

# The Rise of Video and the Third Internet Revolution

Market Trends and Policy Perspectives



## Acknowledgments

*The Rise of Video and the Third internet Revolution: Market Trends and Policy Perspectives*, is a joint study, carried out by ITMedia Consulting, in collaboration with the University research centre LUISS DREAM.

Its aim is to provide insights allowing Antitrust and Regulatory authorities to update interpreting models and develop more efficient tools fitting the complex and quick nature of the changes the internet is going through.

The data included in the report come from internal sources of ITMedia Consulting, public data, papers, essays and other scientific publications, reports from analysts, balance sheets and companies' internal documentation, annual reports.

The work is divided into two parts: the first part consists of three chapters, realised by ITMedia Consulting; the second part, relevant to the fourth chapter, was carried out by LUISS DREAM. Augusto Preta coordinated the work of the first part thanks to the contribution of Giulia Berni (Chapter 1), Giulio Natale (Chapter 2), Peng Peng (Chapter 3). Francesco Graziadei and Gustavo Olivieri were in charge of the second part, with the contribution of Giulia Gianni. Eleonora Sperduti revised the final editing.

In order to carry it out, ITMedia Consulting and LUISS DREAM benefited from the contribution and the knowledge of some operators and experts in the sector. Namely: Google Italia, which provided the financial support to the project; Lapo Filistrucchi (Università di Firenze / Tilburg University) and Tommaso Valletti (Università Roma 2 Tor Vergata / Imperial College of London) for their friendly precious suggestions and valuable insights.

In expressing appreciation and gratitude to all the contributors, it should be also noted that ITMedia Consulting and LUISS DREAM are the sole responsables, for their respective parts, of the content and the opinions featuring this work.

This publication is an English broad summary of the report<sup>1</sup> “Il video e la terza rivoluzione di internet”, published in Italian, in May 2016, and distributed under a creative commons license (non-commercial attribution – no derivative works, CC BY-NC-ND), in order to guarantee the widest possible distribution and circulation.

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<sup>1</sup> The full report can be downloaded here: [www.itmedia-consulting.com/DOCUMENTI/video\\_internet.pdf](http://www.itmedia-consulting.com/DOCUMENTI/video_internet.pdf)

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## Key Findings

1. The broadband video revolution has brought on the content industry an exponential growth of demand for online video services, driving the bandwidth demand and hence as a possible ground for the evolution of ultra-broadband networks. The growing variety and availability of devices has brought to a radical change in consumers' habits, amplifying the options and modes of fruition not bound to the single and specific television device. This process is driven by consumer demand as well as by the industry's relentless tendency toward innovation.
2. Highlights in Europe. Increase in competition in the video content distribution - an area dominated by the traditional TV industry - is consequence of: entrance of new global players, like Netflix; consolidation by the great telco operators, through mergers and acquisition, allowing for quadruple play offers integrating voice, data, internet access, both fixed and mobile and video (TV); direct access of telco players to the premium content in sports markets, football in particular (national league championships and Champions League), to boost both data and traffic on the network (United Kingdom and Spain).
3. In the new playfield, broader than the traditional audiovisual sector, new players rely on the critical mass of internet users to exploit a network externality to expand in the new world of connected contents. In any case, the sector is still in a development phase, in which market structure, positioning strategies and market power are still far from having consolidated.
4. Features of the internet industry. Network effects exist on supply side and demand side, indirect network effects may bring in concentrated market structure; however the presence of lock-in effects is weakened by the following factors: products are differentiated, consumer switching costs are low if not zero, multi-homing prevails; moreover entry barriers must also be proved.
5. The impact of the internet on the content arena is huge: new business models, new players, and new challenges antitrust authorities and regulators would face. The process needs to draw on insights from both the "new" and "old" economies, whilst also maintaining a focus on consumer rather than protecting certain competitors, and a focus on facilitating the benefits of the internet throughout the whole economy.
6. In terms of regulatory methodology, the traditional paradigm of command and control is being gradually replaced by bottom-up co-regulation and self-regulation practices, more flexible, dynamic, complete and articulated, which provide a redistribution of regulatory responsibility and more effective pro-consumer welfare results.
7. Complementary models of regulation might cover topics in which fundamental rights are involved. In these cases, a co-regulatory model should encompass a primary norm, strongly rooted in the values of which the fundamental rights are the expression.
8. The self-regulatory practices include forms of conditioning and orientation of the private players toward the public interest. Such practices can eventually be functional for a better achievement of the new and old media general objectives in the contemporary democracies.

## Executive Summary

Internet is dramatically changing as a result of the convergence of a number of consumer driven dynamics. This evolution has started with the “world wide web”, subsequently followed by the “web 2.0” (internet participatory and Social Networks), and by the current third phase of the development of the internet, the so-called web 3.0.

In the background of the diffusion of broadband and ultra-broadband networks (LTE , 5G , fibre optic), video serves as the engine of the evolution, meeting the growing expectations of consumers, through the expansion of more and more performing services.

This trend will grow exponentially in the coming years representing the driver of the development of many industries, not just limited to the communications ones, but involving the digital economy as a whole.

Chapter 1 analyses the digital economy, the internet eco-system and its disruptive impact on traditional media and content industry.

We will first review the evolution of the internet, the World Wide Web in particular, and the benefits for the consumer. Through the Web has thus begun the exponential growth of the internet, which in a few years will lead the network of networks to have a profound impact on the human society from personal communications to business activities.

On this regard, Web 2.0, provides a new paradigm for the internet, highlighting the aspects of content accessibility, “prosumerism”, disintermediation, user generated content, social media, etc.

The concept of Web 2.0 does not have a boundary, but a gravitational core: the web serves as a platform where the user positioning is “you control your own data”. Consumers obtain rich user experience from the widely deployed services, for example keyword search, email, maps; social network and communication website and software, such as Facebook and Skype, drastically changed the way of communication; data streaming exhibits a decentralized pattern; on Facebook and Blogs the user-generated contents represent participation rather than professional publishing; users are direct contributors in Amazon review and eBay reputation: radical trust is essential in Wikipedia.

If Web 2.0 has a great impact on consumers’ behaviour and the business models, “Web 3.0” or the “internet of Things”, has a deeper influence on consumers’ daily life in the physical world.

In the new phase, the combination of internet connectivity and ultra-broadband network, wide usage of mobile devices, fast development of innovative applications, location awareness and sensors allows the online virtual world to interact with the physical world. The physical world still makes up most of the economy, but its interaction with the internet drastically impacts the economy and our daily life. On-demand mobile services cover a wide range in our daily life: Uber in transportation, Airbnb in hospitality, Groupon in dining, smart watches in health, other services in logistics, home services, entertainment, etc.

“Share economy” is a new economic model born in the Web 3.0. It allows users and service providers to interact on a peer-to-peer basis: across online platforms allow people to share property, resources, time and skills. This can unlock previously unused, or under-used assets, on the supply side the owners can make money from their empty spare room or the tools in their sheds they use once a year; on the demand side spares people the ownership of expensive assets, such as cars. In terms of human capital, individuals can make more from their skills and work more flexibly.

The digitization also affects the cost structure. Many industry costs are reallocated, some costs are disappearing: for example the production cost of the physical items, transportation and storage related costs. Some costs remain unchanged (creation / development, the editorial process, marketing and sales), while others are moving. For example, a part of the production costs of the music moves with the emergence of "home studios". The costs of promotion are changing, with the proliferation of blogs and other tools of recommendation. New costs appear mostly on the software side (security, rights management ...), bringing new suppliers of enabling technology-web hosting, CDN, billing. With a digital good, the whole value chain can be digitized. It becomes homogeneous, without any physical disruption due to the production, storage, or distribution of the goods.

Then we introduce the main internet players along the timeline, the markets, and the business model. The review shows that innovation has dramatically changed the economic structure and business models: the key players at the different stages, characteristics of the business, ranking, other indicators in a time period of 10-15 years. This analysis shows the high level of change, in terms also of market share and structure, that characterizes the internet industry in its evolution.

The three phases of transformation described above have therefore led to changes in market structures and the emergence of new business models, with important consequences, of a destructive nature, on the traditional media sector: music, press and publishing in general (less dependent compared to video on network capacity).

Chapter 2 focuses on the impacts of the internet on the audiovisual content (*in chapter 2 the market considered is mainly the European market with the emphasis on Italy*).

The explosion of video content and online entertainment services is fundamentally brought in the new chapter of the digital economy. Various kinds of products and communication services are now delivered online through IP networks, accessed and consumed over multiple platforms on different times, places and on various devices: thanks to this process the long awaited media convergence is now becoming a reality. In this new framework, as in the past, the internet continues to play a major role, disrupting consolidated industries and creating a competitive arena for new ideas, players and business models.

The growth of internet-based video is mainly driven by two factors. The first one is the broadband deployment that allows video to be smoothly transmitted and widely distributed. The video, which represents already more than 50% of traffic on fixed networks in Western Europe, is expected to increase exponentially on mobile networks growing almost 20 times between 2011 and 2016, at an average annual rate of 80%.



The second factor is the increase in demand for quality services which provides a strong incentive in producing HD and Ultra HD (4K) contents, which are bandwidth hungry. Consequently, the market scenario exhibits the following features: viewers ask for more and more video quality content, manufacturers want to distribute such content on as many platforms as possible and the rights holders are finally conscious of the opportunities of the broadband delivery, also for valuable contents, once they are properly rewarded.

Accordingly, new players enter the market and provide VOD services, implementing various business models: "advertising video on demand" (AVOD), which includes services such as Hulu or Dailymotion; "subscription video on demand" (SVOD), which includes services such as Netflix and Amazon Prime; "transactional video on demand" (TVOD), which has a "pay as you go" pricing scheme (iTunes); and Freemium VOD model, which allows all users to have a limited free tier, and pay service offerings on higher tiers (Hulu Plus).

In the US, the first two video entertainment services occupy 50 % of the bandwidth in peak time, and Netflix alone exceeds 30%. For this reason, in the US SVOD providers are expected to benefit even more from this migration. Such services have indeed gained in popularity at the expenses of pay TV, whose subscribers have declined over the past two years. Consumers are abandoning traditional pay TV subscriptions, subject to cord-cutting, while SVOD services try to impose themselves as premium channels, with original and exclusive content.

In Europe, the industry witnesses a more complex competitive structure. The global market leader Netflix is trying to extend its dominance launching services in 13 countries in the last 3 years. At the end of 2014 reached 14 million subscribers, with a higher penetration in UK and North of Europe, the countries where it initially started. Also other international OTT services like Amazon Prime are popular in the main EU countries (UK and Germany).

The rise of video on demand has been evidenced in the recent years. We analysed the market drivers and the leading role of video content, which includes broadband, mobile, multi-screen, ultra HD, streaming. The rapid evolution of the industry has taken place and continues with strong growth of new business models that we identified.

This development has a great impact on traditional audiovisual markets. We discussed the strategies of broadcast companies, content providers and new entrants. We also show the advantages for businesses and consumers compared to analog and broadcast in the traditional sectors. In all cases, it is a sector still in its development phase and where positioning strategies and market power are still far from being consolidated.

Chapter 3 discusses policy issues under the new business environment.

It consists in both economic theory and policy analysis regarding the internet industry. The former aspect refers to network effects, product differentiation, multi-sided platforms, etc.; with the latter we discuss the potential market power, consumer lock-in effect, incentives for innovation, etc.

We first summarize the main features in the digital era: direct and indirect network effects play an important role, economies of scale is still significant, differentiated services are more easily accessed

by internet users, etc. Consequently, a market structure exhibits both “superstar” effects and “long tail” effects. Considering the success of some large internet player and the potential competition concerns, we discuss the role of dynamic competition, in the lens of market competition.

The study applies the new tools and models of economic analysis relevant to the internet and the audiovisual market, such as multi-sided platforms, dynamic competition, etc. We claim that some indicators of market power in a single-sided market have to be reviewed under multi-sided scenario.

With platform competition, the optimal pricing relies on cross-subsidization, and there is the potential for concentration or market tipping. Common concern rises in terms of lock-in effect and dynamic inefficiency. This has been evidenced in multi-sided platforms such as payment cards, operating system. However the question is: should we have the same concern in the internet industry?

Lock-in occurs when users become coordinated on a single platform, preventing entry, and forming dynamic inefficiency. In the internet industry switching cost can be low and multi-homing prevails: these features may alleviate the concerns to some extent, but the popularity of social media platforms such as Twitter and Facebook shows such concern may still exist.

We discuss “creative destruction”, and we aim to understand whether the internet is a disruptive innovation, as well as how it competes with the traditional players. “Coopetition” with complementors along the value chain might be a new model rising in the internet industry.

A renewed antitrust approach therefore might be more effective, in order not to lose the high levels of innovation that have fostered competition in the internet economy, thereby enhancing consumer welfare. In addition, the geographic market definition of audiovisual services is typically at the national level. However such boundaries between nations might soon be questioned by the global nature of the internet. In this view the market definition should hopefully be harmonized in order to be coherent and avoid conflicting decisions in the new environment where different industries (telcos, media) and sectors (pay TV, free TV, VOD) converge.

Besides addressing the importance of competition, we emphasize that the ideal regulatory regime should safeguard and encourage innovation. Rapid innovation and its adaptation is no doubt the central feature of the internet, and is also the main driver of economic growth.

Chapter 4 deals with the main topics and trends in the audiovisual contents’ regulation.

Also in term of ex ante intervention, the regulation of video content becomes crucial. The reference to the “public interest” is relevant and involves the public sphere and what stands out from all those situations involving not only relationships between individuals. Does the involvement of a public interest requires, even today and in every sort, the consideration of specific rules, which include the public dimension of audiovisual media services? And moreover, where in the internet ecosystem of content distribution a public interest issue rise and who and with which means, role and duty, will be in charge of achieving such public interest goals?

Moreover for traditional media such as television the scheduling/programming of the content is historically more important than the content transmitted itself, while on the internet "content is king". Also in term of consumption today it coincides in some cases with the production of the content (user generated). The difficulty of regulating it is in identifying and adopting legal arguments capable of reconciling contrasting interests.

In this perspective the study takes into account possible solutions able to grasp a key aspect of convergence. These regulatory mechanisms can be divided into two groups: self-regulation and co-regulation. Both represent alternative or complementary methods to traditional regulation, which has to be harmonized and adequate in all cases to the profound changes, through the involvement at different levels and intensity of the various stakeholders, to respond effectively to the new regulatory challenges of the communications industry. The new way of content consumption on the internet with a different and more active role of consumers, will mean that in this dynamic process the traditional "command and control" regulatory model of mass media may leave space to other regulatory tools like self-protection, changing the challenge of regulators in giving consumers knowledge, legal and technical instruments to choose if, how and how much to protect themselves.

The first section highlights the main ideas stemming from the audiovisual media regulation in order to grant consumer protection and to assure that the activities of the concerned undertakings and editors (beginning with the traditional media) are oriented to, and take into account, the development of some relevant general interest objectives (pluralism of information, growth and cultural diversity, audience protection, etc.).

The second section is dedicated to the most recent tendencies that are meant to enrich the traditional regulatory models, based on the paradigm of command and control, with new bottom-up regulatory practices (co-regulation and self-regulation) that are able to discipline in a dynamic and participated effort, some relevant aspects in the field of media policy. In particular, the section provides a comparative review of the different forms of self- and co-regulation, referring also to the old and new media, and covering in detail some best practices, as the PEGI and the IARC, in the field of classification of contents for the protection of minors.

## **PART I. Competition and market trends**

### **Introduction**

In the last few years, the audiovisual industry has been involved in a process of dramatic changes, as a consequence of the huge increase of video contents and online entertainment on the electronic communication networks, posing greater challenges to policy makers and regulatory and competition authorities.

These results come from the spreading of digital economy, which produced a disruptive effect on traditional industries. Innovation has become the main driver of market development, encouraging the entrance of new players and new business models.

This development took place step by step, as documented in this chapter, and at each stage the market structure, the economic models, the power relationship among the players have changed, as a result of the continuous and relentless process of innovation that marks the internet ecosystem.

These factors had significant effects also on the traditional media landscape. In the last 15 years, in fact, a thorough restructuring process happened in many segments across the industry (music, radio, book, periodical press and newspaper). In the final stage of expansion, with the diffusion of broadband and ultra-broadband networks, such revolution has finally reached and affected the audiovisual sector. Nowadays, this process, with the massive increase of video demand on the internet, seems all the more striking and disrupting, likely to change fundamentally the audiovisual media and content industry.

This study intends to analyse in depth these key issues, In particular, dealing with the features of the internet industry, which presents many concerns from a competition point of view, it will highlight how these critical elements do not necessarily lead to an anti-competitive outcome.

In this regard, the use by the authorities of appropriate means to better understand the dynamics of the innovation-related markets seem necessary, not only to ensure the survival of competitors, but also in order to protect competition and social welfare. Based on this understanding, this first part of the study has been carried out.

## **Chapter 1. Digital Economy**

### **1.1 Description of the current development scenario in the internet ecosystem**

The advent and diffusion of the internet represented a true technological and social revolution, as well as a key driver for worldwide economic development in the last twenty years.

The same global nature of the internet has allowed a huge variety of processors, not limited to computers, but as well to appliance-embedded systems, to connect to the internet to update, share information and distribute data: from refrigerators to television sets, to alarm systems, from ovens to cameras, every processor is now enabled to communicate via the internet. In this respect the further evolution of the net is represented by the extension of connectivity to the tagged objects in the real world, creating the third generation of internet, known as “internet of Things”.

In this new context, as a consequence of the deployment of the broadband and ultra broadband networks (fibre and 4G), internet has considerably changed once again. The explosion of video services, the entrance of large-scale operators, the exponential increase of quality video content legally available, the growing penetration of new services and devices able to deliver on-demand content of high quality, resulted in a dramatic increase of traffic on the IP networks. This uncontrollable trend, also supported by the explosion of video streaming and mobile broadband (5G), seems able to have huge impacts on the audiovisual industry, the same way as happened to the other traditional media.

The World Wide Web (more simply Web or WWW) is an internet service that enables to navigate and access a huge variety of contents (including multimedia) and further services accessible to everyone or to a selected part of the internet users.

Web 2.0 describes an evolutionary stage of the World Wide Web. It refers to all the online applications which allow a strong level of interaction between the website and the user, such as blogs, forums, chats, wikis, media sharing platforms as Flickr, YouTube, Vimeo, social networks as Facebook, Myspace, Twitter, Google+, LinkedIn, Foursquare, etc. derived from advances in programming practice focusing on user experience, user participation, dynamic content, metadata, interoperable web standards as opposed to the so-called static Web or web 1.0.

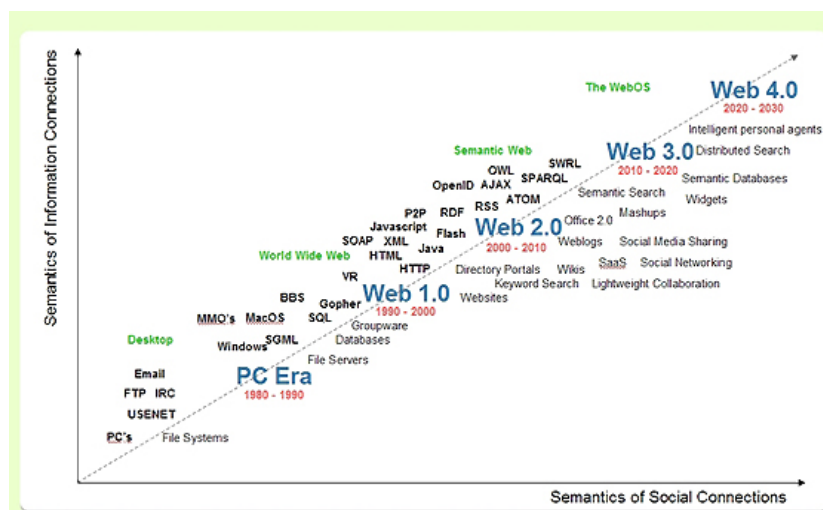
Web 2.0 represents in the first place a philosophical approach to the net as a distinctive feature of the social dimension, an authorship sharing instead of a mere fruition: although from a technological point of view many of the instruments on the net could appear unchanged (such as forums, chats, blogs, which existed before in the web 1.0) it is precisely how the net is used that opens new scenarios based on the possibility for the user to enjoy and at the same time create/modify multimedia contents. The Wiki technology (Wikipedia is its most famous application) is the ultimate point of content management, because it implements all paradigms.

In addition to the creation of shared online content, the Web2.0 is characterised by the immediate publication of content and its classification and indexing in the search engine, so that the information is immediately made available to the community, performing rapidly the vital cycle of content management.

### 1.1.1 Web 3.0 or internet of Things

The Web is entering a new development phase, usually referred to as “Web 3.0”<sup>2</sup>, definition not unanimously accepted, but nevertheless referring to an hypothetical third generation of the Web.

**Figure 1. Evolution of the internet**



Source: Randar Networks & Nova Spivack 2007

These new developments will “collectively comprise what might be called ‘the intelligent Web’ or ‘internet of Things’ —such as those using semantic web, microformats, natural language search, data-mining, machine learning, recommendation agents, and intelligent tutoring using artificial intelligence technologies—which emphasize machine-facilitated understanding of information in order to provide a more productive, intuitive and more personalized or individualized user experience<sup>3</sup>.

<sup>2</sup> Term coined on 12 November 2006 by John Markoff "Entrepreneurs See a Web Guided by Common Sense". New York Times.

<sup>3</sup> See Martinez M., Jagannathan S., “Social Computing: Concepts, Methodologies, Tools, and Applications” Chapter 4.1 “Social networking, Adult learning, Success and Moodle”, pag. 991.

The starting point of the third generation of Web could be dated around 2010, when the focus on innovation moved from the front-end implementation to the upgrade of the back-end infrastructure for the Web<sup>4</sup>.

This cycle could go on for the next ten years, bringing about a more connected, more open and basically smarter Web. That would transform the Web from a network of applications and separately functioning contents to an interoperable seamless system.

**Figure 2. Web evolution**

Web 1.0	Web 2.0	Web 3.0
<ul style="list-style-type: none"> <li>• Company generated content</li> <li>• Taxonomy</li> <li>• Navigation: menu</li> <li>• Interaction user/site</li> <li>• Online when needed</li> <li>• "Heavy" client side function</li> <li>• Base-Band</li> <li>• "Closed" services</li> <li>• E-commerce ("paid")</li> <li>• Release successive</li> </ul>	<ul style="list-style-type: none"> <li>• User generated content</li> <li>• Folksonomy – Spontaneous spirit of the net</li> <li>• Browsing: search &amp; peer</li> <li>• Net as a social space: Social network</li> <li>• Always online</li> <li>• "Lightness" (server side functions)</li> <li>• Broadband</li> <li>• "Open" services</li> <li>• "Freemium"</li> </ul>	<ul style="list-style-type: none"> <li>• internet of Things</li> <li>• Ultra-broadband adoption</li> <li>• Mobile internet access</li> <li>• Ubiquitous Connectivity</li> <li>• Semantic Web</li> <li>• "Smart" applications</li> <li>• Cloud computing</li> <li>• Machine-to-machine communications</li> <li>• Big data</li> <li>• Sharing economy</li> </ul>

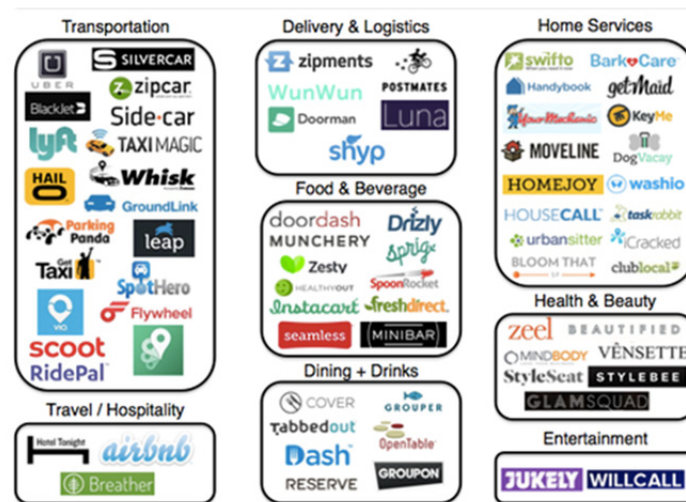
*Source: Data processed by ITMedia Consulting*

By allowing to wider forms of collective intelligence to surface, the internet of things contributes significantly to the change. Thanks to innovative and user driven applications in the virtual world, the real world devices that used to remain unchanged over time are now keeping pace with innovation and technological updates. Even more important, this type of transformation can be expected to happen in all sectors of economy, having potential for development and expansion at a very rapid pace.<sup>5</sup>

This phase also refers to "*sharing economy*" as a new socio-economic model developed in the Web 3.0 environment. It allows users and service providers to interact on a peer-to-peer basis: through online platforms it is possible to share contents, resources, time and skills.

<sup>4</sup> See Harris D., "Web 2.0 Evolution into The Intelligent Web 3.0: 100 Most Asked Questions on Transformation, Ubiquitous Connectivity, Network Computing, Open Technologies, Open Identity, Distributed Databases and Intelligent Applications: 100 Most Asked Questions on Transformation, Ubiquitous Connectivity, Network Computing, Open Technologies, Open Identity, Distributed Databases and Intelligent Applications", Emereo Pty Limited, 2008.

<sup>5</sup> See "On-demand mobile services in the USA in 2014" in <http://schlaf.me/post/81679927670>.

**Figure 3. The app economy: mobile services**

Source: Data processed by ITMedia Consulting from various sources

The sharp rise taking place in the sharing economy is upward-bound. Megatrends of the new economic model are evolving and struggling with the previous ones to push this value creation. The growing number of connected digital devices enables the supply/demand intersection as never happened before; social rules are adapting, while consumers are more at ease relying on a peer-to-peer system used by the majority of the sharing networks to self-regulate quality standards, not least the scarcity of resources that is surging/pushing upwards property cost and value<sup>6</sup>.

According to PwC, sharing economy has reached the value of \$15 billion, with an expected impressive growth, up to \$335 billion in 2025<sup>7</sup>. The appeal of sharing economy on the market depends on a number of factors: transaction cost is minimized by the creation of an online site easily accessible; the site is also a marketplace; platform reputation becomes the third party of trust, if it guarantees quality and service delivery, safety of the payment process, insurance against risks, etc. .

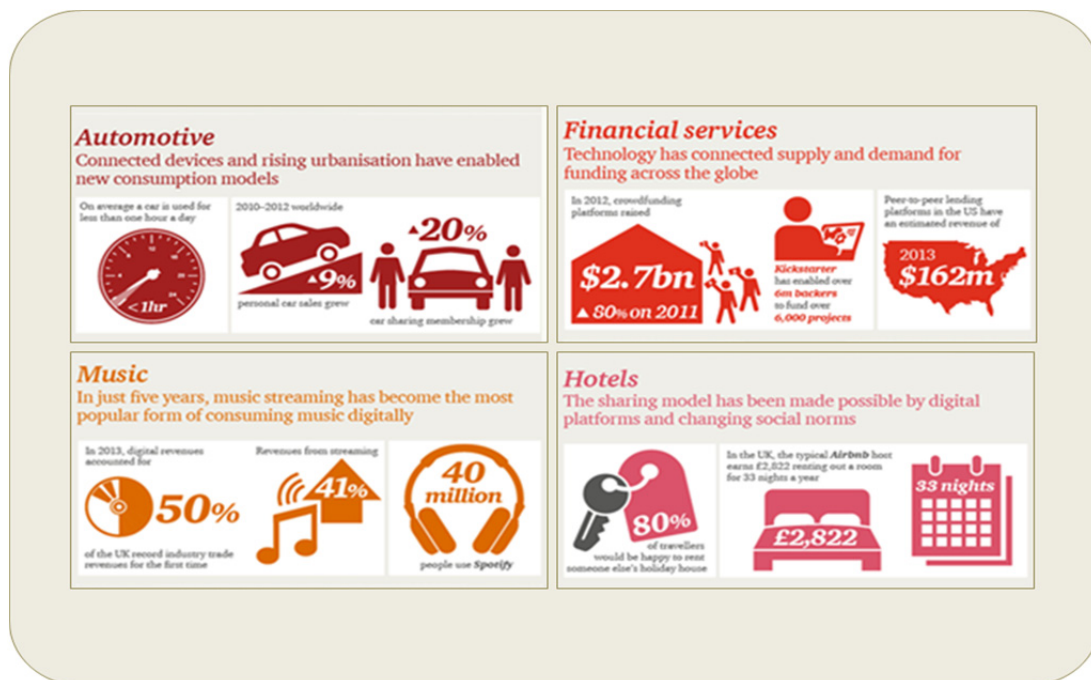
Many big companies paved the way to this new economic model creating value and at the same time undermining the business model of traditional players<sup>8</sup>. From Uber sparking the protests of London taxi drivers, to AirBnB which provoked similar reactions among the hotel owners in New York, this is a model that threatens to upset the established organisations and economic models, especially in 'post-materialistic' developed economies.

<sup>6</sup> See <http://www.pwc.co.uk/issues/megatrends/collisions/sharingeconomy/index.jhtml>

<sup>7</sup> See *supra* note 6.

<sup>8</sup> See *supra* note 6.



**Figure 4. The new business models in the sharing economy**

Source: PwC

In order to be able to fully unlock the potential of shared economy, the operators have to overcome many obstacles, starting with the resistance of traditional players, who deploy a variety of instruments including those concerning regulation.

Nevertheless, in the US the Federal Trade Commission (FTC) defended and even supported the peer-to-peer economy<sup>9</sup>: “One of the most vibrant areas of recent economic development has been the “share economy.” Facilitated by the popularity of smartphones and animated not only by economics, but also by many people’s interest in expanding social networks, peer-to-peer (P2P) software applications now facilitate services from shopping to local accommodations. Vigorous competition among sellers in an open marketplace can provide consumers the benefits of lower prices, higher quality and greater innovation. This is just as true for app-based transportation services and networks and other kinds of P2P systems. Such change can sometimes be difficult for established competitors that are used to operating in a particular way, but consumers can benefit from change that also challenges longstanding competitors. Regulators should differentiate between regulations that truly protect consumers and those that protect the regulated<sup>10</sup>.

<sup>9</sup> See Woskow D., “Unlocking the sharing economy. An independent review”, 2014.

<sup>10</sup> “Who decides how consumers should shop?”, see <https://www.ftc.gov/news-events/blogs/competition-matters/2014/04/who-decides-how-consumers-should-shop>

## **1.2 How innovation changes market structures and business models**

Technologies have an impact on business models, affecting more directly cost structure, availability of new products, market size, as well as the possibility to provide news services of great strategic value, information available to consumers, payment mechanisms.

From a technological point of view, one of the most relevant changes is digitization, which has aligned the audio, video and data transmission systems, enabling convergent networks to convey a growing number and variety of services. The improvement of network performances, mobile in particular, contributes to strengthen the sector trend in developing a multi-service configuration.

In connection with the delivery of content, the technological progress is seen to reduce distribution and reproduction costs and, to some extent, have a positive impact on the production stage. In video content, the adoption of the digital technology lowered the labour costs required to produce a feature film. Also digital manipulation and computer graphics contribute to bring down some costs, during editing regarding video content and during production and post-production for audio contents.

Generally speaking, technological innovation involves, in the entire eco-system, a cost reduction, especially of variable components. The efficiency gains in the production process and the possibilities of differentiation offered by digital technologies stimulate, in turn, the development of a variety of services and contents.

The new demand for broadband internet emphasized the importance of network infrastructure in the booming years of mobile telecommunications. In this context, the TLCs reacted with a strategy concentrated on the development of voice and mobility services, the supply of broadband connectivity (on fixed lines) and of packages including different services as voice, data and video (bundling). TLC operators, facing the decline of fixed telephony, started to enter the distribution market of video and television content with IPTV services. Those services are offered within triple/quadruple play strategies, and the video component is distributed on the net via copper cable (or optical fibre where available) either in linear mode, as retransmission of TV channels, or non-linear mode, with video-on-demand offers (VOD) of high quality video services on connected TV and multiscreen devices.

To the pressures on the market of network services and audiovisuals adds up the convergence of the consumer electronic market and the increasing popularity of devices with advanced features (smartphone, game console, tablet, etc.), aiming to secure the loyalty of customers and to integrate with devices the supply of services and applications through owners store. This way the gap between customer and TLC operator increases causing a disintermediation of the latter from the value chain and transforming the devices into connectivity facilitators.

This dynamic/process entails the risk of upsetting the virtuous cycle established between telco operators and web world since the '90s up to most of the years 2000. During this period, the telco operators had benefited from innovations coming from the web in terms of increase of the

broadband connectivity demand and had managed to compete with native internet operators in the supply of voice services, through the successful sales in bundling and flat pricing on fixed network.

**Table 1. Consumption of data for some over-the-top services**

Service	Example	Data consumption for user
Social network	Twitter	Insignificant
Social network	Facebook	Low (except for video)
VoIP	Skype	6-40 Kbps
Video	SD video	500-1500 Kbps
Video	HD video	2600-3800 Kbps
eBook	1000 eBook	1 GB
Music	1 music cd	780 Mbps
Film	SD film	1,5 GB
Film	HD film	3 GB

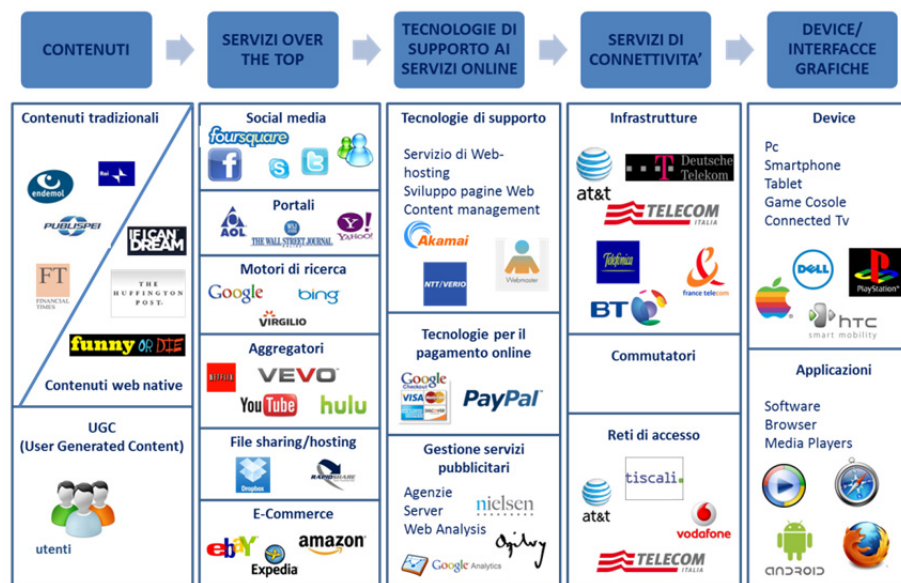
*Source: Analysis Mason, A. T. Kerney*

Now, while the broadband access market tends to stabilize for number of users, and telcos earnings are decreasing, the more and more intense use of the new services and apps run by OTTs and supported by the continuous evolution of increasingly sophisticated and intuitive terminals implies an exponential increase of the network traffic.

In recent years, the business models within the vertical value chain of the internet are increasingly less based on the control of contents and interactive applications that characterize Web 2.0, making information a key incentive to all online businesses.

The “Over the top” sector is marked by very strong innovation. If it’s true that the final user is less willing to give up a network service (like a social network) which he/she has been using for a long time, it is also true that he/she is interested in testing innovative services, especially if free of charges. Hence there is a very dynamic market, constantly searching innovation and oriented to high levels of experimentation of new business models.

Figure 5. The value chain of internet



Source: AT&Kearney data processed by ITMedia Consulting

It is ideally possible to split all the services and products distributed via web in two main categories: “vertical” services and contents; “horizontal” services and contents.

The first category includes all the platforms that satisfy a specific need to the user, through the distribution of a product or a *bundle* of services and products. That may include: information services, entertainment services (audiovisuals) and platforms which empower economic and financial transactions.

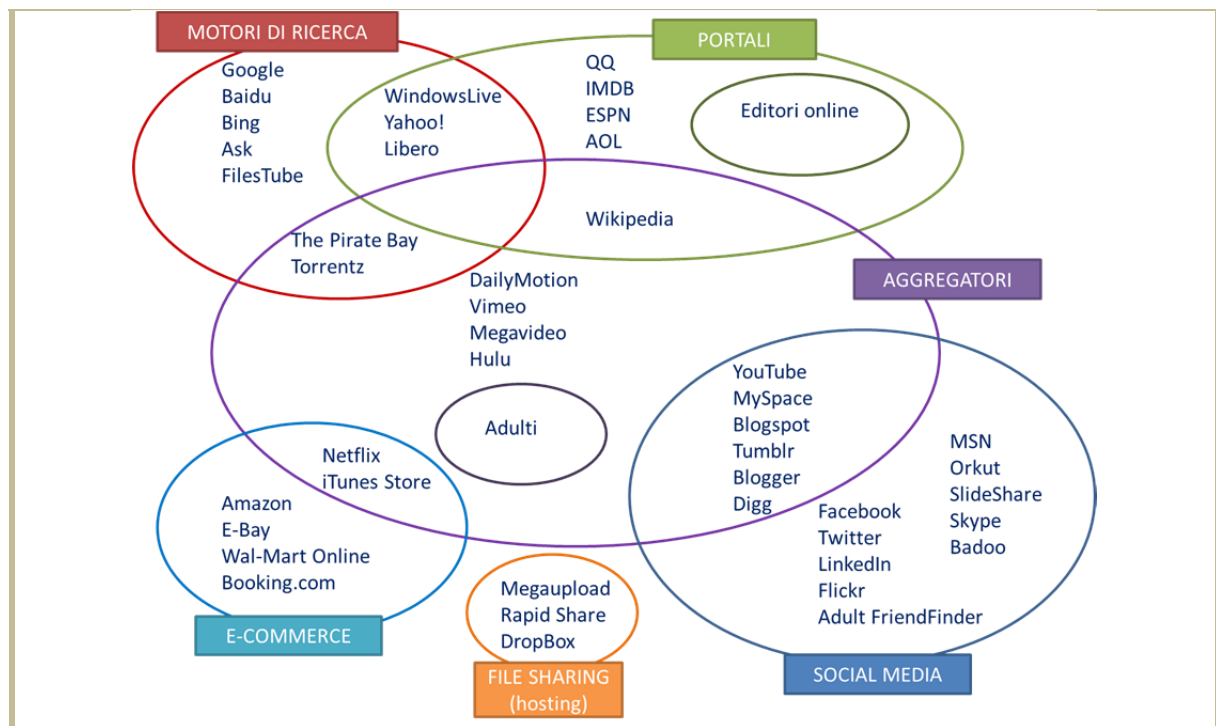
The second category concerns, instead, all services and content of “horizontal” type namely *network online platform*, which unlike the previous ones, are not created with the intention to satisfy specific needs, but represent a point of reference to address and connect the user (which is the advertiser) with a wide provision of services and products (advertising slots) in the web.

From the user side, the “horizontal” services represent all platforms which handle the sorting of general requests from the user.

This relates in particular, to search engines, portals, social networks and content aggregators, or more generally, to all sites which represent “access doors” to the web: in other words all platforms which allow directing and satisfying all potential purchase, sharing, search, socialization and entertainment requests from the user.

**Table 2. Taxonomy of network services**

Vertical services and content	Horizontal services and content
<p><i>Information services</i></p> <p>On the <i>web</i> a broad offer of information content distributed via digital native services is available, both through information websites from traditional publishers or along <i>offline</i> services, developing their own news and information offer on the net.</p>	<p><i>Search engines</i></p> <p>Applications that allow tracking resources of different kinds (web pages, video, documents, images, forums) associated to specific words. Certain web-sites offer a search engine as their core functionality: Google Images is a typical example.</p>
<p><i>Entertainment services (audiovisual)</i></p> <p>The wide offer of entertainment services that includes consumption of online video, within dedicated platforms (YouTube, Hulu, Vevo, Vimeo, Tivo, Netflix, etc.), as well as websites that make available musical contents (Napster, Rhapsody, Spotify, etc.), or online gaming (Zynga, Electronic Arts, etc.). These services can be enjoyed on the web both in free (Rainet, YouTube, etc.) and pay forms (Skygo, Netflix, etc.), by editors that are active on traditional media (RAI, Sky, Mediaset, etc.) as well as native digital operators (YouTube).</p>	<p><i>Social Networks</i></p> <p><i>Social networks</i> represent <i>network platforms</i> that allow their users to build a public or semi-public profile, within a predefined system, creating their own network of contacts. Their aim is to ease communication, participation and sharing of various forms of contents and information, in a simple manner.</p>
<p><i>E-commerce</i></p> <p>It is about online platforms for retail sales of native digital products as well as for the creation of a distribution channel that is alternative to the traditional ones, based on physical retail stores; platforms for travels and vacations; online banking and online trading, offered by financial institutions, banks and insurance companies that have a local physical service network as well as by operators that have developed a proprietary offer on the web.</p>	<p><i>Portals</i></p> <p>Portals are web sites organized as access points, often thematic, to content and information on the internet. Usually they include a search engine, but they may offer also a personalized access to data like financial information, local, regional, national news, email services, etc.</p>
<p><i>File hosting and file sharing,</i></p> <p>Sharing and exchange of files, data and information</p>	
<p><i>Online training services, Education through web</i></p>	



Source: Agcom data processed by ITMedia Consulting

In all the above mentioned cases, suppliers of network services position themselves as (online) platforms, that draw their commercial power from the ability to bring together: different categories of users; consumers and advertisers; buyers and sellers; various companies operating in the middlemen service market.

Each player has strategic assets to exploit in order to enter the competitive process as a platform operator able to aggregate a variety of functions and services. The need to enhance the strategic assets in the wide digital ecosystem entails the search and introduction of new business models and pricing forms to meet the challenges and opportunities of the existing technological and market framework.

Among the first targets of the network operators there is the search for tools that would increase revenues in response to a changed cost structure and a more competitive environment. In particular, technology allows the implementation of price structures modulated in time and space, and enables processes of aggregation and breakdown of services and contents complementary to the introduction on the market of offers mixing direct payments from users, with forms of revenue based on advertising and, in certain cases, with voluntary contributions from consumers (such as crowdfunding).

More and more often business proposals are divided in flat and semiflat fees (with payment of a single price recurring over time for the consumption of a preset quantity of a given service), combined offers on subscription (so-called bundle) and in models such as freemium, outlining the companies trend to combine basic versions of products, available free of charge, with premium versions, incorporating advanced features and requiring direct payments from end users.

### 1.3 internet ecosystem and the relationship with traditional media

The communications industry is therefore designed more and more as a digital ecosystem, defined by the all the players that produce, consume and exchange information within the space marked by the digital techniques<sup>11</sup>.

Within the ecosystem, driven by the diffusion of internet paradigm acting as a powerful force for change, the “connected” ecosystem takes hold. In fact, after the signals and contents digitization, that has been underway for at least two decades, the current process consists in the adoption of a platform IP (and sometimes of other network protocols) conveying interpersonal and mass communications. Many elements of communication and information are therefore transferred online. In this regard, the connected ecosystem has a tendency to fill in the entire space of digital communications, as is for example the case of the replacement of home video with wide libraries available online (Nextflix, Hulu, Lovefilm, Infinity, Chili Tv etc.) or between sms and instant messaging.

#### *A new industrial ecosystem*

Once separated sectors, as Content and Media, Telecommunications, Information Technologies are now converging, creating a new industrial ecosystem that imposes to different types of companies, with different corporate cultures, to compete and collaborate. In the new digital ecosystem, however, each segment is in competition with all the others for the final consumers with its own business model. All the players try to place themselves as main gateway for access, browsing and delivery of content. As intermediaries, the new players provide, or will provide, combination and distribution of content and management of advertising and subscriptions. Moreover, some of them offer additional services that may compete with others supplied by traditional operators, often reducing the revenues which subsidise the production of contents (as income from newspaper advertising).

This shift toward a tighter control from the players downstream is a characteristic of more mature markets, in which commercialization/distribution prevail on production. This is demonstrated by the growing prevalence of large retailers, as Carrefour at the end of the 60s, and more recently the Walmart phenomenon. Even if contents, whatever they are, clearly represent a strategic asset for new entrants, they are no longer the most significant share of their income. For most TLC and IT operators, contents are only another important application within a broader strategy more focused on their own specific activities.

The first digital innovations of the 80s and 90s were not as shattering and destructive for the media industry as the current ones. They did not influenced distribution, and therefore had no direct influence on the behaviour of consumers or commercial relationships as well.

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<sup>11</sup> Agcom, Research Programme: *Servizi e contenuti per le reti di nuova generazione –SCREEN*, Research *La società dell'informazione*, Report *La catena del valore e i modelli di business dell'ecosistema digitale*, 4 March 2014.

Nowadays consumers are shifting from the physical product to its digital version, because they have access to the product as a service, everywhere and at any time. New forms of interpersonal communication are emerging (instant messaging, chat ...) and new kinds of contents are added or enrich traditional ones. The concept of ownership of a multimedia product has been transformed: managing access rather than owning the physical product. Consumers may interact with contents in new ways: for instance they can produce contents (user generated content). This confuses the boundaries between professionals and “amateurs” in a new digital environment in which the single roles, of producers and consumers, tend to overlap, at least to some extent (co-creation, co-financing, crowdsourcing).

The disruption of the media and content industries began in the telecommunications sector, searching for new flows of income to balance the decline of revenues from traditional activities of fixed networks. During the first phase, at the end of the 90s beginning of 2000, the telecom operators started to offer additional services on their broadband networks, especially data services and in bundle video (triple and quadruple play).

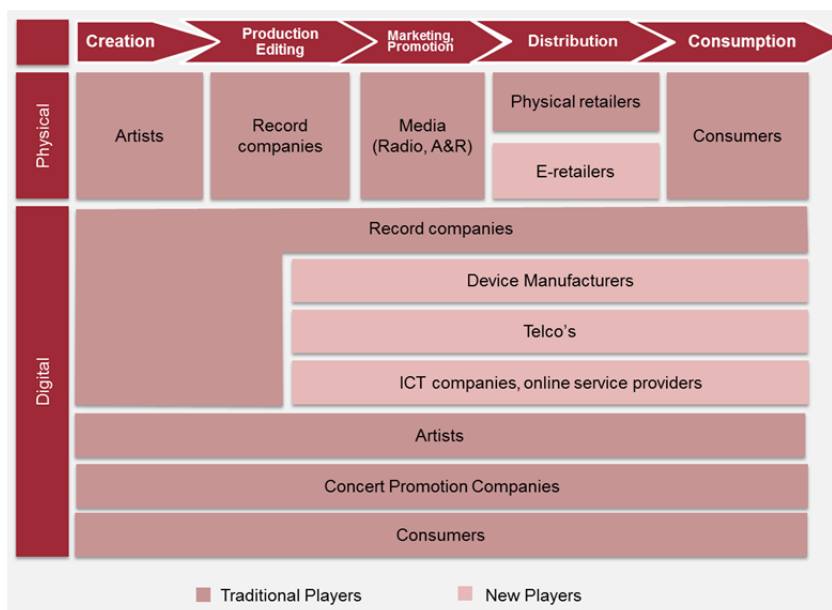
In a second phase, IT companies - search engines, e-commerce operators as Amazon and eBay, then social networks and manufacturers as Apple - took over the leadership in the digital switchover of the media and content industries. However, a new phase has just begun: traditional actors are establishing new relationships and commercial agreements with new entrants, in order to become more pro-active agents in the age of apps.

Internet is no longer seen as a threat, but as an opportunity for new flows of income, thanks to new programmes, new services, new distribution channels and new devices. The world has turned multiscreen: TV, PC, game consoles, TV and mobile devices (whether they be smartphones or tablets), connected or interconnected. The smartphone has not only contributed to the improvement of devices, but it also changed the way consumers use their telephones, by shifting the consumption towards the internet. The deployment of broadband networks is and will continue to be a key factor to the creation of new services and markets.

Undoubtedly, internet and digitization had a strong impact on the media sector. The most interesting and “instructive” case is that of music and equally significant are those of publishing, videogames, newspapers and press.

Today music is shared and consumed on a larger scale than in the past, and consumers benefit from that. Sharing music on the internet enables artists to get more reviews and recommendations, and consequently more opportunities to increase and diversify their revenues. This objective could also be achieved without any help from the record companies industry that traditionally played an intermediary role. Digitization and internet had weakened the role of the main Major companies and their relationships with consumers.



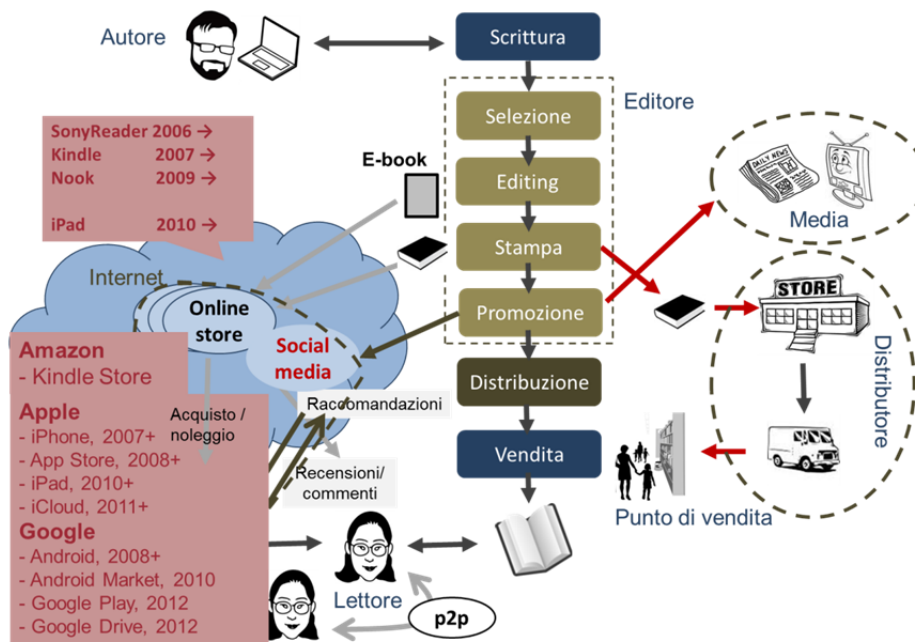
**Figure 6. The new value chain in the music industry**

Source: Andra Leurdijk, Ottilie Nieuwenhuis, 2012

The launch of iTunes Store by Apple in 2003, for which Apple signed agreements with all the Majors in order to distribute their music at a fixed price through its online store, represented a very important step forward for the online market of music. Since then, many other new online services have been launched. In Europe, it's worth to mention the case of Spotify, which also entered the US market in July 2011 and instantly became very popular.

In the publishing industry, the digital age marks the phase with the wider technology gap since the introduction of movable type printing. The value of that technological innovation had been the replicability of information at a lower cost compared to the past and the resulting pervasiveness of the editorial product. The digital revolution is bringing about a similar process, even more marked: digital technologies tend to cancel the marginal cost of production of the copies of a book. Actually, in a digital environment the distinction itself between the original and the copy disappears.

The role of internet in the online publishing sector has become very important, for several aspects. In the first place, the network has been used both as a search and commerce instrument for books, with the birth of dedicated search engines reserved for books, like Google BookSearch, and to sites dedicated to online commerce, like Amazon, even if they concerned only printed paper books. Subsequently, the online search activity has been furthermore empowered with the inclusion of data bases of the whole digitalized text.

**Figure 7. Value chain of book on the net – wholesale model (Amazon)**

Source: ITMedia Consulting processing on Polillo 2014, OECD

The videogame segment, even if relatively new, constitutes already a significant and growing share of the media and content industry. In the United Kingdom, the videogame market has surpassed the cinema market already in 2006, and online games are as popular as downloads of music and video. The industry of videogame software is one of the most innovative laboratories for the digital economy: there are being developed and experimented new digital services (online, offline, mobile), that can reach a growing part of population.

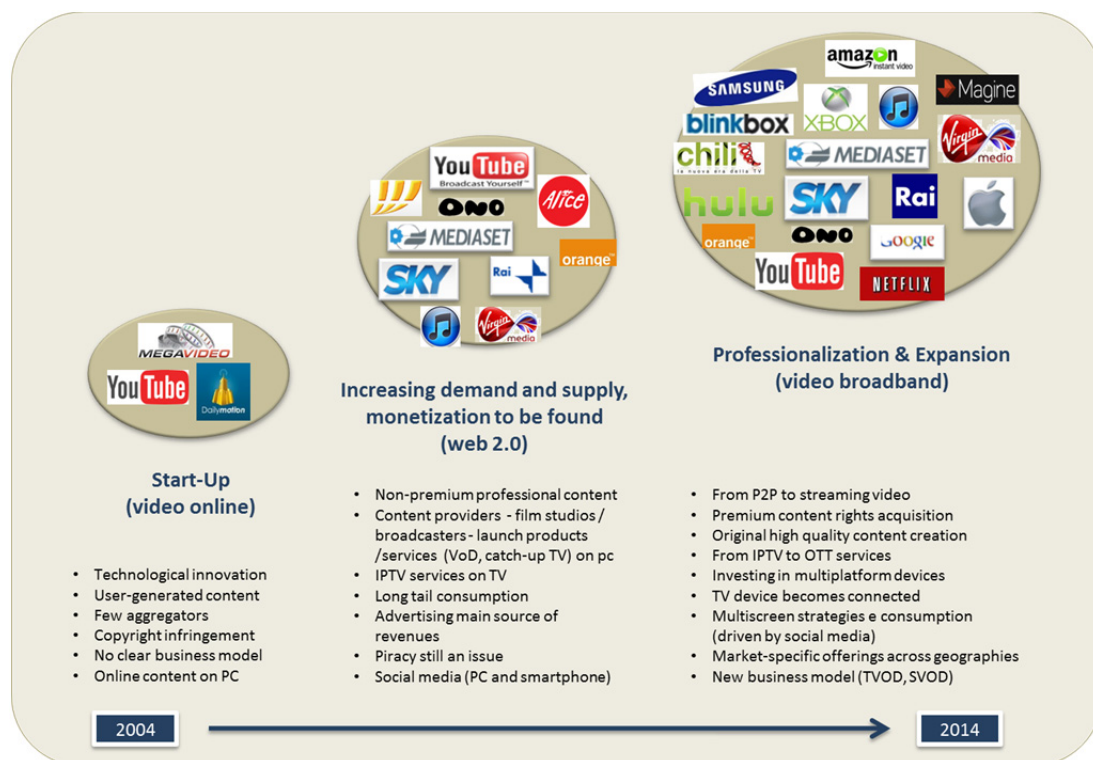
The creation and distribution of news are always influenced by new technologies. This happened with the advent of radio and of television, devices that have changed the habits of readers well before the arrival of the internet. Yet, it has been in recent years that the access to an ever increasing number of online sources, the diminishing numbers of printed newspaper readers and of advertising have had the greatest impact over the daily newspaper industry in western countries.

## Chapter 2. The video revolution

### 2.1 The impact of video on the internet and in the market for audiovisual content

As outlined above, we are stepping into a new internet revolution, made possible by the convergence of a series of consumer driven dynamics. Such transformation characterizes the third phase of the web, as shown in figure 8.

**Figure 8. Evolution of internet**



Source: Data processed by ITMedia Consulting on various sources

This phase, favoured by the diffusion of the broadband and the ultra broadband networks (LTE, 5G, optical fibre) is characterized by ubiquity of connection, mobile access to internet, and evolution of mobile devices. It will grow exponentially in the next years, representing the driver of development of many industries, not only those of communication, bound to the digital economy: the so called sharing economy (and/or app economy). Among the most relevant aspects are included, as already mentioned, cloud computing, internet of things, big data, machine-to-machine, etc.

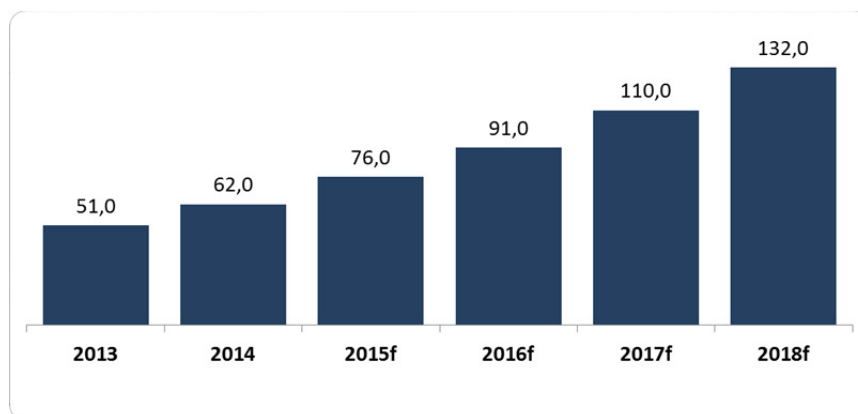
In this context, video works as a driver, favouring the diffusion of networks and services which are increasingly powerful, capable to satisfy the growing expectations of consumers, through new services provided on demand.

On this regard, we have observed a radical change in approach, especially in 2014 in Europe, with the entry of many broadcasters and video service providers in the content arena. The objective has focused primarily on preserving *customer satisfaction*, in IP environments as well, which are bound above all by Quality of Service, as a fundamental condition to provide competitive products, and an effective *value for money*.

### 2.1.1 Video demand and broadband networks

The shattering effect that has been determined by the increase of video traffic on the network continues to be a focal point for the development not only of the online entertainment market, but of the entire internet system.

**Figure 9. Global internet traffic 2013-18 (Exabytes per month)**



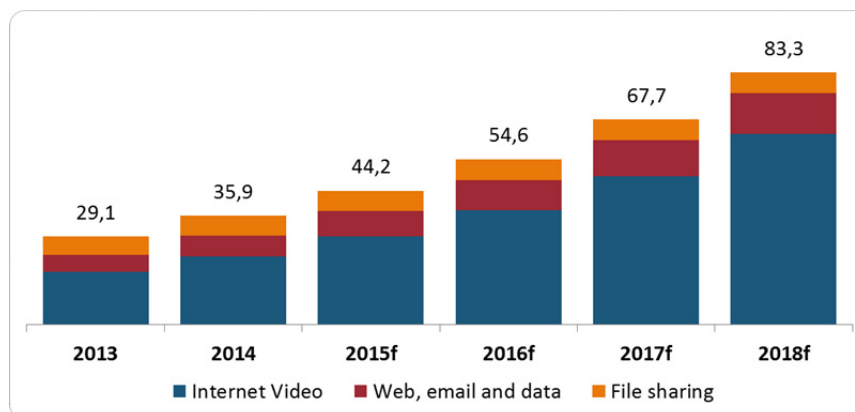
Source: Cisco System data processed by ITMedia Consulting

According to Cisco, the annual global internet traffic is expected to grow at 21% reaching in 2018 a volume of over 130 exabytes (EB) per month vis-à-vis the 51EB registered on average in 2013. In other words, a global consumption that triplicates, passing from the 5GB per capita in 2013 to the 14 GB in 2018.

In this scenario, the estimated internet traffic for consumers – hence excluding the share of managed IP of telco operators, ISP, and cable – will reach 83 EB per month in 2018, an increase of video entertainment (e.g. YouTube, Hulu, Netflix) of 30%.

In 2018 it will represent 76% of consumer internet traffic (57% in 2013) and the fruition of HD and Ultra HD contents will definitely play a key role.

Also the mobile activities will push the growth and overall development of the internet services, with an estimated increase for the next years of 60%. The video consumption here too will have the lion's share, of up to 72% of the total mobile traffic in 2019 vis-à-vis the 55% of the past year. In Italy, the mobile traffic will grow of 8 times, from 2014 to 2019, with an average increase per year of 50%.

**Figure 10. Consumer internet traffic 2013-2018 (EB per month)**

*Source: Cisco System data processed by ITMedia Consulting*

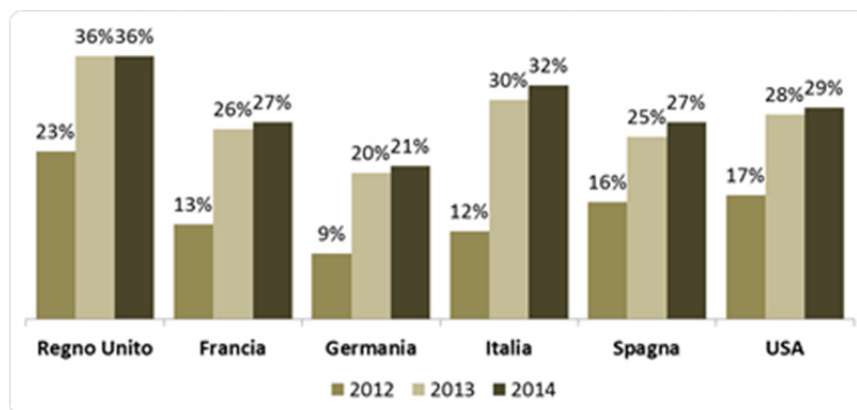
As of today, there have been many investments and incentives to foster the development of ultra broadband networks, both in optical fibre, and cable as well as in mobile (FTTH, FTTC, DOCSIS 3.1, LTE, 5G), besides the efforts at European and at country level to reach the objectives of the Digital Agenda: the realization a single digital market, the increase of interoperability and of standards, network investments, etc. One of the objectives of the Agenda is that of reaching by 2020 a total broadband coverage in Europe, with connections higher than 30Mb, and to guarantee 100Mb connections to at least 50% of the population.

The efficient use of the network requires that part of the value generated by its usage be reinvested in the network itself, and so, being assured by all the interested parties (telcos, ISP, OTT TV, CDN suppliers, content producers, aggregators, web players, broadcasters and operators). This is the ideal model still far from a real application.

Actually, in this field, who owns the infrastructure is not able to capitalize at its best the network and its exploitation. The largest part of economic exchanges and monetization take place between content producers, OTT players and the suppliers of CDN. In the presence of an adequate coverage of ultra broadband networks, Cisco Systems estimate that the use of CDN will grow in the next years at an average yearly growth rate of 34%.

In the next years, networks of increasingly greater performances and capacity will be able to manage huge quantities of contents, with the smooth unrelenting transition of all the repeat-use products (movies and TV series) from broadcast to broadband, therefore raising several issues concerning the management and quality of the services.

The fruition of audiovisual contents on the internet acquires relevance with an increasing quota of users who have access to these services. In the last three years, in all the main European countries the fruition of TV contents through internet has increased considerably.

**Figure 11. Weekly consumption of video via internet (long-form)**

*Source: Ofcom data processed by ITMedia Consulting*

The growing variety and availability of devices on multiscreen has brought consumer habits to a radical change. The fruition of audiovisual online content via mobile grows considerably, while the desktop one, while remaining relevant, has stabilized in the fruition options. In 2014, ownership and usage of tablets was more pronounced in the United Kingdom, with a penetration rate of over 40%, followed by France, Germany, with a value above 30%.

In the end, the emerging picture shows that the public wants more and more video content for entertainment, content aggregators want to distribute those contents on the greatest number of platforms and screens, and the content right-holders want to be sure of being adequately remunerated.

## **2.2 Video on Demand: the business model**

The centrality of video entertainment as one of the main driver of the digital economy, both in terms of infrastructure development via the increase of traffic on the network (demand for bandwidth) and in terms of contents and services (video on demand, in the first place) is doomed to radically transform the audiovisual industry, also outlining the possible switch off, in a temporal perspective still not easy to place, from broadcast to broadband.

Meanwhile, taking advantage from this transformation led by the consumer demand, new services and new business models are establishing themselves, also on a global scale, providing a strong competition between consolidated industries (TLC and media) that are finally spreading their own contents also in the internet environment, and new players (OTT).

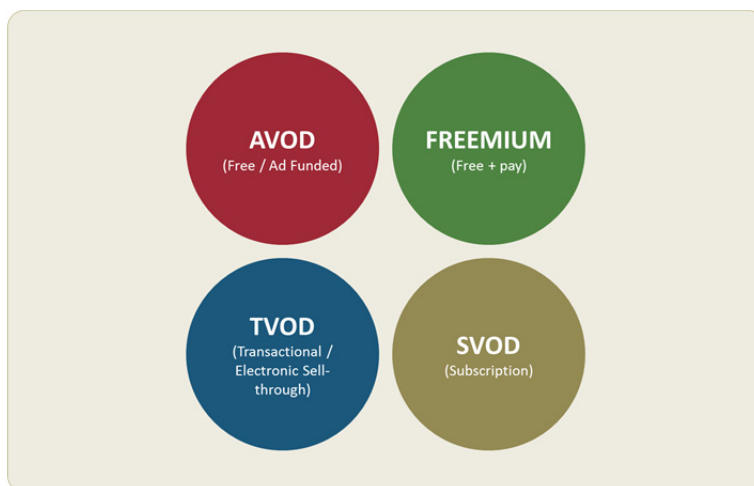
In this respect, the kind of services being established is very different from the traditional television models. It is the case, mostly, of non-linear services, provided on demand, where advertisements happen in distinct models and the end user subscription is radically different from the expensive premium bundle model (from €30 to €50 per month) provided by the traditional pay-tv broadcasters.

What differentiates these services is the competitive pricing (subscriptions are cheaper, at €8-10 per month) and a catalogue limited to repeated utility products (movies, series, documentaries, animation).

The most successful service is the Subscription Video on Demand, but pay-per-view or transactional mode (TVOD or Electronic Sell-through) are also popular, while other services reach into mixed revenue systems (Freemium). In any case, it is worth to remember, we are dealing with a sector still in a development stage, in which positioning strategies and establishment of market power are far from being consolidated.

In the new playfield, much wider of the traditional audiovisual one, and therefore not necessarily bound by the same rules, new players are leveraging on critical mass reached thanks to the original activity and enjoying therefore of network externalities, to expand themselves into the new connected world of contents, within a context where the “winner take all” attitude of the global players prevails.

**Figure 12. Business models**



*Source: ITMedia Consulting*

Apple, through iTunes has begun to address the music lovers who listen to it via Apple devices and recently has become one of the most popular stores of digital contents, including videos, in the world.

Amazon is active in e-commerce, initially selling books, but since 2008 has begun to offer movies and streaming videos under the brand Amazon Instant Video Prime; moreover, to the users of brand-loyalty program Amazon Prime, it guarantees free shipping of items purchased online, with an annual subscription of \$79.

Netflix itself coming from the traditional video retailing market (sent to the user by postal mail) distributes now online its VOD subscription service to countless devices, among which Xbox360,

Nintendo Wii, Sony's PS3, blue-ray players, and TV sets by Sony, LG, Panasonic, Insignia, Philips, Pioneer, Samsung, Toshiba, Yamaha, Vizio, iPhone, iPad, etc.

Google exploits the advantages of a global user-base of its search engines to make YouTube appealing to the vast user population in the world. The same holds for Facebook that tries to monetize its dominance on the social network arena and in the mobile world, to establish itself in the video content distribution.

If then legal content and business models are just beginning to take shape, their chance of competing especially in Europe with consolidated pay-tv operators, getting subscribers from them – the so-called *cord cutting* – is conditioned by broadband penetration as well as unlimited access to premium content, that often is controlled by broadcasters on exclusivity basis and that, in all cases, turn out to be really expensive (minimum guarantee or low margins on revenue sharing).

### 2.2.1 The Netflix phenomenon

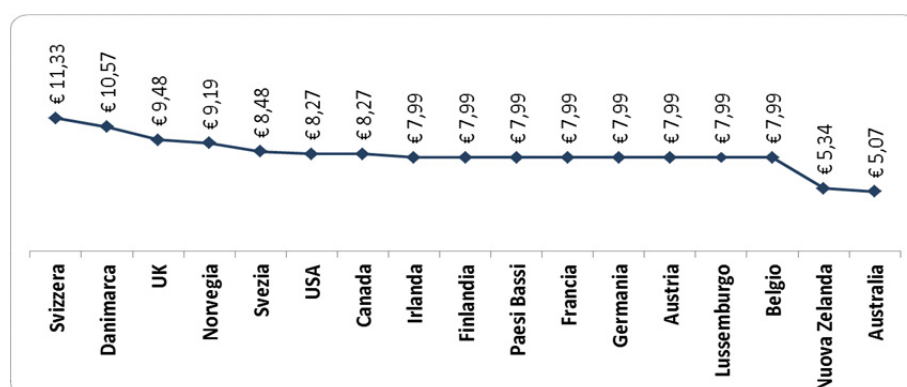
The streaming division of Netflix, which in origin was called Watch Instantly, in 2010 surpassed, in term of revenues, Netflix's historic core business of physical rental of DVD.

In the domestic market Netflix represents more than one third of download internet traffic, in peak hours (34,9%), setting the record for the highest volume in download among all broadband video services. Its most direct competitors, Apple and Amazon, are very far, with traffic quotas respectively of 2,8% and 2,6%.

Since 2011 Netflix has begun to finance directly the production of original content (Netflix Originals) in order to increase the loyalty of its public with a quality product which is in line with the preferences of its subscribers.

Generally speaking, the prices Netflix proposes for its services are very competitive and well below the prices of its competitors.

**Figure 13. Prices applied by Netflix in the different markets (2014)**



Source: Netflix corporate data processed by ITMedia Consulting



*Content-technology integration and net neutrality*

Thinking of Netflix as a simple content company is surely reductive. The key of its success is the ability to collect the information in an accurate manner and to heavily invest on this. From the creation of algorithms and development of analytics to include all the information relative to subscribers, up to the development of a proprietary CDN and the implementation of a massive cloud architecture, the primary objective is to grant an elevate standard of quality content, avoiding disruptions and disservices and at the same time develop an improved profiling, cut on the specific needs of any single client. In this sense, wide technological know-how is required, at different levels, as well as a capability of orienting the activity toward a harmonization of all the components.

On the other hand, just providing attractive content is not enough. Developing services on the internet network means, in the first place that behind the simple operation as pressing a button to watch some content, there are many complex operations: for instance, offering a streaming service that is always working on an infrastructure that is often not stable, and above all developing the famous *recommendation algorithm* that allow 150 million options of choice per day, each one based on a selection of how best prioritize for each user a library of 10.000 titles.

The compresence of this double nature - product and technology - is probably what more characterizes Netflix with respect to the majority of its competitors.

At the same time, the weight of this operator in terms of bandwidth consumption poses strong pressures on the ISP and telcos about the necessity of an efficient and safe traffic management that verges on forms of prioritization that are not evident but has been in use for some time. In this way, Netflix is taking Google place as the greatest paladin for the global battle of Net Neutrality.

In the end, even the last pillar on which the traditional television and its market are based: TV advertising. Right when the major productions, beginning from series, are not financed by great generalist networks, fruition is not live, on air, therefore making it easy to skip commercials; this resource is risking not being able to sustain a sufficiently high level of production as it did in the past.

Hence, this is why, if at the beginning Netflix was a problem mainly for the pay-tv operators, in perspective this model could exacerbate the crisis of the value-chain and product-chain that the traditional broadcasting has been developing for decades. This means that even if Netflix will not be a winner, or will not be the only player to establish itself, whoever will want to contest Netflix, will have to rethink its strategies, and change the parameters with which in the U.S as well as in Europe, the television and the consolidated media have been built for years.

The disruptive elements that have characterized the relation between internet and the traditional media industry (books, newspapers, music, radio, etc.) are finally a reality, at least in the US, also for television and audiovisual services.

One of the most dangerous attitudes, that risks to accelerate this tendency, and the crisis of the traditional broadcasters (free and pay) is the “wait and see” approach, which characterized for years the behaviours of these players. In other words, the idea that only when there will be adequate economic resources, the television industry will enter in mass and with profit in the internet world.

**Figure 14. Main streaming video services in the US**



Source: iTunes

So, while the analysts of these companies analysed metrics and statistics, the video providers and streaming platforms were developing relationships with the audiences, which were becoming ever more lucrative for them (they don't have the large costs of TV networks to generate profits) and capable to orientate in time the attitudes of consumers. Now that the time has come, traditional broadcasters have realized that it could be too late.

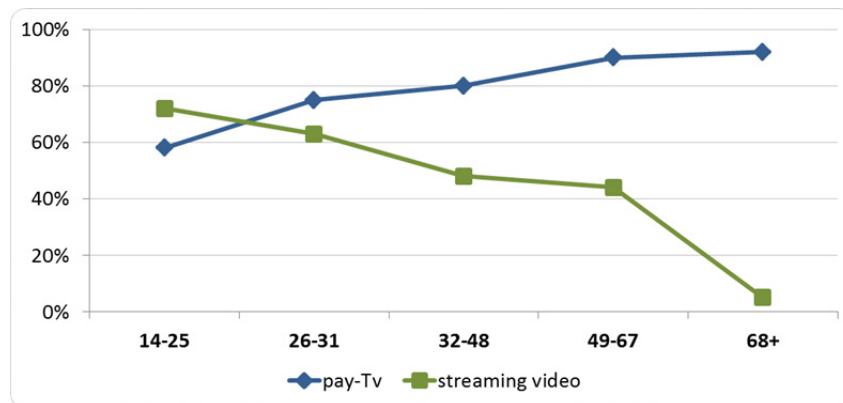
It is enough to consider these indicators:

- The largest channels of YouTube (Maker, Fullscreen and Machinima) are broadcasting enough minutes per day to compete with some of the major national broadcast channels, like CNBC, FXX and Fox Sports 1. And while the TV audiences are being eroded, those of the three YouTube channels are doubling each year.
- In the first quarter of 2015, the 41 million subscribers of Netflix USA represent about two hours per day of video, making the Netflix network larger than two of the four major national networks, and two times as large as the cable network. At this pace Netflix has become the most popular video provider in the US the end of 2015.
- Not to be forgotten, that Amazon Instant Video and Hulu are respectively at the 75th and 100th place and keep growing each quarter. To this must be added Amazon Twitch with its 13 mln users who watch its 14 hours per month (with a growth of 7% on average per month, in the past three years).

From this it follows that the consumption of TV content in the US has radically changed and moved away from the traditional one, with no chance of going back. A research conducted by Deloitte shows that 53% of the interviewed watches TV programs in streaming. Going on the millennials age group

(14-25 years old), the study highlights that they watch online video more than they do in other ways: about 72% prefers VOD and 58% live TV.

**Figure 15. Preferences in fruition, per age group (%)**



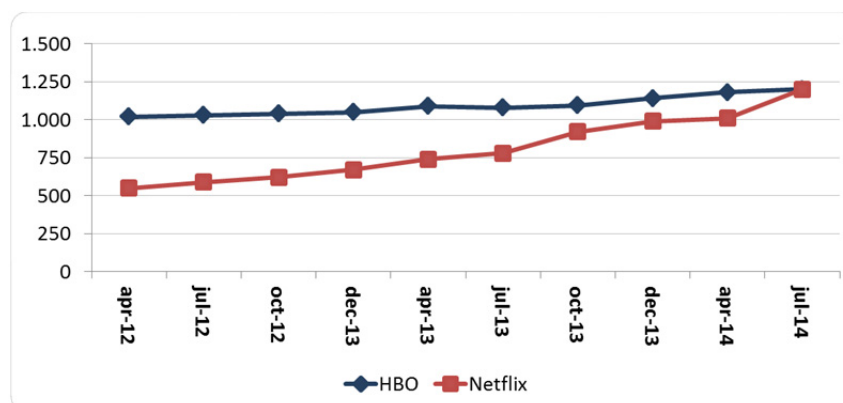
*Source: Deloitte data processed by ITMedia Consulting*

Additionally, 25% has never watched pay-tv in the past months, or has cancelled his subscription. The greatest part of them (57%) watches streaming video on smartphones, tablet or Pc, rather than on the TV set. The older the generation, the more likely it is to prefer the television: about 57% in the 26-31 age group, the 70% in the 32-48, 81% between 49-67, 90%, in the 68+.

At last, binge watching, that is, watching 3 or more episodes in the same session, is becoming the prevalent manner in the US. More than 68% of the respondents adopt this mode and of these, 31% do it more than once per week.

In the light of these elements, the future of the mainstream TV networks and the American cable television industry is now questionable, posing the condition for a consistent reshaping of the sector, that just a few years ago would have been unthinkable. Undoubtedly, the evolution of broadband non-linear services, primarily VOD, has strongly contributed to this result.

**Figure 16. Revenues from subscription of HBO and Netflix (\$ '000)**



*Source: operators' data processed by ITMedia Consulting*

The year 2011 represents in this perspective a crucial year, when the overtaking of the SVOD has taken place, and its revenues have grown 10.000% more than the TVOD, the first business model to establish. Such a trend, favoured by the market entry of Netflix in 2010, has completely consolidated and strengthened: in April 2014, the landmark overtaking in terms of subscription numbers versus the largest traditional pay TV player in the world, HBO, and one year later, in April 2015, in terms of revenues as well.

HBO has realized in the meantime that Netflix is not only a video distributor, but also its greatest competitor in the pay-tv streaming markets, which are becoming more and more popular. Even if it is not capable, yet, to cause such a disruptive impact, the explosion of these online services is of great evidence in Europe as well.

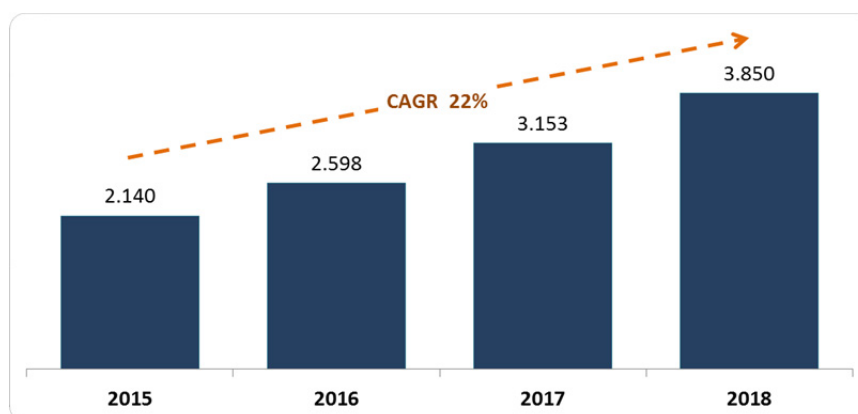
## 2.4 Market forecast

### 2.4.1 Revenues from the on demand services

In the light of the phenomena above mentioned, it is possible to forecast that the next years will see a considerable growth, much higher than expected, of on demand online services.

On this regard, the diffusion in Europe of the VOD offers will depend on the following factors: development of the ultra broadband networks, both via telco networks (FTTH, FTTC, etc.) and via cable (Docsis 3.1); the effort and the incentives at European level and of the specific countries, to reach the objectives of the Digital Agenda (broadband and ultra broadband penetration); the change in attitude of the traditional content providers (producers and broadcasters), under the ever increasing competition of large global operators; the explosion of streaming video services and on mobile terminals; the development of 4k and 8k offers; the irreversible medium-long term switch-off from digital terrestrial broadcast to broadband.

**Figure 17. The VOD market in Europe 2015-18 (€ millions)**



Source: ITMedia Consulting

ITMedia Consulting estimates that the total revenues deriving from the VOD offer in Western Europe are €2,14 bln at the end of 2015, and it will reach €3,85 bln in 2018, with an average year-on-year growth rate of 22%.

This increase, besides the general drivers above described, is coming from additional factors, linked to the specific nature of national markets.

In particular:

- Consolidation of some business models in some areas (United Kingdom and Northern Europe), especially through the SVOD services and to a lesser extent AVOD, that begin to compete directly against the dominant pay-tv operators and free to air national broadcasters;
- Entry of new global actors, starting from Netflix, in areas up to now less prone to completion, due to the lack of broadband penetration (especially in Southern Europe);
- Consolidation, through mergers and acquisitions by the great telecommunication companies and the cable ones (e.g. Vodafone, BT, Orange, Telefonica e Liberty Media) through the offer of quadruple play packages, integrating voice, data, fixed internet as well as mobile, and video (TV) connection;
- Higher degree of competition between broadcaster, telco, OTT (Netflix, and in perspective, Amazon, Apple, Google) on the same or on different business models (France and Germany in the first place);
- Direct access through the acquisition of the live rights for premium sport contents, on exclusivity basis, (football national championships, Champions League) in order to increase the demand for data traffic on the networks (United Kingdom and Spain).

In this perspective, ITMedia Consulting forecasts an impressive development of the VOD and non-linear services, in which different business models are confronting each other, that will lead to a substantial increase of revenues, and also to a greater consolidation of the financing models, especially in term of subscription.

#### **2.4.2 Subscription revenues: SVOD**

The great explosion in the USA of the subscription services on the internet, which has exceeded the pay-tv sector, has caused the crisis of the traditional business model of television. This poses the pay-tv operators across the Atlantic in front of a difficult dilemma: on the one hand the need to protect and therefore do not cannibalize the consolidated business model; on the other hand, the need to offer new online services (OTT based) to compete with the new internet players in the market, which could take the revenues from a consistent number of pay-tv subscribers - the cord cutters - who might be willing to leave the more expensive pay-tv offer for cheaper online services.

In the past, the fear of cannibalization has been the prevailing drive in the broadcasting operators' strategies, in the belief that it would not be possible to compete on price and quality with the largest

global operators. More recently the scenario has totally changed and in some countries – as Italy and France – the broadcasters have been the ones to stand up to the challenge, trying to obtain a competitive advantage. This stems from the belief that European players are better positioned with respect to the US ones, to defend themselves from cord cutters. This is in part due to the control over a consistent amount of premium content, which could allow them to leverage and expand their business toward new revenues sources. In this sense, many broadcasters, both free and pay, have invested in the online markets (Germany, Finland, Sweden and United Kingdom) and others, as Italy, where OTT players has established later, are following the same path.

Therefore, according to an ITMedia Consulting study, the VOD market will be carried on by the subscription services, with cheaper offers and Over-the-top distribution. In the first phase then, we will witness a scarce substitutability of the broadband model with the broadcast one, as the two will remain complements to each other, while strengthening potentially the overall time dedicated to the fruition of these contents, on multiple platforms and on multiple devices.

Subsequently, a larger share of revenues, especially in countries where the SVOD will be more developed, will originate from the direct substitution between different forms of pay offers (cord cutting and cord shaving) with a growing price war and a possible consolidation of the sector. This will provoke more significant and potentially disruptive impact on the pay-TV industry.

## Chapter 3. Competition policy trends and perspectives

### 3.1 Features of the internet industry

The previous chapter illustrated the impact of the internet on the development of the audio-visual market. The demand of traditional TV viewing have partially shifted toward non-traditional viewing such as catch-up Tv and VOD like Netflix for example; short video clips on Vimeo or YouTube are becoming a regular form of entertainment for many people. These developments are obviously underpinned by the continued increase in total broadband take up, the increased broadband speed, the roll-out of new generation of mobile networks. Indeed, the recent years witnessed the explosion of streaming video services, and providing content over the internet is becoming increasingly popular.

This chapter first analyses the new features and business models appeared in the internet industry: network effects, consumer switching costs, multi-homing or single homing from the consumer side; as of the competitive strategies on the supply side, we explained the role of product differentiation, vertically integrated services, multi-sided platform.

#### 3.1.1 Network effects

A product causes a network effect if the utility of every single user increases with the number of users of that product, or of compatible ones. Most of the products and technologies in the information markets have network effects: this means that, *ceteris paribus*, it is best to be connected to the largest network, as in this way, the positive externalities for the users are maximized.

Demand side and supply side economies of scale are the main source of network effects. It reflects that the value of adopting a service to an incremental user is larger when more users have already adopted. There can be either direct or indirect network effects refer to users of the same groups of agents or not.

Supply side economies of scale indicate that the cost of producing an incremental unit is smaller at higher levels of output. Consider WhatsApp could conceivably have both demand-side and supply-side economies of scale. The former means if there are more users choose WhatsApp than Viber, for example, a new user would prefer to choose WhatsApp rather than Viber. The latter indicates that if there are more users on WhatsApp than on Viber, the average cost per user of providing the service is lower on WhatsApp. In the opposite to economies of scale, there also exist factors of diseconomies of scale. Regarding the provision of internet services, congestion is a typical example.

Competition benefits consumer. However the conventional wisdom that network effects reinforce the market power of a dominant firm could be misleading, particularly in the extremely dynamic web-based economy. Even if the existence of network effect is often associated with a concentrated market structure, it does not necessarily imply that it would eliminate or undermine competition; in contrary, as network effect would bring in huge success, it naturally attracts more competition at the

same time, particularly in technology driven industry tougher competition for the market is widely observed.

As of the challenges for entrants, indeed “critical mass” is one of the key features in the web economy. Since 1990s, many entries of platform in web-based economy emerged, however most of them failed in the initial period; the main reason is that they failed to obtain sufficiently large consumer base<sup>12</sup>. However this challenge is not only imposed on the entrants but also the incumbents.

There is a saying that a wealth of information on the internet creates a poverty of attention. In web economy the scarcest resource is the attention of the users. This effect is amplified when the indirect network effect among the multi sides of the platform is significant. Therefore the fiercest competition on the web based economy is constantly competing for consumers.

Furthermore, the sufficient consumer base at one moment does not guarantee to succeed in the future; users may well switch to the competitors who are more efficient or innovative to attract consumers. The network effects can accelerate the falling of a large player. Examples of inefficient incumbents that have been driven out of the market of lost their leading positions include: Alta Vista, AOL, Blockbuster, MySpace etc.

In traditional industries lock-in effect may occur associated with the direct network effect. The typical example is that the QWERTY keyboard was significantly less efficient than competing designs, but users are “locked in” this technology for decades<sup>13</sup>. One possible explanation is that consumers fail to coordinate, but this is not in-line with the interest of the providers<sup>14</sup>.

The lock-in effect due to the network effects among consumers could be mitigated when multi-homing prevails and the switching cost is sufficiently low. For most of the internet services zero pricing applies, therefore consumers changing service provider does not induce a monetary loss. This feature intensifies competition among the service providers. In addition in the internet era, information is not as scarce as it used to be; hence the cost of consumers to search for various products is also low. The lock-in effect is usually the main concern of network industries, but the feature of zero pricing implies that the lock-in effect is weak on the demand side of the web economy; on the supply side entrants may compete equally against the existing players<sup>15</sup>.

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<sup>12</sup> Cfr. Evans. D (2011) “Platform Economics: Essays on Multi-Sided Businesses”.

<sup>13</sup> Cfr. Weyl E.G., White A., (2014) “Let the Right ‘One’ Win: Policy Lessons from the New Economics of Platforms” supra note 6, Paul A. D., Clio and the Economics of Qwerty, 75(2) AMER. ECON. REV. 332-337 (1985).

<sup>14</sup> Cfr. economic literature on “divide and conquer”, e.g. Farrell J., 1987. “Cheap Talk, Coordination, and Entry”. 18 Rand J. Econ. 34–39; Ochs J., 1995. Coordination Problems. In Kagel J.H. & Roth A.E., eds. The Handbook of Experimental Economics. Princeton: Princeton University Press Inc.

<sup>15</sup> Cfr. Arthur W. B., (1989). “Competing Technologies, Increasing Returns, and Lock-in By Historical Events” Economics Journal 99:116-131.



Besides direct network effects, indirect network effects are also widely observed and well-documented in economic literature. Indirect network effects occur for some reasons, among which the general underlying interdependence describes that the best strategy of group A (sellers) depend on the number of group B (its users), and group B (the user's) utility depends on the strategies of group A (the sellers). For example advertisers' investment is affected by the number of active users. The section of two-sided market will illustrate the features of the platforms and strategies when indirect network effect prevails.

### 3.1.2 Product differentiation, switching costs and multi-homing

Quality differentiation is a well-documented and understood practice since the seminal paper by Hotelling<sup>16</sup>. In general in the absence of anticompetitive discrimination, differentiation generally benefits both producers and consumers.

Product differentiation may represent a source of competitiveness, and may give rise to market power. For example pay TV operators and VODs providers offer premium content to differentiate them, and to cater to different tastes and need of the audience. Industrial organization analyses discrete-choice models of horizontal and vertical product differentiation. If for equal prices consumers do not agree on which product is the preferred one, products are horizontally differentiated; if on the contrary all consumers prefer one over the other product, products are vertically differentiated.

According to the definition, only demand-side characteristics matter. For example, as of the free email service, users have their own preferences between Gmail between Hotmail; as of video streaming, prices, qualities, amount of availabilities vary from different providers. As of its impact on market concentration, neither theory nor empirics are advanced to draw precise conclusions whether product differentiation plays a positive or negative role.

With endogenous horizontal product differentiation, the degree of differentiation in product design is determined by balancing two opposing effects in competition and market size. With the former effect, firms have incentives to increase product differentiation to avoid fierce competition; according to the market size effect, firms have incentives to reduce product differentiation to cater the needs of more consumers.

With vertical product differentiation, firms offer different qualities in equilibrium, and this serves as a tool to relax price competition<sup>17</sup>. However it is worthy of noticing that markets with vertical product differentiation may be natural monopolies or oligopolies, which means that only a limited number of firms can enter profitably even if entry costs are low.

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<sup>16</sup> Hotelling H., (1929), "Stability in Competition", The Economic Journal, Vol. 39, No. 153: 41-57.

<sup>17</sup> Models of product differentiation have been proposed by, *inter al.* da Gabszewics J-J. and Thisse J.-F., (1979) "Price Competition, Quality and Income Disparities" Journal of Economic Theory 20:340-354; and by Shaked A., Sutton J., (1982) "Relaxing Price Competition through Product Differentiation" Review of Economic Studies 49:3-13.

As discussed in the “long tail” and “superstar” effects below, the internet, with a reduced information cost, brings opportunities for both the niche products and high value products<sup>18</sup>.

#### *Switching costs, multi-homing vs single-homing*

Significant switching costs may prevent users to change the service providers. In pay-tv markets, there exist not trivial switching cost on the demand side; consumers need to make initial investment in the device as the receiver. Digital terrestrial television is received either via a digital set-top box (STB), TV gateway or integrated tuner included with television sets, that decodes the signal received via a standard television antenna. Satellite television requires in addition the dish to receive satellite television signals. Even though this cost is sometimes subsidized by the pay-tv operator, it may prevent consumers switching to a rival provider.

Switching costs may act as an entry deterrent. In network markets, direct network effects can be considered as a cause of switching costs. For example in social networking applications, when groups of consumers make sequential choices, early choices tend to commit the later participants, thus it creates a form of “collective switching costs”. One user’s asset specific “investment” to a certain network is complementary to other users “investments”, which would lead to a lock-in effect.

Vice versa, in a system market, when choosing between competing platforms, consumers tend to privilege the one which offers the highest value, such as the largest availability of applications, and the most precise search result. This generates indirect network effects. The switching cost, both for the consumers’ side and the application creators are related to the compatibility between the systems: when the systems are fully compatible, switching involves little cost, and value of consumer to use one system does not depend on the number of users on the same system, in other words the indirect network effect vanishes.

Usually there exist various internet service providers for the same services, with similar quality. The horizontal differentiation can result in the phenomenon of customers “multi-homing” i.e. using more than one platform, coined by Rochet and Tirole<sup>19</sup>. Customers find certain features of different competing platforms attractive and therefore rely on several of them. With the prevailing zero pricing of the internet services, consumers could find multi-homing attractive and try different providers without incurring monetary cost.

#### *Multi-homing on firm’s and consumer’s side:*

On media platforms, audience tend to watch a single programme at a time, whereas firms can place advertising in various programmes that are shown simultaneously. With computer operating system,

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<sup>18</sup> Cfr. Baye M. R., Morgan J., Scholten P., (2006). "Information, Search, and Price Dispersion," Working Papers 2006-11, Indiana University, Kelley School of Business, Department of Business Economics and Public Policy.

<sup>19</sup> Rochet J-C. and Tirole J.,(2003), “Platform Competition in Two-Sided Markets,” Journal of the European Economic Association, 2003, 1:4, pp. 990-1029.

users typically use a single operating system, but developers tend to develop software for various operating systems<sup>20</sup>.

Multi-homing is common in television networks. Pay-tv subscribers also watch programs from free-to-air TV channels as substitutes. (In the U.S. it is forbidden by law that broadcasters from owning TV stations reaching more than 35% of the nation's television audience.).

In the media market, the increased video viewing of digital content and TV-produced content, as well as the rise of SVOD across all platforms, are changing the way of consumption of traditional media; OTT serves as a complement for traditional TV services and provides consumers better opportunity for multi-homing.

In recent years the prevailing internet TV benefits consumers with more available content. With traditional pay TV services, consumer needs to purchase device (receiver) for the cable or satellite network, this initial investment is likely prevent consumers from switching to another TV company, and increase the cost of multi-homing independent from the subscription fee. In contrast, with the option of the internet TV, IPTV technology requires a setup box, which is usually provided by the telcos; and with OTT technology, a web browser and a mobile app may suffice as a receiver (box and stick may be necessary for specific internet-tv platform). Furthermore, most internet TV platforms, such as Wherever TV, BBC iPlayer, Sky Go, Hulu are available from various systems such as web-based, Windows app, Mac app, iOS app, Android app, console app, TV set app.

No longer tied to the physical infrastructure, OTT offerings have the potential to offer huge opportunities for the service providers; this may shake up the existing pay-tv business model. Even if up to now OTT remains a complement, not a replacement for traditional pay-tv, OTT may to some extent take up consumption of linear TV program. Indeed, the Ofcom CMR and the Nielsen report showed that both in UK and the US consumers are spending less time watching linear TV programs, and this decline is mostly from watching videos on the internet.

As of OTT SVOD, over 40% of U.S. TV homes have SVOD access, 36% have Netflix access, 13% have Amazon Prime Video access, 6.5% have HULU Plus access. These figures indicate that multi-homing among OTT SVOD is common.

In general multi-homing and low switching cost help to alleviate consumer lock-in in a single product. They affect both the pricing strategies by the firms and in turn the market structure. If consumers are more open to try different internet services, in counter-balanced the network effect and may provide room for new entries. Efficient approach to the issue of Apps interoperability and standardization, it might be interesting to address this issue considering the results of network effects, multi-homing, and also product differentiation.

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<sup>20</sup> Cfr. Lerner J. and Tirole J., (2002), "Some Simple Economics of Open Source. Journal of Industrial Economics", 50: 197-234.

### 3.1.3 Vertically integrated services

The last two decades saw an overwhelming amount of welfare-enhancing innovations, and the rise of some giants with vertically integrated services. For example Google, the leading search engine, and social networking platform, also has a transformative role of mobile and cellular computing with vertical integration. Another example is that Facebook, the popular social network is also the largest marketing platform. New businesses effectively pose challenges to the other competitors including former incumbent. All these dramatic changes would result in the necessity of updating the analysis in antitrust cases despite the revisions in the legal system. Some question that has been under debate since the Microsoft case is still unsolved: what is the appropriate role of antitrust in the new economy? Are vertically integrated services beneficial or detrimental for market competition?

In the economics literature the effect of vertical integration is controversial. It can have efficiency-enhancing effects as well as anticompetitive concerns. One concern about vertical mergers is that they effectively foreclose the access to inputs. Foreclosure here means that inputs are not available to non-integrated downstream rivals. Another concern is the foreclosure to customers.

In the former case of input foreclosure, vertical integration may lead to higher wholesale prices for competitors. The higher price may be due to vertically integrated firms not selling inputs on the market or, at least, restricting their supply. This means that vertical integration can be used as a tool to increase the rivals' costs.

Economic analyses have shown possibly anticompetitive effects of input foreclosure by vertical integration. In an important paper, Hart and Tirole (1988) argue that an upstream monopolist cannot credibly commit to supply only one downstream firm if supply contracts between upstream and downstream firm are unobservable and unverifiable. Restricting attention to non-discriminatory contracts but allowing the contracts to be nonlinear, the upstream firm can extract all downstream surpluses under symmetry downstream. The gross surplus is equal to downstream oligopoly profit. In other words, vertical integration essentially provides a solution to the commitment problem because it allows the firm to collect the monopoly profits<sup>21</sup>.

Vertical mergers may lead to foreclosure in the sense that rival firms have to pay a higher input price after a vertical merger. However, does this effect hurt final consumers? Under some conditions consumers may benefit from lower retail prices may. This strategy may not be profitable either, unless one side of the market becomes fully vertically integrated.

Vertically integration happened not only among internet players, but also operators on adjacent layers. Due to the boost in the demand of TV and video services, current years more and more new players join the audiovisual market. Telcos integrated pay TV with their core business of telephony and broadband, in this way they compete with pay TV operators as well as other telcos in the triple-play or quadruple-play packages. In order to attract more subscribers, in Europe there is also the

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<sup>21</sup> The commitment problem of the upstream monopolist see Rey P. & Tirole J., 2007. "A Primer on Foreclosure," Handbook of Industrial Organization, Elsevier.

trend that telcos either acquire premium content directly or through merger and acquisitions of the premium pay TV content providers.

In UK British Telecom has been a pioneer in entering the audiovisual market and represents a benchmark in Europe. BT has invested huge sums in content acquisition, since 2013, with the aim to obtain a leading role in the free-to-air, as well as the pay TV market. Indeed, the acquisition of the premium rights of major sports events reached nearly £ 2 billion

In general vertical integration is not per se anti-competitive; expect the outcome of vertical foreclosure. Vertical foreclosure occurs when a firm that has market power in one segment attempts to project that market power into vertically related market segments where competition would otherwise lead to efficient outcomes. It is likely to harm consumers and can impose an overall socio-economic deadweight loss on society.

The concerns over vertically integrated services are a central issue in the latest net neutrality debate. internet service providers (ISPs) convey internet traffic between content providers and end-users. Usually content providers are accessible through any ISP, conversely end-users access to the internet through a certain ISP. If consumer choice among broadband ISPs is poor, or switching costs are high, or consumer preferences are not strong enough to promote switching, then the broadband ISP enjoys market power. ISPs might be tempted to block or impair access to some content providers if promoting the vertically affiliated services is feasible and profitable.

The web-based economy is deemed extremely dynamic. It is difficult to predict how innovation would be accelerated in the industry, how the gravitation along the vertical value chain would shift, and how the market structure evolves<sup>22</sup>.

Although many big internet players provide a series of services, consumers do not always need to be loyal to a certain platform. Actually in the U.S. Amazon Prime subscribers are more likely to use Netflix than Amazon Instant Video<sup>23</sup>. Strategy analytics demonstrate that nearly two-thirds (63%) of Amazon Prime subscribers used Netflix in the previous month compared to 59% who used Prime Instant Video.

To sum up the subsections above, we list the main features of the internet businesses, and their impact on market concentration. By and large, the internet industry is likely to be concentrated, which means that in some product market only few companies serving the users. This does not imply per se lack of competition, but still requires an antitrust scrutiny.

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<sup>22</sup> Priest G. L., (2007) "Rethinking Antitrust Law in an Age of Network Industries".

<sup>23</sup> See <http://www.fierceonlinevideo.com/press-releases/amazon-prime-subscribers-more-likely-use-netflix>

**Figure 18. Features of the internet industry and the effects on market concentration**

Features	Effects on concentration
Network effects	+
Economies of scale/scope	+
Convergence of services	+
Single-homing/Multi-homing	+ / -
Product differentiation	- & +
Congestion	-
Vertical integration	+

Source: ITMedia Consulting

### 3.1.4 A new phenomenon: the co-existence of “superstar” and “long tail”

Although the internet industry exhibit strong network effects which may suggest that the market is likely to be concentrated, the market structure seems different from traditional natural monopolist or oligopolistic markets.

There have been considerable amount of studies revealing the internet’s influence on the products design and the market structure<sup>24</sup>. In particular, both scholars and commentators have highlighted both *long tail* and *superstar* effects<sup>25</sup>.

While the *long tail* and *superstar* phenomena are often portrayed as opposing each other, in reality they may be both achieved as the result of easier access to information thanks to the internet: specialized products that cater to specific needs of consumers; markets are more competitive with low price dispersion and a few high quality superstar products.

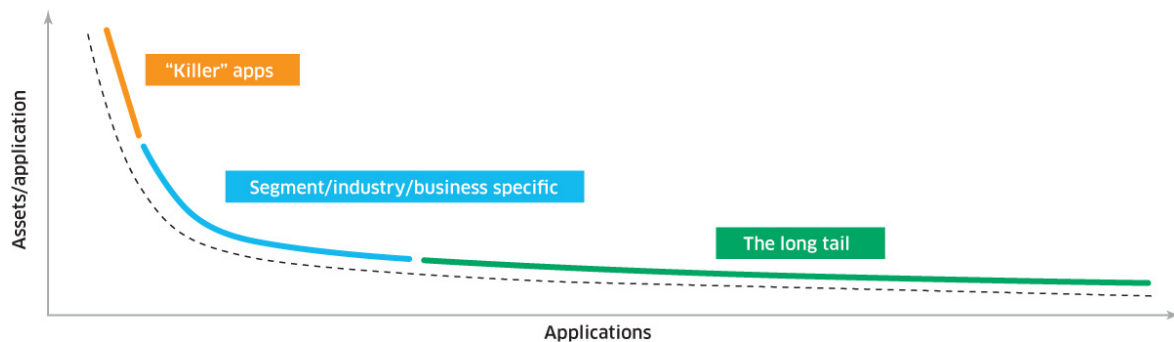
As the Chairman of Time Warner Jeff Bewkes pointed out:

*"Audiences are at once fragmenting into niches and consolidating around blockbusters. Of course, media consumption has not risen much over the years, so something must be losing out. That something is the almost but not quite popular content that occupies the middle ground between blockbusters and niches. The stuff that people used to watch or listen to largely because there was little else on is increasingly being ignored"*<sup>26</sup>.

<sup>24</sup> See for example Bar-Isaac H. et al. (2012).

<sup>25</sup> Anderson C. (2004), (2006), (2009); Brynjolfsson E., Hu Y., and Smith M.D. (2006) and (2007).

<sup>26</sup> “A world of hits”. 2009. The Economist 393 (8659): 79.

**Figure 19. The “superstar” and “long tail” in Apps**

Source: Alcatel-Lucent

In previous years the co-existence of these two effects was found in the industries such as publishing, media, and online retailing; as of video content and in the prospect of the internet of Things, this feature will prevail even more widely.

A “long tail” model was coined by Anderson (2004); it refers to the dramatic increase in the market share for goods in the tail of the sales distribution (with relatively low sales). The term “long tail” was first introduced to describe the creation and distribution of books, music, and video content. For example, with a few Hollywood blockbusters on the left end, and a massive amount of user generated YouTube style movies in the long tail. The same model is also valid for characterizing the apps that installed on our iOS or Android tablets and smartphones today.

The internet and search efficiency brings more opportunities for the two ends of product design: the most popular ones and the niche design. However from a business perspective, the most interesting and challenging segment is the middle one. To be a successful player, considering the opportunities and challenges the internet era brings, a good segmentation and a clear understanding of an industry sector’s specific requirements, as well as a compelling value proposition are important.

### 3.2 Dynamic competition

#### 3.2.1 Policy challenge: How to create a favourable environment for investments in networks

Economic theory highlights the most important aspects in terms of the regulatory and competitive environment, focusing, especially on the trade-off between risks of limiting static competition and the benefits of dynamic competition in investment and innovation. Admittedly, the dynamic competition argument has not been widely applied in antitrust analysis, considering the features and competitive dynamics of each market under question. However the importance of dynamic efficiency, especially the incentive provided to the market players, has been addressed. More technology driven industries are growing rapidly and in recent years some high-profile antitrust cases involve these industries. The dynamic competition argument has also been adopted by regulators, in

particular with the lens of the institutional goals of efficiency, effectiveness and equity beyond the incentives of investment. For example, in the *Indagine Conoscitiva sulla Concorrenza Statica e Dinamica nel Mercato dei Servizi di Accesso e sulle Prospettive di Investimento nelle Reti di Telecomunicazioni a Banda Larga e Ultra-larga* by AGCM and AGCOM, dynamic competition is considered one of the most important strategic objectives, and calls for a specific comparison between the static and dynamic competitive process. However when such criteria are applied in some innovative and rapidly developing industries, the equilibrium-based analysis would be overly stringent. In the innovation-driven industries, heavy intervention and regulatory uncertainty hinder innovation and often lead to under-investment in R&D; in turn this may deter economic growth in the long run.

Sector-specific regulators and competition authorities often face the trade-off between static price competition and long-term development. Considering the fast developing industries, a critical role for regulation or antitrust intervention is to safeguard that competition for the market is feasible. It implies that a monopoly position could be allowed, but competitive pressure from actual or potential competitors do exist in the dynamics of the market.

In most high tech sectors the market is often characterized by a sequence of monopolies. The evolution of technology is best described as creative destruction. Although the incumbent does not face the threat by an actual rival active in the market, its position may well be replaced once a better technology. Despite the current success positions in the market are never safeguarded. Alta Vista, AOL, Blockbuster, MySpace all had been the market leaders before their importance for consumers faded. Bearing this feature of the internet industry, we call for less stringent criteria that measure competitiveness of the industry

In contrast to the static approach, market can be viewed as a constant state of disequilibrium with the dynamic perceptions of competition. When the dynamic elements are incorporated in the economic models, the neo-classic models, even the latest and most complex dynamic models may not be able to solve the market outcome. With the dynamic competition approach the first distinction is de-emphasizing market structure as a primary indicator<sup>27</sup>. In static analysis market share is an essential indicator for the intensity of competition and the efficiency of the market. However, the competitive process in high-tech sectors is characterized by creative destruction; it is very likely that one dominant firm would be succeeded by another which is not captured in the static analysis of market structure.

Although the winner can enjoy the monopoly position in the winner-take-all competition, such position would be temporary and fragile since it is only sustained by the technological advancements which would be replaced by new technologies. In other words, there would be a monopoly only for a period of time, once a rival provides better service or product it is possible that the former one could

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<sup>27</sup> Teece D. J. and Winter S. G., (1984), "The Limits of Neoclassical Theory in Management Education The American Economic Review" Vol. 74, No. 2, pp. 116-121.



be replaced and driven out of the market. In this case market concentration or even monopoly position emerges as the result of competition, instead of being the origin of no-competition.

The second distinction from static approach is that high profit margin could be allowed when R&D expenditures are crucial and with a substantial amount. First, due to high risk of innovation in fast moving high-tech sectors, a reasonable level of profit should be allowed to compensate the ex-ante investment; usually high-tech companies, such as pharmaceutical companies, require a relatively high margin in order to keep their R&D activities at a high level. Secondly, in the case that the profit of a certain market is high, it encourages entries and fuels innovation and competition. If the market mechanism is efficient, the concerns over excessive pricing would no longer be necessary.

In summary, in the markets that are characterized by rapid technological change using equilibrium-based analysis and market structure as an indicator for competition may generate misleading conclusion. It is imperative to include feasibility of potential competition rather than actual competitors. In the economic analysis, considerations in terms of entry barriers, supply side switching costs and buyer power would be important. The purpose of these considerations is to safeguard that the potential entrants, if they are efficient, would not be deterred by strategic behaviour by the dominant firm.

### 3.2.2 How to provide incentives to innovation in the dynamic internet ecosystem?

As expressed by the President of the Autorità Garante della Concorrenza e del Mercato, Giovanni Pitruzzella:

*“It is obvious that the peculiarities of the dynamic online competition may imply physiological situations of winner-take-all, which often represent a reward for the superiority in innovating and managing technology, rather than anomalies in the structure of markets”<sup>28</sup>.*

Strong network externalities associated with entry barriers are highly likely to attract antitrust scrutiny<sup>29</sup>, since these features suggest a winner-take-all outcome<sup>30</sup>. However indirect network effects also motivate the multi-sided market platforms to compete for the market. Admittedly there other countervailing factors may exist such as entry barriers. Firms fight for obtaining a lead in the industry, then its first mover advantage is widen as a result of positive feedback effects, and ultimately win the race for the market. This is just an example indicating that indirect network externalities may lead market outcome into two different directions: increasing the profit of the winner, and stimulating competition for being the winner.

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<sup>28</sup> Pitruzzella G., *ibidem*.

<sup>29</sup> Economides N., Ioannis L., (2009) “The Elusive Antitrust Standard on Bundling in Europe and in the United States in the Aftermath of the Microsoft Cases”, *Antitrust Law Journal*, Vol. 76, No. 3.

<sup>30</sup> Mann G., Wright J., “Google and the limits of antitrust: The case against the case against Google” (2011) *Harv. JL & Pub. Pol’y* 34, 171.

On the other hand, if the intervention is too strong, from ex-ante regulation and/ or ex-post antitrust, it may well lead to a “winner’s curse”<sup>31</sup>, situation as the prize for the winner would be expropriated. The past decades saw that the Schumpeterian innovation has been prevailing in the revolutionary high-tech sectors. As Judge Learned Hand stated in the Alcoa case “the successful competitor, having been urged to compete, must not be turned upon when he wins.”<sup>32</sup> Heavy intervention may bring in negative incentive on investment in innovation, which serves as the driving force for economic growth.

A crucial task for the regulations and the antitrust authority would be how regulations and competition policy should be adapted to new markets with web 3.0, and how to make the adjustment effectively and timely. Below a specific set of issues are discussed with respect to the structural problems regulations and antitrust enforcement would encounter when applied to the internet economies which evolve through sequential winner-take-all battles:

1. Market definition is increasingly complex. This results from multi-sided platform competition, network effects and market tipping, technology convergence, etc.<sup>33</sup>.
2. Market power depends not only on the competitors at the horizontal level, but also on the players from adjacent markets or along the vertical value chain. Which implies the competitive pressure is greater if potential competitors are taken into account.
3. Some indicators used to measure market power may no longer valid; for example, the Lerner Index. As the marginal costs of innovation-intensive products (information goods particularly) might be negligible, mark-up us required to be high in order to sustain investment. Another factor is the prevailing cross-subsidization strategies in multi-sided platforms, either below cost pricing or high mark-up may be irrelevant to the extent of market power.

### **3.2.3 “Coopetition”: Cooperation and Competition with Complementors**

Coopetition refers to the collaboration between business competitors, in the hope of mutually beneficial results. With the internet services, consumers’ utilities could be realized only if all the complementors along the value chain work well.

Players from each segment coordinates is a necessary condition to deliver the service, and they compete with other players in sharing the total profits. Applied to the value chains of content provision services, they refer to the vertically allocated segments: content and applications providers, the platforms for storage of computing capacities and content processing, distribution platform, or ISP in the case of service providers.

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<sup>31</sup> Thaler R. H., (1988). "Anomalies: The Winner's Curse". Journal of Economic Perspectives 2 (1): 191–202.

<sup>32</sup> Spulber D. F., (2008), “Unlocking Technology: Antitrust and Innovation”.

<sup>33</sup> Priest G. L., (2007) “Rethink Antitrust Law in an Age of Network Industries”.

Competition may exist at each segment if there is more than one provider, and the interaction may cross segments. Distribution platforms compete to obtain viewership. The same thing takes place at the device level, where the set top box access, as for Sky on Demand and Mediaset Play. At the CAP stage, the VOD service is sometimes the outcome of a partnership between media companies. For instance, Rai, a potential competitor for Netflix in Italy has co-produces with Netflix *Suburra*, an important TV series.

**Figure 20. The Value Chain: CAPs, platforms, networks**



*Source: ITMedia Consulting.*

Online TV revenue has increased rapidly in the past years, and still has strong potential to grow as currently it represents only a small proportion of total TV revenues. Taking UK for example, revenue from online TV grew by 38% in 2014 to £793m, with income from online TV subscriptions increasing by 53% to £317m, driven by the increasing popularity of services such as Netflix and Amazon Prime Instant Video; subscription streaming revenue has more than doubled in two years, it has grown from £77m in 2012 to £175m in 2014; national advertising revenue for commercial stations has grown by 17.3% to £483m.

Debate about the allocation of economic surplus between them is not surprising, and is not necessarily problematic. Each player, as a complementor of others, benefits from the success of the other. Above all, for the value chain to work, each link needs to be profitable.

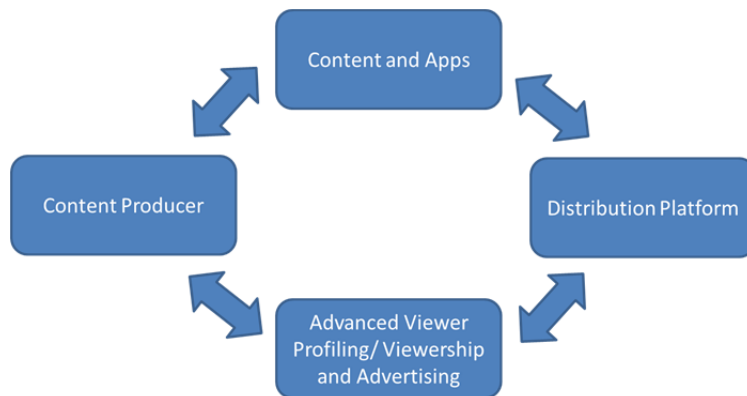
Complementors generate value together; however the profit is appropriated separately: On one hand, firms benefit from a high value of their complementor's component, as this increases the product's value. On the other hand firms benefit from a low price for their complementor's component, as this allows them to increase their own price.

Therefore the potential problem is the economic foreclosure: if a producer along the value chain attempts to project its market power into upstream or downstream segments that would otherwise be competitive, that constitutes economic foreclosure. Foreclosure harms consumers, and imposes an overall socio-economic deadweight loss on society. Foreclosure could be a concern in markets where effective market power (SMP) is given free rein.

The virtuous circle suggests that better content is the key factor for a successful content or app provider: better content directly contributes to the popularity of the distribution platform, and to increase viewership. Advanced viewer profiling is associated with greater viewership, and in turn promotes the value for the subscribers and indirectly increase advertising revenues. On the other hand, advanced viewer profiling reveals consumers preference at an aggregate level by

demonstrating the consumers' demand, this may suggest content providers which content may better meets consumers' desire.

**Figure 21. The Virtuous Circle**



*Source: ITMedia Consulting*

### 3.2.4 Is the internet a disruptive innovation?

The internet completely changed social and industrial dynamics. It created new opportunities and impacted our daily life and our habits in general and created a parallel and at the same time additional reality online. Internet is generating an immense economic value, and having a disruptive impact on a large number of markets, in particular in the communications and media ones.

"Creative destruction" may best describe the impact of the internet; the term refers to the incessant product and process innovation mechanism by which new production units replace outdated ones. It is coined by Joseph Schumpeter in his work "Capitalism, Socialism and Democracy" in 1942, and originally describes the "process of industrial mutation that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one".<sup>34</sup>

Internet, with the exponentially increasing amount of video streaming and other content apps, is disrupting many markets. The primary disruption has already taken place in music, press, marketing, advertising etc.

From 2010, a few new internet companies such as Facebook, Twitter, and Uber are sparking controversy, due to their rapidly growing private market valuations, and even the impact on other industries at global scale. The recent years evidenced that many of the prominent new internet companies are building real, high-growth, high-margin, and even highly defensible businesses. Six decades after the computer revolution, and two decades after the rise of the modern internet, more and more major businesses and industries are being run on software and delivered as online services.

<sup>34</sup> Cfr. Schumpeter J., (1994) [1942]. "Capitalism, Socialism and Democracy". London: Routledge. pp. 82–83.

internet replacing traditional business occurs in various markets; it introduces new business models and calls the traditional players to change. In 2001, Borders, the then international book and music retailer once operating 511 Borders superstores in the US only, agreed to hand over its online business to Amazon under the theory that online book sales were non-strategic and unimportant. However till the 2010s the world's largest bookseller, Amazon, is an internet-based company by selling virtually everything online, with no retail stores necessary. On top of that, while Borders was applying bankruptcy protection and liquidating its stores, Amazon rearranged its web site to promote its Kindle digital books over physical books for the first time. Now even the books themselves are digitalized.

The same phenomenon has happened in the home video market, where Blockbuster, the largest operator in the physical world has been forced to cease operations under the competitive pressure of the online services that provided the same offer, like Netflix.

Brian Williamson summarized three phases of convergence, in which the internet, software and mobile apps “eating the world”<sup>35</sup>:

*1. In the first phase, we observed that the internet companies taking the places of the traditional players in the field of music, entertainment, movie, etc.*

Nowadays the dominant music companies are the internet companies: Apple's iTunes, Spotify and Pandora. Traditional record labels increasingly exist only to provide those software companies with content; the industry revenue from digital channels totalled \$4.6 billion in 2010, growing to 29% of total revenue from 2% in 2004<sup>36</sup>.

Today's fastest growing entertainment companies are videogame makers, with the industry growing to \$60 billion from \$30 billion five years ago. Furthermore the fastest growing major videogame companies are based on the most prominent internet platforms: Zynga, the maker of games including FarmVille delivers its games entirely online (Zynga's first-quarter revenues grew to \$235 million this year, more than double revenues from a year earlier); Rovio, maker of Angry Birds, had \$100 million in revenue in 2012 (the company was nearly bankrupt when it debuted the popular game on the iPhone in late 2009). In contrast, traditional videogame powerhouses like Electronic Arts and Nintendo have seen revenues stagnate and fall.

The best new movie production company in many decades, Pixar, was a software company. Even Disney had to buy Pixar, a software company, to remain relevant in animated movies.

Photography is another typical example: it's virtually impossible to buy a mobile phone that doesn't include a software-powered camera, and photos are uploaded automatically to the internet for

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<sup>35</sup> Williamson B., (2014) “Ready for a new ride”, InterMEDIA | Winter 2014/15 Vol 42 Issue 4/5.

<sup>36</sup> Andreessen M., (2010), “Why Software Is Eating The World”, cfr.  
<http://www.wsj.com/articles/SB10001424053111903480904576512250915629460>

permanent archiving and global sharing. Companies like Shutterfly, Snapfish and Flickr have stepped into Kodak's place.

In sum, content distribution has changed dramatically with the impact of the internet, the new features include:

- Very low distribution costs (often close to zero);
- New distribution channels;
- Shortening of the distribution chain;
- New distributors: new online native distribution players, online actors originally having a different core business, now expanding to content distribution, furthermore telcos also distributing content. (media convergence will be discussed later in the chapter)

As of consuming content, we observe more comprehensive and interactive experience; more user selected content: users consume the content they wish; potential risk for cord-cutting (in the U.S. for example, depending on the national markets); and change of viewers' habits.

*2. In the second phase, social networking and communications services (messaging) such as Facebook (2006), WhatsApp (2009), have taken the places of the traditional tools in communication; and photo or video sharing became popular, and user generated content were now central.*

In this phase traditional telcos have "lost" revenue sources, the loss is hard to calculate. Today's fastest growing companies offer communications services could be Skype and WhatsApp. CenturyLink, for example, the third largest telecom company in the U.S., with a \$20 billion market cap, had 15 million access lines at 2010—declining at an annual rate of about 7%. Excluding the revenue from its Qwest acquisition, CenturyLink's revenue from these legacy services declined by more than 11%. Meanwhile, the two biggest telecom companies, AT&T and Verizon, have survived by transforming themselves into software companies, partnering with Apple and other smartphone makers<sup>37</sup>.

Yet the rise of OTT may continue since, from early on, OTT services were not only cheap or free but offered service innovations which consumers value. These include personal profiles, presence, photo and video sharing services and interoperability across connectivity types. Network interoperability to include WiFi alone is an important attribute for OTT services, allowing users more extended coverage and an opportunity to avoid roaming charges (with network interoperability now been extended to conventional messaging services).

Even content providers, such as Netflix, added social networking features on its platform. One aim is to accommodate the demand for the consumers' decision in what to watch. In 2004, Netflix subscribers could use a feature that allowed them to interact with friends who were also members.

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<sup>37</sup> Cfr. *supra* note 37.

This feature was meant to tap into the growing popularity of social networking. With this feature, users could see how their friends rated a movie on that movie's page; view what DVDs their friends were renting; and allow them to leave their friends notes with film recommendations. Netflix have developed and maintains an extensive personalized video-recommendation system based on ratings and reviews by its customers.

Another interesting phenomenon is that consumer generated content is becoming popular. The CMR by Ofcom shows that in 2014 consumers in UK watching short clips e.g. YouTube increased by 10%; in 2013 in common online activities carried out by smart TV owners are, watching short clips counts 33%.

*3. A blurring of the digital and physical worlds, such as Uber; and the utilization of big data in service provision. Most economic activity is embedded in the physical rather than virtual world.*

The greatest part of all economic activities reside in the physical world, rather than in the virtual one, but nowadays the largest direct marketing platform is an internet company—Facebook<sup>38</sup>. This market has been joined also by Groupon, Living Social, Foursquare and others, which are using software and Apps to “eat” the retail marketing industry. Groupon generated over \$1.6bn in revenue in 2011, after being in business for only three years, and this figure grew to \$3bn in 2014<sup>39</sup>.

The combination of mobile devices, wireless connectivity, location awareness and sensors allows the online world to interact with, and transform, the offline world that makes up most of the economy. We are seeing the beginning of this with Apps such as Uber and Airbnb that are allowing users and service providers to interact on a peer-to-peer basis. This transformation is not always welcome, as taxi drivers show fierce opposition in many countries, and Airbnb has confronted even wider opponents beyond the hotel industry<sup>40</sup>, and Airbnb has confronted even wider opponents beyond the hotel industry. It also serves to illustrate the mercantilist and protectionist sentiment seems have surfaced in European policy debates.

The advantage of the sharing-economy is intuitive: to best exploit the value of the asset; in addition with the new system the operators developed other benefits. With Uber for both the driver and the user their respective identities are clear and recorded, and a map showing the time and route are provided and recorded by default. Further, the payment is made through the platform, on one hand it could reduce risk, and on another hand it prevents tax evasion.

Furthermore it is a unique feature that an algorithm, rather than the driver decides the price based on an optimised route; and match cars and customers based on location rather than favouritism

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<sup>38</sup> Cfr. [www.newyorker.com/news/john-cassidy/facebook-the-worlds-biggest-direct-marketing-company](http://www.newyorker.com/news/john-cassidy/facebook-the-worlds-biggest-direct-marketing-company)

<sup>39</sup> Source: <http://www.statista.com/statistics/273255/groupons-quarterly-revenue/>

<sup>40</sup> For instance, in India “Uber, Ola Drivers Protest Against Delhi Ban Amid Police Crackdown” <http://blogs.wsj.com/indiarealtime/2015/06/08/uber-ola-drivers-protest-against-delhi-ban-amid-police-crackdown/>

towards certain drivers. It does not only better serves customers, but also results in a better and fairer deal for drivers, increasing utilisation and reducing “favouritism” which happens within, for example, the minicab industry. It is a good insight that an algorithm could help to increase transparency in an industry, and benefit both groups of agents via neutrality.

These considerations may suggest that the way in which a service is delivered could impact on the appropriate form of regulation. The question raised is that is the “same service” should be subject to the same regulation? The growth of sharing economy also points to the fact that policy should be decided not from the perspective of existing players within an existing market structure, but from a consumer perspective, and allowing innovation to flourish within a minimal set of constraints to ensure customer protection.

In the US the Federal Trade Commission (FTC) has championed the peer-to-peer economy<sup>41</sup>:

*“One of the most vibrant areas of recent economic development has been the ‘share economy’. Facilitated by popular smartphones and animated not only by economics, but also by many people’s interest in expanding social networks, peer-to-peer (P2P) software applications now facilitate services from shopping to local accommodations... Vigorous competition among sellers in an open marketplace can provide consumers the benefits of lower prices, higher quality products and services, and greater innovation. This is just as true for app-based transportation and other kinds of P2P services”.*

The FTC also emphasized a consumer focus<sup>42</sup>:

*“Such change can sometimes be difficult for established competitors that are used to operating in a particular way, but consumers can benefit from change that also challenges longstanding competitors. Regulators should differentiate between regulations that truly protect consumers and those that protect the regulated”.*

In Europe there is also a call for these developments in regulations, policymakers at all levels need to adapt local laws to allow innovation and promote the consumer interest.

Finally, from a content market perspective, the blurring of the online-offline boundary illustrates how regulation outside the sector may be at least as important to its future health as regulation of the sector. The third phase of convergence will create additional demand for the internet; meanwhile utilizing the big data characterizes the new development.

In the internet era data sets grow in size because they are increasingly being gathered by cheap and numerous information-sensing computing devices, remote sensing equipment, software logs, etc. Therefore the use of big data exhibits its importance in the new phase. Predictive analytics are

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<sup>41</sup> “Getting around town in the share economy”, vedi <https://www.ftc.gov/news-events/blogs/competition-matters/2014/04/getting-around-town-share-economy>

<sup>42</sup> Who decides how consumers should shop? FTC blog, 2014/01.



proceeded in order to extract value from data by advanced methods. The accuracy in big data could lead to more confident decision making, which has been utilized in media. Specifically the aim is to serve, or convey, a message or content that is in line with the consumers' mind-set. In fact, the content most appealing to consumers has been exclusively gleaned through various data-mining activities.

The arrival of the internet of Things, with the help of big data, is transforming the media industry, and opening up a new era of economic growth and competitiveness. The intersection of people, data and intelligent algorithms has far-reaching impacts on media efficiency. Since then, the streaming movie and TV service Netflix has based its business model on its big data platform which is absolutely unprecedented.

Netflix accounts for one third of peak-time internet traffic in the US. As of 2014 it had signed up 50 million subscribers around the world, established as the first pay TV / SVOD operator in the world. Data from all of them is collected and monitored in an attempt to understand consumers viewing habits. The data owned by Netflix is not just "big" in the literal sense; it is the combination of this data with cutting edge analytical techniques that may best predict consumers viewing habits. Netflix effectively defined 76,897 new "microgenres" of movie based on consumers viewing habits.

Therefore it is not surprising that Netflix has recently moved towards positioning itself, not only as a content distributor, but as a content creator. Its strategy here has also been firmly driven by its data, which to Netflix's knowledge no one outside the company had assembled before. For example, the analytics had shown that its subscribers had a voracious appetite for content directed by David Fincher and starring Kevin Spacey. Therefore after outbidding networks including HBO and ABC for the rights to House of Cards, it was so confident that it fitted its predictive model for the "perfect TV show" that it bucked convention of producing a pilot, and immediately commissioned two seasons comprising of 26 episodes.

Besides understanding consumers viewing habits, Netflix has used big data and the analytics to closely monitor the various factors that affect the "quality of experience", and models are built to explore how this affects user behaviour.

Although its vast database of movies and TV shows is hosted internally on its own distributed network of servers, it is also mirrored around the world by ISPs and other hosts. As well as improving user experience by reducing lag when streaming content around the globe, this reduces costs for the ISPs – saving them from the cost of downloading the data from Netflix server before passing it on to the viewers at home.

By collecting end-user data on how the physical location of the content affects the viewer's experience, calculations about the placement of data can be made to ensure an optimal service to as many homes as possible. Data points such as delays due to buffering and bitrate are collected to inform this analysis.

Big data and other new technologies intensify the competition in the internet era. In Australia – a country of just 25 million people – in just January 2015 established four OTT SVOD providers: Netflix

and Stan, established by two Canadian media companies, Presto, an existing local streaming service from pay TV provider Foxtel, and Quickflix, another streaming service; all priced around \$10 each.

Tough competition implies challenge to the market players particularly the start-ups being built in the face of massive economic headwinds. The challenge is far greater than it was before the internet era. However the companies that do succeed are going to be extremely strong and resilient. That's the big opportunity, with the internet connects the demand at the global scale.

From a traditional player, the TV broadcaster's perspective, content centrality and the blurring of the online-offline boundary illustrate how regulations outside the media sector may be important in shaping the future competitive arena. The third phase of convergence is likely to create a growing demand for the audiovisual service on the internet, but only if proper policy pave way for the development of the internet economy.

From a new player's perspective, in the internet era both greater challenge and opportunities exist to the companies: every start-up today is built in the face of massive economic headwinds, tougher competition, making the challenge far greater than it was before. However the companies that do succeed are going to be extremely strong and resilient. That's the big opportunity, with the internet connects the demand at the global scale.

### **3.3 Two-sided market**

"The world's largest taxi firm, Uber, owns no cars. The world's most popular media company, Facebook, creates no content. The world's most valuable retailer, Alibaba, carries no stock. And the world's largest accommodation provider, Airbnb, owns no property. Something big is going on."<sup>43</sup> They all exhibit the nature of two-sided (or multi-sided in more general term) market.

The internet industry follows a business model: most of the products online are not for direct remuneration. By providing free services a platform could be established, only if a sufficiently large consumer base is formed, the services constitute an indirect quid pro quo. The platform operator has to face the "chicken-and-egg" problem, i.e. bringing both services to attract the internet users, and eyeballs of the consumers to advertisers. The difference between this business model and the traditional direct remuneration model is analogy to the free daily newspaper, such as Metro, distributed through public transport in Stockholm, Sweden, then in many European; and the normal ones with a positive price. The former is financed by advertisement (and also public subsidy) whereas the latter gains its revenue mainly from the subscribers. The advertising financed business model is a typical example of two-sided market, so is credit card, video game consoles, etc.

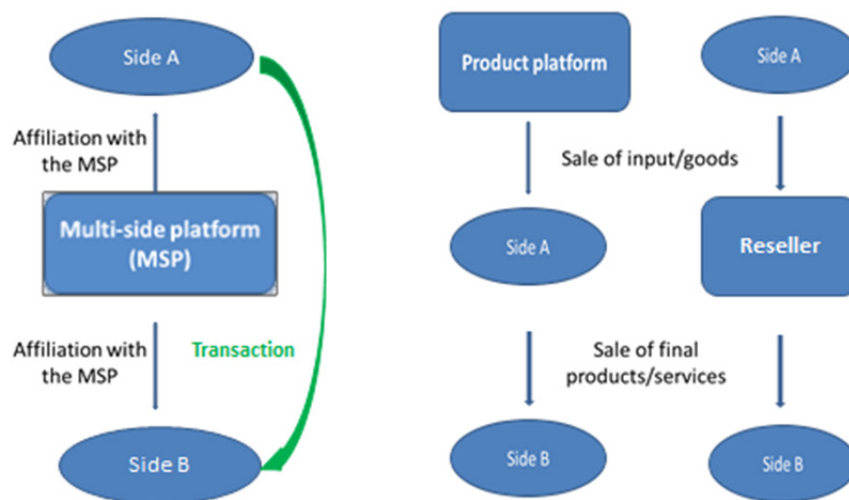
The first formal analysis of the two-sided business is presented by William Baxter, a former antitrust chief in the US, on the payment cards market. The paper illustrated that the success of the payment

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<sup>43</sup> As declared by Tom Goodwin (Havas Media Group). Cfr. "Facebook, Airbnb, Uber, and the unstoppable rise of the content non-generators" available at [www.independent.co.uk/news/business/comment/hamish-mcrae/facebook-airbnb-uber-and-the-unstoppable-rise-of-the-content-nongenerators-10227207.html](http://www.independent.co.uk/news/business/comment/hamish-mcrae/facebook-airbnb-uber-and-the-unstoppable-rise-of-the-content-nongenerators-10227207.html)

cards business depends on the joint demand of both cardholders who are willing to pay with the cards and merchants to accept the card as a way of transaction. The economic consequences of such joint demand were depicted.

**Figure 22. Multi-sided platform vs Single-sided platform (product and reselling)**



Source: ITMedia Consulting, based on Haigiu A (2014) "Strategic decisions for multisided platforms"

The coining of the two-sided market concept is credited to the seminal paper by Rochet and Tirole (2003). The paper revealed that many businesses in different industries could be analysed with the two-sided market approach: for example computer operating system, video game consoles, newspaper, shopping malls, credit card, dating clubs, etc.<sup>44</sup>

In the recent years the platform-based markets motivated by the observations in the internet services have been well analysed. The literature has examined the strategies a platform can adopt to grow its business such as two-sided pricing<sup>45</sup>, quality investment<sup>46</sup>, developing innovative business

<sup>44</sup> Cfr. Filistrucchi L., (2010), "How many markets are two-sided?", Competition Policy International-Antitrust Chronicle, Vol.7; Filistrucchi L., Geradin D., van Damme E. and Affeldt P., (2014), "Market Definition in Two-Sided Markets: Theory and Practice", Journal of Competition Law and Economics, Volume 10 (2), pp. 293-339.

<sup>45</sup> Cfr. Rochet J-C. and Tirole J., (2003) "Platform competition in two-sided markets", Journal of European Economic Association 1(4) 990-1029; Parker G. and Van Alstyne M., (2005), "Two-sided network effects: A Theory of information product design", Management Science 51(10) 1494-1504.; Armstrong M., (2006), "Competition in Two-sided markets", Rand Journal of Economics 37(3) 668-691 ;Haigiu A., (2006), "Pricing and commitment by two-sided platforms", Rand Journal of Economics, 37(3), 720-737; Cennamo C. and Panico C., (2015), "What drives a platform's strategy? Usage, membership, and competition effects", working paper, Argentesi E. and Filistrucchi L., (2007), "Estimating Market Power in a Two-Sided Market: the Case of Daily Newspapers in Italy", Journal of Applied Econometrics, Vol. 22(7), pp.1247-1266.

models<sup>47</sup>, expanding the business to adjacent markets<sup>48</sup>, and enhancing coordination with complementors and compatibility decisions<sup>49</sup>. The key factor of the two-sided or multi-sided market is that there exist feedback effects across different groups of users, which has been studied extensively in economics since the 1980s. The studies on the indirect network effects provide additional insight into the business implications.

A primary challenge faced by the competition authorities and the courts is to adopt a welfare concept that measure industry performance. In most one-sided business, pro-competitive effects are typically associated with an increase in total surplus. However in a two-sided or multi-sided business, the difference and the difficulty is that consumer surplus refers not only to a single group of users, but the sum of the surplus of the agents on all the sides. The multi-sidedness feature of the market no doubt exacerbated the classic controversy in competition policy, which welfare should be analysed: consumer surplus or total welfare? Who are the “consumers” that should be considered, what are the weights between the various groups.

Another challenge is the different pricing strategy, which makes the traditional indicators, for example the Lerner Index invalid under the two-sided market context.

In two-sided or multi-sided business, the indirect network externalities will be materialized by the platform operators, hence a re-distributive effect among the groups of agents will normally occur. In general cross-subsidies are widely used, especially when price elasticities differ among the groups of users. For example, in most advertising-supported platforms (including traditional media such as newspaper, free-to-air TV, yellow pages, and the internet search-advertising platforms, social network platforms, and most of other internet services) the revenue of entire platforms mainly come from only one group of users: the advertisers. Therefore the advertising revenue is used to subsidize the services for consumers on the other side of the platform. The reason is two-folded: first, end users are in general more price elastic, particularly on the internet there are abundant free substitutable services, the added value of paying extra is normally not significant (unless they are not substitutable, such as premium content); second, advertisers value the amount of consumers available to be accessed on the platform, the low price elasticity determines a relative high price on the side of the advertisers.

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<sup>46</sup> Cfr. Casadesus-Masanell R. and Llanes G., forthcoming, “Investment incentives in open-source and proprietary two-sided platforms”, *Journal of Economics and Management Strategy*.

<sup>47</sup> Cfr. Economides N. and Katsamakas E., (2006), “Two-sided competition of proprietary vs. open source technology platforms and the implications for the software industry”, *Management Science* 52(7) 1057-1071.

<sup>48</sup> Cfr. Eisenmann T. G. P., Van Alstyne M. W. (2011), “Platform Envelopment”, *Strategic Management Journal*, 32(12) 1270-1285.

<sup>49</sup> Cfr. Carrillo J. and Tan G., (2008), “Platform competition with complementary products”, Working paper; Haigui A. and Spulber D., (2013), “First-party content and coordination in two-sided markets”, *Management Science* 59(4) 933-949.

Accordingly, when a multi-sided business is under discussion, the effect of some practices or agreements may be complex: it is likely to happen that we overly emphasize the impact on a certain group of users, while overlook its effects on other groups. Audiovisual markets usually exhibit the features of multi-sided market, as the distribution platform access content, audience, and advertisers, even though different business models coexist: free-to-air TV raise advertising revenues distributing content for free, pay TV based on subscription revenues providing premium content with higher quality and varieties

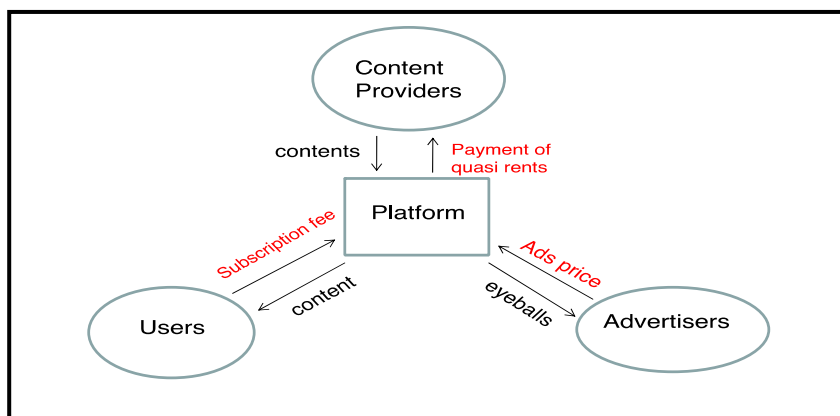
Under this model the virtuous circle works: greater variety or quality of content, greater viewership, greater revenues (possibly from subscribers and advertisers), and in turn more resource to invest in greater content.

Operators compete for greater viewership. Existing theories of price skewness explains in multi-sided market why the operators may tilt their pricing structure mostly on one, or the other side. That is why different business models are applied: pay-tv or, alternatively free-to-air TV. In this case, cross subsidization one side at the expense for the other prevails. Which side is favoured depends on an asymmetry in willingness to pay to participate, and the externalities cross audience and advertisement. In theory, for a given total price, the profit maximizing TV operator favours the side whose relative demand elasticity weighted by the relative size of the externalities is highest. In other words those who are more reluctant to join the platform (e.g. watch TV) and who are more valuable to attract agents from the other side are subsidized.

The fundamental feature in media multi-sided markets is therefore the “unbalanced” price structures. Consumers choose pay or free TV, by balancing between better quality and associated higher prices, or in other words, paying to avoid negative utility from commercials, or selling the attention to advertisers and make them pay for the free content.

With the impact of the internet, the demand of audiovisual services becomes more consumer driven. Traditional TV services are linear. Whereas in the internet era consumers more proactively decide what to watch, with non-linear service such as catch-up and VOD

**Figure 23. The multi-sided market of TV edition**



Source: M. Polo, *Concentration and Competition in Media Markets*, Florence School of Regulation, 2010.

In contrast to most of the free service on the internet, audiovisual services involve premium content are always associated with a positive price. This does not deny the multi-sidedness of the platform, but consumers are not fully subsidized by advertisers. It reflects product differentiation, higher price is charged for higher quality and more valuable content.

Despite its complexity, the pro-competitive effect associated with the multi-sided platform should not be overlooked, particularly if the platform operator indeed has substantial market power such as AT&T, IBM, Microsoft and Google. Since most of the internet services are featured as a substantial initial cost of R&D, and trivial variable cost of serving more users, the expansion of the services are meaningful from a social welfare point of view, further more positive externalities are generated with more users' participation.

In sum, as shown above, the nature of multi-sidedness of the market affects the forms of competition that takes place on, and among the platforms.

The presence of strong indirect network effects increases the risks of monopolization and dominance. In particular, as some of the platform operators are also active on different sides of the platform, they could exploit complementarities by cross-subsidization. Since the price structure may appear unfair with price discrimination, multi-sided platforms tend to raise the suspicion of the antitrust authorities.

Furthermore, the presence of network effects could lead to concentration; however the duplication of the platforms may decrease social welfare: the benefits for all groups of agents may be larger if they all interact on the same platform. In some sectors, operators are subject to specific modes of regulation, either because they use physical networks organizing the flow of information, such as telecommunication, or the activities are centered around information good, where intellectual property rules apply.

The main risk regulators and antitrust authorities face is to apply a conventional "one-sided" logic to the cases where a multi-sided logic is called for. It may lead to inaccurate result in, particularly, market definition, the assessment of market power, the effect of unilateral or coordinated conduct, and the design of regulation<sup>50</sup>.

### **3.4 Convergence, contents and policy perspectives**

The impact of the internet on the world of content is huge: new business models, new players, and new challenges antitrust authorities and regulators would face. New actors in the content space include notably ISPs, search engines and news aggregators. New or abstracted revenues with the new business show their impact on the whole economy: internet content attracts audience from broadcast TV and tends to share advertisement revenues from the traditional media; mobile internet

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<sup>50</sup> Evans D., Schmalensee R., (2008) "Markets with Two-sided Platforms". *Issues in Competition Law and Policy* 1:667-693.

alone is growing exponentially in recent years. Last but not least, the new conflicts rise, in particular, between the tradition and the new players: ISPs broadcasters and OTTs.

The competitive environment of audiovisual market has changed, thanks to the technological innovation of digital technology and the convergence with the internet. The growing complexity of media production and consumption results from the activities that are shifting towards the internet.

New players compete in the same market, both for the attention of the users that the supply of services and the possibility of advertising: this trend has been identified in the convergence of different technology platforms and modes of content distribution. Therefore the contributions of the economic analysis of two-sided market are becoming important. This approach in economic theory allows us better understand how the platforms should interact simultaneously with different groups of agents, taking advantage of the externalities between these groups and by linking previously distinct markets.

The new converging environment is characterized by a multiplicity of business models; therefore, the traditional approach based on distinct markets regarding television in particular (pay and free) appears inadequate to grasp the new complex reality. In this perspective it is crucial to update the definition of the relevant markets to the new scenario.

Furthermore, the geographic market of the audiovisual sector has been typically defined at the national level. However, this is questioned by the strong nature of global dimension of the internet market and the internet player. Which solution should be adopted, is still a question to be answered.

In conclusion, technological innovation and the digital convergence with the internet have significantly changed the competitive environment. This no doubt poses new challenges to policy maker, antitrust and regulatory authorities. It is fundamentally important, though difficult, to keep the right balance between competition and concentration. There is no doubt of the existence of network effects, economies of scale and sunk costs to increase as barriers to entry for operators internet natives. However on the other hand, it has happened in other media (music, printing) in the digital economy that these bottlenecks are not sufficient to ensure the competitive advantages of the dominant position based on natural monopolies or oligopolies in analogue environment.

The question is whether the "creative destruction" generates a higher level of competition, ensuring maximum efficiency of the market and ultimately the well-being of the consumer, or if it is merely a transfer of resources and market power from the old generation of "incumbent" to new global players.

On one hand, innovation may best describe the significant impact of the internet to many industries, and its cachet is no doubt underpinned by the powerful impact on efficiency and growth, which benefit consumers. The innovators gain their success by restructuring or creating entire market rather than incremental improvement that nudge the status quo. On the other hand, admittedly the features of the internet industry, particularly network effects, may further reinforce the market power of the current incumbent, and in long term may become obstacles that impede potential entries, to the extreme the market mechanism of dynamic may fail. Regarding this potential market

failure, antitrust intervention may still be necessary to safeguard competition and fostering innovation.<sup>51</sup>

Therefore the role of the antitrust authority is fundamental in understanding if the dramatic and unstoppable change produced by internet could still produce its effects in the future, or if the market dynamics that took place so far are liable of transforming into obstacles and impediments for potential new entrants, causing market failures. In this sense, it's necessary to focus on the consumer protections rather than on the competitors' one: this is an essential condition for a better interpretation of the phenomenon and a more sound and 'future-proof' application of competition policy.

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<sup>51</sup> Cfr. Giovanni Pitruzzella "As the firms' conduct is increasingly encountered with suspicion by competition authorities and consumer protection organizations alike, the obvious question emerged is whether current competition law instruments are sufficient to address the emerging competition concerns in digital platform markets. In my opinion, one of the crucial question from a competition policy perspective is not so much whether these firms have such a dominant position today, but rather why they have such a large market share and whether this is a temporary or non-temporary phenomenon. Do these monopolies enjoy a dominant position because they are protected from competition though barriers to entry or do they just enjoy the profits of superior technology and innovation?", *ibidem*.



## **PART 2: Audiovisual content and regulation**

### **Introduction**

Although at the EU level the audiovisual content has been considered as a cross-border economic service (enough to justify a European intervention of harmonization since the 80s), it raises problems and involves interests not only related to issues as market competitiveness, promotion of innovation, protection of competition, covered in the first part of this report. The pursuit of those objectives does not run out the number of interests considered relevant by the majority of the democratic countries that assume as constitutive task the protection of their members as citizens, ensuring the conditions for participation in public life and cultural growth that could promote awareness and progress of the society, ultimately increasing the quality of democratic life and the consolidation and evolution of the social fabric. In this chapter the focus is therefore on policy issues, through the analysis of the complex regulatory framework and principles that may influence circulation and consumption of video in the internet.

Consumer protection and pluralism in analogue media produced a sedimented environment over the years, which has been turned into a well-structured action relatively stable and consistent among the different countries. The current opportunities of production, aggregation, distribution and consumption of audiovisual content in the internet ecosystem, raise a new set of questions: a) if these goals of general interest should still constitute the object of regulation or if, on the contrary, the new digital context makes an intervention superfluous and undesirable; b) in the case a regulation is required, which methodology is most likely to ensure these objectives and which are the limits and content of such rules; c) which could be the circumstances, activities, subjects that become relevant in the pursuit of these objectives and what role, duties and obligations are required from the various parties involved (stakeholders) in the circulation of video content in digital environment.

European institutions, within the framework of the Digital Single Market strategy, should provide regulatory responses to these important issues<sup>52</sup>. The fluidity of situations is directing the evolution toward dynamic models of regulation (as the forms of co-regulation and self-regulation of par. 4.2), based on a more flexible approach, founded on elements leaving more open regulatory solutions to the continuous and persistent technological changes.

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<sup>52</sup> Communication from the Commission to the European Parliament, The Council, The European Economic and Social Committee and the Committee of the Regions – A Single Market Strategy for Europe, COM(2015) 192 final, of 6 May 2015. Among the other actions of the European Strategy, it is mentioned the Audiovisual Media Service Refit, also by evaluating the updating of the field of application of the SMAV Directive, examining in particular “whether the current scope or the rules should be broadened to encompass new services and players that are currently not considered as audiovisual media services under the Directive” (the Commission called for a public consultation on the topic, that was closed on 30 September 2015), as well as a valuation of the normative frameworks for the new platforms and online intermediaries.

## **Chapter 4. Consumer protection in audiovisual content: protected interests, regulation perspectives**

### **4.1 Objectives of the regulation of audiovisual content**

#### **4.1.1 The legal interests protected by the regulation of audiovisual content**

The regulation of mass media has always primarily concerned the regulation of content, even if for a long time it has been one with the regulation of the technical means required for its diffusion. It's about a regulation that is generally inspired by the choice of protecting specific legal assets for a precise political choice that makes these values public interests, the protection of which "should prevail over the interests of competition and markets". This is because, traditionally, these assets make up the expression of some fundamental freedoms recognized by democratic systems, often representing the execution of rights of constitutional status.

There is no doubt of the peculiar impact on opinion-forming and the evocative power wielded by mass media, both in terms of democratic participation and in terms of influence on the cultural education of the audience. That is because of three further peculiarities of traditional systems of diffusion of audiovisual content: pervasivity (due to the very high levels of audience that the broadcasting infrastructure immediately reached from the very beginning); simultaneity (the capacity to simultaneously reach, in a specific selected moment, all the potential audience); unilateralism of the control on content (exercised exclusively by the providers of audiovisual content, through their selection and organization in timetable, without any possibility of intervention by the viewer, relegated to an entirely passive consumption of the media).

However the technological convergence, the development of broadband electronic network (fixed and mobile), the new possibilities of content consumption, are partly modifying and hybridizing regulated phenomenon and consequently the assumptions on which are based the regulatory schemes adopted so far.

The public dimension of the audiovisual activities is a specific feature of all audiovisual media services and the communication world in general, more and more at the very centre of the democratic life nowadays. In fact, although more flexible rules adapted to the convergent context are desirable, it is also true that the very heart of this reflection doesn't have to change when the means changes, because *"Free speech objectives are carrier-independent, and therefore, should be fully applicable to the new media services as well"*<sup>53</sup>. The regulation of the industry has therefore addressed and governed a multitude of issues tied to the diffusion of audiovisual content.

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<sup>53</sup> Valcke P., Stevens D., "Graduated regulation of 'regulatable' content and the European Audiovisual Media Services Directive – One small step for the industry and one giant leap for the legislator?", in *Telematics and*

#### 4.1.2 Protection of information pluralism

Several articulated regulatory tools are used to pursue the plurality of voices on media: limitations to the property of media (both single-media and multimedia, the so-called cross ownership media rules); limitations to the company economic growth, either in terms of revenues by the same subject (hence making available part of these revenues to competitors) or provision of maximum audience thresholds that each operator can achieve (sometimes extended, as cross-media limits), and which directly affect the means on opinion-formation; the framework of a series of guarantees of access to means of communication from the content providers.

Regulation should therefore concentrate more on the identification of all the activities significant to pluralism (because they can shape and inform people), than on the analysis of the interdependent economic relationships (identification of relevant markets in accordance with antitrust methodologies) that take an informative value useful but not sufficient to face and regulate the subject that is being debated.

In fact, the European Commission, giving up the attempt to harmonize the media ownership rules protecting pluralism, and deeming to not have a solid legal base to affirm its competence in this field, has adopted a new strategy based on a three-step approach<sup>54</sup>, including (i) an initial investigation on audiovisual and press in the member States, (ii) an independent study commissioned for the definition of evaluation indicators and (iii) a new Commission Communication.

The digital ecosystem raises a further challenge to the policy pursuing the objectives of a pluralistic media framework. The presence of new stages and new functions in the circulation of content moves the issues linked to consumer access to content on new more complex grounds compared to the traditional ones of the guarantees of access to network in favour of content providers.

Moreover, the visibility of content of general interest should be guaranteed on all navigation interfaces used in first place to locate content and that control the ways they are searched and visualized by end users themselves. A more precise definition of EPG (Electronic Programme Guide) should be provided and also to which platforms it relates.

Similar limits relevant to the application field are to be found even with reference to the obligations of access to technical resources consistent in the Conditional Access Systems (CAS) in the Application Programme Interface (API) and in the Electronic Program Guides (EPG)<sup>55</sup>. Provided for in the Access

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*Informatics*, 24:285-302, 2007, p. 289., citing UYTENDALE C., *Public Information – Legal Status in a Converging Media Environment*, Maklu, Antwerp, 2002.

<sup>54</sup> “Media Pluralism in the Member States of the European Union”, Commission Staff Working Paper, SEC(2007)32, Bruxelles, 16 January 2007.

<sup>55</sup> On the level of technical resources, burdened by access obligation under the Directive 2001/19, it must be highlighted that the norms in comment mention, on the side of EPG “analogue menus and navigation interfaces”.

Directive 2002/19<sup>56</sup>, these obligations are exclusively finalized to the guarantee of consumer access to “digital radio and broadcasting services”.

Therefore, a grey area originates where any access problem (by operators or users) and interoperability (relevant to operators or users) cannot be addressed neither on the basis of the strongholds provided by the regulation of services and networks of electronic communication nor on the basis of the regulations of audiovisual content and electronic commerce.

The European Commission under the actions foreseen by the Digital Single Market Strategy in May 2015 is evaluating if and to which extent the regulatory framework on networks and services of electronic communication is to be revised<sup>57</sup>.

#### **4.1.3 Protection of minors**

Freedom of expression and information makes up the sphere in which the right to access content is expressed. However, the right to access meets its main limitations in the protection of those subjects considered vulnerable, above all minors whose activities on electronic networks should be regulated by various sources.

Every judicial system establishes rules that identify the audience to which the single content can be addressed for vision. This regulation cannot but take on an exclusive approach, and therefore aim to exclude part of the population from viewing certain content. The critical issues in this sense result from the need to establish, with sufficient legal certainty, the degree and specific extension of the regulation, even before the principles which are, indeed, shared by the majority of countries. At the same time, it still remains urgent to establish the source of regulation and therefore its legitimacy. As highlighted in the following sections, the regulation of this aspect is increasingly being carried out as part of mechanism of self or co-regulation. Traditionally, the need to protect minors is motivated by the consideration that some multimedia content can have harmful effect on children and teenagers<sup>58</sup>.

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<sup>56</sup> Directive 2002/19/CE of the European Parliament and Council, of 7 March 2002, relative to the access to the electronic communication network and to the correlated resources, and to the interconnection of the same (access directive) as modified by the Directive 2009/140/CE of the European Parliament and Council of 25 November 2009, modifying the Directive 2002/21/CE that creates a normative framework for electronic communication networks and services and Directive 2002/19/CE relative to the access to electronic communication networks and the related resources, and to the interconnection of the same, and Directive 2002/20/CE relative to the authorization for electronic communication networks and services.

<sup>57</sup> As is known, the normative framework of electronic communication networks and services has been recently enriched by the EU Regulation 2015/2120 of the European Parliament and the Council on the Telecom Single Market, that tackles the concepts of net neutrality and international roaming.

<sup>58</sup> Cfr. Dogruel L., Joeckel S., “Video game rating systems in the US and Europe: Comparing their outcomes” in *The International Communication Gazette*, 2013, 75(7):672–692.

Traditional media such as television and cinema dealt with and solved the problem of regulation by adopting a preventive censorship system. The traditional ratio is the following: since media products are 'experience goods', the value and characteristics of which can be valued only after their consumption, users don't have enough elements to make rational choices, for instance to decide beforehand which content are suitable for younger audience. In order to overcome this informative asymmetry, mechanisms that could provide users with the necessary information on the content have been introduced<sup>59</sup>. Starting with the classical model of the censor's visa, there has been a gradual establishment and implementation of content rating systems still diversified according not only to the type of content, but also to the media or platform which distributes the content.

#### 4.1.4 Cultural diversity

With the birth of commercial television, European countries have realized the significant commercial importance of broadcasting activities, through the development of financial support linked to private interests. Consequently, on one side it became necessary, in accordance with the objectives of the Union, the liberalization of movement of productive factors, while on the other side it has gradually become necessary to *"safeguard as much as possible the peculiarities of national cultures, potentially jeopardized by the removal of borders and therefore the inevitable crisis of the less developed audiovisual industries"*<sup>60</sup>.

In this context, the risk of intra-European (with the prevalence of the more evolved and dynamic cultural industries in the Member States<sup>61</sup>) and extra-European (United States in particular) cultural colonization became clear.

From these protection needs originated (although on uncertain legal basis<sup>62</sup>), the European system of the minimum quota, in terms of investments or diffusion of European independent works.

Under this procedure, in fact, traditional broadcasters are obliged to (i) diffuse European works "for most" of the broadcasting time and (ii) diffuse works by independent producers (for 10% of the broadcasting time) or invest in such works 10% of their budget allocated to programming, including

<sup>59</sup> Asymmetry of information between the producer and the consumer of contents has been described as the originary *ratio* for the regulation of audiovisual markets, see. Akerlof G., "The market for 'lemons': Quality uncertainty and the market mechanism", in *Quarterly Journal of Economics*, 1970, 84(3):488–500.

<sup>60</sup> Mastroianni R., *La Direttiva sui servizi di media audiovisivi*, 2011, Giappichelli, Torino, p. 12 and 100.

<sup>61</sup> An objective partially reached by the European norms on the quota, which refer generically to a European product, endowed with greater protection from their national counterparts, that often promote, even specifically, national products of the single Member State.

<sup>62</sup> According to the formulation of art. 167 TFUE, it is deemed that the Union does not have a specific normative competence on the matter (since it's expressly excluded any intervention toward harmonization) but it should be limited to complementary intervention that coordinate or complete the activities of the single Member States. The uncertain juridical basis of the harmonization intervention has motivated the adoption of a flexible regime, inspired to a graduality principle (cfr. Mastroianni R., cit., p. 101).

also a quota appropriate to the latest productions. Compliance with obligations is reduced by flexibility (“where possible and employing appropriate means”) and by the gradualism principle.

The European legislator has knowledge of the challenges of convergence, highlighting that “*On-demand audiovisual media services have the potential to partially replace television broadcasting*”<sup>63</sup>.

Consequently, in 2007 a revision of the European regulations on this matter was undertaken, with an extension of its field of application also to on-demand services and with the forecast of flexible compliance for the promotion of European works.

From ad hoc forecasts for on-demand services, it is clear the intention of the European legislator to promote values of ‘content and cultural diversity’ on all platforms<sup>64</sup>.

Moreover, there is a variety of additional instruments compared to those introduced by EU rules to protect the values of cultural diversity. The Member States, in accordance with the foresaid EU’s obligations, have complete freedom of choice in the options range. For instance, in France there is the *Compte de Soutien*, an obligation of the service provider to contribute to the national system of support to the film industry. Also in Germany, there is a specific mechanism, imposed by the national law, the *Filmförderungsgesetz* - Film Support Act – FFG.

The debate about the possible critical points of the European systems (and of individual Member States) to protect content and cultural diversity clearly benefits from looking into the definition of the scope of application of these policies, in light of the increased complexity of the digital ecosystem of production, aggregation and distribution of audiovisual contents.

#### **4.1.5 Other objectives of the audiovisual content regulation**

With reference to audiovisual media services, linear and non-linear, the EU Commission and national regulation identified, finally, other areas of intervention influenced by the objectives of consumer protection (beyond those addressed in the previous paragraphs).

The regulatory framework of audiovisual content, as currently defined by the EU reference rule<sup>65</sup>, establishes a set of rules to be applied to all audiovisual media service providers (linear and non-linear) and that, in particular, concerns principles of transparency on the identification of the service

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<sup>63</sup> Directive 2010/13/UE, considering 69.

<sup>64</sup> Of the same opinion: Werkers E., Valcke P., “The production and distribution of audiovisual works via new media in the light of European media policy: constraints and opportunities”, in *Info*, 2012, 14(3):68-86, p. 76, citing, inter al., Herold, *European Film Policies in EU and International Law. Culture and trade - marriage or misalliance?*, Europa Law Publishing, Groningen, p. 87.

<sup>65</sup> In the comunitarian definition of audiovisual media services do not belong, in fact, those services that do not constitute economic activities and that are not competing with television. Private internet sites, UGC platforms and services where the presence of audiovisual services is purely incidental, as search engines and the digital editions of newspapers and magazines, are excluded from the application of the Directive.

provider, principles on programmes' content (already set for broadcasting in the previous directives: incitement to hatred, copyright protection, etc.), principles on advertising content (already included for broadcasting in the previous directives: transparency, products that cannot be advertised, minors protection, respect of human dignity, etc.), the sponsorship system (independence of programs, transparency, etc.), and system of product placement.

The more substantial and comprehensive regulation concerns the rules that are exclusively applicable to linear television broadcasting. The latter touch on aspects like the list of designated events (that have to be broadcast on free to air available channels, mainly to be covered live), the guarantees of access to short news reports of events of public interest broadcast on exclusive basis, the system of television advertising (commercial breaks and concentrations), the system related to the right of reply, as well as shares of investment and promotion of European works and independent productions and protection of minors, as underlined in the previous paragraphs.

#### **4.2 Methodology and perspectives of regulations: foreword**

The regulatory intervention in media pluralism can be observed and classified from different points of view. A possible taxonomy<sup>66</sup> distinguishes between:

- (i) structural regulation, that is addressed to the regulation of media ownership and relevant markets;
- (ii) behavioral regulation that is addressed to the regulation of behavior of convergent media. This kind of regulation, controls media content, for example imposing (a) restrictions of the degree of violence, sexuality and language, (b) minimum quantity thresholds in the production of national and European content, (c) protection for a predetermined combination, as far as programming, of news, public affairs and educational content.

The classic instrument to regulate traditional media is usually identified with the 'command and control' model. The characteristics and limits of this form of regulation have already been observed even at the time of the first Audiovisual Media Services Directive<sup>67</sup>.

In recent years, this crucial role of public intervention of governance in the mass communication sector has been questioned. The starting point of the reflection is often framed in the difficulties of national regulation to efficiently and effectively discipline the sector concerned:

*"It is often the State itself that encourages unconventional action as this releases it from difficulties in fulfilling its obligations"<sup>68</sup>.*

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<sup>66</sup> Napoli P. M., "Global deregulation and media corporations", in M. Deuze, *Managing Media Work*, 73-86, 2011, Sage, London.

<sup>67</sup> Valcke P., Stevens D., *op. cit.*, p. 289.

<sup>68</sup> Kleinstauber H. J., "Self-regulation, Co-regulation, State Regulation", in Moeller-Amoroux, *The Media Freedom Cookbook*, 2004, OSCE, Wien, p. 61.

and

*“The traditional legal framework alone does not appear to be capable of responding to the multiple, and sometimes incompatible, social demands implicit in this type of professional activities. And it doesn’t look like the future, presided by digitization, will simplify the context that surrounds the need to regulate this type of activities<sup>69</sup>”.*

Actually, the best way to reach more far-sighted conclusions is to consider and accept a fundamental aspect of convergence that is complexity:

*“The growth of markets and their operational structures generate more complex legislative acts and policies, leading to an excessive number of specific norms that are temporary in nature and incapable of adapting to technical progress, the evolution of the market, or the specific aspects of each area of decision<sup>70</sup>”.*

The new methods of regulatory intervention that are becoming increasingly popular can be divided into two groups: self-regulation and co-regulation.

Both of them represent alternative or complementary methods to the traditional regulation, through the participation, more or less intense, of non-governmental subjects, as civil society organizations and subjects from the academic world as well as from the industry, more and more involved in order to evaluate limits and potentialities of the new legal tools, so that they will be able to effectively respond to unprecedented regulatory issues in the communication industry.

#### **4.2.1 Alternative or Complementary Systems of regulation: definitions**

##### ***Self-regulation***

Although there is no universal and undisputed definition, a starting point comes from the European Union documents which describe self-regulation as *“the possibility for economic operators, social parties, non-governmental organizations or associations to adopt amongst themselves and for themselves common guidelines at European level (particularly codes of practice or sector agreements)”*, and also in the 2010 Audiovisual Media Services Directive which recommends to Member States, *“in accordance with their different legal traditions”* to *“recognize the role which effective self-regulation can play as a complement to the legislation and judicial and/or administrative mechanisms in place and its useful contribution to the achievement of the objectives of this Directive”*, also warning that *“while self-regulation might be a complementary method of implementing certain provisions of this Directive, it cannot constitute a substitute for the obligation of the national legislator<sup>71</sup>”*.

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<sup>69</sup> Muñoz Saldaña M., Gómez-Iglesias-Rosón V., “The Importance of Self-regulation and Co-regulation in the New Digital Audiovisual Market”, in *Observatorio Journal*, 9(1):101-114, 2015, p. 102.

<sup>70</sup> *Ivi*, p. 106.

<sup>71</sup> Directive 2010/13/UE, considering 44.



Whatever the scope of application in Europe, the characteristics of self-regulation have been identified as follows<sup>72</sup>:

1. They are the outcome of a voluntary commitment of the subjects affected by or involved in the sector concerned;
2. Do not necessarily imply the existence of an act of legislative status addressed to the regulation of the industry concerned, however, if such regulation exists, the self-regulatory norm does not remain unrelated to the regulation in force.

### **Co-regulation**

The definition of co-regulation varies significantly too.

The European legislator regards co-regulation as a legal link between self-regulation and the national legislator, who is allowed to act (i) with respect for the Member States' legal traditions and (ii) where the targets of the member State legislator have not been met, in accordance with the principle of subsidiarity<sup>73</sup>. Those that by definition are the instruments of co-regulation underlay the presence of a legislative act *strictu sensu*, and therefore the action of national power<sup>74</sup>.

When there is a legislative act, the corresponding legislative authority takes on a real obligation, defining the *"essential legislation aspects: objectives, time periods, mechanisms for putting it into effect, control methods, and possible penalties in order to guarantee the legal safeguards"* and leading *"to what degree the definition and execution of the application measures can be delegated to the interested parties in terms of their recognized experience"*<sup>75</sup>.

It's a matter of obligations linked to the system of responsibilities. The accountability of the co-regulator stands alongside that of other subjects who are involved in the co-regulation which therefore represents the combination of *"processes, mechanisms and instruments set up by the competent public administrations and other agents of the sector, related to establishing and implementing a framework adapted to the normative, equidistant between the interests of industry*

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<sup>72</sup> Muñoz Saldaña M., Gómez-Iglesias-Rosón V., *op. cit.*, p. 107.

<sup>73</sup> Directive 2010/13/UE, c onsidering 44.

<sup>74</sup> Interinstitutional project "Better Regulation", *cit.*, sec. 18, "Co-regulation means the mechanism whereby a Community legislative act entrusts the attainment of the objectives defined by the legislative authority to parties which are recognized in the field (such as economic operators, the social partners, non-governmental organisations, or associations). Such a mechanism may be deployed on the basis of criteria laid down in the legislative act to ensure that the regulation is appropriate to the problems and the sectors concerned, to ease the legislative work by concentrating it on the essential aspects and benefit from the experience of interested parties."

<sup>75</sup> Muñoz Saldaña M., Gómez-Iglesias-Rosón V., *op. cit.*, p. 109.

*and those of the citizens, and which are specific and effective practices in such a way that the agents involved are co-responsible for its correct functioning*<sup>76</sup>.

That being said, co-regulation is sometimes considered as *"a form of enforced self-regulation"*<sup>77</sup>, as well as one of the emerging forms of *smart regulation*.<sup>78</sup>

#### **4.2.2 Alternative or complementary systems of regulation: an overview of application patterns**

For the advertising and marketing sectors, several different forms of alternative regulation are known. In such sectors the creation of deontological codes and of self-regulation (the so called 'collective') organisms are frequent. Some of these instruments have a long tradition and a foundation that dates back in time, as in the case of the Advertising Code of the International Chamber of Commerce (adopted in 1937). In Europe the self-regulation forms of the advertising sector are coordinated by the European Advertising Standards Alliance (EASA). At the national level, more often there are mixed systems, which feature the contextual presence of classic regulation and of codes of conduct adopted on a self-regulatory basis. For the web-marketing there exist, in some cases, specific codes of conduct, as for the German Deutsche Dialogmarketing Verband (DDV).

Also the safeguard of privacy in the on-line advertising has been at the times an object of self-regulatory initiatives, as in the case of the Interactive Advertising Bureau Europe (IAB Europe), who recently has been implementing a project to improve the protection and treatment of data in the on-line media, protection which will be even more guaranteed by the PET (Privacy Enhancing Technologies), which assigns to the user a more active role.

At European level, with reference to the audiovisual content circulation on the internet, we are witnessing the proliferation of a series of self-regulatory initiatives within the institutional framework of the Safer internet Programmes (SIP).

The Framework has been drafted by the members of the GSMA (Groupe Spéciale Mobile Association), in consultation with the European Commission and the other stakeholders involved in the regulatory area of the protection of children. Always within the GSMA, was created the Mobile Alliance against child sexual abuse<sup>79</sup>. In February 2009, with the "Safer Social Networking Principles

<sup>76</sup> Mora-Figueroa Monfort B., Muñoz Saldaña M., "La apuesta por la corresponsabilidad e la efectiva protección de los menores frente a los contenidos audiovisuales", in *Sphera Pública*, 2008, 8:125-133, p. 125.

<sup>77</sup> Grabosky P., Braithwaite J., *Of Manners Gentle: Enforcement Strategies of Australian Business Regulatory Agencies*, Oxford University Press, 1986.

<sup>78</sup> Van Schooten H., Verschuuren J., *International Governance and Law: State Regulation and Non-State Law*, Edward Elgar Publishing, 2008.

<sup>79</sup> The Mobile Alliance Against Child Sexual Abuse Content was founded by an international group of mobile operators within the GSMA, with the purpose of hindering the use of the mobile environment by individuals or organizations that seek to consume or make profit from contents relative to sexual abuses on minors, thanks to the combination of technical measures, cooperation and information sharing.

for the UE” has been adopted, always in a self-regulatory fashion, the principles that had to bind social network operators who took part in the elaboration of the rules, with the participation of the European Commission, in order to guarantee to minors a safe usage of the internet.

A relevant field, historically characterized by self-regulatory initiatives is that of technical standardization. Referring in particular to the Information and Communication Technologies, some organisms promoted by the industry on a voluntary basis, have had a crucial role in the assumption that the market and the new technologies could develop in an environment characterized by interoperability. The self-regulatory origin of many of these standardization organisms, among which, and foremostly the European Telecommunications Standards Institute (ETSI) clearly shows how the objective of working jointly in the development of technical specifications was a primary need in the industry.

Incidentally, auto-regulatory models have concerned the technical standardization of the internet since its origins, be it for the necessity of having deep technical knowledge for whoever was to try to fix the rules, be it for an ideological approach (the slogan was “Keep your laws off our Net<sup>80</sup>”) that feared the intrusions of the regulator in a strongly dynamic and specialist sector.

Also the social standards of behaviour of the users on the net (so-called Netiquette) and the systems adopted by the internet Service Providers to filter undesired content are ever-more implemented on an self-regulatory or co-regulatory basis.<sup>81</sup>

Because of their growing relevance, the UGC (User Generated Content) platforms are the designated field of application for new normative instruments, especially for what concerns the violation of intellectual propriety rights and the classification of content<sup>82</sup>. The self-regulatory initiatives in this field (a 2008 study estimated more than 18 codes and guidelines in different sectors<sup>83</sup>) were characterized by a high degree of collaboration between the subjects that are involved in the regulation (on a “wiki” model<sup>84</sup>).

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<sup>80</sup> Boyle J., “Foucault in cyberspace: Surveillance, sovereignty, and hardwired censors”, in *University of Cincinnati Law Review*, 1997, 66:177-205, p. 189.

<sup>81</sup> For instance, in the United Kingdom, thanks to an agreement between the English government and the four major national ISP providers (British Telecom, Sky, TalkTalk, Virgin Media) has been implemented a system of family-friendly filtering of the network, mostly structured as an URL block working from a blacklist, that is applied to all the devices present in an household that are linked to the domestic network. V. Baudouin P. et al., Mapping Safer policies in the Member States – The Better for Kids (BIK) Map, European Commission, Mapping Safer policies in the Member States, Luxembourg, Publications Office of the European Union, 2014, p. 23.

<sup>82</sup> The topic will be covered again in the following paragraphs.

<sup>83</sup> Cfr. IDATE - TNO – IuR, *User- Created Content: Supporting a Participative Information Society*, Final report, SMART 2007/2008.

<sup>84</sup> *Idem*

The traditional regulatory structure of the printing sector is characterized by self-regulation instruments that coexist in a juridical framework more broadly arranged by different regulators. For instance, in terms of professional ethics, opposed to a generalized disinterest by the public authority, forms of self-regulation come from a long tradition that has impeded, in many countries, the development of relevant co-regulation rules. An example comes from the case of professional association of journalists, usually vested with the power for disciplining its own members. Belonging to a professional association entails obtaining a title, often reached via a regulated qualification, by a source of law prepared ex-ante by its recipients, and then turned into a typically public norm, that disciplines the profession, and therefore the system of responsibilities of the professionals, in front of the law and in front of the order. The concept of spending a title is important to point out that on the internet the editorial responsibility is necessarily shared between professionals and non-professionals. Only to the subjects endowed with the qualification of journalists, specific norms, also on the internet, will be applied, while the subjects that do not belong to a professional association will receive, in the connected world as well as in the physical world, the juridical treatment of citizens who freely express their opinions.

The deontological standards (and the consequent responsibilities) that generally are self-entailed, or imposed by professional associations recognized by law (as in Italy), generally cover many of the aspects relevant to the means of consumer protection<sup>85</sup> and therefore assure greater guarantees for the safeguard of those values, if the information publicly accessible online is always to some extent linked to the intervention (even if only in terms of intermediation, selection or aggregation etc.) of an information professional.

With a specific reference to the Italian system, forms of self- and co-regulation, for instance, have characterized the adoption of the “Codices di Autoregolamentazione TV e Minori”. According to the TUSMAR, it is then necessary to proceed in a co-regulatory<sup>86</sup> manner to define the characteristics of technical systems for the exclusion of minors from the vision of contents that could severely harm their physical and moral development<sup>87</sup>.

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<sup>85</sup> As far as the Italian law is concerned, we refer as an example to the various Codes of self-regulation adopted by the Italian Journalists’ Association and the National Federation of the Press, regarding the protection of minors in the information sector (“Charter of Treviso” – 1990, that in 2006 was modified extending the application of its rules also to on-line and multimedia journalism, together with other forms of journalistic communication using technological tools, for which it must be taken into consideration their extended availability over time) or in general journalism as a whole, including obligations and guarantees of independence of individual journalists or the distinction between information and advertising (“Journalists’ Charter of Duties” – 1993) or the correctness of economic information (“Charter of duties of economic and financial information” – 2007) or the obligations relating to sport information (“Media and Sport Charter” – 2007, that clearly involved main broadcasters, then taken up in the DM 21 January 2008 n. 36 and therefore “co-regulated”) or concerning the media coverage of legal proceedings in broadcast programs” – 2009).

<sup>86</sup> Cfr. art. 43, comma 1 of the TUSMAR, as well as the Delibera Agcom n.51/13CSP.

<sup>87</sup> For the alternative forms of regulation, relative to the classification of contents set out in the TUSMAR, refer to the subsequent paragraph.

#### **4.2.3 Focus: alternative forms of regulation in the discipline of AV content rating for the protection of minors.**

In the broadcasting industry, as in other segments of the digital content market, forms of self-regulation have entailed the use of content rating instruments (together with parental control) for the protection of minors. In the following sections, a brief presentation of content rating systems for the protection of minors in the different judicial systems, will be presented.

##### *Italy*

In Italy the rating system of audiovisual contents is established by the “Testo Unico sui servizi media audiovisivi e radiofonici” (TUSMAR – D.lgs. 177/2005) in reference to those contents that severely hinder the physical, mental and moral development of minors (or that present scenes of gratuitous violence, insisted or brutal, or pornographic and films forbidden to minors, according to the specification of the Italian legislator). Along the lines of the “Codice di Autoregolamentazione TV e minori” (which has been covered in the preceding paragraphs), in 2003 the “Codice internet e Minori” was presented, signed by a number of professional associations<sup>88</sup>, and two Ministries (Ministry of Communications and Ministry for Innovation and Technology). Also in the system organised by the “Codice internet e Minori”, it is recognized the importance of voluntary codification of contents, and the adoption of a label specifically created (internet and Minors) that members can use, upon a free licence granted by the association, to point out and communicate in a simple manner to the users the compliance with the regulation of the “Codice internet e Minori”, providing immediate and simple understanding to the user that self-regulated content is being accessed. The Code requires to introduce in the websites, a section classified as “minors protection”, that is a collection of pages describing how to safely use the internet, and the relative surfing. It is evident that the regulatory approach underlying the adoption of these voluntary instruments tends to inform rather than forbid, and to provide suitable instruments for those users who want to protect themselves from harmful content, to be able concretely to do so.

##### *United States*

In the US the CARA (Classification and Rating Administration) system is currently applied to films projected in movie theatres, to those distributed on DVD and to unpublished movies<sup>89</sup> broadcast on premium channels of cable television. The most recent system, the TVPG (TV Parental Guidelines<sup>90</sup>) is

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<sup>88</sup> Associazione Italiana Providers (AIIP), Associazione per la convergenza nei servizi di comunicazione (ANFoV), Associazione Provider Indipendenti (Assoprovider), Federazione delle imprese delle comunicazioni e dell'informatica (Federcomin).

<sup>89</sup> The term ‘unpublished’, is here used to describe the so-called unabridged version, that is not modified by the producer for a viewership by a more extensive audience.

<sup>90</sup> The TVPG system, applied since 1997 is a rating system on voluntary basis, stemmed from a joint proposal originated from the Congress, the representatives of the television sector, and the Federal Communications Commission (FCC).

applied instead to the entire TV schedule, except for news, sports and previously unpublished movies broadcast on premium channels of cable televisions. The largest part of producers and distributors submit their movie to the CARA, despite the lack of rules requiring the classification of cinematographic works, since if it is true that movies can be projected without a preliminary rating, in reality most movie theatres refuse to project movies that are not classified. Moreover, all the subjects belonging to the MPAA are obliged to submit their works to the CARA rating. In the territories of United States and Canada, rating of contents of games and apps is entrusted to the self-regulatory authority ESRB, acronym that derives from the classification authority Entertainment Software Rating Board.

### *Australia*

Australia constitutes a peculiar case in the landscape of content rating. In the first place, the local classification authority, the Australian Classification Board (ACB), is established by law on impulse of the Australian Government. Since its foundation, in 1995, the ACB works in the classification of movies, videogames and publications for sale and rent, and available for vision in the Australian territory. Even without imposing modifications to the contents that are submitted, the ACB has a *de facto* censorship power, granted by the circumstances under which it can negate the classification, therefore making illegal the content for import in the domestic territory.

### *United Kingdom*

In the United Kingdom audiovisual content rating is operated by the British Board of Film Classification. The BBFC was born under the impulse of the cinema industry, with the aim of uniforming the censorship standard, fragmented across various local authorities. Today, the BBFC is entrusted with the classification of movies and any other video content (TV programs included) and is responsible for the application of the self-regulatory system of mobile contents based on the Mobile Operators Code of Practice.

### *Germany*

Starting from the constitutional guarantees that forbid any system of censorship, in Germany the protection of minors in media is enacted through a system of “regulated self-regulation”, in which four different self-regulatory authorities coexist, and together cover the entire audiovisual industry. The FSK (Freiwillige Selbstkontrolle der Filmwirtschaft) deals with cinema works. The FSF (Freiwillige Selbstkontrolle Fernsehen) constitutes an independent self-regulatory authority that groups together the majority of German broadcasters. It deals with the classification of TV programs. Videogames, instead, are classified by the USK, (Unterhaltungssoftware Selbstkontrolle). Finally, the FSM (Freiwillige Selbstkontrolle Multimedia-Diensteanbieter e.V. - FSM) is an association on voluntary and self-regulatory basis of multimedia service providers.

### *The Netherlands*

In the Netherlands, rating of audiovisual contents (TV, cinema, video and relative supports) is entrusted to the Nederlands Instituut voor de Classificatie van Audiovisuele Media (NICAM) through

the Kijkwijzer system. Founded in the beginning of years 2000, the Dutch system constitutes an example of co-regulation agreement. On the substance, the classificatory output is based on the double track of icons based on age, and on content descriptors. The former identify the age range suitable for the fruition of content, while the latter are constituted by six pictograms showing contents that can be harmful to minors (e.g. violence). The subdivision just described turns out to be sufficiently clear and comprehensible and therefore easily accepted by the users. Empirical evidence<sup>91</sup> shows the successfulness of Kijkwijzer, considered to be a valid system, both coherent and flexible. The flexibility and transparency of the Kijkwijzer contribute to improve the degree of acceptance and appreciation of the system, which proves to be, in principle, applicable to different geopolitical areas, as is demonstrated by its implementation, with governmental support, in Turkey, Finland and Island.

#### **4.2.4 The Pan-European Game Information and the International Age Rating Coalition**

##### *The Pan-European Game Information*

The Pan-European Game Information (PEGI) system was developed in 2003, thanks to the impulse of the Interactive Software Federation of Europe (ISFE<sup>92</sup>). Managed by the Dutch NICAM and the British VSC, the PEGI system today is the pan-European standard of classification for the video entertainment. For console and PC videogames, the classification labels of the PEGI, based on age, are accompanied by content descriptors, on the model of the Dutch rating system.

Descriptors have a fundamental utility in terms of user information, especially in a pan-European system as such, referring to different countries in which different perceptions coexists, with sensibly different degrees of acceptance of certain contents.

The PEGI system constitutes a system of self-regulation, potentially efficient, with the necessary adaptations, for each content. Actually, thanks to its internal mechanisms, in the end, it doesn't require any State intervention. Recourse to arbitration, mandatory according to the rules of the Code of Conduct, implies a renounce to the local jurisdiction of the involved parties, and represents a new instrument for an alternative resolution of litigations that resolves as well the territoriality and sovereignty issues in the connected world. Extremely important is the visualization of signals that would alert the users about the regulation applicable to his conduct.

##### *International Age Rating Coalition*

The International Age Rating Coalition (IARC) groups together all the classification authorities that operate in the sector of interactive entertainment. Founded in 2013 by the union of ERSB, PEGI, USK,

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<sup>91</sup> Refer to, for the specific parts, to De Cock Buning M., *op. cit.*, p. 17.

<sup>92</sup> Founded in 1998 by the national associations of the sector players, the ISFE was comprised of, at the time of its constitution, Great Britain, France, Germany and the Netherlands, to include then, since 2002 all the transnational undertakings that represented the industry in all the EU Member States, as well as Norway, Iceland, Switzerland and Liechtenstein.

ACB and ClassInd (Classificação Indicativa - Brasile), it represents the effort of local organizations toward the achievement of an ambitious objective, that is the creation of a common rating process that is efficient, technology-neutral and as universal as possible, within the limits and with due respect to the cultural specificities of each country.

The IARC<sup>93</sup> questionnaire is based on criteria that belong to each classification authority. The applicant, by completing a single questionnaire, obtains different ratings regarding age and content, one for each local authority of classification, to be used in the respective area.

The benefits of a connection between different rating systems as has been arranged respectively by the IARC and the PEGI, are multiple and undeniable. In the first place, content suppliers and developers don't have to address different authorities to obtain, for each area, a classification of their product. Moreover, through a coordinated rating action, that is devolved to the organs founded by the stakeholders on an self-regulatory basis, the showcases and the platforms can avoid to set up their own system of classification, thus benefitting of evident economies and reducing the possibility of complaints by part of the final users, who also benefit of an established and transparent system.

#### **4.2.5 Experiences of rating in the legal practice**

In the legal practice, the main online stores are already making use of the self-regulatory rating systems, that have been described. For what concerns online stores, an emblematic example of these trends stems from the Google Play Store that, since May 2015 has radically modified the classification system of contents on the platform.

For apps and games, Google Play has replaced the internal rating system (under his responsibility) with local classification systems accessible via the questionnaire set up by article 43 IARC. For instance, for North and South America the classifications are managed by the ESRB (Entertainment Software Rating Board) while for the areas of Europe and Middle East<sup>94</sup>, the PEGI (Pan European Game Information) is applied, apart from Germany, where the classification is managed by USK (Unterhaltungssoftware Selbstkontrolle). Only in countries in which a dedicated authority is not present a generic classification based on age is assigned by the IARC. For movies and TV programs the rating displayed is the one attributed by the (several) classification authorities and by other local authorities, as indicated by the content suppliers. If the latter, though, has decided not to share this information, the content results as not classified, and fall into those contents automatically inhibited

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<sup>93</sup> The modes of functioning of the Google Play classification system for apps and games are described in more detail in the web page dedicated to the developers: <https://support.google.com/googleplay/android-developer/answer/188189?hl=it>.

<sup>94</sup> The list of countries of the sector Europe and Middle East considered by Google Play for the app and games includes: Albania, Andorra, Austria, Belgium, Bosnia-herzegovina, Bulgaria, Croazia, Ciprus, Czech Republic, Denmark, Estonia, Finland, Francr, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kosovo, Lettonia, Liechtenstein, Lithuania, Luxemburg, Macedonia, Malta, Moldavia, Monaco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakian Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, Arab Emirates, United Kingdom and the Vatican.



by the Store's parental control systems.

In the context of implementation of parental control mechanism, for all contents has been introduced the Family Star, a system that aggregates kid- and family- friendly contents into three areas, divided by age. In countries in which Netflix is present, the user creating an account is required to be of legal age, according to the rules of the country in which he is residing. In fact, it's expressively stated that the use of the service by users below the legal age can take place only under the guidance of a parent or of a legal tutor, and under the responsibility of the latter.

Netflix too has welcomed, for the content rating, the classifications of the competent local authorities<sup>95</sup>. As opposed to what happens for Google Play, though, Netflix (which, it should be remembered, falls into the subjects which can be described as non-linear audiovisual media provider) takes upon himself the responsibility of an internal rating system that is to be applied each time in which, whatever the reason, the content has not been classified. Such a system consists in the application of three simple labels that indicate if the content is suitable for kids, if it is best viewed with an adult, or if the content is for an adult public only; these labels are attributed by Netflix, upon his discretionality (according to his "reasonable judgment") and fulfill the function of progressively filling the grey zone of unclassified contents (which otherwise would remain without a market).

Clearly, in an environment that is constantly connected, the greatest criticism is constituted by the interactive elements, that, not depending on the type of content, cannot be monitored or at least, not effectively.

Such elements, properly signaled by dedicated indicators in the rating systems for videogames, concern the interaction between users, sharing the information about the position of the user, and of some personal information. A number of systems, as the ESRB, consider as interactive elements the music tracks in download or as an add-on of games and music apps, as they are not classified, or classified by the content supplier in an autonomous manner, for instance via the voluntary basis system Parental Advisory of the Recording Industry Association of America (RIAA). On Google Play, the PEGI system envisages, for apps and games, an indicator showing an exclamation mark that recommends the vigilance of adults over the interaction for the user with the content, as well as a brief description of the interactive element.

In the future, specific indicators of interactivity could be conceived and applied, whenever the audiovisual sector structural and technological developments would require so, for those new generation platforms and services that presumably will enable a greater exchange between users and more interactivity.

#### **4.2.6 Content rating and UGC platforms**

In platforms hosting User Generate Content that tend progressively to compete with those created

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<sup>95</sup> Netflix has arranged a page of the help center for the information of its customers about the functioning of the content rating system of its platform: <https://help.netflix.com/it/node/2064>.

by professional content providers, that is PGC – Professional Generated Content, facing a substantially absence of monitoring on content, the option of content rating appears especially relevant. Each community, though, has elaborated norms and guidelines dedicated to safety, as well as a series of mechanisms, more or less effective, to inform the users of the level of maturity required to view the content, together with parental control and filtering systems.

The difference between professional contents and amateur contents is reflected also on the application of these norms and mechanics. On YouTube, for instance, the channel owners that have subscribed a specific agreement with the platform, become “content partners” of the platform, and as such, are subject to additional rules with respect to those applying to the owners of other channels. Among these rules, there are content classification obligations on the channel holder, who will have to adopt YouTube’s “labels” or, if required by the law of the country in which the content is available, to rely on “an official rating from a ratings organization.”<sup>96</sup>

YouTube’s label system is dedicated to the pay-contents of Youtube content partners, while for free contents, there is a specific function for the application of age limits by the upload author, who decides in autonomy the audience that he deems suitable for his content (the so called Age Restriction feature<sup>97</sup>). To watch video that are subject to these limitation, the user must have logged in with his own account, and be at least 18 year old.

Also, as in any UGC platform, YouTube has established a flagging system that allows users to signal and flag contents that are deemed inappropriate, which, after an examination carried out by dedicated personnel, becomes subject to an age-limit or is completely removed from the platform (if found to be breaching the norms of the community). Such functionality allows to flag non only videos, but users, background images or avatars that are found to be inappropriate.

Among the initiatives in the sector, it’s worth to mention “You Rate It”, a joint project by BBFC and NICAM, for the creation of a rating system for UGC media. It is an autonomous and customizable instrument that can be incorporated in any content uploading platform, based on the concept of user-generated rating (that is, relative to classification mechanisms based on users’ feedback) and consists in the uploader self-evaluation and/or in the (etero)-evaluation of the audience. The rating obtained can be “translated” into the corresponding local classification, that would make it a one-stop-shop for content rating to which it is referred (similar to what happens for the IARC questionnaire, creating international ratings which can be used at a national level), hence *“Based on the location of the viewer, a national recognizable or tailored rating can be displayed [...] We feel that this way of self-rating will empower and involve uploaders, parents and children in the rating process and will create media awareness”*<sup>98</sup>. The system developed within the You Rate It is today applied

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<sup>96</sup> Cfr Youyube guide: <<https://support.google.com/youtube/answer/3249135?hl=en>>, and <<https://support.google.com/youtube/answer/146399?hl=en>>.

<sup>97</sup> Cfr. YouTube guide: < <https://support.google.com/youtube/answer/2950063>>.

<sup>98</sup> Cfr. the video presented on the official homepage of the initiative, [www.yourateit.eu](http://www.yourateit.eu).

only in Italy, on Mediaset UGC platform “16mm.it”, thanks to the cooperation between RTI Interactive, BBFC and NICAM.

For what concerns music video clips, it is necessary to underline the new pilot project, born under the impulse of the English government, consisting in an agreement between YouTube and Vevo, for the implementation of a classification of music video clips produced in the United Kingdom. Commenting the initiative, the DailyMail has sensibly remarked that *“To be effective it requires that parents also take an active interest in what their children are watching”*.

#### **4.2.7 The scheme of rating systems introduced by the alternative forms of regulation: the role of the content provider and the more active role of the end user**

The rating system of contents related to apps and games of certain online stores envisages, then, a more complex mechanism that contemplates the cooperation of more subjects on voluntary basis. The supplier of contents choses to spontaneously undergo under a system of rating; if he doesn't do so, its content results as “unrated” and becomes excluded from the visualization in certain territories and/or for some users. The classification system is generally automated on the basis of an online questionnaire, and the result is predetermined in relation to the answers given. Often, though, the authorities of classification pose under revision the rating obtained with the automated questionnaire.

It is possible, in any case, to refuse the classification and to appeal to the classification Authority to obtain a revision. The system of classification is made available for the content supplier by part of the distribution platform (the aggregator), but the classification is made by a specific third-part authority (born on a self-regulatory basis, as the PEGI or IARC) under which the content provider choses spontaneously to undergo, in order not to result “unrated”.

The content classification criteria are elaborated by an authority recognized on a voluntary basis by the operators in the sector. The aggregator carries the burden of technical cooperation for the proceeding of classification and the proposition of the results relative to the latter, to the final user, but the aggregator doesn't take any responsibility with regards to the adequacy of the classification and to whether it is suitable to effectively safeguard the final users. In fact, the responsibility resides in the classification authority and in the supplier of contents, who, in answering the questionnaire on the characteristics of the specific content, must provide an objective and truthful assessment.

What described seems to go exactly in the direction of the auspices expressed by the Ofcom, within the consultation of the European Commission on the Green Paper *“Preparing for a Fully Converged Audiovisual World: Growth, Creation and Values”*, in which it affirms how it could be possible to tend toward an industry-led mechanism on a self-regulatory basis that, with respect to the operators that manage the access to content, “without subjecting them to editorial responsibility”, could bind them (and make them accountable) to consenting and offering to the SMAV providers the instruments for content classification, through systems that could indicate to the users which framework to apply to those contents, binding them to prepare and accept a set of complaint procedures (also of the notice

and take down type)<sup>99</sup>.

Such a system seems to better adapt to the more active role of the user in the fruition of new media. The need for correct information and presentation of the characteristics of content has been underlined as well by the Council of Europe that in its guidelines, adopted in 2007 and following two Recommendation of 2001<sup>100</sup> and 2006<sup>101</sup>, clarifies that the concepts of habilitation and empowerment of users are connected to the requisite of transparency: *“the transparency in the processing and presentation of information as well as the provision of information, guidance and other forms of assistance are of paramount importance to their empowerment”*<sup>102</sup>.

#### 4.2.8 Final remarks on the use of alternative or complementary form of regulation

Differently from the system of mere market coordination between operators (aiming at finding the best and most efficient pursuit of private interest), self-regulation systems provide forms of conditioning and orientation of private actors for the pursuit of the public interest.

Since such alternative organisms of regulation pose themselves outside the traditional channels of democratic mediation and synthesis of the general interest, according to some scholars, they would create in the first place a problem of quality of democracy (input legitimacy, or democratic standard) of their structure and of their processes. On that side, there would be a problem of ex-post evaluation of the efficiency of the system of self- or co-regulation, with respect to the effective pursuit and protection of the relevant public interest (output legitimacy),<sup>103</sup> in as much that according to some authors, some form of way out should be considered, from the alternative system of

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<sup>99</sup> Cfr. OFCOM, *Ofcom response to the European Commission Green Paper: Preparing for a Fully Converged Audiovisual World: Growth, Creation and Values*, 2013. URL: <http://stakeholders.ofcom.org.uk/binaries/international/international-responses/green-paper-sep13.pdf>

<sup>100</sup> Council of Europe, Recommendation Rec(2001)8 of the Committee of Ministers to member states on self-regulation concerning cyber content (self-regulation and user protection against illegal or harmful content on new communications and information services), that in the wording of the Council of Europe, “encourages the neutral labelling of content to enable users to make their own value judgements over such content”.

<sup>101</sup> Council of Europe, Recommendation Rec(2006)12 of the Committee of Ministers on empowering children in the new information and communications environment, che “underlines the importance for children to acquire the necessary skills to create, produce and distribute content and communications in a manner which is both respectful of the fundamental rights and freedoms of others and conducive to the exercise and enjoyment of their own fundamental rights”.

<sup>102</sup> Council of Europe, Recommendation CM/Rec(2007)11 of the Committee of Ministers to member states on promoting freedom of expression and information in the new information and communications environment.

<sup>103</sup> Alcuni autori osservano però che “the evaluation of alternative modes of regulation in communications is still in its infancy. As a consequence, knowledge about the contribution of self and co-regulation to the achievement of public goals is limited”, Latzer M., Just N., Saurwein F., *op. cit.*, p. 391.

regulation, returning to a classic State-made regulation in the case the inadequacy of the alternative form of regulation were demonstrated<sup>104</sup>.

Systems of alternative regulation should then be, as much as possible, “inclusive” with respect to the interested parties involved within the regulation and the members of the regulated sector. The stronger the legitimacy, the higher will be the level of compliance to the rules adopted by the actors in the market.

After all, *“the legal demand for adequate stakeholder involvement is a potential technique in co-regulatory schemes, in which a regulatory organization may not gain accreditation without appropriate stakeholder involvement”*<sup>105</sup>.

To this regard, it has been discussed if there should be an involvement of subjects that are not part of the industry, as a certain degree of independence of the regulatory body with respect to the industry that it should regulate, could clash with the necessity of introducing experts coming from the industry itself<sup>106</sup>.

Additional characteristics that are essential to assure a high level of legitimacy and therefore of possible success of an alternative system of regulation are the transparency of processes and the independence of the body managing the regulatory system (dictating rules that are adequate to the nomination of members and endowing the system of an adequate financial autonomy). On the side of accountability and of valuation of output legitimacy, it is important that the self- and co-regulation foresee some reaction powers (as sanctioning powers) to cope with the violations of the regulated actors.

Among the advantages of alternative forms of regulation, should be mentioned:

- the overtake of the knowledge gap of subjects being regulated;
- the overtake of the problem of informative deficits of the public subject;<sup>107</sup>
- the introduction of a faster and more flexible<sup>108</sup> regulation;
- the introduction of a lighter regulation, less invasive in a sector where often the pursuit of public

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<sup>104</sup> De Cock Buning M., *op. cit.*, p. 27.

<sup>105</sup> Latzer M., Just N., Saurwein F., *op. cit.*, p. 383.

<sup>106</sup> Mentioned, inter alia, by Latzer M., Just N., Saurwein F., *op. cit.*, p. 383, citing OFCOM, *Criteria for promoting effective co and self-regulation: Statement on the criteria to be applied by Ofcom for promoting effective co- and self-regulation and establishing co-regulatory bodies*, 2004. URL: <[http://stakeholders.ofcom.org.uk/binaries/consultations/co-reg/statement/co\\_self\\_reg.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/co-reg/statement/co_self_reg.pdf)>.

<sup>107</sup> *Idem*

<sup>108</sup> Muñoz Saldaña M., Gómez-Iglesias-Rosón V., *op. cit.*, p. 104.

interest policies on audiovisual contents takes place on the freedom of expression (and the balance of interests operated by the regulation has then the delicate task of affecting a fundamental freedom).

In clarifying the factors that make appropriate – and effective – the use of forms of self-regulation in this sector, the Ofcom, in 2008, listed: (i) the interest of the industry, in its entirety to the solution of the regulatory problem, (ii) the ability of the industry itself to determine clear objectives for a potential regulatory scheme and (iii) the correspondence between the solution proposed by the industry and the legitimate needs of the citizens/consumers. Self-regulation would not work, according to Ofcom, when there are incentives for the individual enterprises not to participate in the agreement, or when there are incentives for the participating enterprises not to adhere to the agreement itself<sup>109</sup>.

According to some authors, the alternative systems to the traditional regulation, in the presence of fundamental rights and of special, politically controversial<sup>110</sup> interests should be excluded. For others scholars<sup>111</sup>, however, alternative forms of regulation should be allowed also when fundamentals rights are involved (e.g. the right of expression, and the protection of minors). In this view, a co-regulatory model should foresee a primary norm, which, rather than disciplining in details the single aspects, should define precisely the fundamental right protected and the boundaries of regulatory autonomy of the market.

#### 4.3 Conclusions

The new digital ecosystem imposes to remodulate the problems related to the access to the resources and, as well and most importantly, to define or re-define the roles of the different players in the digital market.

Without affecting the general framework, and in particular on the separation of role and responsibility set by the actual EU audiovisual regulation of who can actually be classified as an “editor” and who can be linked to the world of technical intermediation in the circulation and access to content, it would be possible to create specific rules for specific phenomena, that impose behaviours (well-defined, and most importantly proportioned to the objectives) also to subjects formally not belonging to the SMAV sector.

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<sup>109</sup> Ofcom, *Identifying appropriate regulatory solutions: principles for analysing self- and co-regulation*, statement, 10 dicembre 2008. URL: <http://stakeholders.ofcom.org.uk/binaries/consultations/coregulation/statement/statement.pdf>.

<sup>110</sup> Splinder G., Thorun C., (Conpolicy Institute), “Key Points of a Digital Regulatory Policy - Recommendations to improve the conditions for effective coregulation in the information society”, 2015, document presented at the meeting of 12 June 2015 with the DG Connect.

<sup>111</sup> De Cock Buning M., *op. cit.*, p. 27.

The instruments of safeguard of the general interest of users might envisage, additionally, a different and more active participation of the final user himself. In fact, less passivity in the fruition (self-scheduler) which connotes the new digital means of access to the audiovisual content, entails the possibility to find a more active role of the user in his own safeguard as well (consumer protection).

In this sense, it could assume more relevance and diffusion some instruments of self-safeguard that give to the user an adequate knowledge, to enable him to actively, and in an informed manner, make his choices of selection of the content which is more suitable to its taste and sensibility<sup>112</sup>.

This implies that the protection of some fundamental interests could and should be sought with different instruments (with respect to the classic model of public command and control) that operate a mandate of the power of responsibility on the final users himself (and in general, a reallocation of responsibility between user and provider of content), enabling the latter with adequate instruments of self-safeguard<sup>113</sup>.

As has been noted, *“in a system where all stakeholders, the State and users included, are part of a more complex value chain with mixed duties as a result of the interdependencies that develop, one could also imagine that issues of empowerment and awareness may develop into new forms of shared commitment. This would not be the classical ex ante responsibility with subsequent passive liability for the actions put in place, but rather a form of active accountability”*<sup>114</sup>.

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<sup>112</sup> In general, these instruments could be even more articulated than what it is currently possible on the basis of the SMAV regulation. Thinking for instance to the complex content classification systems made available by the on-demand platform Netflix, who allow the user to see exactly what he was looking for, the more he is circumstantiating the search – that is to say, the more the search is precise and ‘smart’ rather than generic – hence avoiding to face undesired content.

<sup>113</sup> The empowerment of the users of minor age is an objective shared by many international cooperation politics. Among them, it’s worth to recall a 2012 OSCE Recommendation, where it’s highlighted with clarity, the importance and the necessity of a shared responsibility of all the stakeholders of the safeguard of minors, and of policies able to to “empower children and parents to evaluate and minimise risks and engage online in a secure, safe and responsible manner”. OECD Council, “The Protection of Children Online”, *Report on risks faced by children online and policies to protect them*, 2012, p.8. (see p. 48, tab. 2) [www.oecd.org/sti/ieconomy/childrenonline\\_with\\_cover.pdf](http://www.oecd.org/sti/ieconomy/childrenonline_with_cover.pdf), source to which refer as well for a thorough recognition of the initiatives toward the development of an international cooperation in the sector.

<sup>114</sup> Cappello M. (ed.), *The protection of minors in a converged media environment*, IRIS plus, European Audiovisual Observatory, Strasbourg, 2015, p. 57, citing also Nooren P. et al., “Regulation in the converged media--telecom value web”, *TNO Report R11428*, October 2014. URL: <http://publications.tno.nl/publication/34611843/NhocfJ/TNO-2014-R11482.pdf>.

On the matter of regulatory methodology, different modes of protection of the user's interest, that have been described, imply the passage from traditional regulatory models to bottom-up forms of regulation- co-regulation and self-regulation - which are complete, articulate, flexible and dynamic, and constantly updated<sup>115</sup>.

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<sup>115</sup> The extension and consolidation of the user information systems and in particular content rating systems and content classification applied generally to all the platforms has, as is known, been an object of careful thinking within the scope of the consultation on the Commission's Green Paper of 2013 (see *supra* note) as is, as well, the necessity that, in safeguarding feebler audiences it would be possible to, more effectively recur to the use of auto- and coregulation systems, has been the object of the recent consultation of the Audiovisual Media Services Directive (AVMSD Refit), closed on September 30<sup>th</sup> 2015 (see, in particular the consultation questionnaire, question series n. 3.2).



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## ITMedia Consulting

ITMedia Consulting ([www.itmedia-consulting.com](http://www.itmedia-consulting.com)) is a research and consulting company in the sector of digital economy, and in particular in the field of contents and digital media. The company's core is the focus on topics of digital transition, access to content and convergence between media, Internet and tlc.

ITMedia Consulting has refined its experiences working shoulder to shoulder with operators in the sector – incumbents, new entrants, antitrust and regulation authorities – in international markets, and proposing itself as a reference point to cope with the challenges of the digital environment and of convergence. The innovative approach, the distinguished competencies, the international dimension, have allowed ITMedia Consulting to offer services of the highest quality, not standardized, but oriented to the specific needs of the client.

Among the main areas of operation: analysis of markets and competition profiles; access to content (e.g. rights management, pricing policies, entrance barriers); new distributive models for contents; innovative offers (VOD, downloading and video streaming) and business model analysis; network access (support to content providers for the access to the network of telco operators and to the digital terrestrial networks); support in antitrust proceedings as concentrations, joint-ventures and mergers between operators in the markets for television and electronic communications.

Among its clients: 3 Italia, AC Nielsen, Alcatel Lucent, Autorità per le Garanzie nelle Comunicazioni, Banca Nazionale del Lavoro, Cairo Communications, Canal Plus, Carat TV, Confindustria Servizi Innovativi, Council of Europe, Discovery, European Commission, Fastweb, Fox, France Télécom, Google, Infront, Mediaset, MTV, Paribas, Publikompass, Publitalia '80, Radio France, Rai, RaiSat, Raiway, RCS, SAT2000, Seat, Sky Italia, Sipra, Sirti, Telecom Italia, Telecom Italia Media, Telecinco, Telepiù, Time Warner, Tiscali, Viacom, Vivendi, Vodafone, Wind.

## LUISS DREAM

Luiss DREAM (Diritto e Regole per Europa Amministrazione e Mercati - <http://giurisprudenza.luiss.it/luiss-dream>) is a research center instituted by the Department of Law of Luiss Guido Carli University, in Rome, directed by Prof. Gian Domenico Mosco, and vice-director Prof. Gustavo Olivieri. The center operates in coordination with other LUISS research centers, and its areas of activity are regulation and justice, with an eye turned to Europe and the other to the markets: both eyes pay attention to the implementation of rules and to the complex activity of public administration. The aim of the Center is the advancement and application of knowledge, also via comparative legal systems and economic analysis, on law, justice and regulation. In particular, the activity of the Center concerns European Union law, and the relationship with national law, as well as the relations between authorities, institutions, European and internal courts; justice and the economic system, regulation, liberalizations, competition and intellectual property; judicial instruments for innovation.

Within Luiss Dream, several laboratories operate, focused on one or more research areas mentioned above. Among these: a) the Observatory of Intellectual Property, Competition and Communication (OPICC), directed by Prof. Gustavo Olivieri, which aims at gaining in-depth insight about the main normative developments, judicial intervention, and auto-discipline of the category, on the matters of patents for inventions and models, trademarks, commercial publicity, bio-technologies, safeguard of software and semiconductor topography, intellectual property laws for works destined to the market for goods and services, as well as competition policy; b) the Observatory on electronic communications, directed by Prof. Marcello Clarich, which deals with the most important regulatory and judicial developments in the sector of electronic and media communication, and of the impact of new technologies and media and on the traditional sectors of commerce and industry. The labs organize seminars and research on the topics within the scope of their specific interest also through the involvement of undertakings operating in the sector, and institutions.