

3- After Internet 1, Internet 2

In the process of seeking greater revenues¹, the mainstream media industry reports all sorts of imprecisions and falsehoods concerning the Internet², based on the fashion trends coming from the West Coast of the USA.

Internet 2 modifies our society because it introduces a new space for processing information that fits somewhere between the two poles of communications (the vast distribution networks of *television* and the vast *telephony* networks). This space will also modify the technological, economic and cultural landscapes. We'll see a lot of interactivity and geolocation which enables groups and communities of interest to develop and evolve their social networks. This space will become more and more important because it will become an essential vector of opinion and consensus. Citizens will use one or other online space according to her or his needs. Depending upon the user, these spaces carry different names :

Broadcasting	<i>narrowcasting</i>	egocasting
Many to one	<i>multipoints</i>	One to one
Mass media	<i>community media</i>	private media
Mass media	<i>intermedia</i>	self media

The Internet 2³ or New Internet or Web 2.0⁴, is not only a technological tool, but it is also a cultural and economic tool ; *It's an ambient intelligence*⁵ which influences all human activities like education, commerce, politics and culture.

Internet 2 technology ([postindustrial 7](#))

Like all technologies, the Internet evolves in a generational way⁶. Many people think that it's not speed or power which characterizes Internet 2 but the participation of users⁷. Each new generation of technology represents a mediated hybrid which, through offering new applications and capabilities, develops above all an extension of the marketplace⁸.

Essentially, Internet 2 uses hyperlinks to make possible navigation between and amongst words, paragraphs, images, within a wide range of content. The principal characteristic of Internet 2 is the digital integration of all of the current

(television, radio, printing) and emerging (RFID, GPS, Wi-Fi, etc.) means of communication⁹ and distribution with the Web.¹⁰ ([postindustrial 7](#)).

One of the principal causes of the rupture we are experiencing is the inversion of the technological model of innovation based on quantity, or *broadcasting*. Internet 2 has accelerated the evolution towards distribution based on personalized media¹¹, or *narrowcasting*¹².

The principal error of decision makers has been to think that the digital infrastructure would permit, economically, to first and foremost allow prices to drop. Now we know that we must add the costs of producing interactive content, the costs of access to content for new clienteles¹³ and the heavy investments necessary for the physical implementation of the actual networks themselves¹⁴.

The Internet 2 economy¹⁵

In a context in which time, money and attention are scarce, the economy seeks to deliver these three scarcities¹⁶. The Internet-based economy, also known as the *knowledge economy*, does not make old models disappear completely¹⁷, but usually superimposes upon the existing models through adding its own rules to the mix :

- its raw material being information, it focuses on immaterial objects ;
- it creates new types of content ;
- it reorganizes commercial networks¹⁸ ;
- it shares, differently, the advertising pie¹⁹ ;
- its principal multiplier is the strong trend of consumer personalisation²⁰ ;
- and, by pulling together theme-based content for targeted clienteles, it creates its own driver, which is the element of added value.

This *attention economy*²¹ operates in real time ; it integrates the planet from three distinct time zones : New York, London and Shanghai.

The actual societal rupture is caused by the inversion of the economic model which replaces the *law of supply* with the *law of demand* ... in other words, the power and impacts of decision-making are passing from the hands of the *marketers* into those of the *consumers*²². Current decision-makers have

concluded, wrongly, that a viable business model for the Internet is impossible. The real challenge, however, is the development of business models based on *media convergence* in a Internet 2 environment.

The Internet 2 culture

Culture, on the Internet, is a collective means for millions of users to process and exchange all sorts of information based on networks of interactive screens²³. Its principal characteristics are :

- the Internet's fundamentally wide reach of mobility ;
- the Internet's interactivity and geolocation which allows users to manage and generate content on their own ;
- and the Internet's utilization of screen-based images instead of paper.

Coincident with the spread and growth of Internet use, we are beginning the process of a relatively rapid replacement of baby boomers (*digital immigrants*) by younger generations (*X and Y*), whom are often called *digital natives*²⁴.

The key error made by non-American decision-makers has been to think that the Internet is a magnificent distribution network that provides easy access to a wide range of markets. They have forgotten about the rigours of producing quality content, and instead have left the playing field empty, letting the Americans invade the cultural content space. This has not gone unnoticed ... several prominent authors think that the Internet 1 has been the Trojan Horse for the continuing spread and deeper penetration of American culture (*example of Alicia Keys video clip on YT in Marrakech, or Andrew Keen's The Cult of the Amateur – how today's Internet is killing our culture*).

The main error of most analysts was to think that the widespread distribution of millions and billions of bits of information was the way to gauge the advent of what was called e-democracy. Most IT evangelists pretended that the Internet would become *the nervous system of the post-industrial society*.

However, the daily flow of contradictory information has basically had a negative effect to date. People no longer know who or what to believe and are losing confidence in our existing systems. An effort to provide clear and comprehensive context

should accompany the mediatization of data if we want this information to become useful knowledge ([postindustrial 8](#)). This contextualization involves carrying out an analysis of the four dimensions of each piece of information : the *subject*, its *object* or properties and the *time-and-space* in which it exists – the context for the communications.

As with all other technologies that have preceded it, Internet 2 has developed from a technological base towards a societal focus capable of offering both economic and cultural value to its users²⁵. See below the historical logic moving (left to right, from the technological to the societal) :

*Printed + computers + software + Web + Professional + mobile + user
circuits and appli- networks users networks groups
cations*

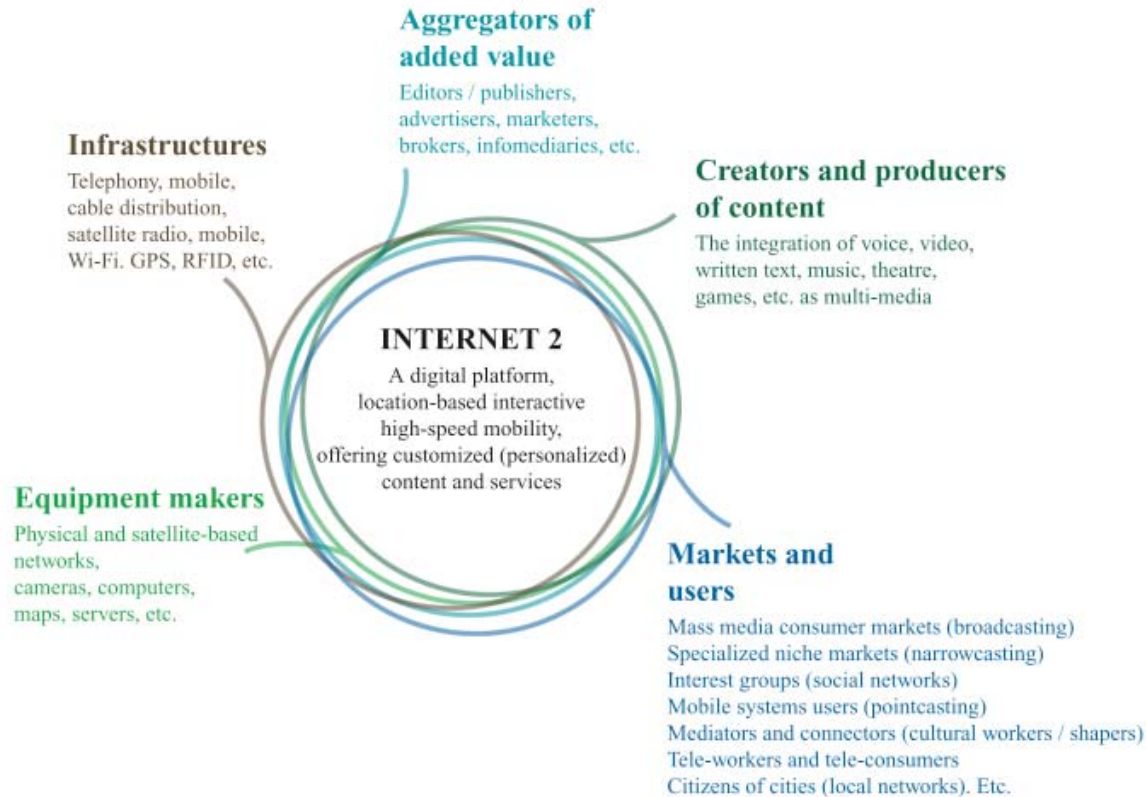
Thus, we should not be surprised by the importance of marketers' technological focus during the years 1980-1990. The point here is not to criticize the first initiatives of Internet 1 but rather to realize that Internet 2 is only just beginning to have impact in the domain of societal activities. It is also clear that it will continue to evolve into wider and deeper impacts.

Several past technological, economic and cultural transitions, or paradigm shifts²⁶, indicate the importance of the current societal rupture (see « The rupture ») :

From analog	to digital
From software on micro-computers	to services offered on wireless devices
From a technological push	to a social pull
From product-centric	to customer-centric
From mass media (broadcasting)	to personalized media (narrowcasting)
From information that is scarce	to information in abundant and continuous flows
From architecture of networks	to the architecture of information
From top-down	to bottom-up
From digital immigrants	to digital natives
From an anonymous, passive public	to groups of participative users
From the law of supply	to the law of demand
From mass-produced products	to customized products

The emerging Internet 2 will not so much reflect the initial possibilities of Internet 1 technologies (*mobility, ease of access, speed of execution, etc.*) as it will enable and demonstrate how information can be processed²⁷ through the eyes and minds of millions of users (*such as browsing to find information²⁸, how to evaluate its pertinence and then respond to it*). It will highlight that the Internet's major impact is the fact that information will necessarily be processed by millions of citizens within the social dynamics of our society.

The societal issues require that Internet 2 enhances the sharing of cultural information²⁹ and issues between the actors in the society and that it supports the creation of consensus capable of bringing forth sustainable growth and development. It should offer citizens and decision-makers alike the tools and processes which will support the necessary adaptations to the changes already well underway³⁰ ([postindustrial 8](#)).



Postindustrial 7 : The Internet 2 mechanisms

This network of networks integrates artisans and information systems and becomes the public place for creating and sustaining a more mobile, global and interconnected world³¹.

- *The actual development of Internet 2 is not by chance. It is the fruit of three important forces - **globalisation, personalisation and digital technologies** which (at the level of economics, technology and sociology) force both the actors in the system and the system itself to integrate on a large scale (publics and consortia).*
- *Its future development rests on the human force of the participation of the users in creating and shaping the content and services.*
- *Because it is having impact on all human activities, Internet 2 will become both an economic and sociological platform as well as a technological platform (See « The tools »).*
- *If the newspapers became the « fourth estate » during the 1st industrial era and the television during the 2nd industrial era, the Internet 2 will become the place or space wherein the exchanges of information will create the understandings and treaties and where strategies will be developed and unfold. The Internet 2 is where power will be created and take shape.*

See the role of Internet 2 in the schema [postindustrial 8](#)

References

¹ Because of the impacts on advertising, the principal revenue source for newspapers.

² They offer anecdotal analysis, for example the phenomenal number of users around the world or the power of a new invention. California often is the home of many such events.

³ An international not-for-profit consortium (consisting of universities, enterprises and government agencies) is seeking to develop tomorrow's Internet under the name Internet2.

Elsewhere, Internet3 is announced as *The Next Big Thing*, *Third Generation technologies* or *Augmented reality*, etc. These terms probably represent the start of real knowledge-sharing (see below the footnote regarding generations).

⁴ In fact, we should consider the Web as a subset of the Internet.

⁵ *It's not about being a pipe ; it's about being a smart pipe* : Internet 2 may become a *mode of cooperative thinking* (Gartner Group report, 2004), while many other authors write of *connective intelligence*.

⁶ The generations of the Internet are :

- Internet 1 (*its infancy*, since 1970) : putting into place the basic protocols that enable the creation of networks of networks. At this stage, the broadcasting model of activity pertains.
- Internet 2 (*adolescence*, Mainly between 2000 et 2010) : social experimentation and « apprenticeship » on the part of millions of Internet users who participate in the mediation of content. A narrowcasting model favours or encourages the emergence / development of niches.
- Internet 3 (*maturity*, after 2015) : the development of a socio-political and socio-economic tool that is in the hands of a wide range of interest groups. The basic model that will be used is « IP Everywhere » or *Always connected*.
- Later on, the Internet will probably become a tool for the synthesis of knowledge based on a model of collective intelligence (which will involve greater / more sophisticated use of the semantic web ?).

⁷ In 2007 in the USA, 69 % of Americans were *spectators* who read content. 37 % are *critics* who commented on the content, and 35 % were *members* of social networks. Only 25 % were considered as *inactive*. For more information see the levels of socialbility in the Opinion section of the appendices, p. 38

⁸ Between 1970 and 1990, Internet 1 allowed for great leaps:

- in augmenting work productivity over 2% annually;
- in lowering the cost of manufactured products;
- and in multiplying the quantity of products online.

Three factors explain this growth:

- deregulation, mostly in the United States;
- technological innovations that create an global networked economic

system operating 24/7;

- a high mobility of capital that can now go where it sees fit throughout the world.

⁹ Nicolas Negroponte, *Being Digital*, Robert Laffont, 1995, p. 253. In the USA in 2008, according to *Leichman Research*, 53% of homes have high-speed Internet access, pushed mainly by viewing videos and other *rich media* applications.

¹⁰ These are the challenges related to industry bundling - the integration of telcos, cablecos, satellites, mobile, surveillance cameras, etc., creating a much more hybridised network than that which previously existed.

¹¹ Everyone is a media outlet. Clay Shirky, *Here Comes Everybody - the power of organizing without organizations*, The Penguin Press, 2008, p. 55.

¹² In broadcasting, the logic of flow resides in content inventory, while in the case of narrowcasting the logic of the flow resides in the circulation of the content. Narrowcasting is a mechanism for creating added value through shared knowledge. Many are skeptical today about the Internet because as of 2008 it still reaches only 20% of the world's population. Thus, it is this personalized access which will make it important for the rest of the (as yet unconnected) world.

¹³ The cost of the mental load imposed on users, calculated in terms of learning (effort, time, expenses, etc.) In this domain, see the numerous efforts at making interfaces more user-friendly (user friendly, eureka insight, plug and play, user focused, etc.). See the appearance of a new generation of devices, such as the Nintendo Wii and the iPhone.

¹⁴ Fibre optic, satellite, calculation centres, brick-and-click architecture, *hubs*, buying broadband spectrum, etc.

¹⁵ Also called the intangible economy, the digital economy, the net economy, the niche economy, etc. It takes the form of a spiral controlled by the large financial consortiums which use the Internet. The concept is mentioned for the first time in the December 6, 1996 issue of *Business Week*.

¹⁶ *Encyclopedia of the new economy*, Wired, March 1998.

¹⁷ The *Washington Consensus*, established in 1989, is the work of John Williamson and summarizes the policies of the World Bank, International Monetary Fund and the United States Department of the Treasury:

- to reduce to a strict minimum the role of the State;
- to privatize;
- to liberalize trade and markets;
- to deregulate;
- to restrict competition;
- to stabilize prices, etc.

¹⁸ The major international enterprises and consortiums formed around a family of products or particular brand, while other groups will favourize coopetition instead of international competition.

¹⁹ See the increase in web-based advertising revenues over the last two or three years.

²⁰ Online and offline products, original and derivative products, the system of

gifts or rewards designed to make customers loyal, *Long Tail* niche markets, specialized portals, online auctions, etc. The general concept is *The Competition is a click away*.

²¹ An economy which competes to attract the attention of client-consumers and then help them remain loyal.

²² The decision-making clout has passed from the hands of the marketers to the consumers, because since the 1980's, interactivity offers more and more direct access to the wallets of consumers.

²³ Contrary to what we think, the culture associated with information technology has not penetrated the large majority of adult consumers because of micro-computers, but rather through the widespread use of video gaming amongst the youth and other electronic devices (such as the television and digital cameras) amongst adults.

²⁴ *Digital natives* are the young generations for whom the Internet 2 is a natural environment (iPod, iPhone, MP3, etc.), while *digital immigrants* are the boomers for whom the use of the Internet requires some more-or-less arduous learning.

- See *Listen to the Natives*, by Mark Prensky, in *Educational Leadership, Learning in the Digital Age*, vol. 63, no 4, December 2005.
- See also the analysis by Wim Veen and Ben Vrakking, in *Homo Zappiens, Growing up in a digital Age*, Network Continuum, 2006.
- See the *Key News Audiences* report from the Pew Research Center which in 2008 identifies three groups of actors: *the Traditionalists, the Integrators, the Net-newsters*.

²⁵ In fact, we can consider that each new generation of the Internet will translate into more power and interactivity for users. This was the dream of the pioneers of micro-computing in the 1980's : *Empowering the people*.

²⁶ A paradigm is a new way of interpreting a situation, and requires a new frame for thinking in order to explain the new reality.

²⁷ The objective of Internet 2 is "*To organize the world's information*" (Google's motto).

²⁸ *Search has become a window to knowledge*, Jimmy Wales, creator of Wikipedia, *The Economist*, June 7, 2008.

²⁹ Because a user's participation is rooted in emotions, the more there is participation on the part of users the more culture installs itself at the centre of Internet 2. This will be even more so the case for Internet 3. It's a strong bet that in the future culture becomes even more clearly the engine of social and economic coherence, and thus also of political activities. The key to understanding our next world is not based on economics but on culture, or in other worlds the way(s) we interpret our world.

³⁰ Humans live in a democracy when the majority of citizens can create the contours of their future and when they participate in making the decisions that concern them.

³¹ The term globalisation signifies the development of interdependent links between human activities and the economic, technological and social systems we use. Since its appearance in 1990, the concept of globalisation was defined by four criteria: private property, free competition, free enterprise, and free

information.