

Images and Representations of the Mobile Internet

Corinne Martin

► **To cite this version:**

Corinne Martin. Images and Representations of the Mobile Internet. Images in Mobile Communication, VS VERLAG / SPRINGER, pp.143-165, 2012, coll. VS RESEARCH, 978-3-531-17992-6. <<http://www.springer.com/us/book/9783531179926>>. <hal-01479204>

HAL Id: hal-01479204

<https://hal.univ-lorraine.fr/hal-01479204>

Submitted on 28 Feb 2017

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Images and Representations of the Mobile Internet

Corinne Martin

1 Introduction

The success of the mobile phone has no equal in the recent history of ICTs (Information and Communication Technologies). According to the ARCEP,¹ the equipment rate of the French population grew up to 80% between 1994 and 2005. And it exceeds 90% in 2009. According to the sociology of uses and the way this sociology developed in France (Jouët, 2000), the mobile phone has been studied as a means of interpersonal communication and mediation with family, friends and work acquaintances. Its appropriation by a large majority of the French population has made it a banal object, perfectly integrated in the routines of everyday life's users (de Certeau, 1984). With the advent of images (MMS, Multimedia Messaging Services, in the beginning of the 2000s and then camera phones) and the mobile Internet, technological innovation has caused the mobile phone to evolve into a form of mass media. The first commercial start of the mobile Internet dates back to 2004, it was composed of optional subscriptions with pay-per-use (duration of the connection and/or quantity of data downloaded). At the end of 2007, the first "unlimited mobile Internet" packages arrived on the market, coincidentally with the first generation of iPhone in Europe. For the network operators, the goal was to foster the development of the mobile Internet, which at the time was lagging. In such a context of emerging uses (our study was carried out in spring 2009), we wanted to understand how representations of this innovation are constructed among these different social actors. Our project began as a reflection on resistance against the use of the mobile Internet in a polemical context concerning its new commercial offering. The representation of the mobile Internet produced is in a way an instantaneous, historically situated image of the reception of this innovation and it will ultimately evolve.

The goal of this edited volume is to analyze the advent of images and their impact on emerging uses of the mobile phone, including personal mobile televi-

¹ The French ARCEP (*Autorité de régulation des communications électroniques et des postes*) was founded in 1997. It carries out the regulation role on the telecommunications market and gives the official statistics on the French market. Access: <http://www.arcep.fr/>.

sion, photos, videos and the mobile Internet. To accomplish this goal in our chapter, we chose a slightly out-of-line approach; we shifted the focus. We chose to analyze the images created and produced through emerging mobile Internet uses. What are the social representations of the mobile Internet, its uses and its users? And how are they built? We limited this vast question to three main aspects.

In the first part, we will analyze the image of the mobile Internet user as it is constructed by various audience measurements. To do so, we relied on media reception studies that analyze the construction of television audiences (Méadel, 2009; Méadel & Bourdon, 2009; Méadel, 2010). With a critical analysis of the public discourse and statistics produced by various polling institutes, we will show how the image (still under construction) of the mobile Internet user is blurred and embellished in euphoric discourses. However, this image is converging in a single and consensual image. In the second part, we will study the image produced in the public space by the network operators and handset manufacturers in marketing new unlimited mobile Internet offerings. Analyzing controversies in the public sphere *via* the media, we will also show how aggressive these strategies are and how they rely on a certain level of symbolic violence. Similarly, the strategy of social distinction put into place by Apple and the network operators for the iPhone will be studied (an advertisement will be analyzed). In the third part, we will focus on the users; we will try to understand the social representations that they make of the mobile Internet through their limited use and their use of the mobile Internet in its early phase. By focusing on the early adopters of the mobile Internet and the first users of the iPhone (Ling & Sundsoy, 2009), our approach sheds new light on the issue of the uses. Through our sample of users (and even irregular users or non-users) of the mobile Internet, we discovered certain motivations and drivers as well as barriers. We lay the hypothesis that all of these motivations, drivers and barriers in the appropriation of a device allow us to explain jointly the use and non-use: use and non-use must not be analyzed separately (von Pape & Martin, 2010). Furthermore, mobile Internet use still appeared limited and the image of the computer for surfing the Internet remains dominant for the time being.

The methodology applied is combined. On the one hand, we analyzed the statistics of connections produced by various polling institutes as well as estimates made by experts. On the other hand, we carried out a study in two parts during the spring of 2009. The first part comprised a quantitative study using a questionnaire (N=262) for respondents between 18 and 23 years old: 111 students (1st and 2nd year in college) and 151 students of a professional high school. The questionnaire employed closed questions aimed at determining the use of the mobile Internet, including which device is used, which mobile Internet

package is used, how often it is used, description of the uses, if it is not used and so on. Furthermore, it employed open questions aimed at constructing an inventory of the various obstacles for non-users of the mobile Internet and the possible motivations that can be drivers for the use of the mobile Internet in the future. The second part of the study relied on in-depth qualitative interviews with mobile Internet users for about an hour. The 15 interviewees were students in their final grade (*Terminale*) in a professional high school;² they were between 18 and 20 years old. According to their answers on the questionnaire, they were selected among the most important users of the mobile Internet in this sample: their use ranked from a several times a week to an everyday basis (two-third of the respondents never use the mobile Internet). The study was carried out during the spring of 2009; the interviews were focused on their experience with the mobile Internet to compare it with their use of the Internet on a computer.

2 The Mobile Internet User and Audience Ratings

2.1 *A Representation Still Under Construction*

The sociology of innovation shows how important the image of the user is throughout the innovation process. It is part of the social imaginary of technology that accompanies every innovation (Flichy, 2007a, 2007b; Scardigli, 1992). At the beginning of the innovation process, this social imaginary linked to the strategies of the main social actors: the state, the inventors and the producers, whose discourse is retransmitted by the media. We will be able to consider some traces of this discourse at the time of the early stages to the mobile Internet throughout its audience. This measurement reveals an image under construction, a blurred and not yet clear representation of the mobile Internet user; indeed, who is the mobile Internet user? The question may seem candid, but the different measurements that aim at describing this user do not provide the same image. These measurements by polling institutes, such as Ipsos, TNS Sofrès and Opinion Way, are completely different, as are the measurements by other

² The school under study was a professional high school for vocational training preparing exclusively for a professional *baccalauréat* degree to have a profession immediately afterwards, here in the tertiary sector. (The degree is different from the general *baccalauréat* degree that allows the pursuit of studies at a university or in a business or engineer school. The *baccalauréat* degree is taken in the final grade in high school). The students of this school are in their majority coming from popular classes, some coming from the middle-class, and only a few of them from the upper classes. The choice of this school allowed us to limit the variable “high salaries” on the adoption of the mobile Internet. We would like to thank the Deputy Headmistress of this school for allowing us access to the school.

institutes that specialize in television audience measurements, such as Médiamétrie, the French specialist in this field. To fully understand discrepancies in these measurements, a comparison with television audience measurement will be an instructive approach. In her analysis, Méadel (2009, 2010) reveals the essential stakes of using television audience measurements as a tool to build an audience. She shows how the “advertising equation” is defined and set up. This equation aims, through a series of complex operations, to set the commercial break price according to the television audience. There are three main operations: the reduction of data (from very detailed measurements of the viewer’s behavior), the selection of significant variables (e.g., age, which enables us to define the target) and the translation of the spots into prices. All these operations result in a boundary object, the “standard-measurement”, which will enable a media-planning strategy (the choice and evaluation of spots). However, the production of this common object of measurement needs an “agreement in competition” or, in other words, involves every social actor, despite the high competition, on one hand, between the broadcasters (i.e., television companies) and, on the other, the users (i.e., advertisers and their clients). This agreement relies on a necessary consensus, without which everything may become unmanageable. This is the reason why these different social actors created Médiamétrie in 1985, the standards institute of which they are shareholders. The institute’s task is to produce this “standard-measurement”. Méadel writes that this measurement is a major tool in advertisement because it offers indexes for the terms of the exchange: the TV viewer with his practices, his behavior, his environment and the space defined by a duration, a date, a position in the TV listings, a recurrence and so on (Méadel, 2009). However, she also shows how the system remains opaque and how the communication conditions of the measurement are heavily framed by Médiamétrie (Méadel, 2009). Consequently, this agreement can only be done with veracity; the data must be considered to be reasonably accurate, which leads to a concern for accuracy (fidelity to the real). On the same note, the most striking proof of the veracity of these measurements for the social actors resides unequivocally in the continuity of these measurements (Méadel, 2009). These measurements must be relatively solid. A last key element to keep in mind is that they are a representation of reality, a common standard.

2.2 A Blurred and Embellished Representation of the Audience

Our goal is to show how far we are from a common definition of this boundary object with the measurements of the mobile Internet use; no condition aimed at characterizing this “standard-measurement” has yet been fulfilled. We highlight-

ed some significant variations between the different measurements we studied. These differences stem from a lack of consensus. To arrive at this result, we compared the results published during the same period (from January to November 2008) by five polling institutes: Médiamétrie for Mobile Marketing Association (survey carried out in March-April 2008);³ TNS Sofrès (survey carried out in August 2008);⁴ Ipsos (survey carried out from September to November 2008);⁵ Opinion Way for IAB France (Interactive Advertising Bureau) (survey carried out in January 2008);⁶ Ipsos Médias for AFMM (French Mobile Multimedia Association) (survey carried out in the 1st quarter of 2008)⁷ (see table 1, p. 148).

It appears that a rigorous comparison of these statistical data is bound to fail. This is why the image of the mobile Internet user that has been constructed from this data is a blurred and changing one. First, the time of reference needed to be considered a mobile Internet user is not the same. A user is a person who connected to the mobile Internet once (at least), but the connection may have been made in the last 3 or 6 months, or even in the last month (Médiamétrie). Further, the population of reference is never the same (the French population, Internet users and mobile device owners). These variations seem significant. Let us compare TNS Sofrès' and Médiamétrie's measurements.

³ "11,3 millions de mobinautes en France", 07/16/2008. Available: http://www05.r7g.com/50071/e/new_2008_07_16_%20CDP%20panel%20mobinautes%20DCOM%20LOM.pdf [May 15, 2011].

⁴ "Avenir prometteur pour le M-commerce et en devenir pour le M-marketing", 11/17/2008. Available: <http://www.tns-sofres.com/espace-presse/news/E00CE85007DA4BD185AF382D21E5DD8C.aspx> [May 15, 2011].

⁵ "Profiling 2008-V2", 01/12/2009. Available: <http://www.offremedia.com/DocTelech/Newsletter/DPIpsos12012009.pdf> [May 15, 2011].

⁶ "Internet et la téléphonie mobile". Available: http://www.opinion-way.com/pdf/opinionway-iab-internet_&_la_telephonie_mobile-pres.pdf [May 15, 2011].

⁷ "Internet mobile en 2008: usages et comportements", 04/11/2008. Available: <http://www.afmm.fr/img/CP%20pdf/2009/CP%20Ipsos%20AFMM%2011avr08.pdf> [May 15, 2011].

Table 1: Comparison of Audience Ratings Between Polling Institutes

Polling Institute	Period of the poll	Audience ratings	Population of reference	Duration of reference
Média-métrie/AMM	March – April 2008	11.3 million	Of the French population over 11 years old	Last 30 days
TNS Sofrès	August 2008	20% [it represents roughly 7.8 million]	Of the French population between 16 and 60 years old	Last 6 months
Ipsos	September – November 2008	3.3 million [it represents roughly 10.3% of Internet users]	Of a subgroup of 32.1 million Internet users	Last 30 days
Opinion Way/IAB	January 2008	33%	Of all Internet users	Not provided
Ipsos medias/AFMM	1 st quarter 2008	25%	Of mobile device owners aged 15-50	Last 6 months

By extrapolating from the population data of the INSEE (*Institut national de la statistique et des études économiques*, official French Institute for Statistics), we find that there are 7.8 million mobile Internet users over the last six months according to TNS Sofrès, whereas Médiamétrie finds 11.3 million over the last month. Which is the fidelity to the real (Méadel, 2009) with such variations, which is the most accurate measurement? The contradictions are clear and we can only formulate hypotheses to try to explain these differences. For now, we are only able to see the tip of the iceberg. The details of these audience ratings and the complete results are still a jealously kept secret, as noticed by Méadel regarding the television audience (2009, 2010), whereas a consensus between all

the involved social actors on the measurement has been found. In the case of the mobile Internet audience, the lack of communication of the detailed results and the lack of a methodology for measurement can be easily explained by the fact that there is no consensus on the measurement. We could say that the impossibility of comparison is a good thing for these polling institutes. Why? First, we are still facing an uncertain phenomenon because the mobile Internet remains at the early stages and users are not yet accustomed to it. The second reason, which is related to the first one, is that we have to face the fact that the number of users did not grow significantly until the beginning of 2009: the yearly study of the CRÉDOC (Bigot & Crouette, 2009) shows for the first time that the mobile Internet is “finally taking off”, the 10% users’ mark have been reached, although the figure have remained the same since 2004. Actually, the number of users did not grow fast enough for the network operators and figures representing these data in 2008 are not always welcome.

Moreover, we even found a discrepancy between two measurements by the same polling institute, Médiamétrie. There are 11.3 million mobile Internet users in March/April 2008 (see note 3) and 11.4 million at the end of 2009, whereas the mobile connections represented 0.2% of all Internet connections in June/July 2008 and had soared to 2% by the end of 2009.⁸ How is this possible? What is taken into account for the measurement? The black box of the audience measurement revealed by Méadel and Bourdon (2009) for television seems the same for the mobile Internet.

Minges (2005) also noticed the same phenomena in Japan, where there is a lack of official data, especially for mobile Internet subscribers: “One reason is that some operators do not distinguish between mobile voice calls and calls to the Internet. In other cases, the number is probably considered too low and thus potentially embarrassing” (Minges 2005, p. 117). Indeed, the stakes are strategic. Why?

The reasons lie in the advertising equation studied by Méadel (2009, 2010). The ultimate goal is to determine the price of the advertisement that will come on the screen of the mobile phone. For the time being, the priority is to attract advertising companies so that they are willing to invest in this new media. The mission that inspires the AFMM, the French mobile multimedia association, is “to promote the Gallery offer to companies, administrations and authorities; to develop the notoriety and the usage of the Gallery services by the general public”,⁹ with Gallery being the mobile Internet portal provided by the three

⁸ Médiamétrie, “Année internet 2009”, 03/10/2010; no more available on Médiamétrie’s Website.

⁹ AFMM Website: <http://www.afmm.fr/> All these quotations were available on the Website at July 15, 2009. No more available.

mobile network operators. The mission is clear: take part in the development of mobile Internet usage and make users and brands meet each other. The founding members of the AFMM are the three main mobile network operators (they share 95% of the French mobile market in 2008, according to the ARCEP, see note 1) and two associations promoting the digital economy and, more specifically, the digital edition, of content (Aysel, an association of the digital economy and Geste, a group of online services editors). Other members, such as the AMM, the French mobile marketing association and some MVNOs (mobile virtual network operators), have followed suit. Aiming to develop the mobile Internet, the AFMM logically ordered one of the audience ratings we analyzed. It appears that the aim is to show potential advertisers an embellished image of the audience. For instance, the rate of mobile Internet users (25%) is, methodologically speaking, biased and increased because of the choice of the population of reference. Only mobile owners aged 15 to 50 are taken into account. By including younger users (with less money) and older (less interested) users, this rate could be lower. However, such variations are bound to disappear because we are reaching a unique measurement of the audience for a consensual image.

2.3 Toward a Consensual Image of the Audience?

The same AFMM is at the origin of the launch of a call for tender to select a supplier that will take responsibility for producing the unique measurement based on the same model of the “agreement in competition” that Méadel (2009) studied for the television audience. This measurement will concern all the social actors of the market: advertising clients, media and advertising agencies, advertising production departments and mobile websites’ publishers. Médiamétrie won this market (against the German Gfk) in June 2009. A first remark could be read on the AFMM website: “this measurement will strongly help the development of the mobile communication channel as a full media.” This is clearly a sort of official recognition, which establishes and participates in the construction of another image of the media. It is not only an impersonal means of communication, but can be, just like the Internet, put into the specific category of individual mass media. The AFMM asserts that this medium aims to be a “communication channel” for the advertising message.

Second, it is important to know that exhaustiveness is a characteristic of this measurement; it is developed both by census and by a panel (according to the recommendations of the GSMA, for a ‘coherent’ audience measurement throughout Europe; the Global System for Mobile Communications Association gathers all the actors of the communication at an international level). Develop-

ment by census means that the whole population of mobile Internet users is the basis of the measurement and the data collected by the network operators (after having been made anonymous) will then be analyzed. These data include information on factors such as which website is visited as well as when, where and how often sites are visited. It gives a glimpse of an incommensurable quantity of information to manage by the polling institute Médiamétrie. The first task, which is colossal, is to reduce the data (Méadel, 2009; Méadel & Bourdon, 2009). In any case, we can conclude that this sole audience measurement, the result of an “agreement in competition”, will give a solution to the advertising equation by defining the prices of the advertising market on mobile phones. The actors expect great things; the mobile marketing and m-commerce make all the brands (related to mass consumption) dream of advertising on the tiny screen of the mobile phone. The network operators are ready; they have already developed advertising production departments, without any real achievements thus far. Uses are not developed and the brands are very cautious about investing in this new media. There are also some deontological questions that have been raised.¹⁰ Having analyzed the very first steps of the construction of the mobile Internet user, as defined by Internet audience measurement apparatuses, we will now concentrate on another image, the one produced and transmitted by network operators and handset manufacturers through their marketing strategies for commercial offerings on the mobile Internet.

3 The Image Constructed by the Marketing Strategies of Network Operators/ Handset Manufacturers

3.1 Aggressive Strategies and Symbolic Violence?

First, we will see how symbolically violent these strategies are. The following section will be dedicated to the analysis of the distinction used by Apple for its iPhone. First of all, we have to keep in mind that on the economic level, mobile communication is a highly strategic market with enormous stakes. In 2008, a business volume of 18.6 billion Euros was reached for all the market of the fixed

¹⁰ See Licoppe and Levallois-Barth (2009), who write about the mobile marketing project in the Parisian Metro, where multimedia content could be sent to anonymous passers-by through a Bluetooth device. Reaching far beyond SMS marketing, we can easily imagine the interest that advertisers have in mobile marketing, but this particular project is currently suspended by a deontological problem: personal data protection, defended by the CNIL (*Commission nationale de l'informatique et des libertés*, the National Counsel for Informatics), and the conformity to the LEN, the French law on digital economy of 2004 (as an application of an European Directive).

phone, the mobile phone and the internet, according to the ARCEP (see note 1). This market is thus qualified as oligopolistic by the French consumers' association UFC-QUE CHOISIR, as three network operators share 95% of this huge market (UFC-QUE CHOISIR is one of the most influential among the French consumers' associations). We will show how an image of domination created by the aggressive marketing strategies of the network operators and the handset manufacturers can be seen. The starting point of the analysis is the amount of investments in advertising made by the network operators in order to sell their offerings (the offerings are not limited to the mobile Internet). Orange and SFR, the two main network operators, are among the first 10 companies within the ads market in France for 2007 and 2008, including all media (press, TV, radio, Internet and so on).¹¹ In 2008, Telecommunications sector was ranked 3rd just behind the leaders in delivery/mass distribution and automobile industries; this shows an important presence of advertisement for mobile phones on the entire French media panel. The means for commercial communication built by the three mobile communication providers have such an impact that it seems hard for the average citizen to escape such messages, except by boycotting the mass media. The second observation aims specifically at the unlimited offerings of mobile Internet services as they were launched in 2007 by the operating companies. Previously, the users had paid on demand (by the time they spent online or by the downloaded data). From a marketing point of view, these commercial offerings aim to foster the use of the mobile Internet.

Therefore, a flat rate for mobile Internet access was released, accompanied by controversy. Users quickly realized that this unlimited offer was actually restricted (limit of downloads). Most interestingly, SFR justified itself with the argument that the restrictions were a question of network sharing: "The 3G-network being mutualized between all users, SFR keeps the possibility of restricting the access of its users downloading more than 500MB of data monthly, in order to give access with optimal conditions to other users. The downloading of more than 500MB is not considered a reasonable use, as it is damaging the quality of the network for other users". (Excerpt of the general sales conditions of SFR, quoted in *L'ordinateur individuel*).¹² Why is it possible to speak of symbolic violence? For Pierre Bourdieu, symbolic violence relies on the imposition of perception categories on the social world. The dominated class takes part in domination as soon as there is a lack of knowledge. This violence applies itself precisely when it is ignored as violence (Bonnewitz, 2007). It appears

¹¹ Media poche from Havas Media France. Available: <http://www.media-poche.com/> [February 16, 2010].

¹² "Internet mobile, c'est 'enfin' parti!", *L'ordinateur individuel* (02/01/08). The French daily press is available on the international database *Factiva*.

clearly that the network operator tries to impose its perception categories. Whereas the Internet is supposed to be unlimited, it is the user who is accused and sanctioned by the restriction of use. The accusation is explicit with the “use considered as unreasonable”. Then, after recognizing the user as guilty because he is “damaging the quality of the network”, the discourse shifts to an appeal to moral values. Users paying for an individual subscription are supposed to show solidarity by mutualizing the network. The image created by the dominant shows the intensity of the gap between the two present social actors: on the one hand, network operators that economically capture their subscribers¹³ and on the other hand, users who must behave and respect moral values. In the case of economic versus moral values, the adopted scheme verges on caricature. It is also important to see that the two other network operators mimicked the same practices, but that all of them will soon be compelled to unbridle their Internet offerings by state intervention, following the counter-powers used by some consumers’ associations. The AFUTT (The French association of telecommunication users) noted that the amount of user complaints related to mobile bills increased by more than 32% between 2007 and 2008.¹⁴ In its study, the INC (*Institut national de la consommation*, the National Institute for Consumption is a public organization) also noticed bills going up to hundreds or thousands of Euros.¹⁵ Finally, the French Secretary of State for Industry had to intervene by instructing network operators to set up alerts to be sent to customers after they reach a certain threshold of use.¹⁶ It appears now that there is a need for the State to regulate and limit the power the network operators have over the consumers. Perfecting this image of almighty network operators restraining their users, some of them have recently prohibited the use of VoIP (Voice over Internet Protocol) software throughout Europe – the free use of voice on the Internet – on their 3G networks. How can these marketing strategies be considered anything other than war-like steps using, by their very strength, symbolic violence? The image of domination or almightiness is evident, facing a user who is reduced to a passive consumer, who cannot be considered a social actor or citizen, except when his moral sense is called for in mutualizing the network. The power struggle is obvious. But the controversy at the launch of the mobile Internet also reveals a paradox: the network operators limited uses whereas they wanted to foster them. We will now

¹³ “Vendre par forfaits, ou ceux qui capturent leurs abonnés”, *Libération* (04/17/09). Available on Factiva.

¹⁴ “Les factures des mobiles passent mal”, *La Tribune* (03/26/09). Available on Factiva.

¹⁵ “Multimédia mobile: gare aux factures!”, *Le Figaro* (02/24/09). Available on Factiva.

¹⁶ “Les plaintes se multiplient contre le montant des factures liées à l’internet mobile”, *Le Monde* (04/05/09). Available on Factiva.

analyze the iPhone as a case study to show how another image can be built, the image of social distinction.

3.2 *The iPhone: Brand and Distinction Strategy*

We will demonstrate how Apple's strategy is based on distinction, which pervades their economic and technological strategy (business model, technological systems, industrial design and so on). West and Mace (2010) explain the success of the iPhone by analyzing Apple's strategy, which was very different from other players in the telecommunications market. For these authors, there were two keys to this success. First, "rather than trying to recreate the Internet, Apple focused on re-creating the mobile phone to make it a good client to the already-mature ecosystems of the wired web" (West & Mace, 2010, p. 1-2). (Indeed, the efforts to create a second Internet for mobiles were doomed to fail, as the failure of the WAP, the Wireless Application Protocol, has shown). Second, Apple leveraged its system capability – especially its iTunes content ecosystem and other elements of its system's integration competencies – to establish a permanent position of value capture in the mobile phone industry (West & Mace, 2010). Furthermore, Apple always tried to distinguish itself from other competitors, even when it was a computer manufacturer. Finally, two elements are fundamental: ease of use and industrial design, both of which Apple used as sources of advantage (West & Mace, 2010).

As Kapferer (2008) pointed out, the brand is not the product; it is the meaning and it defines identity in time and space. The brand provides different functions, such as personalization and it is important for the individual to see that he is comforted in his self-concept, which Kapferer (2008) described as the image that someone gives to other people. As such, the people owning Apple products develop a real rhetoric underlying their adherence to the brand. We are in a value system, which almost amounts to being part of a community. That is for the distinction image that the brand always seeks to have *via* its owners. The distinction strategy also relies on two points. First, Apple launched a new business model with an exclusive agreement with network operators; Apple brings them new customers and new revenues in exchange for its control of downloaded content (West & Mace, 2010). In France, the network operator was Orange. However, this exclusive agreement has been revoked by the National Competition Council (*Conseil National de la Concurrence*) in December 2008; the court ruling was confirmed by the French Court of Appeal in February 2009 and the iPhone can now also be sold by the other network operators. Second, the iPhone is a closed system, which allows it to both create and capture value. By encouraging the supply of third-party applications, Apple bypasses the network

operators (West & Mace, 2010); we can say it makes a real achievement by operating disintermediation with its interference *de facto* or by force in the loop network operator/customer relation.

Consequently, the App Store represents this direct link with the user¹⁷ and its success is interesting to watch. Apple says there are more than 100,000 applications (as of the end of 2009) and it is easily understandable that this has become the core of the iPhone's advertising rhetoric. Let us analyze the message that appeared in one of the advertisements:¹⁸ *"If you need to find a cab in an unknown town, there is an app for that... or to look at your budget this month, there's an app for that... or to repair a rickety shelf, there's even an app for that... In fact, there's an app for just about anything... only on the iPhone."* Music is played with a voice-over and the image focuses on the finger playing with the touch-screen and the apps – the colored buttons that characterize the iPhone. Calling a cab seems to be a self-evident use of a mobile phone; managing their budget comes from a computer, but controlling the uprightness of a shelf comes as a surprise. One can think about a simple gadget, with the screen becoming a waterlevel to be put on said shelf. However, it also refers to the idea of the Swiss Army knife that emerged as a social imaginary during the beginning of the mobile Internet in 2004 (Martin, 2007). This universalism makes the object powerful and almost magical: *"there's an app for about anything"*.¹⁹ Apple's rhetoric also refers to the real Internet that Steve Jobs promised (in opposition to the portal sites of the network operators). The iPhone is not only smart, but it can do anything and it is easy to understand how the desire of possession can be satisfied by the personalization it gives (Kapferer, 2008). To reinforce his self-concept, the individual will not stop desiring to possess – through appropriation, we might say – the qualities of this object in order to become almighty in the management of his everyday life. Finally, *"only on the iPhone"* attests that only the iPhone is capable of doing such things. Here, the distinction strategy is fulfilled; it is this object alone that one must possess. At the same time unique and universal, it arrives as a supreme privilege bound to distinction. Pierre Bourdieu (1984) showed how the consumption of cultural goods is enshrined in an aspiration for social distinction and results from the dominant/dominated struggle and the will of these dominant groups who accu-

¹⁷ It is important to note that P2P is impossible on the iPhone, as you have to go through iTunes, the paying platform of Apple. That is the reason why some interviewees in our survey (*cf.* 3rd section) explained that they still used their computers to download free music or had to use cracked software.

¹⁸ Broadcast on French television during the year 2009. Available: <http://www.youtube.com/watch?v=XoPZnz9vwxk> [May 15, 2011].

¹⁹ An article of *Libération* "L'iPhone, joindre l'inutile à l'agréable" (11/23/09) denounces the "stupidity of the phone apps" while acknowledging that it "doesn't harm their success".

mulate symbolic capital. From the most legitimate and distinguished practices to the illegitimate and the vulgar ones, the consumption of cultural goods is a classifying consumption. It seems that the iPhone is currently appealing to this sense of legitimacy. This seems to be the impact that Apple's marketing strategy has desired from the start. But how long will this last? If the iPhone is to become a mass product (the iPhone represents 17% of the smartphones for the Idate, quoted by JRC, Joint Research Centre of the European Commission and the Institute for Prospective Technological Studies, 2010), it will lose its distinction power and simply become ordinary, like the mobile phone. Will we find the iPhone in the popular classes? Will we find it in emerging countries?²⁰

This hegemonic image suggested by the advertisement quoted above can also be applied on the manufacturers' side, as they seem to be reduced to imitating Apple's new products. As the image of perfection that must be imitated, the iPhone was voted *Invention of the Year* in 2007 by *Time Magazine*.²¹ All of these elements participate in the creation of the euphoric discourse that produces a better image and leads to what we can call "iPhone-mania". This discourse is part of the social imaginary accompanying the innovations (Flichy, 2007a, 2007b) and aiming to build and confirm this success story.

If we now focus on the uses, the iPhone is recognized as having changed the conception of the mobile Internet. West and Mace (2010) describe the Apple's browser as the "killer app" because it provides a browsing experience closer to that provided by personal computer than any previous mobile phone. Ling and Sundsoy (2009) showed how the iPhone was the device that most encouraged surfing on the Internet, compared to other devices in Norway in 2008 (even if it is not the only one). iPhone users use the Internet more than other users do and, furthermore, they have different patterns of use. The authors put forward several explanations, among which the socio-demographics of the iPhone users, the nature of the device and the nature of the subscriptions. However, they also evoke a kind of self-fulfilling prophecy; within the context of the marketing of such a "mobile Web terminal", the iPhone users have to justify their purchase. Indeed, it works like a virtuous circle. To conclude with an iPhone case study, the iPhone represents two thirds of the mobile connections of a panel of websites in France in 2009 (Médiamétrie, see note 8). However, we have to keep in mind that mobile connections represent only 2% of all the Internet connections in 2009 (Médiamétrie, see note 8).

²⁰ For a qualitative study on mobile Internet use (but not the iPhone) in low-income communities in urban South Africa, see J. Donner & S. Gitau (2009).

²¹ Available: http://www.time.com/time/specials/2007/article/0,28804,1677329_1678542,00.html [May 15, 2009].

After studying the image transmitted by the network operators and the handset manufacturers to the audience through their marketing strategies – aggressive or distinction strategy – we will now turn to the image the user has of the mobile Internet. Whether he is using it or not, what social representation does he construct of this technological innovation?

4 Users' Social Representations of the Mobile Internet

The goal of this final section is to understand which mental and social images are given to the different uses of the mobile Internet. The French-speaking sociology of uses (Perriault, 1989; Breton & Proulx, 2002; Jouët, 2000; Mallein & Tous-saint, 1994) showed how the appropriation of an artifact requires not only the instantiation of a physical, corporal relationship with the technical object, but also a mental relationship allowing the representation of the object as such. Through this appropriation process, the user constructs the standards, social meanings and legitimations of his practice. To understand how these standards are built socially and mentally as an integral part of the image of the mobile Internet for users, we will use the concept of social representation as defined by social psychology (Moscovici, 2001; Jodelet, 1991; Moliner & Tafani, 1997). A social representation presents itself as an ensemble of cognitive elements (opinions, information and creeds) related to a social object. A social representation is a socio-cognitive construction; it is depicted both as the process and as the result of social construction. It has a sociological texture and is a subject's individual production submitted to the rules of the cognitive processes. It is a social representation because it is collectively generated through social interactions and consequently it is shared by the members of a social group. This representation is socially useful because it takes part in the construction of reality. We will then try to discover users' social representations of the mobile Internet through a qualitative study in the form of in-depth semi-directive interviews. We will also use some results of our questionnaire to complete the image of mobile Internet by non-users and to discover some barriers to the use (*cf. supra*). First, the image of the use of the mobile Internet is an image of limited use; second, the image of the computer associated to the Internet is still predominant.

4.1 *A Limited Use*

As a result of the convergence boosted by the providers, the image of a unique object for all use should have appeared, but, in fact, many existing objects are supposed to do everything. The user then finds himself paradoxically in front of an excessive commercial offering. Additionally, his answer to this variety of available devices is a diversity of uses. The extreme personalization of these new uses is remarkable. Having the choice between various competing devices and applications, users develop a complex logic of how to choose between and combine them in their everyday life. This logic of uses (Perriault, 1989; Mallein & Toussaint, 1994) can be described as a rationality of uses (Caradec, 2001). As we will show, this rationality is based on the personal analysis of many criteria: technical, ergonomic aspects, material, economical, affective constraints, or constraints linked to the personal history of the user. This arbitration is neither absolute nor definitive; on the contrary, it is a relative one because it is continuously realized in that it evolves in time with the different devices that are available, which leads to a reorganization of the criteria.

Lena (19 years old, her father is a foreman, not a smartphone, only MSN option) says she often takes photos and videos and sends them to her friends: *“The function of a mobile phone changes with the other device you have.”* Let us take another example. Thomas (19 years old, his father has a restaurant, 12th grade, professional high school, smartphone Nokia, no mobile Internet plan but Wi-Fi connection) is a fan of video games and therefore has chosen his latest mobile phone according to this aspect: his choice was a Nokia designed for video games, specifically adapted for this new use. It is clear that the “reasons” are adding up and are affective and economical. Thomas can engage in his passion and play at any time (during a break, while sitting in public transportation, in his bed, etc.) and he avoids buying the latest video game console in order to have the state of the art material (he’d rather buy a new mobile phone, which he would have done anyway). He can then download free video games through the Wi-Fi connection of his mobile phone. His use of the mobile Internet is limited almost solely to downloading video games (he does not even have an Internet subscription; he connects only at home through Wi-Fi connection). This limited use is the second most striking point of these emergent uses of the mobile Internet; indeed, usage is often limited. That is what the respondents using the mobile Internet expressed in the survey. Let us listen to Benjamin (20 years old, his father is an ex-cameraman retired, he lives with his girlfriend, 12th grade, professional high school, iPhone with flat rate mobile Internet): *“When I am in a remote location and there is no computer, I can still surf on the Internet.”* His mobile phone simply and temporarily compensates the lack of a computer, with the idea of

being stranded in a remote place. A similar case is Katia (19 years old, her father is a blue-collar worker, her mother died, she lives alone with her sister, 12th grade, professional high school, iPhone, flat rate mobile Internet for iPhone). Katia is very proud of her iPhone because she likes being the “*first one*” to have something: “*My mobile phone is my computer*”, she says, but she adds later on “*I know I only have this, so I content myself with it.*” The expression “*contenting oneself with*” is revealing; Katia indeed does not own a computer, as she is living alone with her sister. The image of the mobile Internet is built in a sort of hierarchical organization with the computer, the primary use of which is always Internet access. Thomas (19 years old, his father has a restaurant, 12th grade, professional high school, smartphone Nokia, no mobile Internet plan but Wi-Fi connection) explains: “*So let’s say I’m at a gas station, I’m on holidays, there is a Wi-Fi access, I turn the Wi-Fi on, I turn MSN on, ok, but when I’m home, the computer is on, that’s it.*” The computer is on at home. It then appears that the use of the mobile Internet is ‘limited’, being used to offset the lack of the computer; likewise, it is used to have real-time access to information (news, sports) at school and it is also used to kill time, as the playful dimension is important. Then, perpetual contact (Katz & Aakhus, 2002), the same use as in voice telephony, reappears when it is important to keep in touch (Ling & Yttri, 2002) with one’s network (Facebook, MSN, etc.), but it is still an irregular use, an emerging complementary use of the use of the computer and it is far from being able to be qualified as a “mobile-centric internet use” (Donner & Gitau, 2009).

We can complete this image with the respondents of our questionnaire who do not use the mobile Internet at all. Their discourse reveals an image that can be qualified as stereotypical because it is slightly disconnected from the reality of practice (they did not try or test the mobile Internet for a long enough time). This image is built with several dimensions linked to different categories of “*reasons*”: it is too expensive; “*it will use up all my credit*”. This is the typical answer of young people who do not have flat rate Internet. When their mobile phones are not smartphones with a touch screen, its ergonomics seems to them to be completely unsuitable for these uses. A European study that focused on mobile search noticed that cost and usability issues are among the main barriers for adoption of these services (JRC, 2010). Furthermore, the image of their phone is still linked to the interpersonal communication for the respondents to our questionnaire: “*I’m using my phone to give a phone call or send text messages*” is a typical answer. Moreover, they do not have any desire to use the mobile Internet because the absence of “*need*” is obvious for them: “*In any case, I got a computer at home!*” This discourse became a leitmotif throughout our ques-

tionnaire in 2009. We will now try to understand what it means through the in-depth interviews of our qualitative survey.

4.2 *The Image of the Computer*

Put simply, habits are difficult to overcome, the weight of habits is a hard one and the computer is still the primary access point to the Internet. Accessing the Internet through a computer represented close to 98% of all connections in 2009 and accessing it through a mobile phone represented only a 2% share (Média-métrie, see note 8). In our study conducted in spring 2009, everyone – mobile Internet users and non-users alike (some of them tried the mobile Internet and then gave up) – pointed out this computer habit. All evoked this primary use of the computer when they are at home, including Thomas (19 years old, his father has a restaurant, 12th grade, professional high school, smartphone Nokia, no flat rate mobile Internet but Wi-Fi connection), who said “*When I’m home, the computer is on, that’s it.*” How can this be explained? During the appropriation process of a technical device, the physical relationship to the object (i.e., holding it) allows us to discover it, get used to it and domesticate it in order to make it ours. Conjointly to this process, the mental and social representation of this incorporated relation builds itself. We think that the physical appropriation of the artifact for the mobile Internet remains a problem. The ergonomic dimension of the mobile phone plays an important role in the creation of the image of the mobile Internet. Almost everyone, even moderate users, expressed the problems related to factors such as the little size of the screen, pages too large to scroll across and the lack of comfort of the keyboard. This explains why even its users deviate from the prescribed use; they are adapting by setting up alternative and creative tactics which allows subversive uses (de Certeau, 1984): Thomas, for instance, has a Nokia specifically designed for video games so that he can play them anywhere at any time, but he nevertheless criticizes the ergonomics of the phone because “*regarding handiness, it’s not a video game console, you know, because the keys of the mobile are too small*”. This makes us think that an adaptation process is at work. As Thomas explains, “*Anyways, when one likes it, ones has to adapt*”, which is the case when he is outside, although he admits linking it to the television as soon as he gets home “*and then I’m actually playing with the TV*”. There is also the case of William (19 years old, his stepfather is a mason, he lives alone in youth residence, 12th grade, professional high school, smartphone Samsung, flat rate mobile Internet), who is very proud of his Samsung touch screen. He explains that as soon as he gets home (at the youth residence actually, where he does not have Wi-Fi in his room), he uses his

mobile phone as a modem by linking it to his laptop, which he uses comfortably with its keyboard and larger screen. We can qualify these two types of uses set up by Thomas and William as a typical form of bypassing the usage prescribed by the producers. It is a kind of tactics that the users set up to deal with the producers' strategies (de Certeau, 1984).

A paradigmatic example is that of MSN. The instant messaging service does not show any technical failure, but, even with the mobile version used in 2009, all of the interviewees who had tried MSN had given it up at the time of the study, essentially for ergonomic or technical reasons. MSN is, by definition, linked to an instant messaging image and this image is being challenged on the cell phone. One has to scroll up into the conversation to see what the other has written and, furthermore, *"it is really slow, by the time we type in an answer, another question has already been asked"* explains Lila (18 years old, her father is a truck stoker, 12th grade, professional high school, iPod Touch, no flat rate mobile Internet, Wi-Fi Connection). Let us listen to what they think about their experience. For Mona (20 years old, her father manages a small business, she lives with her boy-friend, 12th grade, professional high school, not a smartphone and only has the MSN) *"the constraints are the inconvenience"*. Likewise, Lila explains: *"I don't like it that much [...] it's not practical"*. Benjamin (20 years old, his father is an ex-cameraman retired, he lives with his girlfriend, 12th grade, professional high school, iPhone with flat rate mobile Internet) says, *"It's not convenient [...] we can't see the contacts, we can't see who we are talking to"*. Nevertheless, he is very proud of his iPhone and describes the pleasurable experience he lives when surfing on the Internet: *"it is comfortable to surf on the Internet with the large screen of my iPhone"*. However, this screen becomes "tiny" when Benjamin evokes his MSN uses. It clearly appears that the evaluation of the screen is not absolute; on the contrary, it is relative and the mobile phone is compared to the personal computer for MSN use. Benjamin can be described as an early adopter and a real opinion leader because he became very enthusiastic about his iPhone and tried to convince us to adopt a new iPhone. To sum up, the image of MSN on a mobile phone is slow, not practical, constraining and inconvenient (this refers to the 2009 version of MSN). Furthermore, aside from these technical and ergonomic elements, it seems that there is also a lack of a more psychological dimension linked to the conversation itself, that is, to the communication. William (male, 19 years old, his stepfather is a mason, he lives alone in a youth residence, 12th grade, professional high school, smartphone Samsung, flat rate mobile Internet) told us he does not use MSN on his mobile phone: *"it's just plain useless, when you connect to MSN, it's for more than just two minutes."* He would rather send a text message and then be online on MSN in the evening. William explains that he must feel comfortable during the

conversation. More generally, we could add that some interviewees told us that the image they have of the Internet is still completely linked to the computer. For them, accessing “directly²² the Internet” must be through a computer. This is consistent with the remark that the mobile Internet developed more rapidly in countries where personal computers are not as established as in Western countries. The European study that focused on mobile search (JRC, 2010) also noticed this point: “Though users generally continue to take computers as a reference point, respondents to our questionnaire indicated that they would consider mobile search as an alternative at home when the search experience becomes similar” (JRC, 2010, p. 11).²³ However, the issue of the alternative was still not mentioned by the non-user respondents to our questionnaire. Finally, the physical appropriation of the artifact and the social representation are mutually imbricated because they feed each other reciprocally.

5 Conclusion

We chose to focus on the image and the social representations of the mobile Internet to understand its emerging uses. The representation of the mobile Internet user was studied. This representation is in its construction, built by the apparatus of audience measurement and evolving into a consensual image. We are witnessing the constitution and construction of an audience, as defined by media reception studies and the mobile phone is actually becoming a mass medium due to the mobile Internet. We then analyzed the image built and produced in the public space by the marketing strategies that the network operators use to sell their mobile Internet offerings; the image is almost war-like, with aggressive marketing strategies and a certain symbolic violence. Then, we analyzed the social representation of this new media by both users and non-users. It initially appeared that the use of the mobile Internet remained limited among our sample. Second, the image of the computer still dominates access to the Internet for all the interviewees. It is not unheard of to think that the problems and barriers demonstrated by the irregular users of our sample are tactics and ways of using or ways of operating [*“manières de faire”*] (de Certeau, 1984)

²² The success of the iPhone is in part explained by the access to the “real” Internet it allows. It was the core of Steve Jobs’s strategy (West & Mace, 2010). On the contrary, the operators’ portals sites or the WAP model are maybe not completely foreign to this representation because they constituted walled gardens (Jaokar & Fish, 2006). This access restriction, completely opposed to the “spirit” of the image of the Web, could explain the failure of WAP in 2000. As a result, the walled gardens collapsed very rapidly (Mary Meeker, 2009).

²³ Mary Meeker, Stanley Morgan’s expert, forecasts that more users will likely connect to the Internet via mobile devices than desktop PCs within 5 years (Mary Meeker, 2009).

that, in the end, will allow the appropriation of this new media. It is important to be cautious about the images associated with infrequent use because they have to be replaced in their time and social context; they emerged in the social space at the time of our study (spring 2009) and this constitutes an ongoing and still-evolving process. It can be seen that the use of the mobile Internet is developing. The last quantitative study of the CRÉDOC (Bigot & Croutte 2009), carried out in June 2009, shows a certain increase in the use of the mobile Internet, the first since 2004: “The Internet on the mobile phone is finally taking off” (Bigot & Croutte, 2009, p. 43). However, if providers and economic experts have been eager to predict its uses since the start of the mobile Internet in 2004, sociologists are here to assert that the duration of the social formation of uses is a long one (Scardigli, 1992; Mallein & Toussaint, 1994; Perriault, 1989). We could also add that extreme personalization of uses is appearing. The discovery of the mobile Internet is often made through hybridization, or through a real combinatory of uses between personal computer, television and mobile phone. Indeed, in the study of the uses of the camera phone, we noticed how people set up a rationality of use to choose between the various devices available, e.g., between the mobile phone or the digital camera (Martin, 2009). The criteria of choice are composed of technical and economical constraints, as well as constraints related to the personal history of the subject and their previous cultural practices. However, we also noticed a discovery of amateur photography practices with the mobile phone by young people from lower class who had not previously owned a personal digital camera. This leads to another question: will the mobile Internet help people from the most unprivileged classes who do not have computers to access the Internet? The success of the iPhone must be more deeply analyzed because it does not concern only upper-class professionals; indeed, beyond its high price, one must also take into account the price of the monthly plan, which renders the annual cost substantial (Comparatively, it is interesting to notice that Apple computers are still limited to a certain well-off part of the population). What then will happen to the social distinction-based image that initiated its success? Other questions will appear, related to the permanent connectivity that the individual will have to face; checking emails all the time – also text messages sent from brands by mobile marketing – reading Facebook messages or producing personal content that can be spread on the Internet takes ineluctably part in the acceleration and the rise of urgency that the ICTs favored in our contemporary societies (Jauréguiberry, 2007). Will the hyper-connected individual develop tactics to manage all this, just as he learned to manage his reachability? (Martin, 2007; Licoppe & Levallois-Barth, 2009).

References

- Bigot, R. & Croutte, P. (2009). *La diffusion des technologies de l'information et de la communication dans la société française*. CRÉDOC (Centre de recherche pour l'étude et l'observation des conditions de vie). Paris: CGTI/ARCEP. Available: http://www.arcep.fr/uploads/tx_gspublication/etude-credoc-2009-111209.pdf [November 30, 2009].
- Bonnwitz, P. (2007). *Premières leçons sur la sociologie de P. Bourdieu*. Paris: Presses universitaires de France.
- Bourdieu, P. (1984). *Distinction: A Social Critique of a Judgement of Taste*. Cambridge, MA: Routledge & Kogan Paul. (Original work published 1979)
- Breton, P. & Proulx S. (2002). *L'explosion de la communication à l'aube du XXI^e siècle*. Paris: Éd. La Découverte.
- Caradec, V. (2001). Personnes âgées et objets technologiques: une perspective en termes de logique d'usage. *Revue française de sociologie*, 42(1), 117-148.
- Certeau, M. de (1984). *The Practice of Everyday Life*. Berkeley: University of California Press. (Original work published 1980)
- Donner, J. & Gitau, S. (2009). New Paths: Exploring Mobile-Centric Internet Use in South Africa. *Proceedings of the ICA Pre-Conference Mobile 2.0: Beyond Voice?* Chicago, Illinois, USA. Available: http://lirneasia.net/wp-content/uploads/2009/05/final-paper_donner_et_al.pdf [May 31, 2009].
- Flichy, P. (2007a). *Understanding Technological Innovation: A Socio-Technical Approach*. Cheltenham: E. E. Publishing Ltd. (Original work published 1995)
- Flichy, P. (2007b). *The Internet Imaginaire*. Cambridge, MA: MIT Press. (Original work published 2001)
- Jaokar, A. & Fish, T. (2006). *Mobile Web 2.0: The innovator's guide to developing and marketing next generation wireless/mobile applications*. London: Futuretext.
- Jauréguiberry, F. (2007). Les téléphones portables, outils du dédoublement et de la densification du temps: un diagnostic confirmé. *Tic&société*, 1(1). Available: <http://ticetsociete.revues.org/281> [June 15, 2009].
- Jodelet, D. (1991). *Madness and Social Representations: Living with the Mad in One French Community*. Berkeley: University of California Press. (Original work published 1989)
- Joint Research Centre (JRC) of the European Commission and the Institute for Prospective Technological Studies (2010). Available: http://ec.europa.eu/dgs/jrc/index.cfm?id=1410&obj_id=10320&dt_code=NWS&lang=en [April 20, 2010].
- Jouët, J. (2000). Retour critique sur la sociologie des usages. *Réseaux*, 18(100), 487-521.
- Kapferer, J.-N. (2008). *The New Strategic Brand Management*. London: Kogan Page.
- Katz, J. E. & Aakhus, M. (Eds) (2002). *Perpetual Contact: Mobile Communication, Private Talk, Public Performance*. Cambridge: Cambridge University Press.
- Licoppe, C. & Levallois-Barth, C. (2009). Configurer l'accessibilité des voyageurs équipés à des services mobiles multimédia. *Réseaux*, 27(156), 15-48.

- Ling, R. & Yttri, B. (2002). Hyper-coordination via mobile phones in Norway. In J. E. Katz and M. Aakhus (Eds.), *Perpetual Contact: Mobile Communication, Private Talk, Public Performance* (pp. 139-169). Cambridge: Cambridge University Press.
- Ling, R. & Sundsoy, P. R. (2009). The iPhone and mobile access to the Internet. *Proceedings of the ICA Pre-Conference Mobile 2.0: Beyond Voice?* Chicago, Illinois, USA. Available: http://lrneasias.net/wp-content/uploads/2009/05/final-paper_ling_et_al.pdf [May 31, 2009].
- Mallein, P. & Toussaint, Y. (1994). L'intégration sociale des technologies d'information et de communication: une sociologie des usages. *Technologies de l'information et société*, 6(4), 315-335.
- Martin, C. (2007). *Le téléphone portable et nous. En famille, entre amis, au travail*. Paris: L'Harmattan.
- Martin, C. (2009). Camera phone and Photography among French young users. *Proceedings of the ICA Pre-Conference Mobile 2.0: Beyond Voice?* Chicago, Illinois, USA. Available: http://lrneasias.net/wp-content/uploads/2009/05/final-paper_martin.pdf [May 31, 2009].
- Méadel, C. (2009). Publicité et mesure d'audience: La construction du plausible. In S. de Iulio (Ed.), *Savoirs et savoir-faire des professionnels de la publicité: Histoire et perspectives (1950-2009)*. Strasbourg: Presses de l'Université de Strasbourg.
- Méadel, C. (2010). *Quantifier le public: Histoire de la mesure d'audience de la radio et de la télévision*. Paris: Economica.
- Méadel, C. & Bourdon, J. (2009). La boîte noire des mesures d'audience. Retour sur la réduction quantitative. *XVIe congrès de la Société Française des Sciences de l'Information et de la Communication (SFSIC)*, Compiègne. Available: http://www.sfsic.org/congres_2008/spip.php?article110 [May 31, 2011].
- Meeker, G. M. (2009). *The Mobile Internet Report*. Morgan Stanley Research. Available: http://www.morganstanley.com/institutional/techresearch/pdfs/mobile_internet_report.pdf [May 31, 2011].
- Minges, M. (2005). Is the Internet mobile? Measurements from the Asia-Pacific Region. *Telecommunications Policy*, 29(2-3), 113-125.
- Moliner, P. & Tafani, E. (1997). Attitudes and social representations: A theoretical and experimental approach. *European Journal of Social Psychology*, 27 (6), 687-702.
- Moscovici, S. (2001). *Social Representations: Explorations in Social Psychology*. Cambridge: Polity Press.
- Pape, T. von & Martin, C. (2010). Non-usages du téléphone portable: au-delà d'une opposition binaire usagers/non-usagers. *Questions de communication*, 18, 113-144.
- Perriault, J. (1989). *La logique de l'usage Essai sur les machines à communiquer*. Paris: Flammarion.
- Scardigli, V. (1992). *Les sens de la technique*. Paris: Presses universitaires de France.
- West, J. & Mace, M. (2010). Browsing as the killer app: Explaining the rapid success of Apple's iPhone. *Telecommunications Policy*, 34(5-6), 270-286.