differential VAT rates applied to the same products by European countries is the establishment of businesses. Many of the leading retailers of digital music, video and books are established in Luxembourg. Local suppliers of digital cultural products face an uneven playing field in relation to suppliers with the scope and scale to establish in Luxembourg.

For example, the European Audiovisual Observatory reports the existence of 264 online VOD services in the EU27. Luxembourg leads with 52 such services (20% of the total), of which one is to the home market and 51 target other markets.

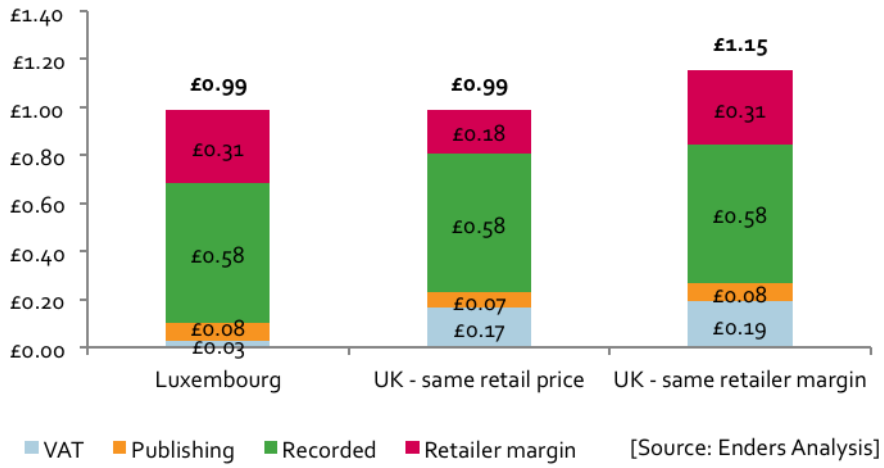
Figure 26: Number of VOD services by country of establishment



[Source: European Audiovisual Observatory]

The location of suppliers of digital cultural products in Luxembourg (which is the result of the absence of VAT harmonisation) enables the supplier to make different pricing decisions than if the store was required to locate in the country where the purchasing consumer is located. Figure 27 highlights the differences to the cost structure based on a hypothetical cost structure of a digital music track download sold to a consumer based in the UK. In the example, music publishers receive a royalty of 8% of the ex-VAT price while recorded music companies receive a fixed fee of £0.58. In order to maintain a £0.99 price point in the UK, the retailer's gross profit is reduced. If the pre-VAT price of a track is the same in the UK and Luxembourg, in order for the retailers' gross profit to be equal, the consumer ends up paying 16.5% more for the track.

Figure 27: Implication of VAT rate on cost structures (£)



[Source: Enders Analysis]

Digital music

Overview

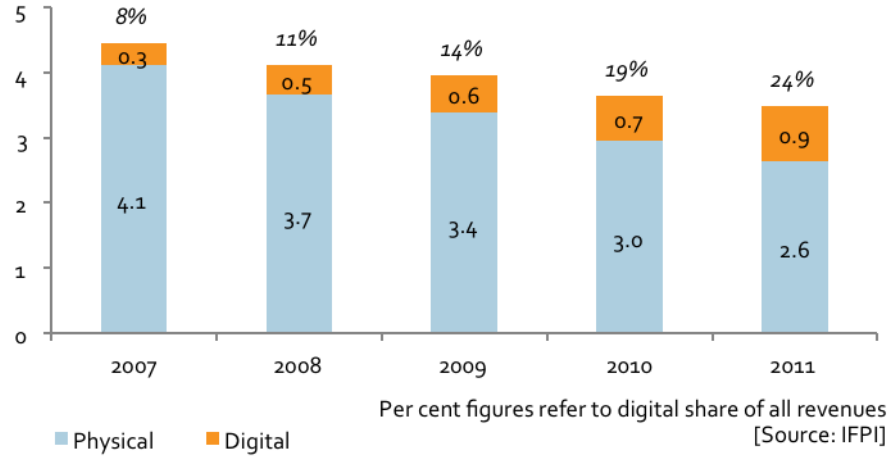
Recorded music was the first creative industry to confront the physical-to-digital transition. Consumers have been able to interact with digital music for at least the past two decades, but licensed services did not emerge until the early years of the millennium. Volumes and revenues from digital track downloads have continued to grow since the launch of iTunes in the UK, France and Germany in June 2004, while on-demand streaming services, usually sold on subscription, have found a new driver since 2010 with the advent of smartphones. Demand for ringtones rose sharply to 2007 before falling away precipitously.

In general, the recorded music industry has had a difficult decade. Global recorded music industry revenues have effectively halved over past decade. In the European Economic Area (EEA), revenue from sales of physical formats collapsed, from €7.3 billion in 2000 to €2.9 billion in 2010 (a 60% decline in nominal terms and almost 70% in real terms), according to IFPI. This has not been offset by the growth in digital revenues. Total EEA (physical and digital) revenues have fallen 51% in nominal terms and 61% in real terms over the same period.

The physical-to-digital transition of music purchase and consumption has reduced revenues from the sale of recorded music due to two key aspects of digital music. The first is the opportunity for consumers to cherry-pick only their favourite tracks from an album, while the CD is sold as a bundle of tracks. The second important factor is piracy, which includes both the ripping of files and their dissemination over the internet. The relatively small size of music files, often 4 MB or so, has allowed their distribution over the internet since the dawn of the internet, even before high-speed broadband became more widely available.

According to IFPI trade revenue data, digital accounted for 24.5% of total recorded music trade revenues in 2011 in the EU, up from 7.5% in 2007 (Figure 28). Growth of digital revenues has failed to offset the decline of physical format revenues.

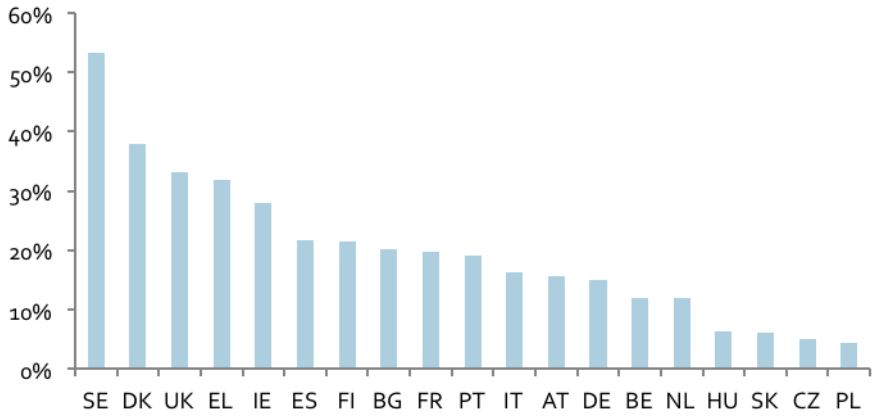
Figure 28: European recorded music trade revenues (€bn)



Per cent figures refer to digital share of all revenues
[Source: IFPI]

The advancement of digital music varies substantially by country in the EU. Figure 29 illustrates the share digital accounts for of total recorded music retail spend, as calculated by IFPI. In 2011, Sweden was the leading digital country with 53% of retail revenues attributed to digital music. In contrast, Poland has the lowest proportion of digital music revenues at 4.5%. However, IFPI does not receive data on all European markets.

Figure 29: Digital share of retail revenues, 2011 (%)



[Source: IFPI]

In relation to the CD, digital music formats encompass the download-to-own file, including the ringtone, and 'access' formats (without ownership), such as on-demand streaming, interactive webcasting (also known as 'smart radio'), and basic webcasting (without interactivity), which is the online broadcast of radio, including the simulcast of broadcast radio (Figure 30).

Figure 30: Music interactivity spectrum

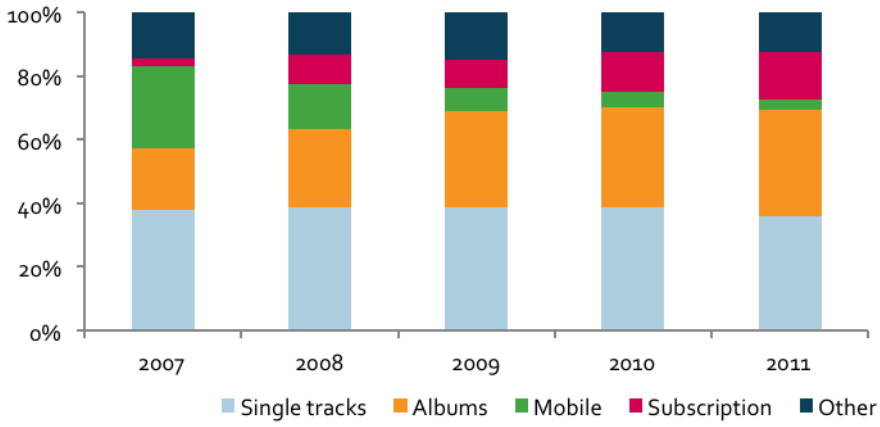
[Source: Enders Analysis]

If we count all the services available across this spectrum of format in each EU Member State, the number is staggeringly high, due to the plethora of ad-supported basic webcasting services in each market. Note that basic webcasting services are excluded from the count for interactive music services.

The European digital music market is largely dominated by the sale of download-to-own digital tracks and albums. As Figure 31 illustrates, digital track and album downloads accounted for approximately 70% of digital trade revenues in 2011. While track downloads have been a constant presence in the digital music market, the composition of the remaining part of the market has changed over time. Most notable has been the sharp rise and steep decline of mobile music revenues, which mainly concerned ringtones and other types of handset personalisation. In 2007,

about 25% of digital trade revenues were derived from mobile music, this had fallen to less than 5% in 2011.

Figure 31: European digital music trade revenue split (%)



[Source: Enders Analysis based on IFPI data]

On-demand streaming services, generally sold on subscription, have been a key area of growth in recent years. In 2007, subscription revenues accounted for less than 5% of trade revenues, but had risen to about 15% by 2011. (This excludes revenue from advertising supported services.) The rise of subscription services has been fuelled by the emergence of new multi-territory business models such as those of Spotify and Deezer. The dominant force in digital downloads, iTunes, has not directly entered the subscription arena but it has recently launched a cloud based 'scan and match' locker service that allows music to be consumed on all web-enabled devices without the need to sideload content to each device.

Market development drivers

Apple first established the digital download market centred on the iPod+iTunes ecosystem of the iTunes digital music store and jukebox software. The overall experience was, and remains, superior to that offered by competing download services. The ecosystem allowed the purchase, management and sideloading of music onto the iPod, which has been increasingly replaced by the iPhone, a converged device. While competing services, such as AmazonMP3, priced tracks at a discount, the savings tended to be outweighed by the convenience of iTunes.

On-demand streaming services have recently gained traction from the adoption of smartphones, the development of apps by digital music services, as well as partnerships with MNOs. The smartphone provides a driver for the download of an app enabling the consumption of playlists on the move. The leading subscription music services, such as Spotify and Deezer, develop apps for all major handsets/operating systems to enable users to enjoy the service, including Apple's iPhone, Google's Android, Nokia's Symbian, Microsoft's Windows, Palm and BlackBerry. When subscriptions are sold via the app stores of iTunes or Google's Android Play, the marketplace claims a 30% commission, while the digital music service keeps the revenues from subscriptions sold directly through the website.

Figure 30 above provided a spectrum of interactivity covering the major forms of consumption. The level of interactivity offered dictates to a certain extent the cost of the underlying music rights and hence the business model (or method of generating revenue). Basic webcasting is free-to-the user and relies on advertising;

interactive webcasting may be ad-supported or ad-free in exchange for payment; on-demand streaming is generally subscription-based, but may also offer a 'freemium' tier to enable the service to be sampled, and the portability option (to the smartphone) is usually charged at a premium.

Partnerships with MNOs have proved a key channel to market. The most important partnership in terms of yield of subscribers has been the one between Deezer and Orange in France, which yielded some 1.4 million subscribers between launch in August 2010 and June 2011. The Deezer service is 'bundled' in with an Orange handset and data plan package. Similarly, Deezer has concluded agreements with Everything Everywhere in the UK (under the Orange brand) and recently with T-Mobile in Austria. Spotify has partnered with Telia in its home market of Sweden since 2009, offering a bundled service in Telia's mobile, fixed-line broadband and IPTV packages.

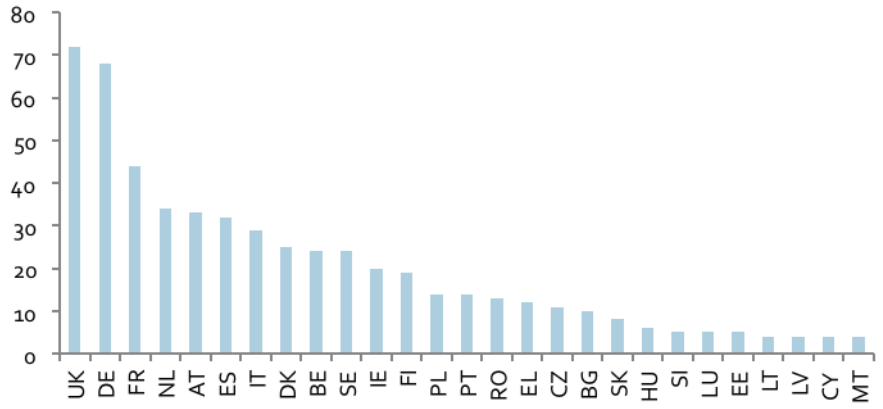
Footloose business models

Due to its digital distribution, music services can supply markets from a country that offers the most attractive fiscal environment. As noted previously, most of the leading multi-territory digital music retailers choose to locate in Luxembourg to take advantage of the super reduced rate of VAT of 3% on digital products.

Apple's iTunes, the leading music service, is based in Luxembourg. As such, all tracks and albums sold attract a 3% VAT rate. This provides a significant advantage over 'local' suppliers established in other member states where VAT rates are significantly higher. Due to the single market, iTunes is able to sell a wide variety of content to consumers across Europe from Luxembourg.

Looking at the number of services available by country, there are significant differences between the top markets and the smaller markets (Figure 32). The UK has the largest number of digital music services, with 72, whereas smaller markets such as Cyprus, Latvia, Lithuania and Malta are served by just four. As was noted above, in *Demand for cultural products*, the latter four markets are 'small' in terms of the absolute level of expenditure on cultural products. Piracy is a challenge to commercial supply across the EU5, but in Spain and Italy (as noted in *Digital Piracy*) there are fewer licensed digital music services. This is a reflection of a number of factors, including piracy, domestic market size, local investment, discretionary spend and local demographics.

Figure 32: Number of digital music services by country



[Source: IFPI]

Due to the footloose nature of digital music services, it should be possible for a supplier to serve the majority, or all of the EU27, from a single English language storefront in Luxembourg. In practice, most digital music services choose, at least initially, to supply a small number of European markets from Luxembourg. The most effective manner of addressing a market is a local storefront, i.e. translation into the local language and adaptation of the storefront to promote local repertoire or editorial costs. Otherwise, traffic to the storefront is limited to consumers that have knowledge of English and/or are interested in international repertoire. Only markets of sufficient commercial opportunity justify the expense of a dedicated editorial team. Services with an ad-supported tier, such as Spotify's 'freemium' tier, must also establish a mechanism for local ad sales.

Figure 33: Selected services, EU markets of operation

Service	Countries
AmazonMP3	3
Deezer	27
iTunes	27
Last.fm	10
rara.com	13
Spotify	10
YouTube	13

[Source: Enders Analysis]

By partnering with Omnifone, an established white label provider of music services, rara.com has been able to quickly reach 13 European countries since launching in December 2011. Rara.com has editorial teams in place to supply each local storefront with its own service.

Scale is a critical ingredient of commercial success for digital music services. Using a common technical platform, the greater the customer base, the lower the operating costs of supplying the service to each customer. The importance of scale has arguably increased as technology has advanced. As noted previously, a digital music service must today invest in apps to support consumption on a variety of smartphones, and also deliver desirable features to share content such as integration with Facebook. Adding a country to a multi-territory exploitation does not add to these development costs. Amongst the costs of operating a local storefront is editorial, and larger markets are more likely to have their own editorial team. Licensing costs scale to the subscriber base generally. In this respect, digital music services engage in a cost benefit analysis to ensure the effort of expansion is worthwhile.

Spotify supplies its service in the local language, or languages (both French and Dutch in the case of Belgium), of each of the countries it operates in. Although iTunes provides a music store in every country, the vast majority of storefronts are provided in English rather than the native language (Figure 34). Only seven storefronts, in the most important markets for digital music in Europe, are made available in the local language. This suggests there is opportunity for local players to contest the digital music market, bearing in mind the fiscal advantage enjoyed by suppliers established in Luxembourg.

Figure 34: Availability of iTunes		
Country	**Music**	**Language**
Austria	Yes	German
Belgium	Yes	English
Bulgaria	Yes	English
Cyprus	Yes	English
Czech Republic	Yes	English
Denmark	Yes	English
Estonia	Yes	English
Finland	Yes	English
France	Yes	French
Germany	Yes	German
Greece	Yes	English
Hungary	Yes	English
Ireland	Yes	English
Italy	Yes	Italian
Latvia	Yes	English
Lithuania	Yes	English
Luxembourg	Yes	English
Malta	Yes	English
Netherlands	Yes	Dutch
Poland	Yes	English
Portugal	Yes	English
Romania	Yes	English
Slovakia	Yes	English
Slovenia	Yes	English
Spain	Yes	Spanish
Sweden	Yes	English
UK	Yes	English

[Source: Enders Analysis based on iTunes]

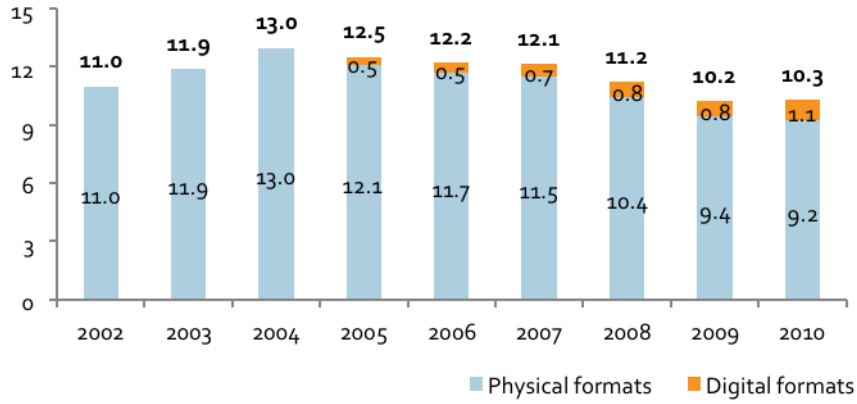
Video-on-demand

Overview

This section on video media focuses on filmed entertainment distributed via digital technology and specifically VOD. The transition from physical formats to digital distribution has been slower for video than for music, due to the continuing success of DVD, as well as a number of commercial and technical constraints, which for a long time limited the availability of mainstream programming and ability to distribute and access it via the internet.

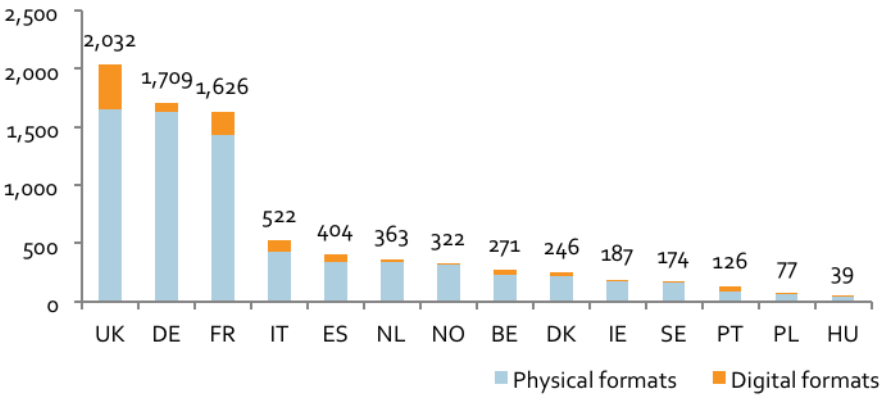
Europe accounts for around 30% of worldwide home video spending (excluding pay-TV subscriptions), according to IHS/Screen Digest, compared to about 40% in the US, the largest single market. In Europe, as in the US, consumer spending on video has been in decline since 2004 as DVD sales have fallen, but flattened in 2010 at €10.3 billion (Figure 35), according to the International Video Federation (IVF). By country (Figure 36), the three largest markets of the UK, France and Germany for €5.4 billion of consumer expenditure in 2010.

Figure 35: Consumer spending on video in Europe (€bn)



No data on digital spending prior to 2005
[Source: International Video Federation]

Figure 36: Consumer spending on video by country (€m)



No data on digital spending prior to 2005
[Source: International Video Federation]

In the five years between 2005-2010, consumer spending on digital video grew 135% to €1.1 billion, according to the IVF, representing 10% of the total video market (Figure 37). Pay-TV operators' TV-based services continue to dominate the market for VOD and were worth an estimated €800 million in 2010, up 20% year-on-year.[26] However, spending on internet-based services is growing more rapidly, increasing 86% year-on-year to €257 million.

Figure 37: Consumer spending on digital video in Europe

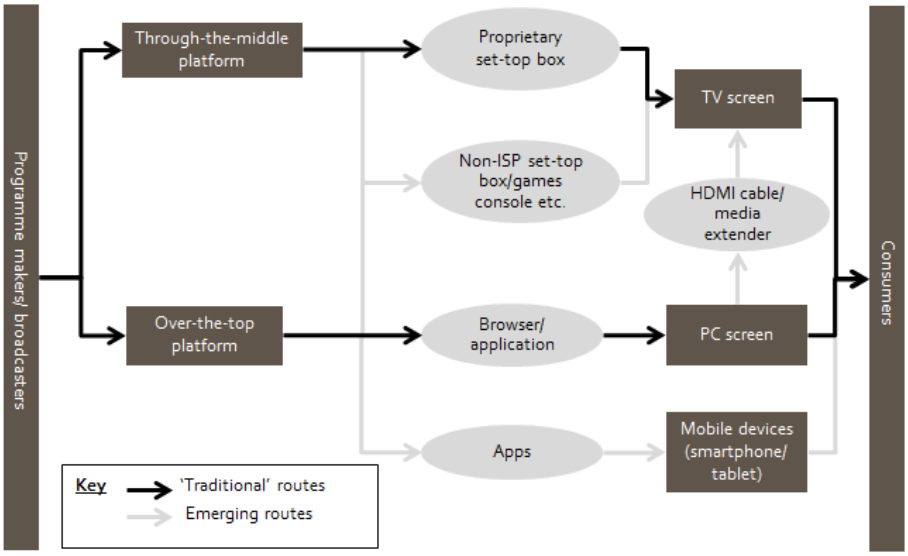
	2005	2007	2008	2009	2010
TV VOD (€m)	498	608	678	671	805
Internet video (€m)	28	49	85	138	257
Total digital video (€m)	527	657	763	809	1,062
Year-on-year change (%)	17	25	16	6	31
Share of total video market (%)	4.3	5.4	6.8	7.9	10.3

TV VOD includes feature films and TV content sold on a transactional basis via VOD, near video-on-demand (NVOD) and pay-per-view (PPV) services on pay-TV platforms; internet video includes transactions and subscription services; video market includes physical and digital formats, but excludes pay-TV subscriptions
[Source: International Video Federation]

VOD platforms

VOD services have existed in Europe since the mid-1990s when pay-TV cable operators first began to roll out commercial services. The subsequent development of telecommunications networks and the rise of the internet have opened up a number of new pathways for delivering video to consumers (Figure 38).

Figure 38: VOD platforms and pathways



[Source: Enders Analysis]

The main distinctions between VOD applications are:

- TTM versus OTT services
- Delivery to the TV set versus the PC or mobile device (tablet/smartphone)

[26] Feature films and TV content sold on a transactional basis via VOD, near video-on-demand (NVOD) and pay-per-view (PPV) via cable, satellite and IPTV platforms.

TTM services provided by pay-TV operators use dedicated connections (cable, IPTV, broadband) to ensure broadcast-quality pictures and sound are delivered to the viewer. In contrast, OTT services rely on standard internet connections, and so usually deliver lower picture and sound quality, but also can deliver video to any enabled device. In Europe, delivery of OTT services is primarily to the PC at present, although internet-connected TV sets are becoming more prevalent (in the US, Netflix viewing is mostly on TV screens). TTM and OTT services can support linear broadcast and on-demand video.

Broadband penetration is a key driver of online video usage (see *State of e-commerce enablers*). Since high-speed broadband connections (>10MBit/s) have become more widely available and affordable, an explosion in the number of TTM and OTT VOD services has occurred, as well as huge growth in on-demand viewing and online video consumption, globally and in Europe.

In Europe, as elsewhere, a substantial share of online video consumption is devoted to pirated content, and piracy has undoubtedly depressed demand for licensed VOD (see *Digital piracy*). Video sharing websites such as YouTube have also supported an explosion in online consumption, further fuelled by the rollout of online services by most major TV broadcasters and channel operators. Putting together all online video viewing, comScore reports the top markets were Germany, France, the UK, Italy and Spain (Figure 38).

Figure 38: Top five European internet video markets by viewers, March 2011

Country	Unique video viewers (000)	Average daily mins/visitor
Germany	46,918	52
France	39,654	29
United Kingdom	34,827	52
Italy	23,973	27
Spain	20,454	38

[Source: comScore Video Metrix]

Across Western European countries, according to Cisco's Visual Networking Index, video accounted for 31% of consumer internet traffic in 2010. This is expected to reach 64% by 2015 on rising internet adoption, faster connection speeds and wider device penetration. However, significant disparities in connectivity will continue to be a feature of the EU27 (see *State of core e-commerce enablers*).

In relation to the PC, the TV set remains by far the primary viewing device. Supported by time shifted viewing of linear TV via personal video recorders (PVRs) and TV catch-up services, TV viewing has held up strongly, averaging 3.8 hours per person across Europe in 2010, according to EurodataTV. We estimate that the share of video viewing on devices other than the TV set is between 2% and 5%, depending on the country. In our view, the strength of broadcast TV and increasing availability of PVRs and TV-based catch-up services means there is little prospect of a rapid shift in viewing away from linear viewing of TV channels.

VOD revenue models

The main revenue models for VOD are transactional (single payment to buy or rent a title), subscription (either as a standalone package or as part of bundle, as in the case of LoveFilm, which offers subscribers access to DVDs by post and its streaming video service) and ad-funded (free-to-view). However, pay-TV operators have typically introduced on-demand components to their packages at no extra charge to consumers, which therefore generate no direct revenues, but increase subscriber loyalty.

In our summary of VOD services (Figure 39), we make a core distinction between VOD as an extension of an existing linear service (e.g. Sky Anytime+) and services entirely dedicated to VOD (e.g. Netflix).

Figure 39: Video-on-demand service providers

Type	Business model	Distribution	Examples
Extension of linear services:			
On demand premium TV	Enhance existing service, available to subscribers at no extra cost	TV (through cable and IPTV platforms), OTT	Sky Anytime+, Canal+ à la demande
FTA catch-up TV	Free, ad-supported*, on PC and devices, on pay-TV platforms service often gets license fee	Cable and IPTV platforms, OTT	Most FTA channels
On demand libraries	Subscription	Cable and IPTV platforms	Virgin Media, BT Vision, Fastweb
Dedicated on-demand libraries:			
Transactional VOD	Pay as you go	Cable and IPTV platforms, OTT	iTunes
Subscription VOD	Subscription	Cable and IPTV platforms open internet, OTT	Netflix, Amazon's LoveFilm, Youzee, Maxdome, CanalPlay, Infinity
Video sharing sites	Free, ad-supported	Open internet, OTT	YouTube, DailyMotion

*Some public broadcasters, like the BBC, finance their catch-up services through the licence fee, others like ARD and ZDF, follow a commercial model

[Source: Enders Analysis]

Video licensing

The vast majority of licensing agreements for feature films are negotiated on a country-by-country basis, with very few multi-territory deals. This is due to a number of factors, including language and culture, market structures, regulatory environments, copyright laws, and the bespoke nature of agreements between rights holders and commercial partners, including with respect to windows.

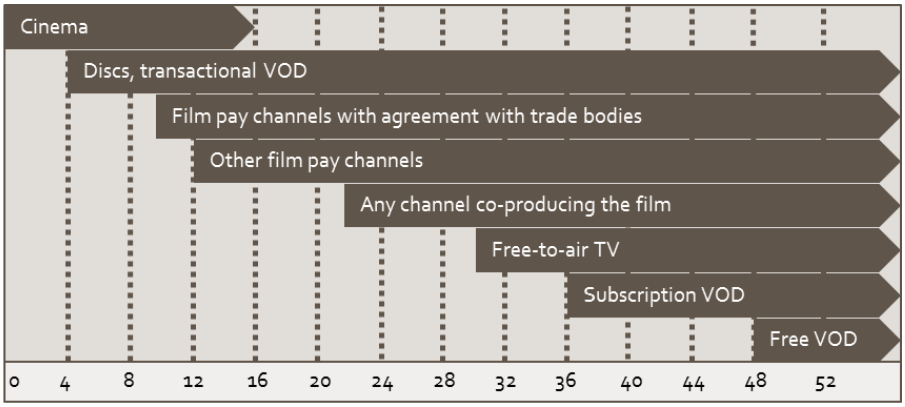
Unlike music or books, the market for feature films is based on a series of exclusive release arrangements. Rights holders seek to maximise revenues by staggering the media platforms on which films are made available. Release windows differ by

country, but the usual sequence is theatrical exhibition (cinema), non-cinema theatrical, packaged media (DVD/Blu-Ray), VOD, pay-TV and lastly FTA TV.

In most European countries, the chronology and length of these release windows is negotiated between rights holders and distributors. In France, the release windows are the subject of inter-industry agreements, then codified and made generally applicable by government regulation; the last such intervention dates from 2009.[27] Portugal's policy on windows is also maintained by legal instrument, and in a few countries, such as Germany and Austria, film subsidies are linked to agreed cinema release windows.[28]

In France, cinema has a four month exclusive window to protect this industry from competition. There would be less of a reason to go to the cinema to view a newly released film if it was also available to buy at retail to view on VOD. Although some studios are experimenting in the US with a premium VOD window shortly after cinema release, there has been a significant backlash by cinema chains. While the exclusive nature of the cinema is a motive for piracy, such as visiting an unlicensed streaming site, the cinema experience is far superior to the computer or home entertainment experience.

Figure 40: Release windows in 2011 in France, by month



[Source: Enders Analysis]

Following the exclusive window for cinema, transactional VOD rights for the internet and pay-TV platforms (including for sale and rental) are made available to suppliers non-exclusively in France and throughout European countries, as elsewhere. This mirrors the situation for packaged media (any retailer can sell DVDs, subject to agreement of commercial terms). Such rights usually are concurrent with the release window for sale of packaged media (typically three to six months after cinema release).

Shortly after release to transactional VOD, films are made available to broadcasters. Pay-TV operators view premium content such as films to be a key differentiator in relation to FTA models, and protect this differentiation in their agreements with rights holders, subject to competition policy. Pay-TV broadcasters typically secure a bundle of rights for films to be broadcast on

[27] "Accord pour le réaménagement de la chronologie des médias du 6 juillet 2009, annexé à l'arrêté d'extension du ministère de la culture en date du 9 juillet 2009 pris en application de l'article 30-7 du code de l'industrie cinématographique."

[28] "Green paper on the online distribution of audiovisual works in the European Union: opportunities and challenges towards a digital single market ", COM (2011) 427 final, http://ec.europa.eu/internal_market/consultations/docs/2011/audiovisual/green_paper_COM2011_427_en.pdf

channels and offered on catch-up TV VOD services, including OTT services delivered to inter-connected devices such as the computer, games console, tablet and mobile phone.

This tends to restrict the rights made available to standalone internet subscription video-on-demand (SVOD) services:

- In France, the current "chronologie des médias" allows pay-TV operators to offer both film channels (a linear component) and film on-demand services (or catch-up TV), but SVOD services without any linear component can only show the same film after 36 months have expired, limiting the market opportunity
- In the UK, Sky, the largest pay-TV operator, retains control of first subscription pay-TV window film rights from all six major Hollywood studios. As a result, LoveFilm, Netflix and other internet (SVOD) services are limited to offering older titles. Sky's control of film rights is the subject of investigation by the Competition Commission (CC). In its interim findings, published in autumn 2011, the CC indicated that it is considering imposing remedies that limit Sky's ability to control the nascent SVOD market. Its final report is expected shortly

After the pay-TV window, the next significant window is for FTA broadcasters. Broadcasters typically secure a bundle of rights to linear broadcast and catch-up TV. The most important of these catch-up TV sites figures in the top video internet viewing sites as measured by comScore: BBC iPlayer in the UK, TF1 in France, ProSieben and RTL in Germany, and Mediaset in Italy and Spain. Catch-up services of FTA channels also have distribution on pay-TV platforms and many are charging licence fees to operators. Examples include French broadcasters like TF1 and France Télévisions and the UK's ITV. They also set up their web services to block access from IP addresses of TV sets (like the free version of Hulu in the US).

Data from the UK show that the BBC's iPlayer is increasingly viewed on TV screens as opposed to computers. In France, the government cinema industry agency CNC commissioned research which showed that, in January 2012, 64% of catch-up TV viewing was on PC, 24% on TV sets, and 12% on mobile devices, with the last two rising steadily and the former declining during the previous twelve months.

But catch-up TV takes only a fraction of viewers' time. In H2 2011 we estimate that 1.5% of all viewing of BBC TV was on iPlayer, for Channel 4 the figure was 0.9%. In comparison, we estimate that the volume of non-live viewing through PVRs is three times as high.

Public broadcasters have diverging attitudes towards their OTT catch-up services. Britain's BBC's player is conceived as an extension of the main TV service and therefore financed by the licence fee (and geo-blocked to the UK), whereas Germany's ARD and ZDF are to launch a service (below) financed by advertising.

For many FTA broadcasters the next step for OTT VOD is the creation of joint OTT VOD platforms to compete with pay-TV platforms, by offering sophisticated electronic programme guides, and access to archive material on compatible connected set-top boxes and TV sets. These platforms will be open to third parties to provide pay-for and FTA services.

In the UK the historic terrestrial broadcasters have partnered with broadband providers and will launch YouView in 2012. In Germany public broadcasters associated with programme producers should launch the codenamed Germany's Gold in 2012. In March 2011 the Bundeskartellamt anti-trust body banned a similar venture between RTL and ProSieben because the two groups already dominate the TV advertising market and the new venture would have allowed them to

"reinforce" their position and to co-ordinate. French FTA broadcasters are discussing plans for a joint online platform.

Figure 41 lists the internet-based VOD services for the main broadcasters in the EU5. Catch-up TV VOD services based in the UK, France and Italy are generally blocked to access from online users in other markets, but Germany and Spain have more open regimes.

Figure 41: Broadcaster internet VOD services in EU5

Country	Broadcaster	Internet VOD product	Geo-restrictions*
UK	BBC	BBC iPlayer	Blocked
	ITV	ITV player	Blocked
	Channel 4	4oD	Blocked
	Channel 5	Demand 5	Blocked
	Sky	Sky Anytime+	Blocked
France	M6	M6 replay	Blocked
	Canal+	Canal+ player	Open
	TF1	MyTF1	Blocked
	France Televisions	Pluzz	Blocked
	Arte	Arte VOD	Blocked
Spain	Canal+	Canal+ Yomvi	Blocked
	Telecinco	mitele	Blocked
	Cuatro	mitele	Open
	La Sexta	La Sexta On	Open
	Antena 3	Modo Salon	Open
	TVE	A la Carte	Open
Germany	RTL Television	RTL Now	Open
	Das Erste	Das Erste Mediathek	Open
	ZDF	ZDF Mediathek	Open
	Sat.1	Sat.1	Open
	ProSieben.1	Maxdome	Blocked
	Vox	Vox Now	Blocked
	Arte	Arte VOD	Blocked
Italy	Rai	Rai.tv	Blocked
	Mediaset	Mediaset Premium	Blocked

*Accessibility outside of domestic service country
[Source: Enders Analysis based on company sites]

In relation to SVOD entrants seeking to launch services, broadcasters have significant advantages such as their relationships with rights holders, the scale of their businesses and, in the case of pay-TV operators, direct customer relationships (which is important for billing VOD). Rights holders regard SVOD entrants as no different from other would-be purchasers of their content: they must pay a market rate and provide a secure environment for content. Even if the windows cease to be an issue, it does not necessarily follow that existing video aggregators (i.e. leading TV channels) will be supplanted. The non-linear world already has strong existing content aggregators: the FTA and pay-TV operators.

In our view, major television players (pay and FTA commercial and publicly funded broadcasters) are likely to remain the dominant providers of licensed VOD services in the future. However, major 'pure play' VOD entrants such as Netflix and YouTube will gradually gain share.

Transactional VOD (retail and rental)

The pay as you go video market has its roots in the physical video market. Back in the mid-2000s it was argued that consumers buying or renting videos in stores would be too happy to migrate their purchasing habit online, however this is happening at a much slower pace than expected.

There are three sets of reasons for the slow migration. The first regards sell-through video. Consumers appear reluctant to buy an electronic version of a film or a series without any physical support. Also, it is currently not possible to make electronic sell-through (EST) transactions on pay-TV platforms because set-top boxes are not designed to store programmes permanently or to transfer them on a separate support (such as USB key or disc).

If EST met resistance from consumers, it had been assumed that physical video rental could migrate without problem to VOD, as it is both more convenient to the consumer and allows in theory a broader choice of titles than a brick and mortar store. But in Europe physical rental has historically been much smaller than in the US, notably for the lack of national chains of stores in most countries leaving only a relatively small market that could, in theory, migrate to VOD.

Then pay-TV operators emerged as the main platforms for VOD because they already have a direct connection to the TV set and a billing relationship with the customer (facilitating the transaction). However, electronic programme guides (EPGs) on TV screens and remote controls used to navigate them have proved barriers to effective selection and width of offering. Also, up to 2010 in most countries, right holders insisted on releasing films on discs earlier than on VOD, advantaging the former (and its high margins) over the latter.

Today, the largest operators of VOD transactional 'stores' are typically pay-TV operators on cable or IPTV. Web-based operators have gained some traction under the leadership of Apple's iTunes. We note, however, that iTunes is designed primarily to support Apple's hardware sales by enhancing the consumer experience. The fact that web-based VOD is operated from a PC gives it an advantage over the TV set in terms of interactivity and ease of use, but puts it at a disadvantage in terms of the quality of viewing, unless users connect their TV sets to the web or to their PC. Internet-connected TV sets are on the market, and we expect their adoption to grow, facilitating viewing of web video content.

SVOD

As explained earlier, major premium channels have created on-demand versions that let their subscribers, usually at no extra cost, watch programmes anytime in a time window following their first airing (sometimes even before it). Operators like HBO and Showtime developed this first in the US and they were later emulated in Europe, first by Canal+ in France. BSkyB, being exclusively on satellite, prioritised PVRs and in 2010 introduced its Sky Anytime+ service, connecting its set-top boxes to broadband.

Dedicated subscription video-on-demand services on the open internet or OTT platforms are more recent. America's Netflix has been the segment's pioneer and launched in the UK in 2012, with plans to launch in Spain as well. Amazon is the main competitor to Netflix, in America with Amazon Prime and in Europe through LoveFilm (acquired in 2010) whose subscribers are mostly in the UK, with a minority in Germany and Nordic countries.

Some European broadcasters have their own SVOD services, notably Canal+ with CanalPlay Infinity and ProSiebenSat.1 with Maxdome. Launched in 2012, Spain's Youzee is backed by venture capital.

We view the dedicated SVOD players as competing on the same market as suppliers of premium film channels. Both are buying similar licences from content owners and selling subscriptions to consumers who watch the programmes mostly on their TV set (most viewing of Netflix is on TV, not PC). But the premium channels are at an enormous advantage: they already have large subscriber bases and thus the scale to acquire and finance expensive programmes and films.

In our view, the success of Netflix in the US was largely a one-off allowed by special circumstances: the leverage of DVD rental to finance streaming and a late 2000s window of opportunity when streaming rights where not held by broadcasters but content producers, happy to support a new distribution channel. The only major SVOD competitor to Netflix, Amazon, finances streaming out of its e-commerce profits but still lags very much behind in subscribers and content.

Uniquely, France regulates film release windows (through government decrees based on industry-wide agreements). The 2009 regulation bans carriage of films by dedicated SVOD services before 36 months after their release in cinemas, which should protect the dominant domestic pay-TV player Canal+ from any assault from international operators like Netflix, if operating under French law.

Nevertheless we think dedicated SVOD operators may have a larger potential in markets where pay television penetration is low while broadband penetration is high, like German-speaking countries.

Free-to-view/ad-supported

The most popular video-on-demand service is Google's YouTube which records the highest viewing figures on measures of internet video viewing (on PC). Some of Google's competitors, like Vevo and DailyMotion, are also among the most watched sites (a much more fragmented offering of adult content sites generates about 50% of PC-based internet video viewing, according to our estimates).

YouTube and DailyMotion were built with 'user-generated' content, mostly music videos or often music slide shows. Most of it was, in plain English, pirated material. They are struggling to increase their share of legitimate or professional content in

order to attract advertisers, so far with limited success. YouTube is to launch linear channels of professional content.

In the US, free ad-supported services such as Hulu offer wide selections of older feature films. The potential for ad-funded services is limited in Europe (in contrast to the US), due to the nascent state of internet video advertising (Figure 42). Even in the UK, the second largest internet ad market after the US, spending on internet video ads amounted to only £110 million (€126 million) in 2011, according to IABUK/PwC, equivalent to 3% of TV advertising, though it doubled year-on-year and is expected to continue to grow strongly.

Figure 42: Internet video ad spend in UK, Germany and France

	2010	2011
UK (€m)	63	126
- versus TV ad spend (%)	*1.6%*	*3.2%*
Germany (€m)	86	195
- versus TV ad spend (%)	*2.2%*	*4.7%*
France (€m)	30	60
- versus TV ad spend (%)	0.9%	1.7%

Methodology for assessing online video ads in Germany amended in 2011
[Source: Enders Analysis based on IABUK/PwC, OVK,SRI, ZenithOptimedia]

Broadcasters are much more successful in attracting advertising revenues for their online catch-up TV services than their 'user generated' competitors. The main reasons are:

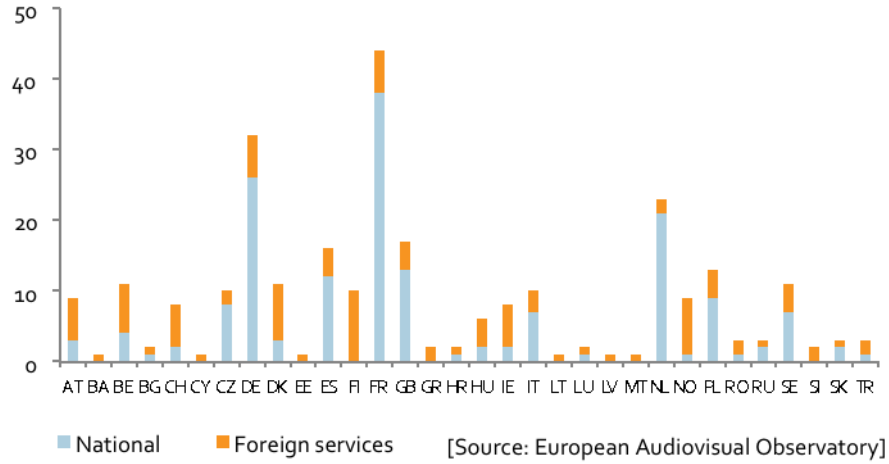
- Professionally produced and licensed content is a more attractive proposition to advertisers than unlicensed amateur content
- Existing business relationships with advertisers and agencies, to whom an online service can be sold in a cross-platform media buy as an add-on to their existing linear TV plan.[29] The prevalence of traditional broadcasters is striking: Germany's two dominant FTA TV groups captured 78% of 'in stream' online video advertising expenditure in 2011

Number of VOD services

In February 2012 the European Audiovisual Observatory reported on the number of online VOD services in EU27, including national and foreign-owned services. There is a wide range of availability of VOD services across Europe: as many as 44 in France and just one in Bosnia (Figure 43). Many smaller markets, including Slovenia, Malta, Latvia, Greece, Finland, Estonia, Cyprus and Bosnia have no major domestic VOD services. Only about a third of the countries surveyed had a majority of domestic services. These included the five major European economies, but also the Netherlands and Czech Republic.

[29] Typically, we are told by a London agency, out of a TV advertising budget of £1 million, an advertiser would spend £900,000 on traditional linear channels and £100,000 on internet video, out of which half would go to catch-up TV sites of broadcasters.

Figure 43: Number of VOD services available



This survey does not include TV channel catch-up services, services providing only news, adult programmes, 'light' content services (such as film trailers and home shopping programmes), branded channels on services such as YouTube, Facebook or iTunes, and services only accessible via mobile phones. Even bearing in mind the geo-restrictions that may apply, this adds up to a very substantial online offering of films in the EU27, including for cross-border consumption.

ebooks

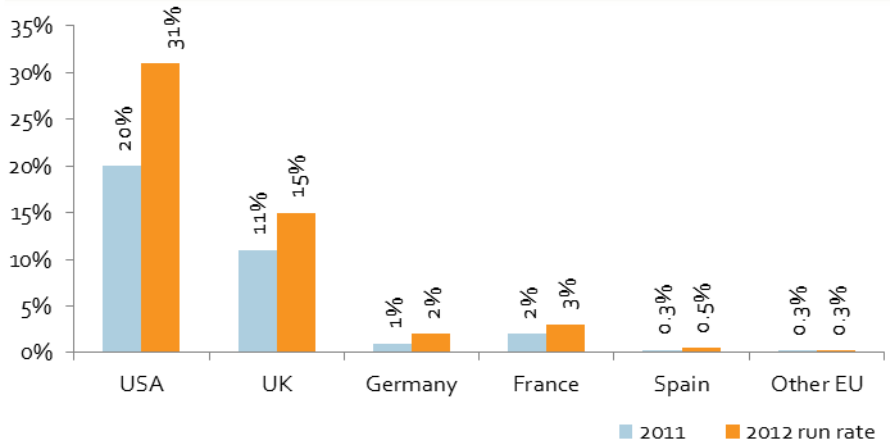
Unlike the other categories discussed in this document, ebooks have only become a significant mass-market phenomenon in the last two to three years, and remain tiny (though growing fast) outside the USA, UK and Japan.

In 2010 ebook sales grew at a rapid rate but remained well under 10% in the USA. In the UK, where the Kindle launched with a fully local proposition only in the middle of the year, ebook sales were in the low single digit percentages. Ebook sales were not meaningful anywhere else in the EU. In 2011 this changed dramatically:

- US ebook sales rose to 20% of total consumer book sales
- UK ebook sales rose to 11% and reached 15% or higher for some second-tier publishers
- Sales of some new releases are now over 50% ebook

For the moment, this shift in scale has been limited to the USA and UK (and to some extent Japan). However, other larger markets are seeing strong growth in ebook sales (from a very low base).

Figure 44: Ebooks as share of consumer book sales (%)



[Source: Enders Analysis based on AAP, GFK, SNE and PA data]

There are several reasons for the difference in market development between the UK and other EU markets:

- Availability of appealing, affordable ebook reading devices
- Availability of a catalogue of a significant proportion of desirable titles as ebooks
- Cultural reasons: though hard to quantify, it is suggested, particularly for Germany, that different markets have different affinities for print

The most important of these is availability and penetration of devices.

Growing device penetration will drive faster conversion

Ebook adoption is necessarily driven by device penetration. As such, it tends to surge after each Christmas buying season, as new device owners begin using their devices. This effect is magnified by the fact that a relatively small number of people buy the majority of books. In the UK, of 27 million adults, 22 million buy 10 books a year or less. This is 51% of the value of the market. 1.75 million buy 20 or more books a year and account for 25% of total market value.

This means that relatively low device sales can drive what appear to be disproportionate ebook sales. Conversely, it also means that parts of the print market could be quite resilient – people who buy less than 10 books a year will be less likely to buy a Kindle, and are probably also less likely to be in the demographic that buys iPads. This is a contrast with digital music, where a device purchase was needed to listen to music anyway.

Availability of ebook reading devices has not been even across the EU, for several reasons. The first wave of devices, in 2010 and before, used so-called 'e-ink' screens, which are black and white, use very little power and aim to replicate the experience of reading on paper. These devices have very limited processing power and user interfaces, and by far the most successful was the Amazon Kindle, which integrated a store and wireless ebook delivery system into the device and dealt effectively with the technology's limitations, making it much easier to use.

Amazon marketed the Kindle very aggressively, first in the USA and then, from 2009, in the UK. It launched in Germany only in April 2011, France in October and Spain and Italy in December 2011. The entry level model sells for £89/€99. In each case the device launch was accompanied by the launch of a Kindle ebooks store in the local language (see *The integrated service model* below). This staggered rollout both reflected and influenced slower development of these markets: Amazon launched later partly because it saw less opportunity, but this was also to some extent a self-fulfilling prophecy.

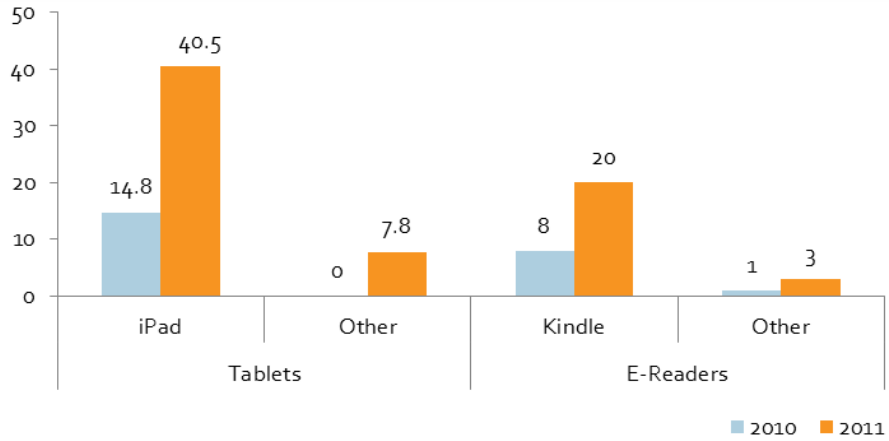
There were already ereader services available in many of these countries, but they lacked equally appealing devices and generally failed to achieve significant scale. For example, FNAC launched an ebook reader in France in November 2010, but reportedly sold only fourteen thousand units. The hardware partner, Mobiwire, went bankrupt in May 2011. (In late 2011 FNAC relaunched this service in partnership with Kobo.)

Availability of another type of ereader devices has also been varied by geography, but not within the EU. Barnes & Noble launched the Nook Color in the USA – an ereader with a colour screen, priced at $250, since reduced to $200. Amazon followed in late 2012 with the Kindle Fire, priced at $200. Neither of these has been launched outside the USA so far.

The next major development in hardware was much less geographically restricted. The Apple iPad launched across Europe in mid-2010. A larger and more expensive device than any ereader (selling for at least £400/€490) but also much more capable, it does not have the same promise of replicating the paper experience that e-ink proposes, but does provide richer experiences and many other uses besides reading ebooks. Apple has now sold 67.1 million iPads. In response, a number of companies launched tablets running Google's Android system from early 2011 onwards. These have met with much less success: we believe that only around eight million have been sold.

The chart below shows data for unit sales of all of these devices. Amazon has never disclosed Kindle sales: Apple does disclose iPad sales but does not disclose a regional breakdown.

Figure 45: Global unit sales (m)



[Source: Enders Analysis based on Apple, Google and Morgan Stanley data]

Finally, over the next five years we expect the penetration of smartphones to grow dramatically. At the moment smartphone penetration is low across Europe. In the UK, one of the more advanced markets, only 27% of the population have a smartphone (i.e. a phone with a large touchscreen that can run apps, including ebook apps). We expect this to rise to 75% by 2015. These devices are perfectly serviceable for reading many ebooks, especially for the mass-market.

Ultimate penetration and conversion of readers to ebooks remains uncertain for now. John Makinson, CEO of Penguin, was quoted as the London Book Fair in April 2011 as saying: "We are seeing in the US that the ebook may completely displace the mass-market paperback, price and convenience." This is certainly possible. On the other hand, some genres are far more applicable to conversion than others, just as some demographics will be.

The integrated service model

The market is marked and fragmented by the prevalence of integrated ebook platforms, wherein the catalogue of ebooks, the purchase and payment and then reading are controlled by a single company from end to end.

Hence, Amazon manufactures and sells a dedicated ebook reader device, the Kindle, under its sole control; it also makes dedicated Kindle apps for all the major mobile computing platforms: iOS (i.e. the iPhone, iPad and iPod Touch), Android, Windows Phone and RIM. Barnes & Noble has built a very similar system in the USA for the Nook, and so has Kobo, which has launched in several European countries in partnership with local book retailers. Apple has built its own parallel platform, iBooks, which is available only on iOS devices.

These platforms handle the entirety of the process of buying and reading a book:

- The maintain their own ebook store, which can be browsed from the device or on the web
- When a consumer buys an ebook from this store, it becomes available automatically and immediately on the reading device
- The reading device is either a dedicated e-ink device or a tablet or smartphone onto which a special app from the platform provider has been loaded by the user

Once set up, the platform is fully automatic: a user presses a 'buy' button next to a ebook on an online store and a few seconds later the book is available to read on

their device. The simplicity and ease of this process means that companies offering ebooks without such a platform, and requiring a sequence of manual steps to load an ebook onto a reading device, is much less attractive to consumers.

These systems are closed 'walled gardens'. A book bought in one cannot be read in another, since each uses its own proprietary DRM system to encrypt the books and no platform can read the DRM used by another. Hence ebooks bought from Apple cannot be read on an Amazon Kindle device. An ebook bought from Amazon may be read on an iPad, within Amazon's own Kindle application for the iPad, since Apple allows third parties to provide applications for the iPad, but it cannot be read in another application on the iPad, including Apple's own iBooks application, since none of these can read Amazon's DRM.

There is a notionally standard DRM system endorsed by the publishing industry, supplied by Adobe, but in practice the dominant platforms, Amazon, Apple and (in the USA) Barnes & Noble, have chosen to use their own, partly for reasons of competitive advantage and partly to deliver a easier process to users, and none of them support Adobe's system.

All of the major platforms will accept and allow to be read ebooks files from third parties that do not use DRM. However publishers, with a few exceptions, apply DRM in order to try to reduce piracy. This also tends to suit the interests of the platform providers, which prefer that a customer who has once begun purchasing ebooks from them will not be able to take those ebooks and use them on another platform, and by implication buy ebooks from that platform instead. The end effect is to make it impractical for consumers to switch between different ebook platforms.

Country availability

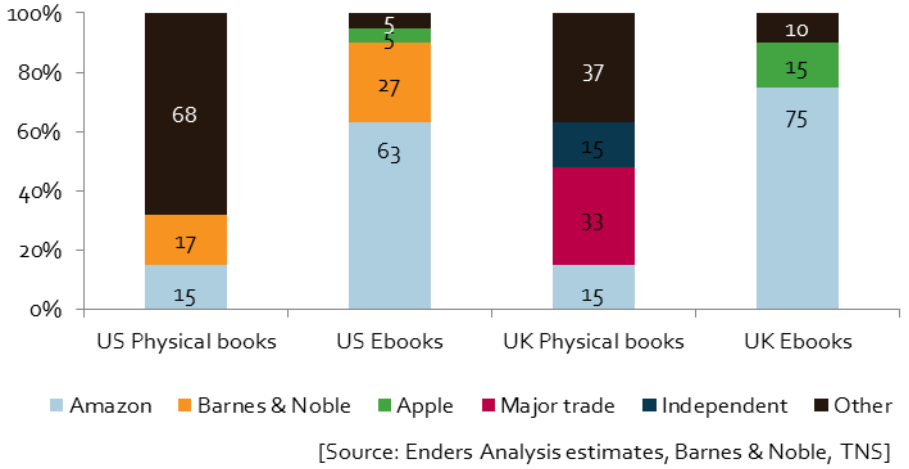
Each of these platforms maintains a different online ebooks store for each European country in which it is available, operating in the local language and with varying selection. In addition, different platforms have different sized inventories in any given country, depending on their progress and investment in securing commercial deals with local publishers. It is normal therefore for ebooks that are available in, for example, the Kindle France store not to be available in the Kindle UK store and *vice versa*.

Beyond that, as noted above, Amazon has only launched the Kindle in the UK, France, Germany, Spain and Italy. In contrast, Apple has launched the iBooks store in all EU markets, though with varying inventory. Kobo has launched with physical retailers in the UK, France, the Netherlands, Germany and plans launches in Spain and Italy.

Market share

There are no completely reliable statistics for the ebook market. As noted above, Amazon does not disclose the number of Kindles that have been sold, nor ebooks, nor provide any data to industry bodies. Publishers themselves know how many of their own ebooks Amazon or Apple are selling, but not which devices they are being read on (i.e. Kindle device, Kindle app on iPad, Apple iBooks on iPad or iPhone etc). Hence, the data in the chart below is based on our conversations with market participants, but remains an approximation. We have covered the USA and the UK, but not other EU markets, since they are as yet too undeveloped for the data to be meaningful.

Figure 46: USA & UK book market share (2011)



[Source: Enders Analysis estimates, Barnes & Noble, TNS]

Hence, we believe that Amazon has perhaps 75% of the ebook market in the UK. In the USA, where the Barnes & Noble 'Nook' ereader has been marketed heavily and well with a strong presence in physical retail, we believe Amazon's share is lower. Apple, despite effecting radical change to the market by pushing though the 'agency' model, lacks comparable inventory and has been much less aggressive.