

Digital Press
Net neutrality
Broadband access regulation
Master IREN
Publications



Editorial

The last quarter of 2011 was particularly active for the Chair, including the organization of three conferences between early October and mid-December.

The ICT conference, end of September 2011, which brought together over one hundred researchers, proposed, across eight sessions, an academic approach to issues as varied as investment in broadband networks, search engines competition or intellectual property rights. The success of these meetings allows us to consider another edition this fall.

On November 3rd 2011, academics and professionals met together in the conference on multi-channel distribution and stressed all the operational consequences of digitization on the organization and management of distribution channels. How do retailers adopt the recent technology developments linked to the internet and the e-commerce and the changing expectations of their customers towards multi-channel retailing? Many cases presented during the day have shown that technological developments may lead retailers to adapt differentiated operational structures, resources and know-how in terms of customer relationship management, logistics and management of the supply chain. Contrasted strategies and business models are built for each of the different distribution channels and call for a revision of the traditional regulatory approach (specificities of sectors such as pharmaceuticals, concentration issues, taxation, territorial approaches) The I&R chair asked G. Lang to write a position paper on these issues.

(...)

The future of digitized press

At a conference organized by the "Innovation & Regulation in Digital Services" Chair and the LABEX "Cultural Industries and Artistic Creation", December 13th, 2011, more than a hundred experts have examined the prospects for digital press, by invitation of Françoise Benhamou and Pierre-Jean Benghozi.

Is the digital press a new media? It has to be assumed:

- in the editorial point of view (immediacy and permanent watch as opposed to the constraints of closure of the traditional press, new editorial format with multimedia as opposed to writing, participative mode -even if it previously existed in radio-),

- in the organizational point of view (integration- or non-integration- of writing teams),

- or in the economics point of view (uncertainty on advertising revenue, uncertain new revenue like crowd-sourcing ...).

From the openness of the first information web site in France in May 1995, the issues about the development of the digital press, and their effects on the press in general, were set down. The first of these relates to the business model: free access to information or not, and if access to information is paid, at what price?

Situation of access charge imposed by the editors at too high level have led these experiences to failure, forcing quickly to adopt the model of gratuitousness to ensure then a great success for online information. It is generally difficult to build a business model. The advertising revenue decrease and are focused on the bigger sites. Many models are emerging (with new sources of revenues such as services for professionals, technical services ...) and the generalization of the business model of "available minute of brain" raises a lot of fear among journalists. In total, it is still difficult to know which model will prevail. Especially as mobile telephony developments are still changing the deal.

The second issue is about the type of player: model integrating paper and online journal or "pure player"? "Pure players" have been very successful, rapidly exceeding the daily newspapers and especially magazines remained "cautious", and then be picked up by traditional newspapers. "Pure players" who have found success are financially balanced today, but have nevertheless low returns on investment.

The multiplication of players on the digital press market, most of them working in the immediacy, raises also the issue of reliability in a context of abundant information, redundancy and lack of prioritization of these informations.

There are also organizational issues (with a strong precariousness of jobs), editors revenues and more generally of the remuneration of the information chain.

The development of digital press and its effects on the paper press, takes place in a context of declining revenues from traditional newspapers that is not balanced by the development of corresponding web sites, especially because net revenues from advertising are lower (10 to 40 times less for the web) and 100% digital subscribers are lagging behind.

There is a big difference in interpretation on the future of the digital press and the paper press: for young people who want to participate, negotiate, and not only receive "teaching", information, the disappearance of traditional newspapers, "is not the end of the world." For others, the disappearance of print press, "it's already the end of democracy." For all, there is a democracy to reinvent for the digital age.

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(...) Finally, the conference on the prospects for the digitized press, December 13th, 2011, has highlighted the problems encountered in its development and its effects on the traditional newspapers, from academic works and presentation of concrete examples by business players themselves (see article on previous page).

The research program, another pillar of the Chair activities, driven by Tommaso Valletti from almost two years, led to publications on topics as Net neutrality and broadband access: the papers proposed here present the results of this work.

The master, as for it, entered its third year and meet growing success, with 73 students with scientific or technical training and economics and management training. We can therefore confidently envisage the application for renewal of its accreditation from the ministry, the more serenely as the Paris-Dauphine University will join the partnership, and as we will strengthen the international dimension of the program.

The activity of the Chair since its creation in 2007 led partners to extend their cooperation and envisage renewing the Agreement between them.

The work that lie ahead is just as exciting.

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Net Neutrality with Competing Internet Service Providers

Net Neutrality with Competing Internet Service Providers. M. Bourreau, F. Kouradi, T. Valletti

Net neutrality has been an issue highly debated over the last years by policymakers and parties involved in the market for Internet access. The Internet Service Providers (ISPs) argue that net neutrality reduces their incentives to invest in broadband capacity, and that this leads to less entry by Content Providers (CPs). On the other hand, the CPs contend that Internet has been neutral since its inception, and that the CPs that will not be able to pay for preferential access will be worse-off, compared to the net neutrality regime. Finally, end users are concerned about subscription fees, the variety of online content, and the quality of their Internet connection. Much of the debate centers on traffic management, since over the last years the volume of data transferred through the Internet has grown up drastically, demanding a significant amount of bandwidth capacity.

The goal of this work is to provide a formal analysis to tackle the arguments of the opponents and the proponents of net neutrality and to contribute to the effort to advance the net neutrality debate.

A theoretical model is studied, illustrating various aspects of the net neutrality issue, including business strategy aspects and competition policy implications. This model is set up according to the standard methodology in modern industrial organization theory and solved using Game Theory techniques. In particular, a two-sided model is proposed with two competing ISPs and a continuum of heterogeneous CPs to study the pricing, investment and innovation incentives of the players under net neutrality and discrimination. Under the discriminatory regime, ISPs charge a priority fee to the CPs, which are willing to deliver their content on a fast lane.

It is found that, under discrimination, investment of the ISPs in broadband capacity and entry of CPs are both higher than in the net neutrality regime. The investment incentives of the ISPs are increased, since they can appropriate part of the CPs' revenues via the priority fees.

ISPs manage more efficiently their traffic, and achieve a lower level of congestion. Total welfare increases, though the discriminatory regime is not always beneficial to the ISPs as it can intensify competition for subscribers. The possibility of sabotage is also considered and show that it can emerge, with adverse welfare effects, only under discrimination.

This research has been presented at the European University Institute, Florence, Italy in May 2012, at the Centre de Recherche en Economie et Statistique (CREST) in Paris, in May 2012, and at the 3rd workshop on the Economics of ICT, University of Oporto, Portugal, in March 2012, at the conference Management & Economics of ICT Ludwig-Maximilians-Universität, in Munich, in 2012 and at the Conference on Economics of Information and Communication Technologies, Telecom ParisTech, Paris, France, September 2011.

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Broadband regulation and penetration

Broadband regulation and penetration (M. Nardotto, T. Valletti, F. Verboven)

This research is aimed to provide some empirical answers to the debate on the effect of open access regulation. This regulation is relevant in our economies since it affects industries that are at the core of the economy and whose efficiency is fundamental for the whole performance of the system. Classical examples are the energy sector (in particular the distribution), transportation and, as in our case, telecommunications. The stand behind open access regulation consists in the idea that instead of relying on platform competition, not always possible due to large costs of replicating a network, regulating access in the downstream market will produce an increase in competition that will translate in lower prices, higher quality and so finally in higher demand and welfare.

In many cases the regulation may also discriminate between technologies since the regulator may want to promote technologies that are supposed to induce more investments, more R&D and so a higher level of dynamic competition between operators.

In this study we analyze the broadband market in UK exploiting a detail panel dataset of investments and subscriptions over 5 years. The sector has been heavily regulated by Ofcom which sets the prices for accessing through bit-stream technologies and local loop unbundling (LLU). Moreover, in this market we also have the presence of a cable operator which allow us to compare the performance of a regulated opened incumbent together with a platform competition. The methodology that we adopt is to model the entry process following the extensions to the Bresnahan and Reiss model. Given the observation that sunk

costs are relevant in the industry, we adopt a reduced form panel data approach exploiting past investments and spatial relationships as instruments to identify the causal effect of LLU investments on aggregate demand for broadband services (i.e. penetration rate).

Our results are against the common wisdom that LLU is improving the performance of markets over bit-stream. The impact of LLU on penetration is negative and amount roughly to -5%. Platform competition (i.e. the presence of cable) is instead improving the demand for broadband services by 3-5% with respect to bit-stream.

This research has been presented at Universidade Nova de Lisboa, Portugal, at the University of Manchester, UK, at Network of Industrial Economists, Leicester University, UK, at the Paris School of Economics, France. It will be presented at the EU Florence Schhol of Regulation next June 1st.

Master « Network industries and digital economy »: 2011-2012 academic year

After a successful launch and proper installation in the academic and professional landscape, the Master is now at the beginning of a second stage of its development. He first asked this year **to renew, for five years, its accreditation by the Ministry.**

Beyond the permanent adjustments of the educational program, this will provide the opportunity to host the University Dauphine as a new partner and will strengthen the international dimension of the program, including through its presence in the large Orsay University Center.

But the challenge of coming years is not only institutional; it will also include the strengthening of the relations of the Master with its partners in the private and public sectors: it is indeed a prerequisite to still improve professionalization by offering training courses and above all the subsequent placement of students.

Since its creation in 2007, the Innovation and Regulation Chair was concerned about promoting the development of a Master of reference on the digital economy. Instead of building an education project from scratch, the Chair has sought to pool the efforts of existing initiatives and to support a collaborative project combining the best establishments in this area. Thus, the Master (M2) Network Industries and Digital Economy (IREN) was formed, through the Chair, in partnership with the Universities of Ile-de-France (Paris Ouest-Nanterre La Défense Paris-Sud, Pierre and

Marie Curie, Dauphine from this year) and "Grandes Ecoles" (Ecole Polytechnique, Supélec, Telecom ParisTech), in combination with an Erasmus Mundus program (EMIN) carried by the university ParisSud.

Regarding the content, the Master is organized around four thematic specializations:

- Innovation (management of innovation in network industries and the digital economy),
- Digital Economy (new firms based on new business models, particularly those specialized in the intermediation function),
- Network industries (complexity of market regulation issues in network industries),
- Market design (creation of markets in network industries).

In terms of its ambitions, IREN combines goals of excellence (with a teaching staff that includes all among the best specialists in the field and students selected in a very demanding way), the willingness of openness (articulation of economic and organizational thematic, various approaches and methodologies taught, cross populations of students from engineer training, scientific and technical or social sciences training, large internationalization) and the ambition of a high level of professionalism for business as well as those for research and studies.

In just three years, the growth of the Master, speaks to the relevance of these choices. He has established himself as the master of reference for the digital economy and networks. He then met its maximum

capacity with the current class, having, however, followed a progression voluntarily controlled.

For the 2011-2012 year, 73 students attend the Master. Two thirds of them are engineers or with scientific and technical training, one third with social sciences training (essentially economics and management). Classes are also highly internationalized (over half of foreigners from all continents) and the Master has also a significant part of his teachings in English. Almost all students find employment in the year following their master, primarily as experts and responsible for economic or technical study, project managers or innovation service managers, responsible for research and development activities, teaching and research.

The support of the Chair was decisive for the creation and the development of the Master. Beyond the overriding commitment of both partners (Ecole Polytechnique and Telecom Paris-Tech) in its animation and its operation, the Chair has also helped the Master to build organizational support for determining the quality of training and professionalism as teaching secretariat, systematic students tutoring, development of a proactive internship policy.

More information at:

www.masteriren.eu

Coming Events

Next June 5th, the Innovation & Regulation Chair will organize an international conference on **"Patents statistics, innovation management and IPR"**

The conference organized with the experts of JRC-IPTS EU, will bring together academic stakeholders in Europe, North America, Asia, and professionals of large businesses in this sector.

This conference will be held in Paris at Telecom ParisTech.

The Chair will also organize a conference on the **"Internet of Things"** coupled with the edition of the journal "Communications & strategies". Some papers published in the journal will be presented at the Conference to be held on September 26th in Paris.

The 2012 edition of Conference on the **Economics of Information and Communication Technologies** (ICT) will be held on 5 and 6 October 2012.

After the Book and the Press, the Chair will also continue to explore the impact of digitization on the media and intends to study this time the situation of the radio stations.

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