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CHAPTER 4

Main implications of Web 2.0

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4.1. Impact on Society

Something has changed. The average citizen is more empowered than ever in the digital age. They can express their tastes as a consumer, share their opinions and cast their votes. Although “historically, this power has been undervalued, it is now more important than ever”—says Javier Cremades, a lawyer specialising in freedom of speech and the media—thanks to the possibility Internet offers of creating networks and of globalising information.

One [example](#) of citizen power using new technologies, which made the news around the world, was the use of YouTube videos as a channel by US citizens in a television [programme](#) to put questions to political candidates on their election platforms.

It is evidence of the way the Internet has become an almost indispensable new tool for making politics. Politicians [are campaigning](#) in virtual communities such as Second Life and even use the video exchange portal to [promote](#) their election proposals. Conscious of this great potential, YouTube [has created CitizenTube](#), a platform hosting videos of politicians and citizens giving their opinions or asking questions.

The adoption of Web 2.0 services does not follow traditional economic lines; online users from developing markets are just as involved—or even more so—than those in the developed world. Asia, for example, heads the market¹ in the adoption of Web 2.0 services with countries such as China, South Korea, Malaysia, Hong Kong and Philippines.

Surprisingly—according to the latest survey by Novartis’ NetObserver— Spain has the lowest percentage of Internet users in Europe using Web 2.0 technology, though most Spaniards do not know the meaning of the term. The Spanish account for 27% of Europeans using Web 2.0 tools, in terms of both own contents and external contents.

According to estimates, the Spanish have posted more than 150 million photos on Flickr and 100 million on YouTube, contributed to 1.5 million articles in Wikipedia, given more than 13 million answers in Yahoo! Answers and created approximately 60 million private or commercial blogs.

Nonetheless, Spain is still a long way behind the European leaders in terms of Internet penetration, ranking only just above Cyprus, Poland, Lithuania and Portugal.

<http://static.scribd.com/docs/hw93s2udydnwb.swf> (page 6).

One new feature—and a key to the success of the Web 2.0 philosophy—is that ultimately it is not the publisher of the website who posts the contents and decides what's interesting and what's not. **Instead, the community itself contributes and promotes certain contents** over and above others.

This is the case, for example, with [Menéame](#), a Spanish news promoter, or Al Gore's station [Current TV](#), with contents created only by users, who choose what gets most airtime.

In any case, posting certain contents on the Internet doesn't guarantee that you'll automatically get millions of hits, but it is helping a vast amount of talent to come to the surface.

We still don't really realise—or appreciate—the great creative potential of the Internet. Being successful in the digital world will mean doing interesting things, but brilliant contents can come from anywhere in the world and have a global impact. This could change the way we do things in all areas of society.

Web 2.0 opens a new means of recognition for people with initiative, talent and interest. It will help empower those who do not have access to the mass media and enable people to **have a voice, be heard and enjoy greater visibility**. Already, some bloggers enjoy higher readerships than many columnists and opinion leaders.

It is also predicted that it will lead to a **more participative society**, with more user-friendly tools making it easier to post content. It's never been so easy to create and share contents, meet people and have fun through a personalised multimedia experience. The tools and channels needed to create and share texts, photos, videos and music have never been so accessible and so democratic.

Although it was previously possible to create contents, you needed good technical knowledge and a lot of determination, and that made it off-limits to a large section of the population. The only barrier today is the will to collaborate.

Citizen participation may prove crucial, affecting more areas that might first appear. Take legislation, for example. The rules governing a society are born out an attempt to answer an already-existing situation. This situation is in turn considerably influenced by public opinion—to which in this case, net surfers have a major input.

Its importance, however, does not end there. The sustainability of business models based on these new services depends on **active participation by users** (i.e. active users).

To give an idea of user participation in Web 2.0, let's take a look at the **1% rule**, which states that of every 100 people who use this type of service, roughly 90 merely consult, 9 participate and only 1 actually creates contents. In the case of blogs, the rule is even more discouraging. According to UseIt, blogs have the worst participation mismatch, with the 90-9-1 rule which characterises most online communities being transformed into a 95-4.9-0.1 proportion.

This may fuel the fear of a Web 2.0 bubble; however, according to some experts, this situation will gradually change as the technology advances and Web applications emerge that are as easy to use as e-mail.

If we look back a bit, we can see that in last century's web, not only were there fewer of us, we were mostly pretty passive. By 2006, the 1996 situation had been turned on its head: over 85% of the contents on the net were created by common-or-garden users, whereas companies and the media were relegated to producing around 15% of the total.

Given the major role users play in this social web, we need to analyse the main motivations that turn Web 2.0 users into active users. According to the FTF experts, these may be grouped as shown in Illustration 1.

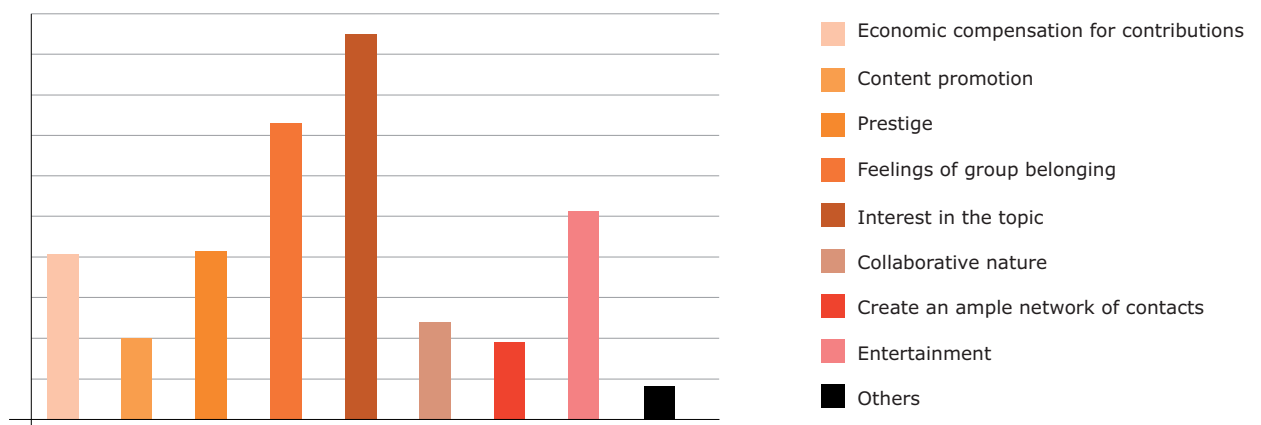


Illustration 1. Chief motivations of active users.
Source: Drawn from conclusions within the Future Trends Forum.

In recent years, there's been a lot of talk in the media of major takeovers by Web 2.0 companies and the intense traffic they generate.

There is a clear move towards Web 2.0 and large companies don't want to be left behind. Examples include Google, which has recently bought out companies such as [YouTube](#) for 1.65 billion dollars, [DoubleClick](#) for 3.1 billion dollars and the Spanish [Panoramio](#) for 6 million euro; or the buy-out of [Skype](#) by eBay, for 2.6 million dollars.

Web 2.0 society is seeing another major change affecting **social relations** between individuals, as reflected in the explosion in the number of online **communities**.

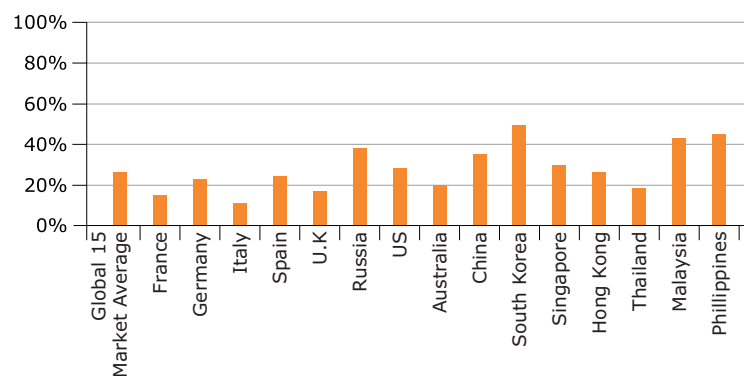
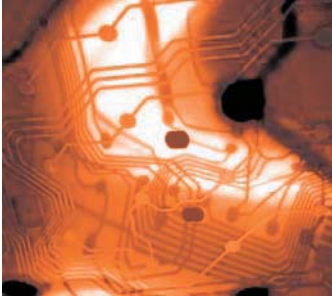


Illustration 2. Access to communities.

Source: *Web 2.0. The Global Impact. Study by Universal McCann. Dec. 2006.*

This increase is largely down to the fact that many businesses have seen the potential of online communities and got involved. Nonetheless, the mere fact that a community exists does not guarantee its success. Like any Web 2.0 application, its success lies in the participation of users. An [article](#) in *El Mundo* argues that for a community to be accepted, it needs to be free, easy to use, acknowledge its collaborators and be secure and effective (so that users can be sure it will be simple to find what they're looking for).

Given this growth in the number of communities, it's reasonable to presume that in the future people may socialise in new and different ways; instead of meeting for a cup of coffee, for example, they might hook up in Second Life to see a film, go dancing or meet new people—and that makes online communities a good business opportunity.



And that's what's happening. In August 2005, a month after Rupert Murdoch, the traditional media mogul, paid 580 million dollars for MySpace, the site overtook Google in number of hits, according to the online ratings bureau comScore Media Metrix. And in November 2006, MySpace clocked up 38.7 billion hits, inching ahead of the previously indomitable Yahoo!, with 38.1 billion.

The phenomenon is unstoppable. Social networking sites—like MySpace, YouTube and Facebook—rapidly evolve into mobile networks, consisting of groups of people sharing common tastes and interests who communicate over their mobile phones. Between now and 2011, it is estimated that the number of people involved in these relationship systems will triple to 174 million users. According to ABI Research, as many social communities are already being created and maintained via mobile phones and other wireless devices as over the computer.

When this sentence was written, there were 180,268,309 profiles on the Web. By the time I'd finished it, there were another 251. Every day, around 300,000 people climb on board the train; increasingly it's becoming a must for anyone who wants to be left behind in this new age.

Yet is there really a **demand for these Web 2.0 services or does it have to be created?** The opinions of some of the FTF experts are listed below:

- There is a general desire to experiment with these services and, if they are really useful, they will be widely recommended, stirring up previously unrealised demand.
- There is a clear demand for these services, which will have to be reconciled with average user connection times. As the number of users—and average connection times—increases, so too will demand for these services.
- There is a clear demand for community-oriented services, albeit still very localised in certain areas, such as content consumption ([YouTube](#)) or making contacts ([MySpace](#)).
- A demand already exists among users, and what therefore needs to be done is to give them a useful platform to allow them to do everyday things—in other words, things with a real application (such as [Flickr](#), [Twitter](#), etc.).

In any case, most agree that there is a demand for this type of service in one form or another, but it needs to be spurred on with positive user experiences, good contents and a collaborative spirit.

4.2. Implications for education

Education is another area where Web 2.0 will have a major impact, in terms of both teaching methods and contents. How many people with an Internet connection still turn to traditional print encyclopaedias instead of Google, YouTube or Google Maps? Very few.

Although generally speaking, young Europeans understand new technologies and media and participate in them, this does not by any means signify that educational processes have substantially improved, given that these tools have not been incorporated into classroom teaching processes.

Students learn what teachers grade highest, and the way they do so conditions the way they learn. We have to accept that exam-passing one of students' most important—if not the most important—motivations for learning; so the teacher is viewed more as a judge than a guide who helps create a relaxed classroom atmosphere that will encourage knowledge-sharing.

The social and cooperative nature of Web 2.0 could encourage education to develop towards what is often called "**collective learning**". For the moment, it's no more than vogue term whose meaning has not been fully taken on board by the educational community. All the signs indicate that it will take a while to be assimilated.

This "collaborative learning" involves considering that possession of knowledge is not the exclusive domain of the teacher, but of the group. Each member of the group has greater accessibility to the information, enabling them to offer new perspectives that enrich the relationship and help build new, cooperative knowledge, adapted to the particular needs and features of each group, which in all likelihood will be different to those of the year before.

In this situation, the educational paradigm we need to achieve is one in which the teacher is more of a guide than an instructor—someone who works alongside the student and enables them to choose their own path.

Now we have the idea. The next step is to see whether who also have the right tools to develop it. And there they are. The Web 2.0 philosophy fits this approach perfectly and it can be used to facilitate team learning and knowledge-creation. However, it's one thing to have material and quite another to put it to an educational use that will contribute to improving the educational and learning processes.

Teachers will have to devote more time to tutorials, guidance, individual work searching out new materials, training, moderating forums, blogs, wikis, chats, etc. and less to preparing and giving classes.

It is interesting to see how the differences between traditional and new learning environments are quite similar to the differences between Web 1.0 and Web 2.0. Here too, we can see the usefulness of Web 2.0 for developing learning and the educational process.

Traditional learning environments	New learning environments
Teacher-centred instruction	Student-centred learning
Single-sense stimulation	Multisensory stimulation
Single-path progression	Multipath progression
Single medium	Multimedia
Isolated work	Collaborative work
Information delivery	Information exchange
Passive learning	Active/exploratory/inquiry-based learning
Factual, knowledge-based learning	Critical thinking and informed decision-making
Reactive response	Proactive/planned action
Isolated, artificial context	Authentic, real-world context

Table 2. Differences between traditional and new learning environments.
 Source: *Estándares en Tecnologías de Información y Comunicación (TIC) para Docentes*.
 ISTE (International Society for Technology in Education).

Notes

The world of **interactivity** and **collective knowledge-building** have much to offer. New inroads need to be made to develop new ways of assessing progress and target-fulfilment in each area of education.

Today, the digital world holds out immense possibilities. For example, students could use [Google Ask](#), [Yahoo Search](#) or Live Search to search for relevant information on the Web, use [Bloglines](#) or [Blinklist](#) to subscribe to other websites dealing with the issue and consult Wikipedia for articles of interest. Relevant pages could be saved and shared online using [Furl](#) or [Clipmarks](#) for page extracts.

The final document could be prepared with [Google Docs and spreadsheets](#), and stored using [Box.net](#).



Podcast

A **podcast** is an audio or video file that is distributed by means of an RSS file: users subscribe and use a downloadable program to listen to the file whenever they want.

The entire project could be coordinated with [Netvibes](#), with a specific homepage created that would include links to all the tools or sources being used and to the document itself.

Throughout the process, because they are using collaborative tools, the students would learn from each other (cooperative learning).

Finally, the teacher could access the students' documents and information sources, enabling him or her to trace the work they have done.

Another clear example of how Web 2.0 (more specifically, Skype), **podcasts** and bandwidth are transforming education can be seen find in the area of language-learning.

Millions of people in 110 countries can download *ChinesePod* podcasts (printed dialogues or characters) free of charge and learn Chinese at home, in the office or on the bus thanks to [Praxis](#).

There is also a premium service which includes individual chats with teachers over Skype. This experience has been used to launch a new service, *SpanishSense*, and others are expected to follow.

It's good news for students—who can learn whenever and wherever they want with native teachers—and also for businesses, because of its scalability and the possibility of providing this service on a global scale with a small number of employees.

Another example worth noting is **education in virtual worlds** like [Whyville](#).

At some point in our lives, we've all wished we could learn and make decisions without having to suffer the negative consequences of our actions. Technology's capacity to emulate the real world now means that this type of **trial-and-error learning** is possible in an interactive process.

Whyville citizens get involved in educational activities with their friends and are challenged to solve problems in exchange for payment in CLAMS (the local currency of this virtual world).

Like the real world, you need the financial wherewithal to live on and a child (or adult) who wants to go to the movies or buy a car has to complete certain tasks to earn CLAMS that will allow them to pay their expenses. Alternatively, they can get a loan and pay it back in instalments.

So they learn not just about things like art, nutrition and science, but also finance and everyday aspects they'll come across in the real world.

All the activities have a collective and experimental component, so children learn in a group, through experience and practice, instead of just learning the theory, as they would in the traditional education system. This clearly benefits the learning process. If you're trying to teach a child to learn how to eat healthily, isn't it more illustrative to show what happens to their **avatar** if it eats badly than get them to read a book on the subject?

The great range of possibilities these virtual worlds offer and the fact that children find them more entertaining, gives them great educational and business potential.

As we can see, Web 2.0 offers plenty of education and learning facilities that were already present in VLEs (virtual learning environments) such as [Moodle](#).

Table 3 shows some of the relative advantages of VLEs over Web 2.0 and vice versa.



Avatar

An **avatar** is a person's graphic representation online, and takes the form of a drawing, photograph or figure.

Advantages of VLEs over Web 2.0	Advantages of Web 2.0 over VLEs
Consistent user experience.	ConWider range of services which in continuous improvement (constant beta).
Access to the same tools for all students.	Students can choose tools that are useful to them.
Lower drop-out rate.	Known tools.
Greater control over students.	More customisable services.
	Quick evolution.

Table 3. Comparison between traditional learning environments (VLEs) and new learning environments (Web 2.0).

Source: *Herramientas Web 2.0 para la evaluación educativa*.

Web 2.0 technologies are very attractive and offer students independence and autonomy, greater collaboration and greater learning efficiency. In practical terms, we can see that each Web 2.0 tool can be applied in different ways to learning:

Tool 2.0	Application
Blog	Used by teachers to give news, resolve students' queries or generate inter-related knowledge via posts and comments.
Wiki	Classwork. Very helpful in having a group generate knowledge, produce material together or for a teacher to provide structure, guidelines and feedback on written work.
Multimedia sharing service	Knowledge sharing. YouTube (videos), iTunes (podcasts and videocasts). Slideshare (presentations). DevianArt (artwork). Scribd (documents).
Podcasts	Provide introductory material before classes. Record classes, enabling students to go back over them. Listen to recordings of native teachers in language classes.
Videocasts	Videos of experiments.
Social networks	Put students in touch with people who can answer their questions or help them find information.
Collective editing tools	Work simultaneously or simply share work edited by different people at different times.
Content syndication and notification	Update collaborators in a team with new contents.

Table 4. Web 2.0 tools with applications in education
Source: Drawn from conclusions within the Future Trends Forum



Other Web 2.0 applications are also useful in education, such as:

- [Flickr](#): allows notes to be made in different areas of a picture and general remarks to be entered on it. These can be used for teachers' explanations, group commentaries, etc.
- [FlickrCC](#), which allows users to find pictures with Creative Commons licences, which can be edited and re-used for educational purposes.

However, it is necessary to be prudent and aware of certain dangers. In education, Web 2.0 not only has advantages, as Trahtemberg² foresaw in 2001.

Although the author recognised that the "audiovisual media world" offered cognitive benefits by accepting improvements in visual literacy skills and a better acquisition of knowledge, he highlighted three results he felt were counterproductive:

- Diminished imagination.
- Less mental effort.
- Less attention on purely verbal information.

Weighing up the advantages and disadvantages, we may conclude that Web 2.0 tools can help create an environment where collective knowledge is augmented, but a balance has to be struck between new technologies and traditional techniques, since that the latter are important for fostering certain skills such as creativity, concentration, mental effort, etc.

TRAHTEMBERG, L. (2000). "El impacto previsible de las nuevas tecnologías en la enseñanza y la organización escolar". Paper at the international seminar "The Future for Education in Latin America and the Caribbean", organised by UNESCO-Orealc. Santiago de Chile. [On line] <<http://www.schwartzman.org.br/simon/delphi/pdf/trahtemberg.pdf>>. [Checked: March 2007].