Fundación de la Innovación Bankinter

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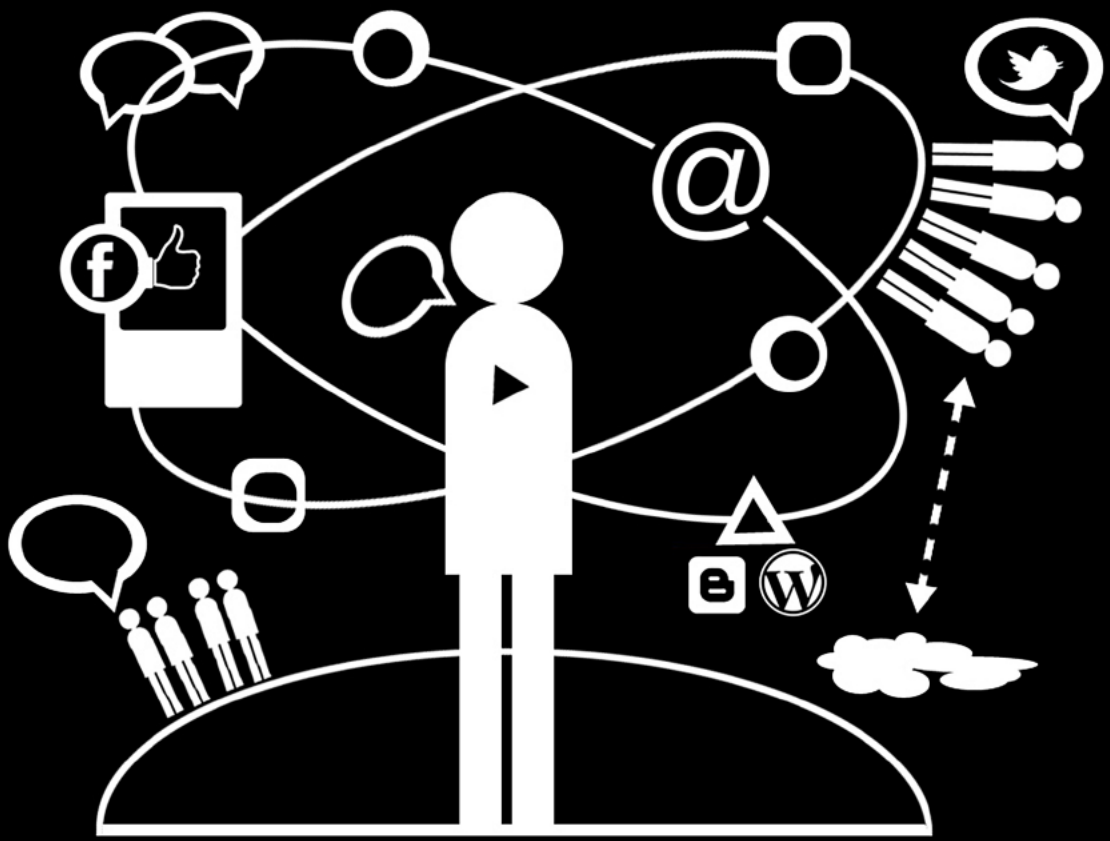
17

Social Technologies

The power of conversations on the Net

- The social side of technology
- The silent revolution: new social movements in the Net
- Doing business out of social technologies: much ado about nothing?
- The thorns of social technology: barriers and threats



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Contents

Executive summary

If one were to rate the most important developments in recent history, changes in the way we socialise would undoubtedly feature high on the list. In this new model of relationship, barriers of time and space are constantly being reduced; individuals, organisations and even objects are interacting anytime, anywhere thanks to the ubiquity that technology can provide, affecting social, commercial and government spheres. Technology has in turn been *humanised,* earning it the epithet *"social"*. But what exactly are social technologies? The Future Trends Forum experts define them as technologies that can be combined to enable interaction between people, between objects and between people and objects, co-creating economic and social value. We have already begun to tap into their potential. In this report, we try to predict whether we will be capable of taking full advantage of the expansion of social technology. We offer an overview of the current situation, best practices and threats, analysing trends for the future of technologies as they will affect individuals, government, non-profit organisations and business. We also examine some of the specific features of the situation in Spain.

The current state of social technology

Social technology includes more than just popular social networks like Facebook. It offers an amalgam of capacities that together form a powerful weapon, capable of satisfying individual, collective and organisational needs. For example, FourSquare, Amazon, Ushahidi, JustAnswer, Wikipedia and Avaaz are meeting points for individuals, organisations and companies. They can use them to do business, collaborate, share opinions and contents, raise awareness and fill the Internet with information that can be shared, measured and analysed. These platforms improve people's quality of life in such key areas as health and education. It is hardly surprising that they enjoy such high levels of acceptance: today, 86% of American adults and 79% of Europeans use some form of social technology, and the figure is increasing all the time. Social technologies have been born out of a combination of different Internet capacities, such as Web 2.0, Wi-Fi, search engines and file-swapping platforms, among others. Yet part of their potential derives from the fact that they incorporate new more attractive technologies: social networks, the Internet of Things, geo-location, augmented reality, etc. Different reports indicate that around 80% of Internet users in the US, Latin America, Europe and Asia access social networks, with Europeans and Asians heading the list in terms of user numbers and frequency of access. With two billion Internet users around the world, an unrelenting expansion in mobile Internet penetration and the coming of age of a whole generation of "digital natives", all the ingredients are in place for social technologies to succeed.

The physical individual versus the virtual online individual

Internet and social technologies have led to the creation of an ever more populated parallel virtual world, which is converging with the physical world, changing traditional rules of behaviour. Enormous volumes of information on our

acquaintances, companies and political leaders flow across the Internet, leading to greater transparency, and more information to help in decision-making. The result is greater power for increasingly better-informed individuals. Online behaviour, however, is not as standard as one might think: European and American online individuals are more passive than their Indian or Chinese counterparts, who tend to be more proactive, creating large amounts of content. In any case, in Europe, for example, more than 70% of the social technology users check out the contents created by other members of their community. The leading figures in this ecosystem of personalities are the *prosumers* (consumers who post their consumer experiences online) and *influencers*, who because of their popularity or reputation can motivate a million people on the Net, sometimes affecting corporate reputations.

All this online activity leaves behind it a perfectly identifiable and measurable trace. We are more analysable and predictable than ever before. As a result, in the future a combination of behavioural science and algorithms identifying patterns of virtual activity will make it possible to predict behaviour in the physical world. The primary obstacle lies in the fact that the explosion in the social graph and capitalisation of the information contained in it will only be possible based on the integration of social technologies, which is something we are still a long way from achieving.

The emergence of social technologies in political life

Social technology is redefining different aspects of the relationship between the individual and the state. Social technology had a massive influence as a facilitator of political revolt in the Arab Spring –the movement which took global public opinion so much by surprise. The movement has since spread around the world, spearheading the call for universal values such as freedom, peace, justice and equality. But it's not only individuals who are getting organised around the technology. Governments too have learnt to use tools to screen information, ensuring law enforcement and on occasions stifle a seemingly unlimited virtual freedom. In the area of public administration, governments are using social technology to improve their services to the general public, although only a few administrations can as yet be considered to have attained true maturity in this regard. The next step they are likely to take will be to develop an increasing number of applications related to the legitimation of e-identities. However, this is a thorny issue. On the one hand it offers more efficiency and greater speed in handling administrative tasks, but there are also issues to be solved related to individual privacy.

Cooperating online to make the world a better place

Although the global crisis has drastically reduced the amount received in donations by NGOs and other non-profit organisations, they are also experiencing increased demand for their services. In this context, while personal requests continue to constitute the main source of funds, the increase in online donations has led NGOs to go in search of multi-channel donors. Different studies suggest that successful strategies combine social technology and traditional fund-raising methods. Nearly half of all NGOs use online tools due to the lower cost involved and the good results they offer. In a wider sense, social platforms offer the possibility of going further, building a platform from which it is not only possible to raise funds; online reputation, relations with donors, target audience and collaborators can also be managed.

Doing business with social technologies

While consumers rely on social technologies to obtain information before they buy products or services and share their experience afterwards, companies are still at an embryonic stage when it comes to adopting social technology. Various studies confirm that 80% of social technology users are inclined to try a product that has been recommended by their acquaintances. Yet less than a quarter of companies are harnessing the potential of social technology. Growing social transparency and the way corporate reputation and brand image are managed will force companies to imitate their target audience and join in the conversation on social technology. Until traditional companies get fully involved, their customers will continue to avoid the official problem-solving channels and turn to their acquaintances or niche sites for answers to their concerns. The first companies to be affected are in sectors such as audio-visuals, media, advertising, travel and retail, which have seen their customers switch to online newspapers, sharing videos and series on social platforms and accessing niche sites to compare prices and organise their holidays. But they won't be the only ones. From now to 2015, the use of social technology is likely to impact companies working in consumer goods, education, IT and entertainment.

For companies that are prepared to review their social technology strategy and turn themselves into brands that listen, inspiring customer loyalty through their organisational model, culture and mission, there are sumptuous intangible benefits on offer, such as an increase in employee commitment and client satisfaction as well as tangible benefits, such as a reduction in marketing costs, travel and time-to-market. Social technology offers companies a greater and better understanding of their customers through new one-to-one conversations, and of course, greater influence over the social conversation that is taking place. Accenture recommends placing the company's systems area at the centre of the conversation, providing customers with an additional meeting point (integrated with other CRM tools) and a relevant information system so that the different departments can make better decisions. There are already companies that offer a good role of how to use social technology: Best Buy created its "My Customer" platform to channel customer information from shops to the decision-making centre. Half of the companies listed in the *Fortune 100* use the personnel selection tool Taleo, which includes a module for searching for "passive candidates" on platforms such as LinkedIn, Google and ZoomInfo. Essilor International, world leader in contact lenses, has halved learning time using the social training platform LOFT. TechSmith saved half a billion dollars (around €375,000) with the GetSatisfacction tool and crowdsourcing. TomTom saved $150,000 (around €115,000 euro) by using its online community to resolve issues. The parameters used to determine the efficiency of the investment, as we see, can affect areas as diverse as processes, sales, human capital, knowledge management and productivity.

Entrepreneurs who have decided to venture into the world of social technology find that their business model is as varied as it is malleable and it is evolving at the same rate as social technology: through subscriptions, from the sale of virtual products, advertising, services or by redirecting web traffic, their product consists of the users who access their platforms. These are just tentative steps when it comes to analysing and exploiting the vast quantities of data flying around the Net. This is "big data", information on consumers such as when, where, what, why they consume, how they contact companies, what information they share with

their acquaintances (and strangers) and how the companies themselves respond. Data is already a marketable commodity. The issue for companies is not how to analyse all the data, but how to identify what data is most relevant for their business strategy and how to get the most out of it.

Barriers and threats to social technology

This attractive phenomenon also has its thorny side: social technology is still in its infancy and effective solutions have not yet been found to solve the concerns of individuals, governments and companies. Questions such as privacy, authenticity of online data and the establishment of laws to regulate social technology are hot topics. At the same time, there are people who feel overwhelmed by so much connectivity —while others cannot do without it. Companies fear intrusion and security issues in their information and systems. If these barriers can be overcome, the expansion in social technology will be unlimited.

Is Spain different?

Spaniards are proud of their sociability —online as much as offline. Spain heads international rankings of user numbers and frequency in the use of social technology. However, like elsewhere in the world, large IBEX-35-listed companies and SMEs all still lack a clear strategy to address social technology. Those that do venture out will find a market ripe for exploiting, filled with consumers who are eager for technological/social solutions.

The Future Trends Forum experts foresee a promising future for social technologies; a future in which we will not only be more connected, but in which individuals will play a more central role. Where the virtual world and the physical world converge. A world that is more transparent and at the same time more controlled and regulated. Individuals are already enjoying the advantages it offers and social technologies form part of their day-to-day routines. Companies, however, need to be quicker in tapping into the potential —both internally and in their customer relations.

1 Prologue

The Six C's Of Social Technologies

First Retail, Inc. and Social Data Lab were invited to participate as thought leaders at the 2011 Future Trends Forum on Social Technologies, held at the Ritz in Madrid. As a foreword to this publication, we begin by reviewing the emergence of Social Data over the previous eight years and then projecting forwards eight years hence to 2020.

The power of social data is in making the implicit explicit. This was the incisive insight that Joshua Schachter, the founder of Delicious, a social web service for the storing and sharing of web bookmarks, had about data. For centuries, the fabric that bound our communities lay obscured from us. Through our credit cards, Facebook, Twitter, restaurant reservations, mobile phone and a host of other mediums, we have actively contributed in creating an external representation of ourselves. Details of your raunchy personal life can now be inferred from the sneaky search you made on Google, the accidental slander you made on that online forum or that long forgotten purchase you made on Amazon. Put together, these data has gone into constructing a persona that is arguably an enhancement of you.

Yet for all that it is worth, the potential of social data was not realized until recently. The thirst for information has always been in tension with a desire to withhold information, with the tragedy of asymmetric information as a result. We are now in the position to right this wrong. Enter Airbnb, a global community marketplace that allows an individual to list and rent properties. Its value proposition is in matching any property owner with some unused space to travellers who want to avoid the homogeneity of hotel rooms. In a mere 3 years since its inception, Airbnb registered its first millionth booking in early 2011. From socially sourced data provided responsibly by users of the site, a profile is constructed for each user. It is this profile that has enabled both the tenant and landlord to engage in an easy filtering of incompatible matches, instill trust, and ultimately allay the fears of letting a stranger into your home.

Let us also consider another social technology that is impacting another industry that has suffered from the crisis of information –the job market. BranchOut is a Facebook application that is at the heart of revolutionizing the recruitment process. In an increasingly crowded space, BranchOut was the first to recognize that the information embedded into the social identity of an individual is much higher than what can be learned from a resume or interview. Details about a person's location, education, work history, friends and behaviors inform the smart algorithms at BranchOut to match jobs that really matter to the individual, and individuals that matter to the company. It is no wonder that here are now over 10 million active users on the site, relishing the new freedom in information access for both the recruiter and job seeker alike.

The list of social technologies goes on, but what we are observing is a radical shift in the scale of information flow in and between the communities that we reside in. This was simply unimaginable in as short as eight years ago. In 2004, online strategy teams in recognition the value of a read-write web were advocating a framework of three C's: Content, Community and Commerce. These three words define concepts that were championed by the three dominant companies of the

period: Content via Google, Community via Facebook and Commerce via Amazon. Together they created the new online eco-system for businesses and individuals back then.

Google's dominance in content retrieval was based on a strategy to redefine knowledge –where units of knowledge are easily found and shared. Over the period, Google has spawned or acquired a host of additional knowledge based services (Maps, Gmail, Android, Wallet, Google+, all the way to the concept of self-driving cars) that are designed to index and make the world's knowledge available anywhere via any device to anyone. On whatever scale you care to measure, be it culture, company or country, Google is accumulating content both vast and detailed.

Facebook is *the* Social Network, with a thousand million users spending 20% of all their Internet time in the application. It has reached the extent where it is not simply recording real world events, but it becomes the medium through which real world interactions take place. This in itself is a colossal paradigm shift –where the boundaries between online and offline start to blur. Facebook's revelation of the possibilities of a trusted online identity is a profound one. With it, connections that are genuine and uncontrived were generated, forming communities that facilitated conversations and co-creation. This has fueled the rapid construction of an ecosystem of whole new industries of applications ranging from games to utilities, supporting and pushing the boundaries of connectivity.

At the forefront of commerce is Amazon, a company that conquered each and every retail category it moved into. Beyond that, it also reinvented other industries along the way with Amazon Web Services, Mechanical Turk, Marketplace and the Kindle. Its reach is beyond imagination –it is a store that welcomes 50 million active customers spanning almost half the globe. In a short time, it became the de facto purchase content provider regardless of intent. Fundamentally, Amazon has changed the way people discover and purchase products, and the commerce industry at large.

And yet, this eco-system of the early century has not remained static. In recent years, we began to observe whole new developments in technical infrastructure for Cloud Computing, Software as a Service and a distribution system for mobile applications. Drawing from Tim O'Reilly's definition of Web 2.0, this phenomenon represented a radical change in the online engagement model for leading-edge organizations from "publishing" to "participation".

As such, despite being once considered as the Holy Grail of online strategy, the three C's are now finding themselves supplanted with new ideas. From a close examination of the most recent trends, we can add three further C's: Context, Connection and Conversation. Deeply rooted in Social Data these concepts are now defining the latest business models and the evidence is mounting towards their success.

Take a ride on public transport or sit in a restaurant anywhere in the world and we see that people are almost permanently connected to each other via online services, perhaps to the extent that removing these devices now results in a psychological withdrawal. Mobile services have proliferated, enabling individuals to willingly register everything they do at the point in time and the place that they do it creating millions of check-ins, photo posts and likes logged each second.

This activity is creating a rich physical context for each online data instance. This allows both explicit and implicit Social Technology services to be launched to make life more convenient. Explicitly, real time location aware services such as GoGuide and Highlig.ht allow people to find members of their social network in the real world. Implicitly, where credit card companies are able to match a check-in with a payment transaction providing further authentication of a transaction.

People are now connecting with each other on a global scale –socially, professionally and implicitly via a plethora of networks and with a flexibility of purpose, longevity and significance. As a society, we have learned much over the last eight years as to the authenticity of these connections, yet systematically, we operate in naiive ways allowing malevolent behaviors to take place. Social Technologies will play a part in identity management and authentication, where the data trail a person leaves behind provides a stronger means of verification than more traditional forms available today.

The Cluetrain Manifesto, published in 1999, began with "These Markets are Conversations". It demanded that businesses need to pay closer attention to the voices of their customers that are broadcasted loud and clear via the Internet. This notion of customer feedback spawned eBay Seller Ratings, Bazaar Voice reviews and ratings and OpinionLabs harvesting feedback directly versus traditional market research techniques. Now in 2012 we are seeing Conversations becoming Markets: services such as Facebook Marketplace, Twitter and Zaarly begin with the conversation and then allow participants to be matched based on deeper levels of individual preference, identity and network data.

With that, we enter into a new evolutionary period with an interplay of not 3, but 6 C's: Content, Community, Commerce, Conversation, Context and Connections that will drive and propel us forward.

This new framework has not only encapsulated new online behavioral models, it has rendered a whole new set of technological possibilities. From this, we envision the emergence of a set of enabling technologies in sensors, identity services and marketspaces, fueled respectively by the new paradigms of Context, Connections and Conversations.

Sensors placed on objects, in venues and at locations will become the eyes and ears of the Web –allowing individuals to provide context to their mobile data and for context to be provided back to them. A sensor placed in a physical store will enable a passive check-in registering customer visits –however, once checked-in, the store will now recognized the consumer as a loyal customer or a new customer and be able to differentiate the experience. Sensors will allow people to passively create more data about themselves and to gain convenience in the process.

New ways of authenticating identity through association of individuals with their data will supplement or even replace today's physical checks. An identity system based on the analysis of Social Data may be more difficult to compromise that a centralized reputation service. This pillar built out of the conversations and interactions will be necessary for the trust network to occur that will enable a data driven economy.

As individuals express themselves online revealing more and more of their opinions, desires and vices, the social data web becomes a noisy party where

individuals are busy seeking each other out to share common interests and objectives. As they connect they will interact and work out how to transact for mutual benefit, effectively turning conversations into markets. Services that facilitate these connections will evolve: today an individual is able to state their needs to a vendor who has a published inventory. In the future a vendor offering a product or service will state the need for a customer and a system will find customers from an inventory of needs. Marketspaces are bi-directional and will evolve to make valuable conversations even more productive.

From the sublime to the ridiculous, from the predictions to the present. The reality is that we acknowledge that predictions are ultimately very difficult, especially if they are about the future, as famously claimed by the renowned physicist, Niels Bohr. Thus, beyond mere prediction, we would like to instead prepare the individual for what is to come. To do that, the individual must first embrace the notion that the Social Data Revolution is upon us and is here to stay, and that the tendrils of social technologies will percolate through every industry known to us.

It is in our view that there is no better preparation for the future than this publication. In here, we really have a collection of new technological innovations, trending ideas and enticing imaginations brought to life by an unprecedented growth of social technologies. But before one goes through this publication, we urge you, the esteemed reader to ponder upon the paradigms we now currently hold. Revisit the ingrained worldview of privacy and ownership which you have held onto so fiercely due to a combination of nostalgic lament and convenient inertia. Then as you then begin to flip the pages, we encourage you to do so with a nonchalant disregard for these biases. Most importantly, we invite you to join us in profoundly letting go and embrace the spacious possibilities of the future.

We would like to invite you to share your thoughts and predictions of the future on our facebook page: fb.com/socialdatarevolution.

Andreas Weigend
Founder of Social Data revolution.

Gam Dias
Founder of First Retail Inc.

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2 Introduction

In a constantly developing world, one of the keys to success is to know how to anticipate change and the possible impact it will have on us in the medium to long term future. If we master this knowledge, we can identify and exploit future business opportunities. Achieving this goal requires certain tools, amongst which an analysis of future trends is important. Bankinter set up its Fundación de la Innovación with a clear objective: to influence the present by looking to the future and to stimulate the creation of business opportunities at the cutting edge of technology and management, in order to promote innovation in the Spanish business world. It is an ambitious and innovative project, through which Bankinter hopes to stimulate the creation of business opportunities from changes in social surroundings. With over 300 international expert opinion leaders from different disciplines, hailing from around the world, and a superb board of trustees, the project also seeks to reinforce Bankinter's commitment to society.

The Future Trends Forum (FTF) is the Fundación de la Innovación Bankinter's most important and most fully consolidated project. It is the showcase of Bankinter's culture: innovation and commitment to new developments. The FTF is Spain's leading forum on long-term forecasting and innovation and embraces top scientists, academics, businesspeople, entrepreneurs and other leading international intellectuals. It is the only multidisciplinary, multi-industry and international think-tank in Europe. It seeks to convey all the objectivity of a forum enriched by a range of viewpoints, which remains unbiased and unswayed by private interests of any kind.

The forum strives to predict the immediate future by detecting the social, economic, scientific and technological trends that are most likely to change the way we live and work, analysing possible scenarios and impacts on current business models in sectors that will be most affected. Based on these deliberations we seek to draw conclusions pm to the best way of creating wealth out of the situation. These recommendations are intended to be circulated among different strategic spheres of society

The Future Trends Forum members themselves can propose issues for discussion and a vote is taken on those that will eventually be addressed. The final result comes when the conclusions of this survey of employers, professionals, top management, companies and institutions are circulated. This phase takes the form of the publication of this report and a series of lectures given in the larger cities in Spain.

This latest publication, prepared with Accenture as the main collaborator, presents the Future Trends Forum's conclusions on the impact the phenomenon of social technology might have on society and on the market.

We shall start by explaining the concept of "social technology". We will look back over the main milestones and precursors, and go on to define its current features and the functions, capacities, uses and possibilities it offers. We will also analyse how it has been received at a global level.

Secondly, the report analyses the specific potential and the uses social technology offers each agent in society: individuals, government and non-governmental

organisations. It looks at the online social activity of the individual, the influence of social technology on mass phenomena such as the Arab Spring and the response of different governments to this and other social phenomena. It describes how governments are using social technology and how they are going about providing the public with a virtual identity. It also reviews the possibilities that social technology offers to non-profit organisations and the benefits of social technology when it comes to finding solutions for disadvantaged groups.

The next part analyses the impact of social technologies in the current business panorama and the trends for the future. It looks at successful case studies, examining this aspect from various perspectives: the traditional company, industries that have been organically affected by social technology, new business models and the phenomenon of *big data*.

It then goes on to offer a space for reflection. From a more sceptical perspective, the report reviews some of the main barriers and threats of social technology in the business, social and individual spheres.

The last part of the publication describes the current position of social technology in Spain. It analyses how Spaniards use social technology, looking at best practice and possible areas of innovation in business and government.

Once again, the Fundación de la Innovación Bankinter hopes that this new publication will act as a source of knowledge, but, above all, that it will stimulate and guide professionals and employers from different sectors to harness the advantages and opportunities that may arise in an uncertain economic landscape. More than ever before, companies that know how to understand change and act in consequence will not only manage to remain in the market, but will emerge strengthened from the crisis, ready to benefit from the new wave of growth when it comes.

3 The social side of technology: a biography that is being re-written every day

- Ancestors, birth and adolescence
- The current status of social technology
- Anatomy of social technologists

Man is a tool-user. Have you ever picked up a knife in your kitchen and noticed its tip was bent or broken off? Someone else in your home probably used the knife-point to poke at something. It probably wasn't the right tool for the job, but it happened to be available.

As a long-time observer of technology and innovation, I enjoy not only learning about new technologies –but also noting how often they are deployed in unexpected ways. Their creators might have had one purpose in mind, but somehow, the technology was pressed into service into other uses that were entirely unforeseen.

The wave of digital innovation loosely called "social" is definitely a case of the genie escaping from his bottle –and leaving the holder of the bottle to stare, gap-mouthed, as the world becomes transformed by the spread of social technologies across personal, business, and governmental arenas. Starting with extraordinarily simple and unambitious tools like Twitter, enabling unstructured digital chatter, the world is now transforming in front of us to embroider social technology concepts into everything it does.

Companies are using loosely federated groups of individuals –not workers, but free-lance talent– and social media tools to mimic the function of call centers, but without the cost of the call center's walls, desks, and downtime. Conductors can form "virtual choirs" of voices from any corner of the earth into a nearly limitless size by digitally assembling individual recordings into a massively voiced master. Governments can be toppled in days, not decades, by the strength of individual voices contradicting the supposed official version of the truth.

The essence of "social" (a term I dislike as much for its imprecision as its ungrammatical usage) is the importance of the individual and his voice, and the individual moments and micro-events that would otherwise be invisible, submerged in the huge sea of our existence. A burgeoning variety of new tools to preserve, to share, to build upon these voices and these moments is emerging.

Even as many of us point to the apparently trivial nature of these tools, the individual voices and the tiny moments they can record are now coming together like equally tiny coral polyps, to form a massive new coral reef. Coral reefs are significant in marine biology because they are the platform for rich, diverse ecosystems –they're literally the base of many layers of life forms each dependent on the next.

Social technologies are building new coral reefs around our world, changing the way we interact, learn, work, govern... the way the world turns. We hope this publication adds a few more coral polyps to the reef of insight about the evolution of social.

Emily Green
Chairman Emeritus of Yankee Group Research Inc. and the author of *Anywhere: How Global Connectivity Is Revolutionizing the Way We Do Business*.

Clearly, we are social animals: since the dawn of time, our survival instinct has forced humans to build ties, alliances and agreements in order to coexist with neighbouring tribes, towns and countries. However it is only in our times that the barriers of space and time have been pulled down. The result is a model of relationship in which individuals, organisations and even objects can interact anytime, anywhere thanks to the ubiquity of technology.

This capacity to bring us together has "humanised" a particular form of technology, leading it to be called "social". The Future Trends Forum experts define "social technologies" as those that can be combined to enable interaction between people, objects and between people and objects, co-creating economic and social value. Social networks, as we shall see, are just one piece in the social technology jigsaw. We have the tools; can we now get the most out of the expansion in social technology? In this report, we shall try to answer this question.

What is clear is that the development of these new technologies is strengthening our capacity to interact with other people and organisations, and is transforming social, commercial and governmental relations and making them more dynamic. Almost without our knowing, the way we relate, communicate and understand the world has changed. Social technologies are here to stay and the extraordinary speed at which they are advancing holds out an exciting future, full of new possibilities. In this chapter we will review the development and current situation of social technologies, in order to get a clearer idea of what they will be like in the future.

3.1. Ancestors, birth and adolescence

To understand the essence and origins of social technologies we need to go back to the one great disruptive innovation of our time: the birth of the Internet. Since the Internet was first created, the capacities it offers have grown exponentially, each development building on previous ones. And social technologies seem set to benefit from a combination of all their predecessors. We can expect whole new waves of innovations as we begin to discover just what can be achieved by combining these capacities: social networks, the Internet of Things, geolocation and the deployment of new sensors (for individual health monitoring, for example). Let's now take a short look at how these capacities have developed, to get a better idea of the springs from which social technologies have drunk.

The Internet brought us the possibility of accessing and sharing vast quantities of information online. It laid the foundations for the exciting new era we entered in the first decade of the twenty-first century. From its very beginnings in the 1960s, the Internet held out great promise; and in the 1990s, it bore fruit.

In 1994, Yahoo! created the first search engine, providing us with a structured way of accessing information. The first online advertising sites (Google, Yahoo!, AOL) received revenue every time someone clicked on one of their links. Regulatory bodies were quick to free up –and thus, to promote– the e-commerce sector. The new dot-coms seemed to have unlimited economic potential. They allowed us to share documents in any format: texts, photographs, videos, etc. Then in 1999, we discovered that as well as swapping CDs with our friends, we could share our music with complete strangers, thanks to MP3 format and peer-to-peer file-sharing

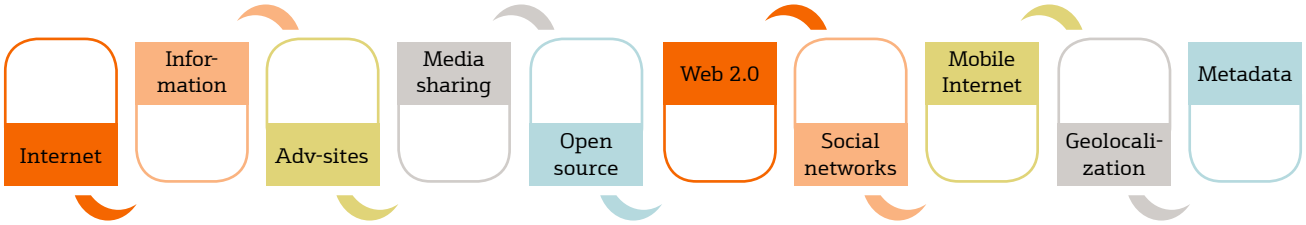


Illustration 1. The precursors of social technologies.
Source: authors.

tools[1]. Twenty-six million users took advantage of the late lamented Napster to build up their music collections (though in 2001, US courts reminded us that copyright was still operative and closed the site down).

People wanted to go on sharing, though, and open-code software emerged with its promise of a brave new technological world in which programmers could gain access to the program architecture, learn from it and improve on it; in 1998 Linux became the example to follow[2].

The five years from 1997 to 2001 formed the golden age of the Internet. Golden, maybe, but static and immature, and it ended with the bursting of the dot-com bubble. The new century began in a spirit of rebirth and lessons learnt[3].

In 2004, Tim O'Reilly concluded that not only had the Internet not gone away after the fiasco of 2001 –it had taken on a whole new lease of life and a new approach. O'Reilly set out a series of principles and premises for Web 2.0: Internet as a means (and not an end), a flexible profitable platform driven by collective intelligence, in which information (data) stands at the core of the business. Web 2.0 technology requires constant improvement; it has to enable its users to interact. As users, we soon followed the trend: the first social networks, including Facebook and Twitter, were created a short time later. In this Web 2.0, communication is gold. In the first decade of the twenty-first century, we adopted social networks and platforms as our everday channels of communication.

Down came the spatial barriers, with Wifi and the mobile phone. Although the first mobile phone with an Internet Connection came out in 1997[4], for the first few years of the noughties, most of the business centred on marketing ringtones and revenue from texting. In 2000 and 2002, the ITU[5] issued the IMT-Advanced requirements, laying the foundations for the telephony of the future[6]. 3G mobile phones brought a revolution in 2007. And in the same year Apple radically altered or view of mobile technology when it launched the iPhone, repeating the trick in 2010 with the new iPad. The two terminals incorporated technology that allowed users to go online and interact with others via 'apps' (applications).

The fact that the Internet is now mobile has brought a new player to the social technology game: geolocation allows our smartphone applications to determine where we are in real time and interact with our surroundings. Given the constantly growing amount of data out there, online information is sorted and cross-referenced using metadata systems.

[1] *Wikipedia* and *ABC*.

[2] http://opensource.org/.

[3] knol.google.com/k/la-explosión-de-la-burbuja-punto-com.

[4] www.mobilemasterscommunity.com.

[5] International Telecommunication Union.

[6] Itu.int/imt.

But where do social technologies fit into the picture? Their great virtue lies in their ability to get the most out of each of the preceding movements, meshing them together in dynamic interoperable gears that allow people, tools, devices, applications, platforms and sensors to communicate.

What are the defining features of a social technology? The following properties are shared by most social technologies today (though not all applications include all of them)[7]:

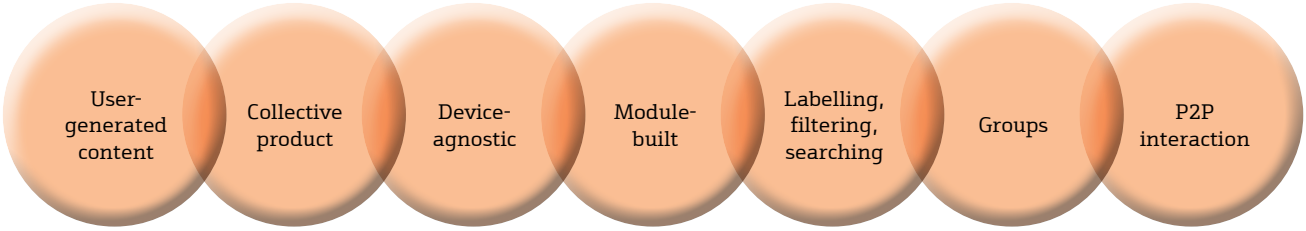


Illustration 2. Properties of social technologies.
Source: authors.

- **Principally user-generated contents:** as we have already explained, social technology is not an end, but a means whereby people and things can interact. Just as a popular demonstration consists of all the individuals who turn out, social technology is driven by the activities of each of its users. Take for example the InnoCentive platform, based on "open innovation". Companies set problems to the R&D problems community in a wide range of fields, such as engineering, IT, business models, mathematics, chemistry, etc., with a reward for anyone who can solve them.

- **Generates a collective result or product:** social technologies are what users make of them. The more people use them, the more contents will be generated, the more appealing and useful they will become and the more users they will attract. As we can see, these mechanisms feed off each other. Staying with the example of InnoCentive, the platform has become a reference point which innovators from around the world can use to contribute new creative ideas and solutions.

- **It allows two-way P2P (port to port, peer-to-peer) communication:** this includes person-to-person, organization-to-person and also person-to-thing communication. In a previous Future Trends Forum, we looked at how objects could become intelligent in the Internet of Things (IoT). Nonetheless, it may be worth refreshing our memories and bringing the information up to date. IoT consists of things that are connected to the Internet all the time, from anywhere[8]. In our example, InnoCentive, as well as putting organisations in touch with solvers, also provide blogs and forums in which participants and moderators can interact.

- **It must allow and promote group-formation:** in this way flexible structures are created between peers with common interests, and a feeling of allegiance and

[7] Source: presentation by Chris Meyers at the XVII Future Trends Forum.

[8] XV Future Trends Forum, *The Internet of Things.*

Social technologies are fun-driven, attracting experts and rookies alike to participate in social life

partnership with the other members of the group develops. The interaction is not two-way, but multidirectional. These virtual groups do not need their own rules of behaviour; they are governed by the same norms as "real world" society. InnoCentive, offers solvers with the Team Project Rooms tool, allowing multi-discipline teams to be created, whose combined knowledge can help solve the proposed challenge.

- **It is device-agnostic and interoperable:** in social technology there is no place for radical fanaticism about which devices can be used. On the contrary, the diversity of machines and software allow them to expand and evolve in unexpected ways. Devices must be "sociable"; in other words, they have to be capable of understanding one another and must speak a common language allowing them to interact. InnoCentive has a website with forums, blogs and tools for sharing information, as well as apps for smartphones.

- **It is module-built and personalised:** it may because this is a young science or because it is apparently unlimited, but the different tools forming social technology are built in instalments and can be customised to suit the owner of the terminal or the end user at whom they are targeted. In the case of InnoCentive, one example can be seen in the theme "pavilions", such as the one created by The Economist. It is designed to be a space where theories on innovation and human potential can be implemented.

- **It allows labelling, filtering and searching:** social technology includes tools that allow specific information to be searched for, grouped and segmented. This means they can meet the specific needs of each user, satisfy his or her expectations and fulfil the requirements of the application's administrators, who can measure, quantify and monetize the users' activities. InnoCentive labels its challenges by their field of innovation. This makes it easier for solvers to find challenges that match their area of knowledge.

No portrait of social technology would be complete without one underlying feature, which –alongside communication capacity– has become the touchstone of the most successful tools: social gaming. These technologies are fun-driven, attracting experts and rookies alike to participate in social life. Appealing platforms and arresting applications encourage us to treat life as a game; and of course, we have accepted the challenge.

3.2. The current status of social technology

Social technology allows us to communicate through different theme channels; the conversations may deal with any aspect of our lives and the contents come in multiple different formats. As users, we enjoy the possibilities for interaction social technologies provide "free of charge". At the other end of the chain, companies are learning to monetize their investment in these technologies. To do so, they need to keep constantly in touch with their consumers, understanding their interests, tastes, opinions and assessments.

Brian Solis, one of the most influential people in the world of social media and founder of Future Works and Jesse Thomas, founder and CEO of JESS3, an agency specialising in data visualization see the universe of social technologies as what they call a conversation prism, based on observing, listening and understanding consumers (see Illustration 3).

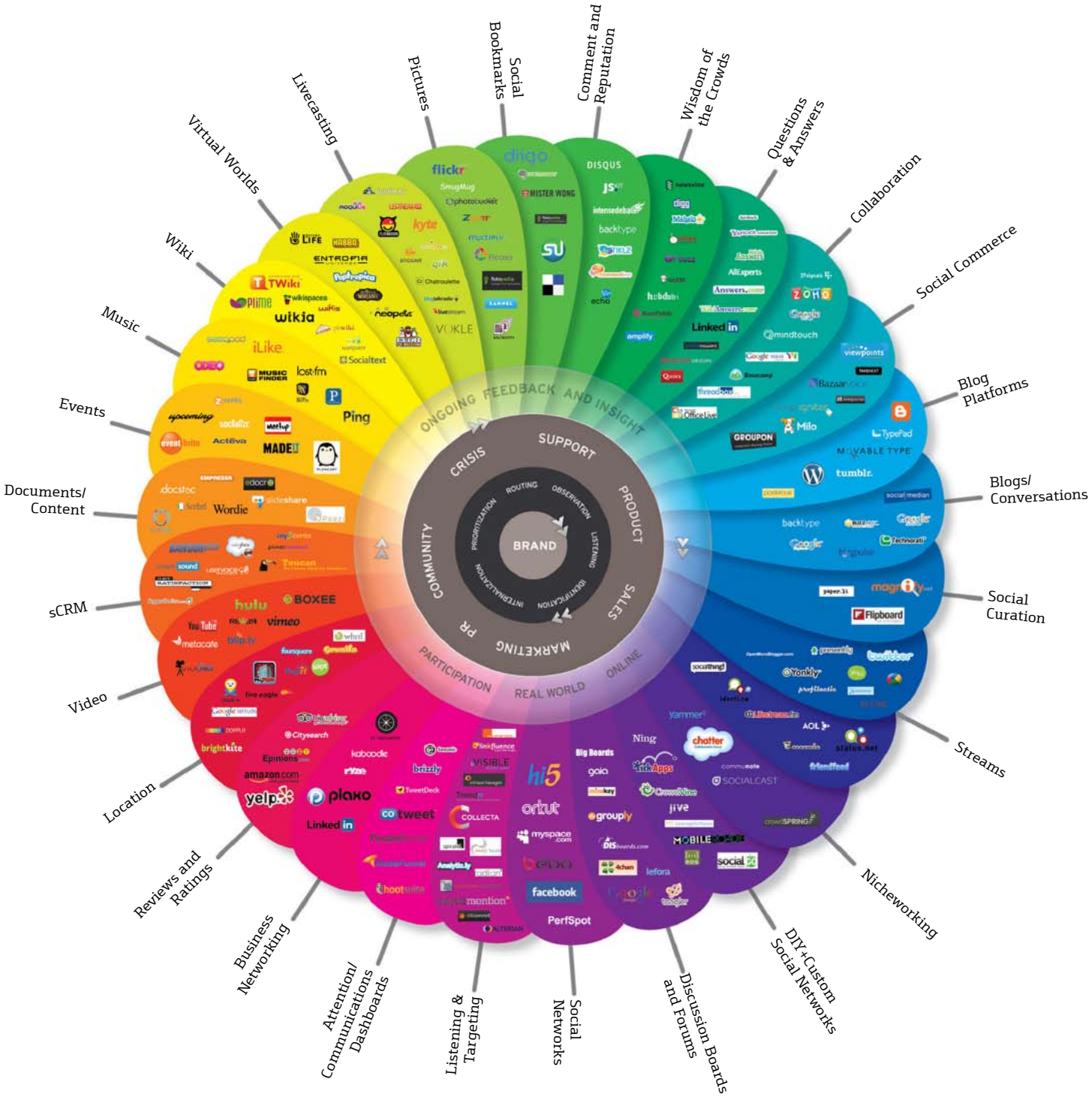


Illustration 3. The conversation prism.
Source: Theconversationprism.com.

Around the edge of the graph, social-technology conversations are grouped into twenty-eight categories according to the methodology used. The format of the conversation varies greatly, from pure audio-visual dialogue, with sites for video-sharing (Vimeo), photo-sharing (Pinterest), to blog platforms that allow contents to be integrated in different formats (Typepad). It also includes themes such as

event-creation and coordination (Meetup) and networking (Plaxo), encouraging social commerce (Groupon), nicheworking (Yammer), location-based tools (Dopplr), etc.

At the centre of prism is the brand and all the social technologies revolve around it. Companies, organisations and individuals act as the standard-bearers of their own brand, starting and proposing conversations. The first step in bringing these organisations to the virtual world is to identify the most effective channel to ensure that the message gets to the target audience. The conversation between the brands and social platforms takes place on two separate axes. The first of these is governed by the purpose of the conversation: sales, marketing, loyalty, etc. The second takes the form of continuous communication and feedback. As we can see, the technological/social prism is a purely communicative activity in which organisations set a target and enter into a dialogue with interlocutors over theme channels.

A social technology for every need

As we have already said, it is important not to confuse social technologies and social networks. Websites, such as Facebook, Tuenti and Twitter are just a small section of the wider gamut of social technologies. They address our need for collective socialisation, but there are many other social technologies meeting other needs. The Future Trends Forum experts have identified the following goals of social technologies:

- Collating and sharing information.
- Collaborating and adding contents.
- Sharing opinions and finding advice.
- Measuring sentiment.
- Distributing contents.
- Getting people to act and convening gatherings.
- Doing business, buying and selling.

We shall now take a closer look at these skills. This will help us understand the social universe in which we are living.

Firstly, social technology allows us to collate and share qualitative and quantitative information. This data can come from geographical and demographic figures, consumer statistics, etc., and of course, from the contents of our online conversations. No area of our life lies outside this technological spider's web, and it can offer us information on the most diverse themes. For example, FourSquare uses our social activity in the application to identify our geographical position and offer discounts and promotions. It then codifies our social and consumer activity and offers information on physical traffic –in establishments– and virtual traffic –in the application and on Twitter– to retailers and client companies. From commercial to urban traffic — or to be more exact, traffic reports for our cities: Google Maps Navigation combines Google Maps with information taken from open websites to give colour-coded information on congested streets to be avoided. The next challenge for this tool will be to incorporate real-time information calculated using the driving speeds transmitted by GPS devices in users' mobile phones.

Secondly, social technology is a space in which we can collaborate and add contents. Whether we're driven by narcissism, altruism or just plain reciprocity,

human beings are cooperative animals. Platforms like Freecycle have created a space in which we can exchange –for no profit– serviceable objects that we no longer use. People also cooperate in situations of humanitarian crisis. Hundreds of volunteers, for example, have used Ushahidi, a platform that locates useful information on a map, such as focuses of danger, natural resources and survivors. The information is provided by victims, volunteers and rescue teams, using text messages, websites and social networks.

Thirdly, social technology can provide a forum for sharing opinions and finding advice or help in solving day-to-day problems. It is a way of realising ourselves and defining ourselves before others, of establishing and driving forward our relations. And it is a way of reviewing different causes and brands. People, companies and brands transmit their vision, values and culture to their audience. The blog platforms, such as Typepad, provide support in this area, with user-friendly online visual content publication services, servers for storing information and content-control. However, social technology does not live on blogs alone. The conversation is two-way and we can also turn to it in search of answers. For example, we can use forums in which experts offer their knowledge, either for a fee of free of charge. JustAnswer offers answers on demand. All you have to do is say how much you're willing to pay to receive advice. One or more accredited experts will then be available to offer the best solution to your problem. In all cases, you only pay the agreed price if you get a satisfactory answer. On a slightly more frivolous note, if you're interested in doing up your house or redecorating your sitting room, you can go to SaucyDwellings. The site offers ideas and you can ask other platform users and collaborators for advice; they'll be all pleased to offer aesthetic and functional tips.

Fourthly, you can gauge sentiment in online social life, since the dialogue never stops: there are always plenty of people prepared to give value judgements, opinions, express approval or disapproval and tell you what they feel. There is extraordinary potential for data analysis in the most varied circumstances. Historically, different organisations and businesses have gauged attitudes to assess how a product will be received by consumers, measure the working environment in their companies, build up a quality-of-life index and predict –and reduce– tension between populations. Today, the sentiments expressed by users of social technologies can directly impact corporate reputation. Platforms such as We Feel Fine trawl blogs looking for statements of feelings. They then translate them into colour-coded maps and make correlations between feelings and factors such as climate, political events, and the age and sex of bloggers. On a more experimental note, the European Union is working to build a theoretical background to complement the development of technologies for gauging popular sentiment. Under the umbrella of the EU's Future & Emerging Technologies scheme, nine European research centres are working together on a project called Cyberemotions, which focuses on the role of collective emotions in creating, forming and breaking up e-communities, and seeks correlations between sentiments, emotions and their manifestation online.

Fifthly, we use social technology to distribute contents in the form of audiovisual or text documents. Platforms may be collaborative, creating an information-sharing repository along the lines of Wikipedia, or they may consist of channels that automate information distribution. An example of the latter is Opentable, a tool which enables user to make online restaurant bookings and automatically records their reservations in the establishment's ERP system. When it comes to

We have useful tools at our disposition that can make our lives easier, but to what extent have we actually welcomed social technologies into our lives?

using social technology to share and distribute contents, YouTube, which is now up to three billion videos viewed per day[9], hardly needs any introduction. YouTube has everything from reports and interviews with top celebrities, music videos and advertising campaigns. Companies such as Volkswagen[10] have opted for YouTube, with its sense of fun and play: at the end of February 2012 its channel had logged up 84,404,389 video views.

Sixthly, it is worth noting that social technology's capacity to get people to act and convene gatherings. Its participative side makes it possible to find other people right across the planet, join groups and work with volunteer causes, sign up for actions that are working to change the world (or your immediate surroundings) or simply grab your neighbours' attention. Avaaz aims to promote collaboration in socially important causes. At the time of going to press, it had promoted 2,682 events across the globe to increase awareness among world leaders on the consequences of climate change. On a more light-hearted note, Flashmob operates like a bulletin board. People can ask others to turn up at a specific place and time to do something strange or unusual. And if you're planning a trip and know just how small the world can be, at Dopplr not only can you share and post relevant information on your travel plans, you can also check whether you might meet up with anyone you know at your destination.

Finally, it is of course important to note that social technologies have allowed us to do business and buy and sell products and services. Social technologies give wholesalers and retailers the infrastructures they need to market their products. Sites like Amazon, at an international level, offer an established niche clientele of e-consumers for companies wishing to sell their wares. Platforms like Sustaination encourage people to buy local produce by putting food producers in touch with regional buyers. For entrepreneurs and companies willing to try and win us over with their instruments, the social technology business model itself holds out a series of advantages. Pinterest, for example, is an Amazon affiliate seller and gets a commission every time one of its users is redirected to the online retailer.

3.3. Anatomy of social technologists

So we have useful tools at our disposition that can make our lives easier, but to what extent have we actually welcomed social technologies into our lives? The concept is so novel and so far-reaching, that as yet there are no aggregate figures for the penetration of all social technologies. However, as we have seen, social technologies have arisen out of a combination of various Internet capacities: social networks, the Internet of Things, geolocation and the deployment of new sensors (for individual health monitoring, for example). Let's look, then, at the vast potential for penetration, analysing trends in the way different capacities are currently being used.

The figures for Internet and mobile technology penetration are staggering: two billion Internet users, i.e., one third of the world's population, unremitting growth in the number of mobile phone subscriptions and a 45% annual growth in the use of mobile broadband over the last four years (see Illustration 4).

The expansion of online social networks is unstoppable. Facebook forecasts that by mid-2012 half of the people who access the Internet will have an account on their social network[11]. In terms of global distribution (see Illustration 5), Europe and Asia lead the way in the number of social platform users and time spent on them,

[9] Source: YouTube, February 2012.

[10] http://www.youtube.com/user/volkswagen?ob=4&feature=results_main.

[11] http://www.computerweekly.com/news/2240113792/Facebook-set-to-reach-1-billion-members.

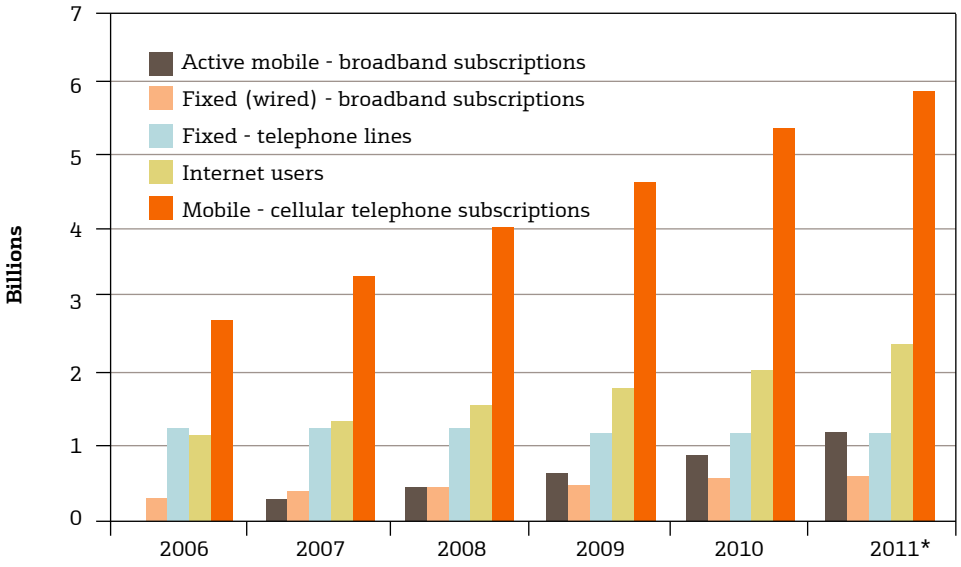


Illustration 4. The world in 2011: data and figures on information and communications technology (ICT).
Note: *Estimate.
Source: ITU.

followed by the two Americas. Different reports suggest that around 80% of Internet users in the USA, Latin America, Europe and Asia access social networks.

To this explosion in the social networks, add the increasing use of mobile phones to go online and the possibilities multiply. According to a study by consultancy service IDATE, mobile Internet penetration will have reached 37% worldwide by 2015. And in the field of mobile Internet, access to social networks is booming: around 60% of traffic on networks like Twitter and Salesforce comes from mobiles.

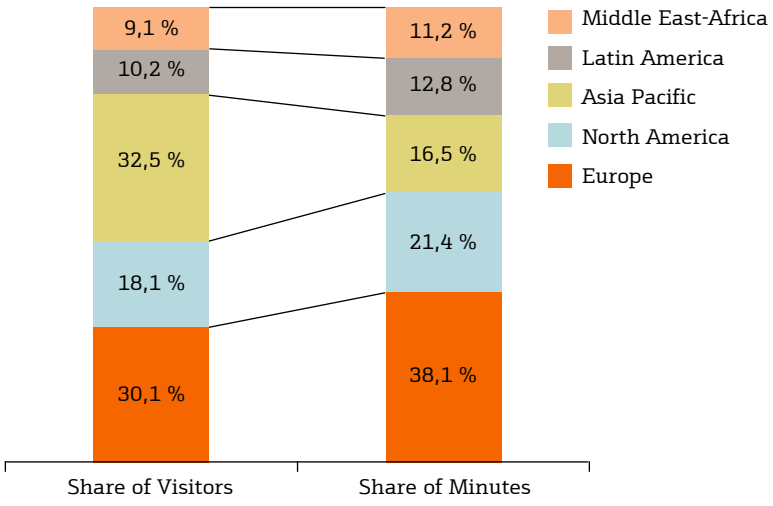


Illustration 5. Percentage share of visitors to social networks and minutes invested, by region.
Source: comScore.

This is being further augmented by a massive expansion in the number of smartphones and other mobile devices. In the last quarter of 2011, Apple sold 37 million iPhones and 15 million iPads. The result will be a compact human network connected via their apps[12]. In this context, geolocation-based social technologies have a promising –and largely untapped– future.

For its part, the Internet of Things will bring a whole new gamut of users to social technologies over the next ten years. Even based on conservative forecasts from international organisations, around 50 billion objects and machines (around eight times the number of people in the world) are set to join the worldwide conversation [13].

Social technology is no mirage: The way it has progressively caught on in our collective habits and customs shows how we have been swept away by it. Each new ingredient in this interactive cocktail is a foretaste of a future filled with creativity and innovation. The cloud seems set to bring us unlimited software resources and storage capacity and 4G superphones are just around the corner. The social gaming movement, capable of turning any activity into a game, is changing the game rules. What impact will the possibility of relating to increasingly intelligent objects have on our lives? Will we develop a sixth sense thanks to the combination of the physical and virtual world that extended reality can bring us?

The ingredients for social technologies to succeed are on the boil: The Internet, social networks, mobile devices, interconnected objects, an explosion in storage capacity... But are users prepared to try out the recipe? All the indications are that they are; the future lies with a generation of *digital natives*, born and raised in an era when Internet was not just something incidental but a structural part of society.

In the following chapters we will try to answer these questions. And we will look at each of the agents affected by social technology: individuals, voluntary organisations, businesses and entrepreneurs.

[12] http://www.elmundo.es/blogs/elmundo/catalejo/2012/01/25/por-que-los-ultimos-resultados-de-apple.html.

[13] http://www.lavanguardia.com/Internet/20110427/54144988444/dentro-de-diez-anos-50-000-millones-de-objetos-estaran-conectados-a-la-red.html.

4 The silent revolution: new social movements in the Net

- The physical individual versus the virtual individual
- Social technology and politics: power to the people?
- Technological governments serving society
- Good reasons to connect with social technologies
- Strategies to dream up a new world of technology

Last year the world witnessed a huge shift in the relationship between ordinary citizens, civil society and governments. With protest movements emerging across the globe, events like the Arab Spring and Occupy Wall Street demonstrated the power of social media to empower people with tools to have their voices heard. It was a year where for the first time a huge shifttook place in the way in which information flowed. Previously people were passively consuming news and information from government spokespeople on mainstream media outlets, these organisations acted as the gatekeepers and vanguards of information. Social media created the democratisation of media, enabling citizens to voice their own thoughts and opinions unfiltered to the world.

Whilst the power and speed of social media to mobilise people around common ideas is undoubtedly there, there are three main challenges that still need to be addressed if we want to discuss long term sustainable change within society.

The first challenge being that governments around the world remain inaccessible to the average person on the street. The many layers between the people in power and the people they're meant to serve, means that public opinion on key issues has not been heard. Whilst many activists have started using social media tools more effectively to get their voices heard, governments have been slow to respond or engage with these issues. Instead we're seeing governments use online platforms as a new form of digital propaganda –it is still a one-way broadcast platform. As a result we're seeing discussions that start online are eventually building up support and turning into mass protests in the streets calling for change. Governments need to embrace new forms of decentralised communication and start using social media more effectively to engage with people and to understand the issues that are being raised.

The second challenge centres around access to social media tools and its accuracy as a reflection of public sentiment. In many parts of the developing world, people who have access to these technologies are the middle to upper class, young, educated and tech savvy individuals. As such the discussions that are taking place online are only representative of a certain demographic of the population. In the case of the Arab Spring, social media played an important part in documenting the protests and mobilising youth to come out into the streets. However, it was also the millions of people, majority of whom did not have access to technology, who came out into the streets on a weekly basis demanding their rights. Activists and civil society need to find creative ways to use technology as a means to be more inclusive of the broader society. If they're able to find ways in which to engage a wider segment of society to start talking about the issues important to them, it will play a role in pressuring governments to pay closer attention to their issues.

The last challenge focuses around a need for a broader and inclusive dialogue on long term solutions. Social media has been valuable in informing us what is happening right here and now, but we're still missing the context of how people got to this point and what possible solutions could exist to bring about real change. If we are to look at Tunisia and Egypt as examples, both of whom have had recent elections, the activists who played a key role in changing the government have largely been excluded from discussions within the new political climate. Most of the current parties that are running for power have existed for many years. Previously they were marginalised by the old regimes, but now they've been brought back to the center of the political discourse. These parties should not follow the same model of the previous regimes by excluding the new generation of youth who are keen to contribute within their society. Failure to involve people in these discussions at the onset, means that any new government may find itself in a similar position a few years from now, when the changes they bring in are not the changes that the society is looking for.

With major changes taking place around us, new governments have a unique opportunity to use online platforms as a form of engagement with society and to address concerns and issues relevant to the average person on the street. At the end of the day social media is only a tool and its application will determine the true impact it will have on society.

Whada Kanfar
President of the Sharq Forum and Former Director General of the Al Jazeera Network.

In the 1960s, Marshall McLuhan envisaged the world as a "global village", as large as the planet, but as small as a village, in which everyone was aware of the problems faced by their neighbours. Half a century later, the concept of the global village is again becoming relevant, when information on friends and strangers is easily available on-line. In association with this idea, the theory arose of the "six degrees of separation"[14], whereby a connection can be drawn between any two people on the planet using just five links. The theory was corroborated by Facebook in 2008. In 2011, though, it announced that the degrees of separation between any two people had fallen from 5.25 to 4.78, possibly as a result of all that activity on social networks[15].

The two theories demonstrate the clear symptoms of changes our world is going through. The way we communicate and relate has changed irreversibly. The Internet has impacted our society as no other form of communication ever did before. And this influence will only increase as we incorporate new social technologies into our lives. As the Future Trends Forum experts say, social technology is changing the nature of the contents we consume and the character of populations, as well as the rate of engagement between people, governments and organisations: we now not only consume information, we also generate it, add to it and assess it, and we make real-time decisions. There can be no doubt that social technologies will have a radical impact on all facets of our lives: as individuals, as citizens, as employees, as consumers, as students, as philanthropists, etc.

Internet and social technologies have led to the creation of an ever more populated parallel virtual world; a world that is inescapably changing the traditional game rules of the physical world. It is creating a new democracy of ideas in which rich and poor, the inhabitants of cities and villages all have the possibility of being heard by millions of fellow humans. It is a more accessible world in which many barriers are coming down —obvious barriers, such as those of space and time, allowing us to socialise with people throughout the world any time, and also less evident ones, such as those that stand between governments and citizens, consumers and companies, doctors and patients, teachers and pupils, different social classes, and others. For the first time in history, we can see a person's social graph, who their friends and acquaintances, workmates or relatives are... all at the click of a mouse. Vast quantities of data are circulating on the Net. The possibility of analysing them all is as appealing as it is threatening.

The other side of the coin is a reminder that not everything in the virtual garden is rosy. Identity theft and lack of privacy are the prices to be paid, the side-effects of the medicine.

The silent revolution of social technologies is gaining more and more followers. Innovation in this area has only just begun. In this report, we will analyse some of the innovations now taking place and the trends to be generated by others in the future.

4.1. Signs of a split personality: The physical individual versus the virtual online individual

The Future Trends Forum experts believe that the greatest impact of social technologies will come in the field of individuals; men and women will enjoy a

[14] Travers and Milgran, *An Experimental Study of the Small World Problem*, 1969.

[15] http://www.theregister.co.uk/2011/11/22/facebook_reduces_six_degrees_of_separation/.

more and more transparent relationship with everything around them. Business and government will have to be more accountable to "ordinary people". Social technology allows people to rally around causes and ideas in a matter of seconds on the Net. The average citizen is becoming part of the decision-making process thanks to the use of social technologies. In short, individuals are being empowered in an increasingly global world.

All the signs are that our online life will play a more and more relevant role. And just like the physical world, we can adopt different roles to relate with other people, companies and organisations: we can be friends, citizens, workmates, activists, consumers, etc. Given how many people are flocking to social technologies, business and government must understand what they are being used for. Forrester classifies consumers into seven groups based on their online activity, and consumers can fall into several different groups. Only Inactives are an exclusive group (see Illustration 6).

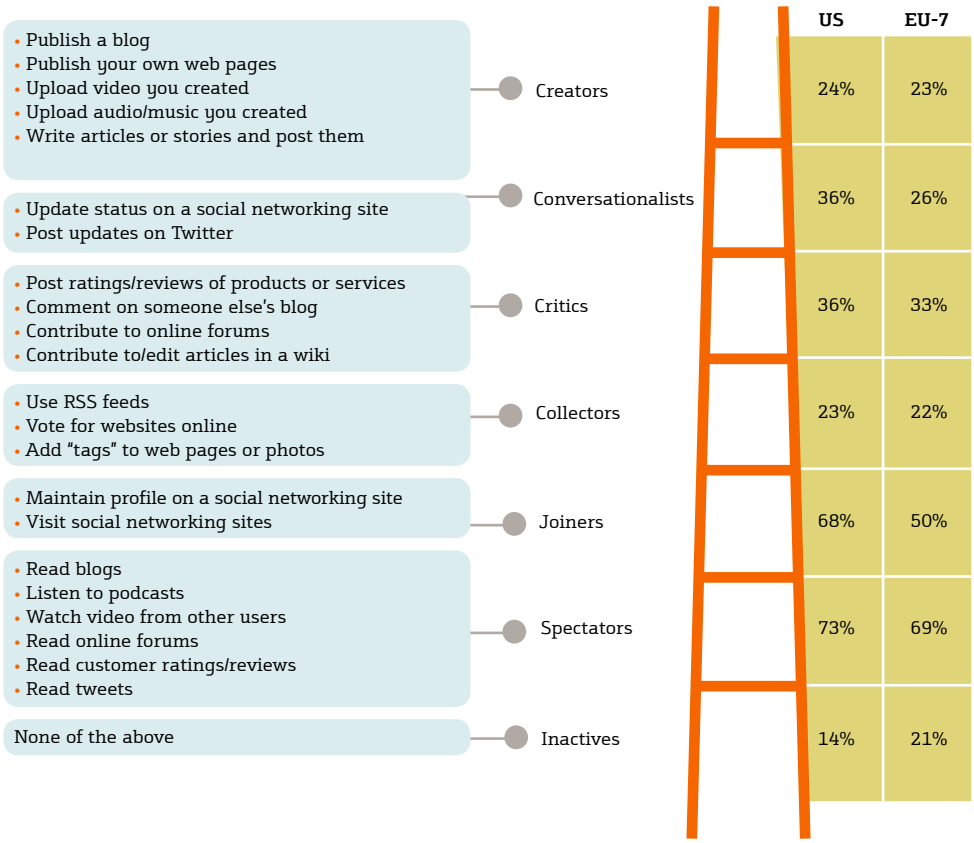


Illustration 6. The social technological scale.
Source: Forrester.

Today, 86% of American adults and 79% of Europeans use some form of social technology[16]. Yet, if we take a closer look at how they actually use it, we see that most of US and European consumers are simply spectators. This means that when we access social technology, we tend to consume content, rather than

[16] http://blogs.forrester.com/gina_sverdlov/12-01-04-global_social_technographics_update_2011_us_and_eu_mature_emerging_markets_show_lots_of_activity.

The physical world and the online world are being progressively integrated by social technology

necessarily creating it. Less than a quarter of consumers are creators. However, in emerging economies, the figure is higher; in China and India it is more like two thirds. So instead of thinking in terms of "one-size-fits-all" solutions, companies need to adapt their strategies to the idiosyncrasies of each particular region.

Not all content users behave the same way online or impact the rest of the community in the same way; essentially a distinction can be drawn between two profiles: *prosumers* and *influencers*. Let's take this step by step; a *prosumer* is a person who, as well as consuming, publishes information on the product or service consumed and makes it available to a virtual audience. Needless to say, long before there were social technologies, there was the beloved and dreaded "word-of-mouth" system, but in those days, words could be "carried away by the wind". Today's opinions are served hot and cold, twenty-four hours a day. And they are accessible to friends, acquaintances and third party observers. It's no longer just companies that manage brand image; in a world in which people increasingly rely on the judgement of their acquaintances, anyone can influence online reputation. Influencers, on the other hand, are opinion leaders; they catch our attention and can influence a larger number of people: their voices are louder and travel further than others in the virtual spectrum. We should not lose sight of their economic and social value in a virtual world with around two billion inhabitants. Want to know how much of an influencer you are? Go to Klout, a tool that awards you a score of between 1 and 100 "klouts" using information taken from Twitter, Facebook and Google+, as well as other platforms and blogs.

The social graph: a rising value

Unlike our social life in the physical world, which doesn't always leave a perceptible footprint behind, our online interactions are all perfectly traceable and measurable. Social graphs offer information on the interaction between people, social platforms, websites and the content they access. Our virtual life complements our physical life; we create and maintain friendships with other people, do business, search for information, shop around, etc. The challenge is to open a window to a combined understanding of the real and virtual world, to find a formula that will allow us to identify the correlation between our behaviour in the two dimensions.

The physical world and the online world are being progressively integrated by social technology. The Future Trends Forum experts believe that the next stage in the convergence between physical and virtual will be the computability of online data to identify patterns of conduct: a combination of behavioural science and algorithms identifying patterns of virtual activity correlated with physical-world landmarks or activities. Researchers now have all the ingredients: increasingly powerful computers host algorithms that can crunch the numbers; people express their thoughts, interests and feelings publicly online, creating a map of interests in a language of ones and zeros, associated with demographic figures. We are more analysable and predictable than ever before. And our online actions may have more implications than we think. Among others, many companies are beginning to monitor the online activity of employees or job applicants (see Illustration 7).

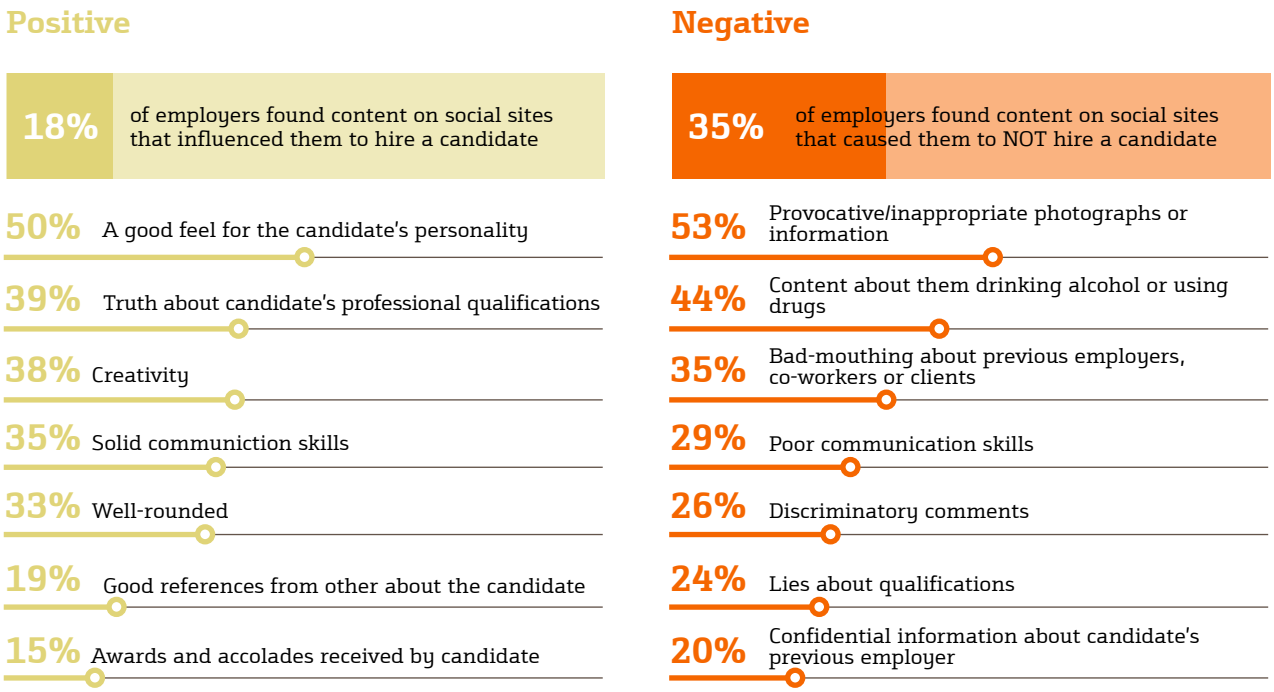


Illustration 7. What companies discover in social network profiles.
Source: Mindflash.com.

Knowing about the relations between people, the social graph is highly valuable information for owners of social networks, companies wanting to capture customers in the network and for the members of the network themselves. The problem identified by the Future Trends Forum experts is that the explosion in the social graph and capitalising on the information it contains will only be possible if social technologies are integrated, and that is still a long way from being achieved. Right now, each of us has the same number of social graphs as the networks to which we belong. At the same time, there are privacy issues with regard to the use of this information.

The Future Trends Forum experts say that in the future there will be applications that will know our preferences better than we do ourselves. First all the online data will have to be correlated and made sense of. We appear to be headed for a semantic Web[17] where each item of information will be accompanied by metadata to add context and value. The challenge of the semantic Web lies in finding a language similar to human language, in which all objects have the same meaning. This virtual language will allow us to standardise the meaning of the online data beyond the languages of all the different applications, just as all the objects in the real world have the same meaning in any language. This notion, which is closely related to the open-code paradigm, is considered utopian by many, although a community inspired by the concept is creating innovating semantic technologies; applications such as Newsle, that allow you to search for news on your network of acquaintances, or the online version of the New York Times[18], incorporate search tools based on semantic concepts and markers[19].

[17] http://www.realtea.net/.

[18] http://open.blogs.nytimes.com/2012/02/16/rnews-is-here-and-this-is-what-it-means/.

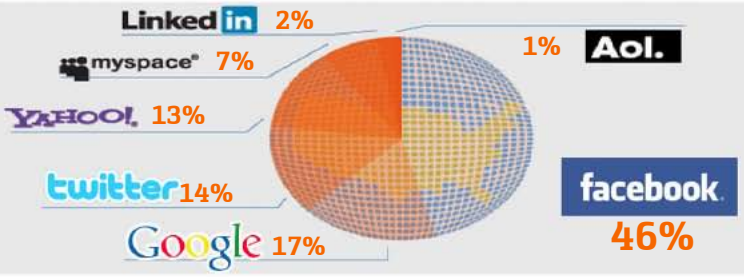
[19] http://semanticweb.org/wiki/Main_Page and http://semanticweb.com.

Multiple identities

What online IDs are people using the most to sign in around the web?

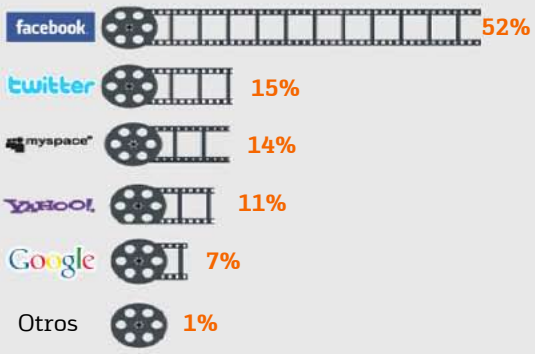
Across All Sites:

Users have made one thing crear to sites: when it comes to using an existing identity on the web, they want a choice of providers.



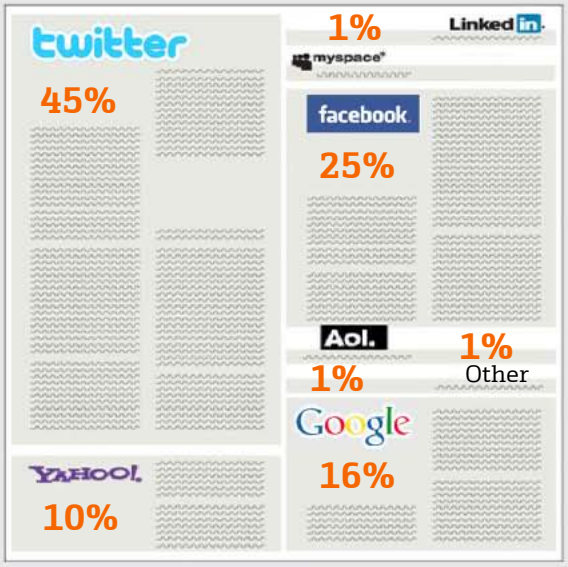
Entertainment Sites:

From sports and reality TV to music and film, 90 % of those logging into entertainment sites online do so with their social network ID. These sites tend to incorporate social features like Live Chat and Opinion Polls that encourage users to interact with existing networks of friends.



News Sites:

For commenting on or sharing the latest news, readers choose Twitter for connecting to news sites more than any other identity provider. Google and Yahoo together make up more than a quarter of connected news readers.



Business to Business Sites:

While Facebook still dominates the business crowd, visitors to B2B sites are more likely to use their Google or Yahoo identity. Linkedin also makes its strongest showing in this site group.

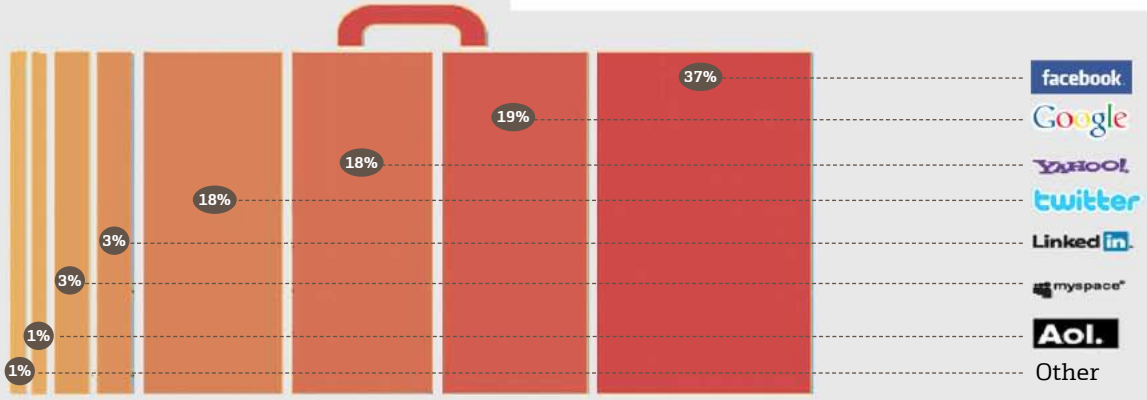


Illustration 8. Multiple online identities.
Source: Gigya.

Investors and laboratories are currently working hard to invent the future and are conducting experiments that will associate mobile phones, sensorial experience and social technologies

A universe of applications to improve our quality of life

Social technologies have a great variety of resources for improving individuals' quality of life, with specific applications for the everyday things that most affect and concern us. Judging from our browsing habits[20] and the large number of searches run, one of these areas appears to be health. Thanks to social technologies, information on symptoms, diagnostics and treatments can flow between doctors, patients and next-of-kin. Patients and non-patients can talk on platforms such as PatientsLikeMe and use applications to gauge their health. Apple predicts that by the end of 2012 the App Store will be offering around 13,000 health-related applications [21]. In 2012, the Spanish Anti-Cancer Association (AECC), plans to launch an innovative online volunteer scheme. Volunteers will go online to offer attention, support, accompaniment and emotional relief for people with cancer and their families[22].

The future of social health technology appears to lie in the convergence between people, devices and databases in the cloud. This is the approach taken by RunKeeper, which incorporates geolocation systems to monitor users' exercise, calculate statistics on the speed and distance covered and plot health graphs. Along the same lines, the Northwestern University Feinberg School of Medicine is obtaining satisfactory results with a mobile application to counter depression called Mobilize! Using this application, your phone will be able to analyse and measure your social life; if it "senses" that you're getting depressed, it will encourage you to get in touch with friends.

The Future Trends Forum experts are convinced that social technology is going to change our relationship with health, medicine and human capacities. Investors and laboratories are currently working hard to invent the future and are conducting experiments that will associate mobile phones, sensorial experience and social technologies. This mix could turn us into bionic men and women. Science fiction or reality? There are already signs that this is all becoming possible: for example, our mobile phones and computers already provide us with an extra memory. Visiting somewhere for the first time? Applications like NearestWiki can combine geopositioning data from your smartphone with results from Wikipedia and superimpose information of interest on your screen. All the signs are that we will soon develop a sixth sense, thanks to the convergence of social technology, augmented reality and the Internet of Things.

Although health always comes top of the list, it's not the only area in which mobile technologies are making waves. Parents, educators and political leaders are currently discussing whether social technology should be incorporated into education. The question is: should social technology be let into the classroom? On some forums, the issue revolves around the pros and contras of using these new technologies. On others, it is about how to get the most out of them. Social technologies can provide pupils with a space in which to interact with their classmates, not only for gaming, but also as a platform for social education and socialisation. Schools and legislators still need to work on methodologies that include the right monitoring systems and respect legal requirements and assurances on privacy of teachers and pupils[23]. The benefits of social technologies have not gone unnoticed in academia, and many institutions are already making use of their functions (see Illustration 9).

[20] http://pewInternet.org/~/media/files/reports/2011/pip_healthtopics.pdf.

[21] http://trendwatching.com/trends/12trends2012/?diyhealth.

[22] AECC.

[23] http://www.edweb.net/fimages/op/PrincipalsandSocialNetworkingReport.pdf.

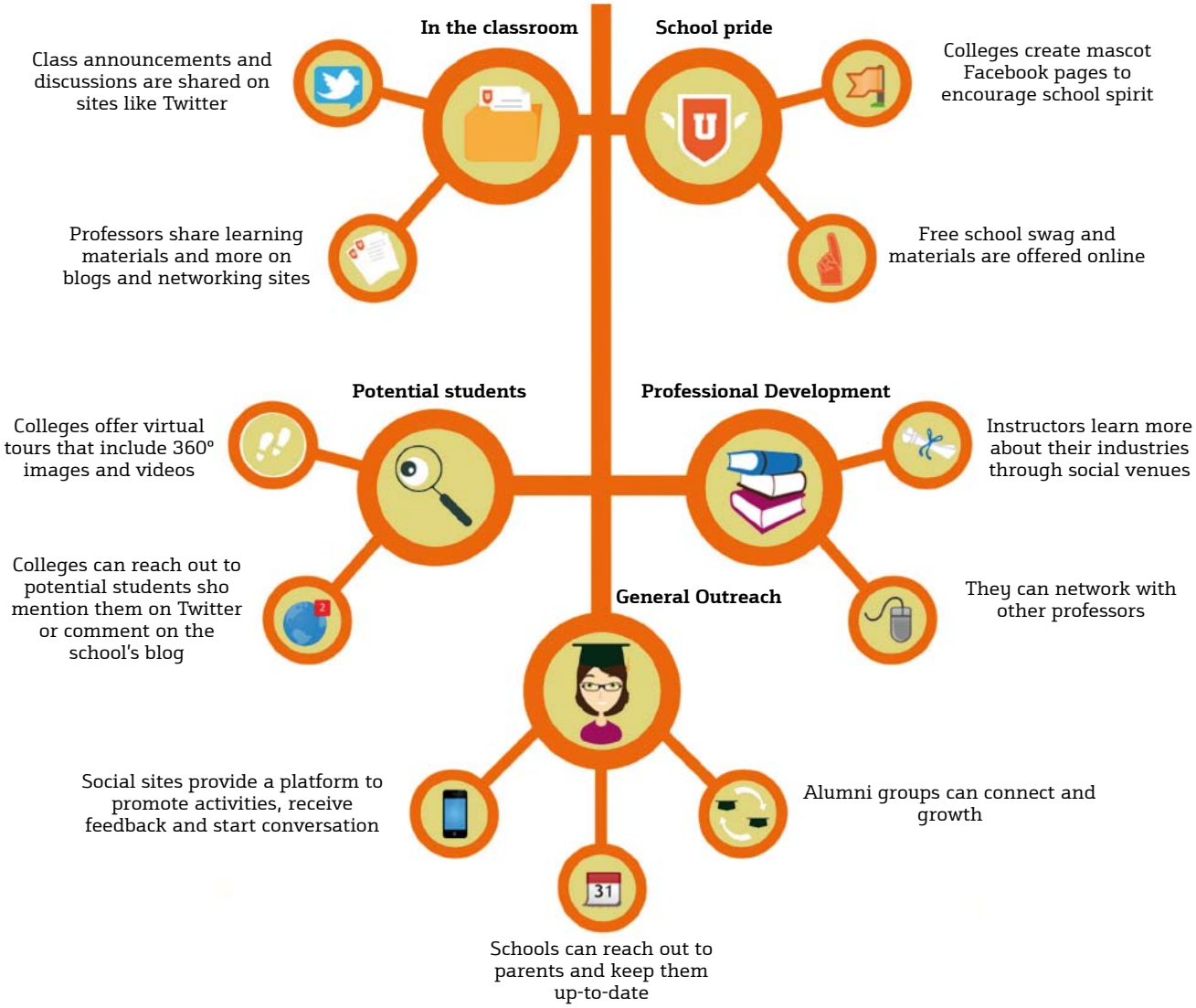


Illustration 9. Use of social technologies in school.
Source: OnlineUniversities.com.

Health and education are only two of the areas in which social technologies can help resolve the traditional problems of our daily life faster and more efficiently. The Future Trends Forums experts believe social technologies have brought the "4 Es": empowerment, emboldenment, engagement and enlightenment[24]. We have more information, we can make use of the knowledge posted by our contacts, we make better decisions and we have applications that improve our quality of life. They have transformed society, individuals and the way in which we relate. The speed of connection between people and institutions has increased. This change in individuals' behaviour will alter the classical unilateral decision-making structures, encouraging conversation between individuals and organisations. But are organisations ready for this conversation?

[24] In English, the four "Es": *empowerment, emboldenment, engagement* and *enlightenment*.

Social technology as a means of communication has taken on new relevance in a troubled age

4.2. Emergence of social technologies in political life: power to the people?

From late 2010 and throughout 2011, the news was full of ordinary people turning out in protests across the globe in a common purpose. In the Arab Spring, which took world public opinion by surprise, social technology had a massive influence as a facilitator of political revolt. Social technology as a means of communication has taken on new relevance in a troubled age, with crises in the form of economic depression in one half of the world and political oppression in the other. 2011 will go down in history as the year when the masses rose to defend universal values like liberty, equality, justice and peace. We shall not go so far as to say that social technology was the cause of the revolt: the real driving force was the bravery and determination of the people involved. Individuals raised their voices, risking their freedom and at times even their lives. The Tunisians took the first step, rebelling against a political regime that had been in power for twenty-three years. The protests spread throughout the world, in some cases more virulently than in others: in countries such as Libya, Syria, Yemen, Russia and Greece, and cities such as London, New York and Madrid, ordinary citizens were carried along on the wave of protest by social networks and platforms.

Aside from the actual motives for the different protests, the common nexus appears to be their use of social technology. Emboldened by the new social transparency and unlimited access to information, individuals lit the fuse, came together and gave each other encouragement online. When one of them began to lose heart, others would revive the flame in real time. In the case of the Arab spring, technology allowed them to get around government-imposed media restrictions. In the West, social technologies rallied people against apathy and despair.

In London, traffic on BlackBerry Messenger and Twitter shot up during the riots of summer 2011[25], specifically, the *hashtag* #Riotcleanup, shown in black in Illustration 10. In Egypt, the trigger came when a message was posted on Facebook telling of the killing of a fruit vendor by police[26]. Anti-system protesters around the world all claim to have been inspired by previous protests and demonstrations[27]. Their vision of the future and of their own destiny encouraged reformers and the speed with which information was transmitted allowed individuals to organise in record time. Citizens who rejected traditional media as propaganda machines flocked to social media to see, often for the first time, the real situation that had previously been hidden from them.

Are governments and the ruling classes prepared for this new era? Though initially slow to react, the public authorities soon learned new conversational skills. They went from being silent observers to creating misinformation and generating noise to mislead citizens and the media. If social technology managed to encourage the rebels, today it is government security agencies who are most interested in accessing it. Their aim is to establish law enforcement procedures in the virtual world.

Chinese protectionism, for example, has turned it into an industrial-sized incubator of domestic social media and technology. One third of the population has access to Internet (500 million people) and yet only 1% have a Facebook

[25] http://www.guardian.co.uk/uk/2011/dec/07/bbm-rioters-communication-method-choice.

[26] http://www.npr.org/2012/02/08/145470844/revolution-2-0-how-social-media-toppled-a-dictator.

[27] http://www.time.com/time/person-of-the-year/2011/.

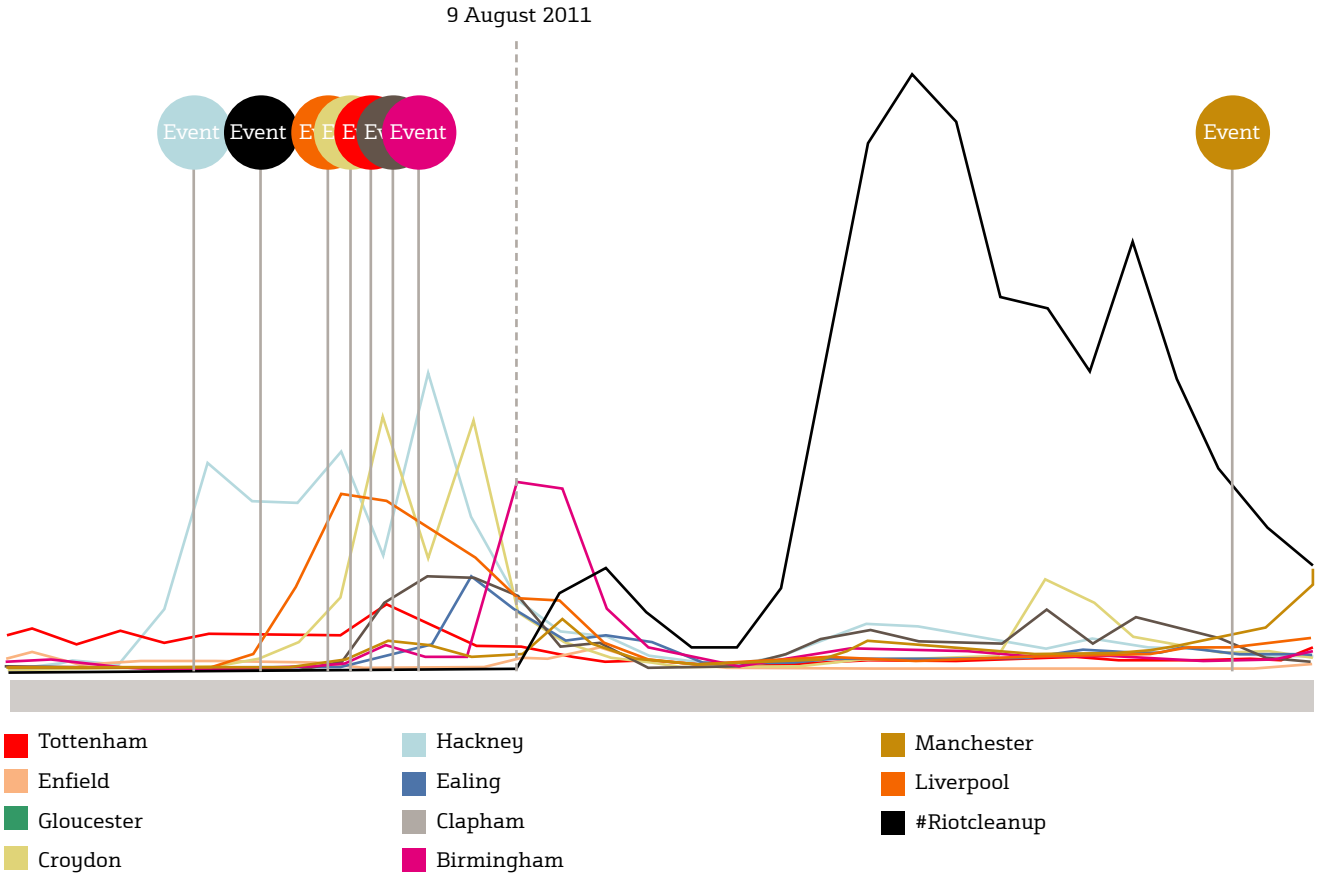


Illustration 10. Traffic on Twitter during the 2011 London riots (extract).
Source: *The Guardian*.

account. Some users in China pay for a virtual private network (VPN) to avoid website blocking and censorship of search engines. The great winner in China is the social network QQ, which had around 990 million users by the end of 2011[28]. A quarter of all the world's social networks are Chinese. Foreign companies wishing to form part of the Chinese social media must obtain authorisation from the government, offer their services only in Chinese and agree to implement and run comment monitoring and filtering systems[29]. While the Chinese government is raising its budget for information screening in order to improve web security, India and Pakistan are implementing regulatory policies to prevent the posting of offensive or defamatory messages [30].

Some commentators believe that the Russian and other governments are considering introducing measures to control the Internet. The Russian authorities know that activity on Facebook and the blogs fuelled the turnout at peaceful demonstrations in Moscow calling for clean elections and denouncing government corruption.

Revolutionaries around the world deified Twitter because it enabled the oppressed peoples to rise up against their oppressors. Their disillusionment, therefore, was all the greater (and it went viral) when the social network announced that it would be introducing a system of selective filtering. In compliance with the specific

[28] Presentation by Tan Yinglan at the Future Trends Forum.

[29] *Social media and censorship in China*, Synthesio.

[30] The Economist.com and El Mundo.es.

In an age of information, social technology provides governments, intelligence services and diplomatic corps with tools that can predict the behaviour of the masses

legislation in each country, Twitter will selectively block the posting of certain messages[31].

The situation is very different in countries where social technologies are not only fully accepted but actually promoted by government. In the USA the SOPA and PIPA anti-piracy bills have been halted for the moment. Their proponents saw them as a way of preserving copyright. Their opponents, on the other hand, argue that there are already laws in place to protect copyright (as used in the controversial closure of Megaupload) and that the new bills represent an attack on free speech and encourage black-listing[32]. For its part, the FBI has announced that it is to set up a programme to ensure public security using a system for searching, filtering, translating, interpreting and storing the information that users of social technologies post publicly.

In an age of information, social technology provides governments, intelligence services and diplomatic corps with tools that can predict the behaviour of the masses. These technologies can forecast very accurately everything from events such as demonstrations and revolts to terrorist attacks in historically confrontational areas. SPADAC, for example, has systems that analyse the information obtained from the social graph and process it, alongside economic, social and demographic indicators and satellite images[33].

According to the Future Trends Forum experts, social technology reinforces and motivates individuals to feel part of a community, to come together and fight for their rights: the larger the Internet is, the greater people's capacity for affiliation. The other side of the coin is that the more information we post online, the greater the power that governments and government organisations will have. And they are currently trying to gain a larger role in Internet governance. At present, the Internet is run by bodies such as the IGF (Internet Governance Forum) and ICANN (Internet Corporation for Assigned Names and Numbers), which are formed using plural criteria to include representatives from the public and private sector, civil society and the Internet community. At IGF forums, participants discuss and agree on the underlying principles of Internet governance policies. The ICANN is a non-profit corporation that manages the allocation of Internet addresses (DNS, IP, etc.). However, the IGF's relative lack of regulatory capacity and some controversial domain allocations by ICANN have sparked a debate. Governments around the world have raised the pressure, aware of the power of the Internet and seeking to adopt a more prominent role in decision-making[34]. The Future Trends Forum experts say that social technology is increasingly going from being a purely individual issue to a political one.

Technological governments serving society

The current economic and social situation is a breeding ground for social conflict, but the public authorities have access to myriads of data and tools to increase their efficiency in dealing with the public. In a survey, the Future Trends Forum experts agreed that the use of social technology is not only empowering citizens and redefining the relations between the individual and the state. The creation of community and neighbourhood networks, they say, has reduced our dependency on public services. However, in the same survey they also said that governments have yet to take advantage of this technology to provide a more agile and efficient public service (see Illustration 11).

[31] Abc.es.

[32] Cnet.com.

[33] The Economist.com.

[34] The Economist.com.

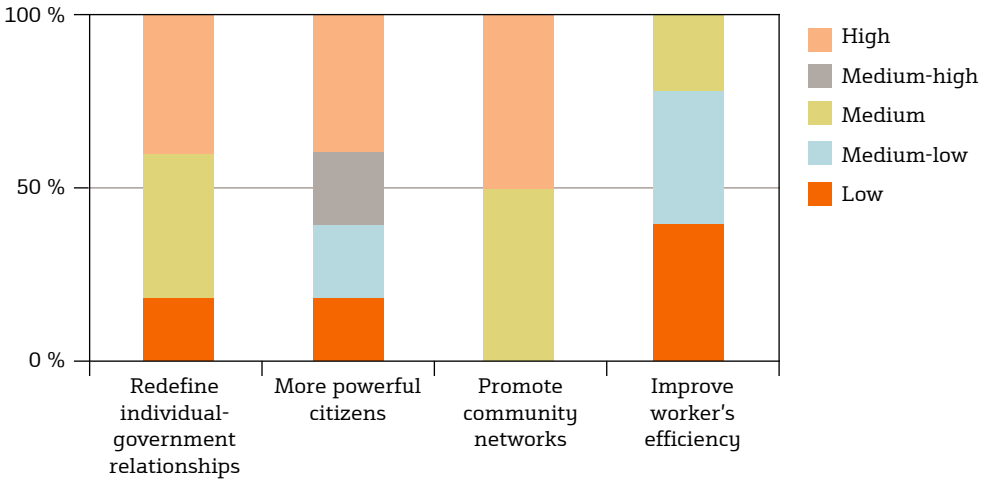


Illustration 11. Degree of influence of social technology.
Source: authors.

Accenture says that the adoption of social technology by public authorities would act as a catalyst, increasing public interaction and participation. They also believe there is a technologically mature market and a demand for new communication channels among the general public. Government must evolve from traditional communication models towards new ones in which there is room for online reputation, citizen information, security and mobility. Only in this way can it manage to be social, ubiquitous and transparent[35].

Around the world, governments are setting an example in the adoption of social technology. The Indonesian government is working to get closer to the concerns and interests of its 245 million citizens, and to reinforce their faith in their newfound democracy. They have introduced a public participation and information system, LAPOR (in Indonesian, the acronym means "report"). This is a text-based web platform which ordinary citizens can use to get in touch with the relevant ministry and report issues related to health, education, energy, public works and defence[36]. The messages are screened and monitored by administrative staff, who ensure that the problems raised are dealt with. A range of platforms in other countries are encouraging the general public to work with the government on solving problems that affect both of them. One example is Challenge.gov, through which the US administration offers prizes of over $20,000 to people who can resolve the challenges they pose. The Australian government has launched a project for a social platform that will revolutionise health services in the country. The programme Personally Controlled Electronic Health Records for all Australians aims to modernise Australian healthcare, reducing costs and avoiding mistakes and repeats. People signing up to the programme will receive a virtual ID which they can use to check their online records securely and improve the health care they receive.

Are we taking the first step towards a virtual identity? Future Trends Forum experts believe that governments will develop applications related to legitimating "e-identities". At present, we have lots of different online personalities, one for each of the physical or services virtual we sign up to. In the future, if we just have one single e-identity, would government be in charge of managing it? The Obama administration has launched the National Strategy for

[35] *"'Social Media', participación y ciudadanía,* Accenture.

[36] "Public Sector Practice. Innovation in government: Indonesia and Colombia", *The McKinsey Quarterly*.

Governments have taken up the challenge of adopting social technology in their models of public interaction, management and government

Trusted Identities in Cyberspace initiative, whose implementation will be developed and run by private enterprise. The voluntary project encourages people to get an online identity that will allow them to prevent identity theft and interact securely with the administration. India has already launched its Aadhaar programme: the idea is to poll the entire population of the country in order to plan an aid programme based on objective data, and reduce current levels of fraud in the payment of this aid. The novelty is that each Indian will have a unique identity, based on the scanned image of their fingerprints, irises and a twelve-digit number.

Although this seems like the way things are most likely to go, some Future Trends Forum experts argue that there is nothing more personal at this time than our mobile phones. But will our telephones be valid to identify us in the virtual world? They say that in the near future, the devices we use to connect to the Internet and social technology will also be used to identify who we are online. The OECD[37] offers guidelines on how digital identity should be managed: The individual will have a set of registered credentials which will be recognised by the systems and tools when they log into a device; these credentials will contain a series of authorisations to establish their level of access to the available resources. Once the transaction has been completed, authorisation to use these credentials in the device will be revoked.

As we have seen, social technologies are restructuring the way citizens and government interact. Citizens have come out to fight for their rights. In reaction, governments are mirroring this social phenomenon and have taken up the challenge of adopting social technology in their models of public interaction, management and government.

4.3. Good causes to connect with social technologies: networking to make the world a better place

Just at a time when the global economic crisis is biting deep into the donations made by individuals, public bodies and business to NGOs and other non-profit organisations, demand for these institutions is intensifying[38]. Millions of people are being pushed even further into poverty. The outlook for these organisations is bleak: according to the Fundación Adecco, the number of people making donations to NGO funds dropped by 17% in 2011 and will fall by a further 5% in 2012. Around 96% of the donors who cut their contribution to aid projects did so because of the economic crisis and a reduction in their resources[39]. In the light of this reduction in donations, foundations and non-governmental organisations are being forced to look for new sources of financing. A study by Blackbaud.[40] shows that although personal applications continue to form the main source of funds (see Illustration 12), the increase in online donations has steered NGOs towards multi-channel donor recruitment. Indeed, organisations that use online tools to get funds raise six times more than those that do not.

These results bring some hope for NGOs, businesses and other non-profit organisations. Social technologies are not replacing the traditional ways of raising funds, but they are coming on strong. Indeed, nearly half of all organisations use them because of the lower cost and the good results they offer. The association

[37] "Digital Identity Management for Natural Persons: Enabling Innovation and Trust in the Internet. Economy - Guidance for Government Policy Makers", *OECD Digital Economy Papers*, n. 186, OECD Publishing, 2011. http://dx.doi.org/.

[38] Elpaís.com.

[39] III Estudio "La ONG que quiero por Navidad", Fundación Adecco, December, 2011.

[40] https://www.blackbaud.com/files/resources/downloads/WhitePaper_BBIS_SocialMediaStrategy.pdf.

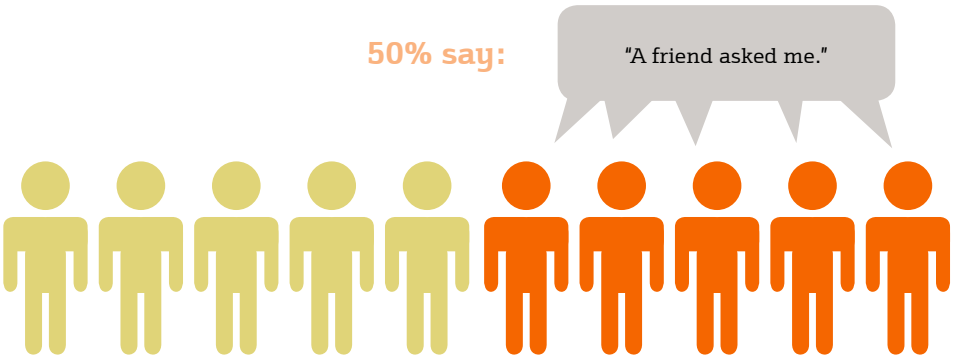


Illustration 12. Principal reason why people donate money.
Source: Blackbaud.

between the use of social resources and the effectiveness of fund-raising activities is a subject of debate. Some estimates suggest that organisations using this method raised 40% more than those that did not[41]. What is clear is that the strategy for capturing funds from social resources must form part of an overall strategy that also includes other channels (see Illustration 13).

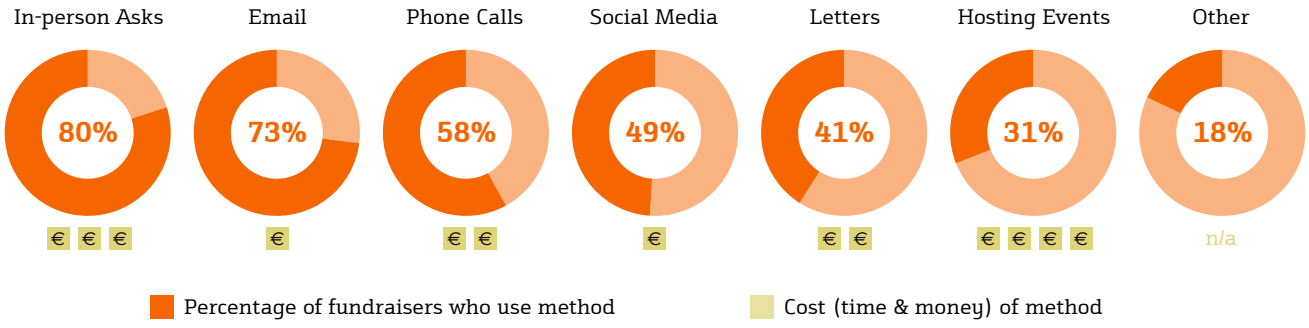


Illustration 13. Methods for capturing funds.
Source: Blackbaud.

What are the most effective social media for capturing funds? Facebook, used by 48% of NGOs, is the most popular social network for capturing funds. However, 35% of them earned less than $1,000 from Facebook in 2011 (see Illustration 14).

El Amiotrophic Lateral Scleosis Therapy Development Institute (ALS TDI) expects to get more than €7,000 in 2012 which it will spend on searching for an effective treatment against ALS. The organisation will launch a "game" in Twitter and Facebook set in the American Wild West, in which players who are arrested and sent to the sheriff's jail will have to pay "real" money to bail themselves out.

However, it is not only NGOs and non-profit institutions that spend money on good causes. Corporate social responsibility is a rising value among companies. Illustration 15 shows how companies can make use of social media to raise and donate funds to good causes. Easyfundraising has developed an efficient business

[41] http://www.netwitsthinktank.com/wp-content/uploads/2011/05/INFOGRAPHIC.png.

	Not fundraising	$0 - $1K	$1K - $10K	$10K - $100K	More than $100K
Facebook	52%	35%	11%	2%	0.4%
Twitter	80%	17%	2%	1%	0.1%
YouTube	91%	8%	1%	0.4%	0.1%
LinkedIn	94%	5%	1%	0.1%	0.1%
Flickr	98%	2%	0.2%	0.1%	0%

Illustration 14. Individual donation of funds in social networks.
Source: Common Knowledge.

model for collaborating with altruistic causes. It consists of a social online sales website which acts as an intermediary between retailers and non-profit organisations. Collaborating companies donate part of the profits they obtain from the sales sourced on this website. The buyers, who choose the cause to which they want the money to go, don't pay a cent and have the incentive of benefiting from offers and discounts[42].

Nonetheless, the potential of social technologies for improving the world is not limited to simply raising funds. They also offer a vehicle for networking, communication and marketing between administrators, collaborators, donors and the general public. Organisations can choose to create their own social platforms, as the Spanish Anti-Cancer Association has done, to strengthen cooperative procedures. This platform includes online consultancy services, a virtual community and blogs to complement the social activity performed through Facebook and Twitter[43]. NGOs can also go to platforms such as Google+, for example, which has special sites for NGOs, where they can post contents in different formats, such as videos and photos of activities, reports, results, etc.

Technological strategies for dreaming up a new world

International bodies, aid workers and volunteers are now able to avail of unprecedented levels of collaboration thanks to social technologies. This networking can be fundamental when it comes to dealing with humanitarian crises. However, organisations still have a long way to go to find an effective information management strategy. In emergency situations, the first twenty-four hours are vital: volunteers and technological communities have to work against the clock to analyse and make sense of tonnes of data submitted by themselves, victims and organisational clusters... all in real time.

The UN's Disaster Relief study seeks to improve the efficiency of actions by emergency teams in humanitarian crises. Its task is to lay the foundations for designing an effective strategy for integrating information that will resolve the shortfalls that arise in these situations. It takes as its starting point the potential of combining tools such as Skype, chat rooms, text messages, mass collaboration platforms and geolocators (Ushahidi and OpenStreetMaps) to integrate, make sense of and manage the information.

The report points to the need to develop a semantic website that will allow for "better integration of the data, allowing anyone incorporating data onto the Web

[42] *Computerweekly*.

[43] Source: Asociación Española Contra el Cáncer.

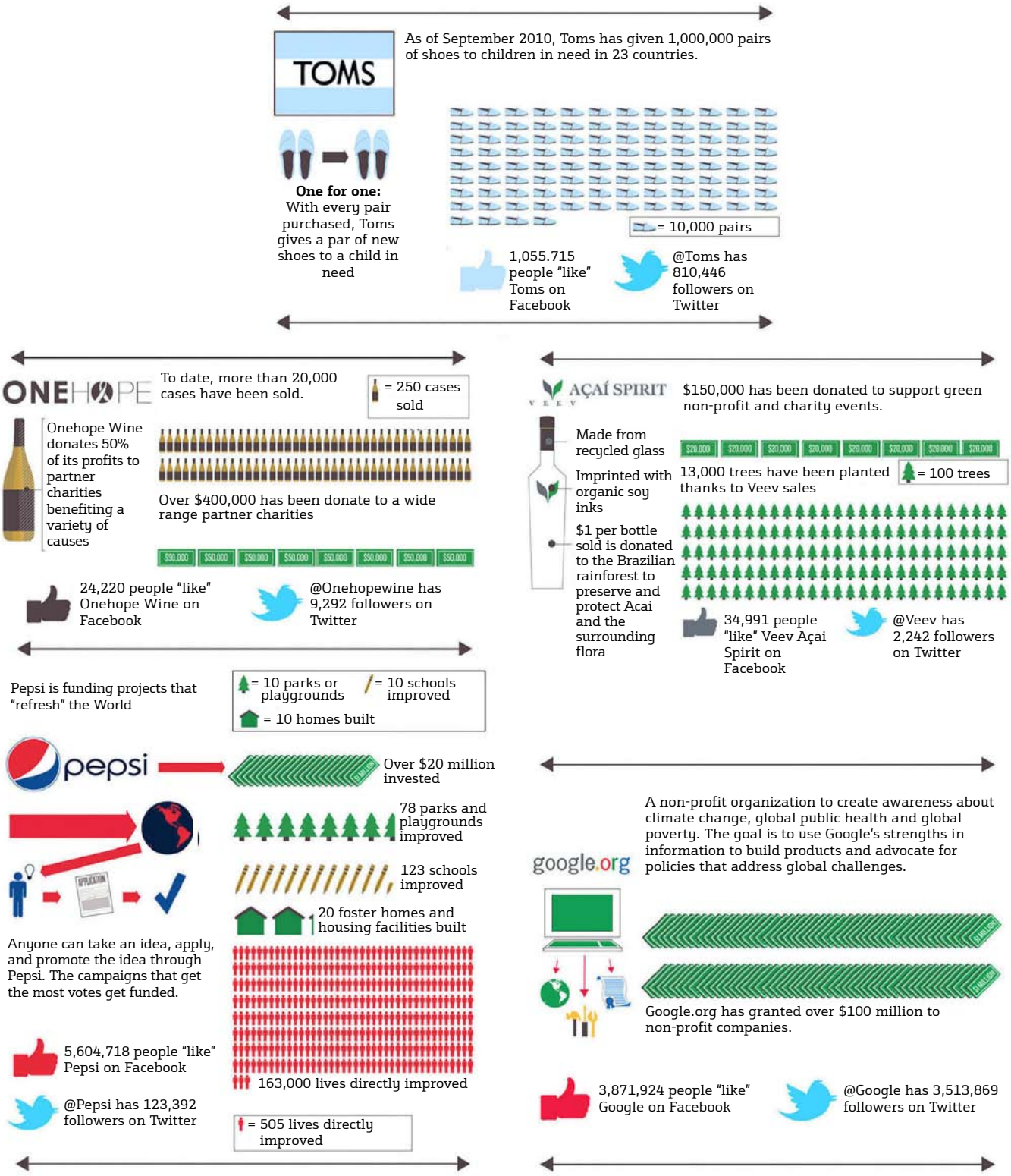


Illustration 15. From social media to social action.

Source: http://www.toms.com/, http://www.onedaywithoutshoes.com/, http://www.onehopewine.com, http://www.onehopefoundation.org/, http://www.refresheverithing.com/, http://www.veevlife.com/, http://on.wikipedia.org/wikiGoogle, Facebook fans and Twitter followers calculated as of 8/29/11.

to link them to other information using standard formats"[44], and they suggest setting up a Humanitarian Technology Forum and a Humanitarian Innovation Lab as neutral, physical areas for cooperation. In these forums, volunteers, technological communities, experts, donors and aid workers would work together to design, develop and experiment with interoperable technological skills.

Social technology is more solidarity-focused than ever when it comes to supporting the most needy. Social technology has much to offer in the field of health aid in developing countries: It allows training and awareness-raising programmes among the general public, communication and training activities for healthcare workers, data-gathering and support for treatment and diagnosis and disease and epidemic monitoring. Non-profit initiatives, such as For a Generation Born HIV Free, by the Business Leadership Council, seek to open the eyes and minds of business, and to call on governments and organisations to take an active part in reducing the number of children born with AIDS by maternal contagion, by mobilising hundreds of influential users in Twitter and Facebook.

The *Big Data, Big Impact: New Possibilities for International Development*[45] report, drawn up by the World Economics Forum, says that collating and analysing the data generated by individuals, in the public and private sector, will make it possible to construct solutions that will improve access to services such as health, education, financial services and agriculture (see Illustration 16).

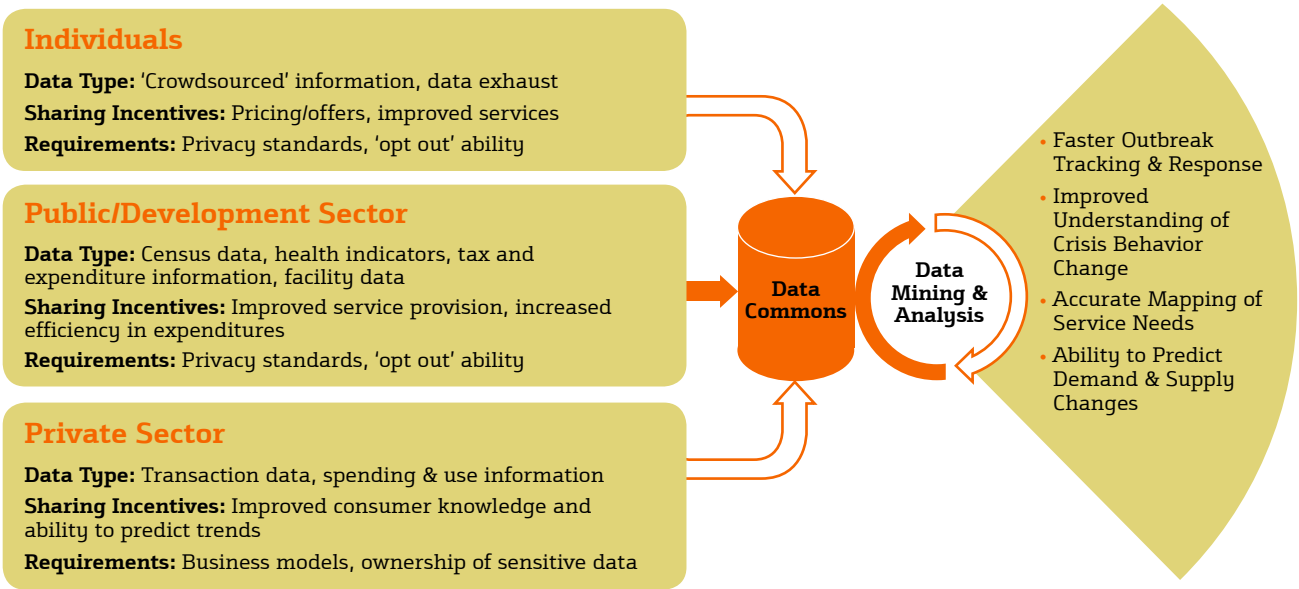


Illustration 16. Bridging the information divide.
Source: World Economic Forum.

[44] Verbatim quote from Sir Tim Berners-Lee, inventor of the World Wide Web and creator of the concept of the semantic web.

[45] http://www.weforum.org/reports/big-data-big-impact-new-possibilities-international-development.

[46] http://www.povertyactionlab.org/es/socios/clinton-health-access-initiative.

In this area, projects include Clinton Health Access Initiative (CHAI), which is committed to strengthening the integrated health system in the developing world, and extending access to healthcare and treatment of HIV, malaria and tuberculosis[46]. The CHAI works to develop a centralised computing infrastructure that allows real time data analysis, as well as interaction with health centres and ministries.

Social technologies also open a virtual window to those for whom the physical world is full of barriers. Communities such as Snapps4kids say that social technology improves quality of life and helps children and adults with different disabilities make progress in areas such as monitoring progress in behavioural level and day-to-day therapy and education[47]. However, Internet access is not always available to all. According to a study by Pew Internet & American Life Project, 2% of people with disabilities say that their disability makes it difficult or impossible for them to go online and only 54% of disabled people use the Internet, as compared to 80% of the American population at large[48]. The challenge in this case lies in enabling effective access to social technologies for people who are hampered by their functional limitations. Some of these limitations arise from the features of the social technology itself. Replacing keyboards with smartphones and tablet touchscreens is a less user-friendly option for blind people. Applications are now being developed like BrailleTouch[49], which combines voice recognition systems with a braille keyboard, allowing blind people to write thirty-two words per minute. Also in the realm of hardware and software customisation, users of In-Ict can personalise and adapt Internet access devices to their physical or sensorial capacity by creating shortcuts, icons and semantic structures, or virtual keyboards.

Social technology is a way in to the virtual world and also a means of integration into the physical world. This is the view of the European Union, which has designed a training programme through social technologies that includes platforms of e-learning, wikis and blogs that will smooth the path to integration of immigrants in their host country[50]. Aware of the potential of social technologies, the EU has also launched a research project Digital Games for Empowerment & Inclusion (DGEI) to identify opportunities and challenges of online platforms and games to integrate and reinforce individuals in groups with a high risk of social and economic exclusion.

This is the most human side of social technology, raising community awareness on the needs of the most underprivileged and enabling non-profit projects and cooperation initiatives that encourage us to believe that a better world is possible.

[47] http://mashable.com/2011/07/25/ipads-disabilities/.

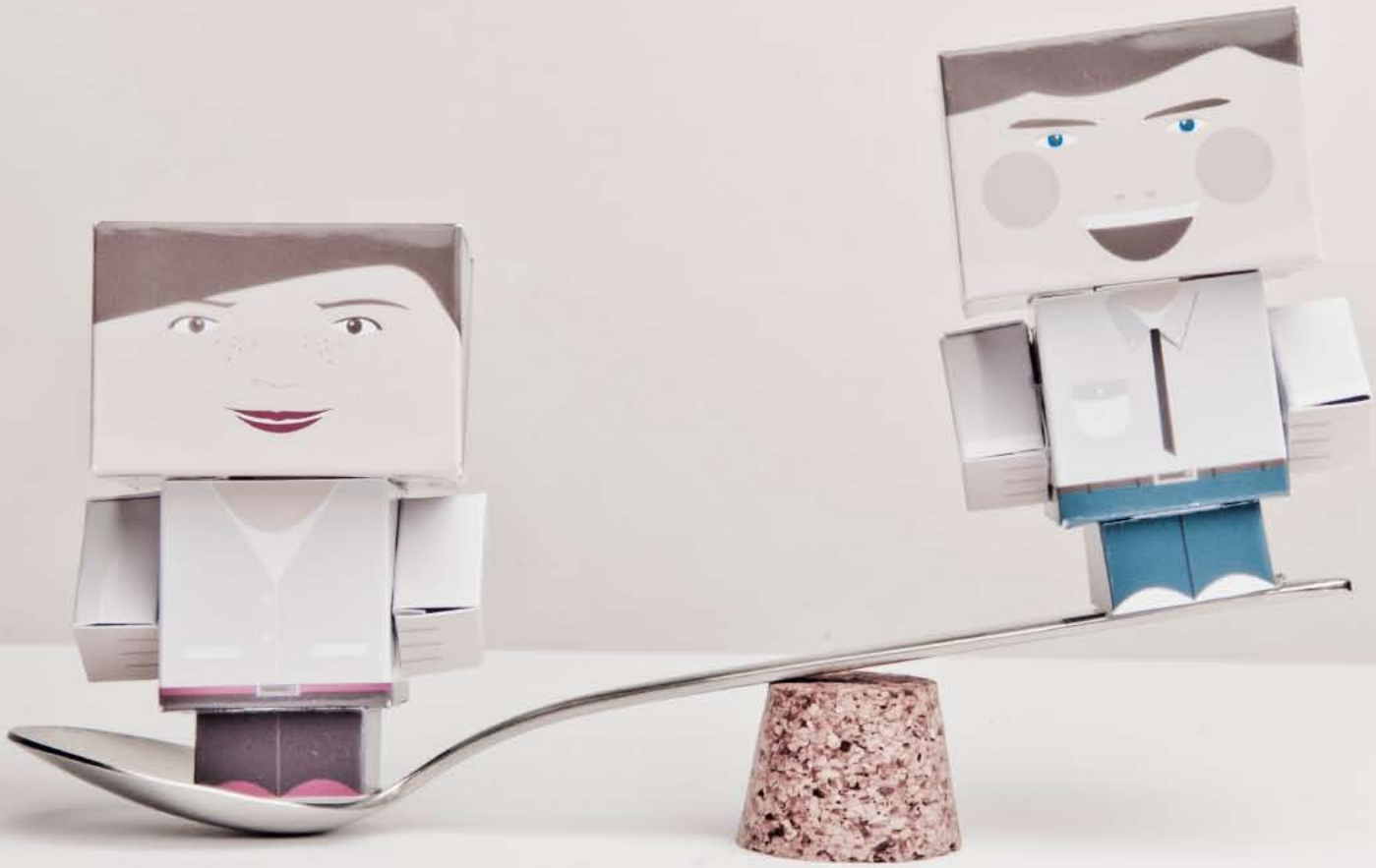
[48] http://pewInternet.org/Reports/2011/Disability.aspx.

[49] http://portalmedico.co/brailletouch-en-smartphone-una-aplicacion-para-discapacitados-visuales/.

[50] *Language Learning by Adult Migrants: Policy Challenges and ICT Responses*. European Commission, Joint Research Centre, Institute for Prospective Technological Studies.

5 Doing business out of social technologies: much ado about nothing?

- Online socialisation of the traditional company
- Evolving towards the socially adapted company
- Benefits of incorporating social technologies into business life
- A new generation of entrepreneurs



Have you ever shopped around on the Internet for information before you bought a product or made a reservation? If you have, you'll know you're not alone. In 2011, 15.7 billion searches were run on businesses, products and services —and that doesn't include all the applications, blogs and niche communities that offer advice and first-hand experience, such as TripAdvisor, OpenTable and GoogleMaps. The number of searches rose 57%[51] on the previous year. According to the annual trust barometer brought out by Edelman, a leading PR company, public trust in social media grew significantly during 2011 (see Illustration 17)[52].

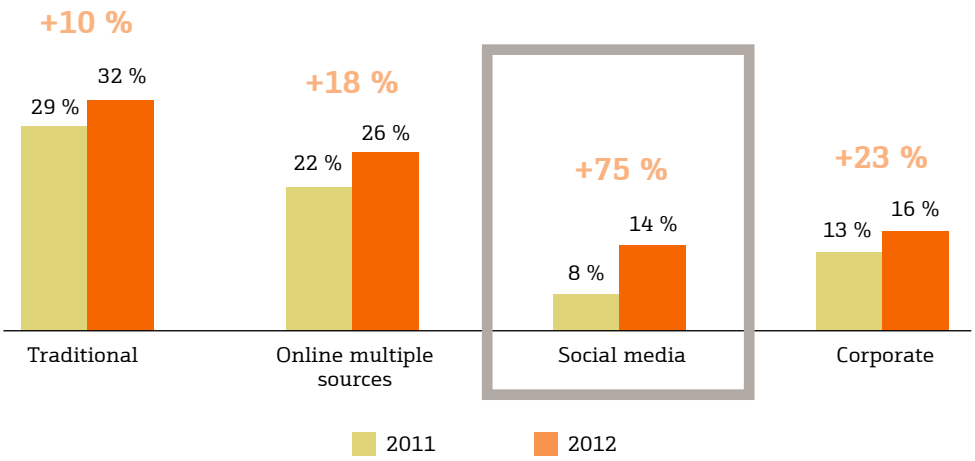


Illustration 17. Audience trust in the different information media.
Source: Edelman 2012 Trust Barometer.

And while consumers are already using social technologies to get their information before buying a product or service and sharing the experience afterwards, the Future Trends Forum experts believe that traditional companies are failing to take the initiative in this social revolution (see Illustration 18). And given the impact it is going to have on them, they should.

[51] http://www.nytimes.com/2009/07/30/business/smallbusiness/30reputation.html?pagewanted=all.

[52] Edelman Trust Barometer 2012.

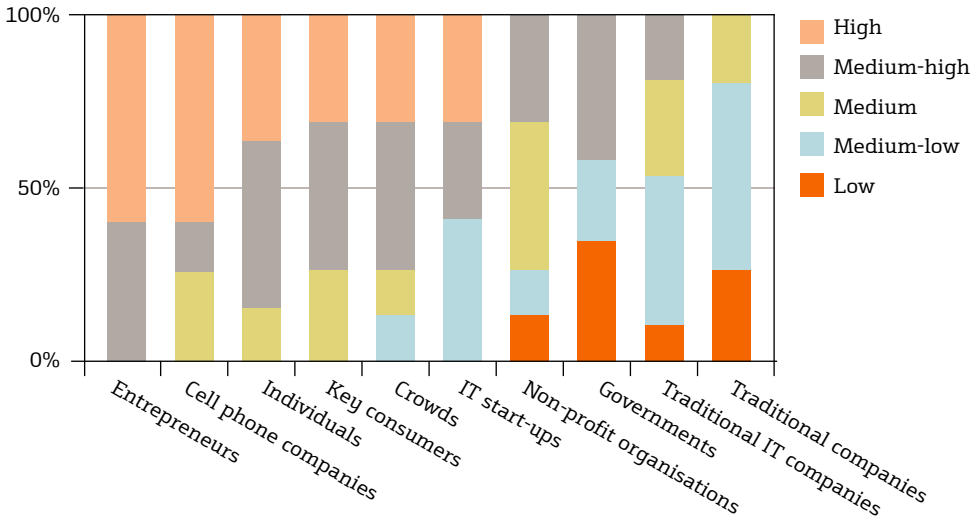


Illustration 18. Principal drivers of social technology.
Source: authors.

It's a converging world, in which physical companies are working to have an online life and online business is beginning to have a physical presence. e-Bay, for example, has opened *pop-up* stores in London and New York lasting just a few days, during which customers can examine the physical products. They can then scan in the associated QR code to buy it online later.

Traditional companies are feeling the pressure to get involved in social technologies with a range of actions including trying to recruit followers on Facebook and managing their online reputation. However, is the use of social technologies actually increasing companies' revenue, or is it just generating a lot of noise? In the following pages, we will try to offer some keys to answering this controversial question.

5.1. Online socialisation of the traditional company

While 80% of users say they are more likely to try a product if it's been recommended by their peers, less than a quarter of companies are tapping into the potential of social technologies (see Illustration 19).

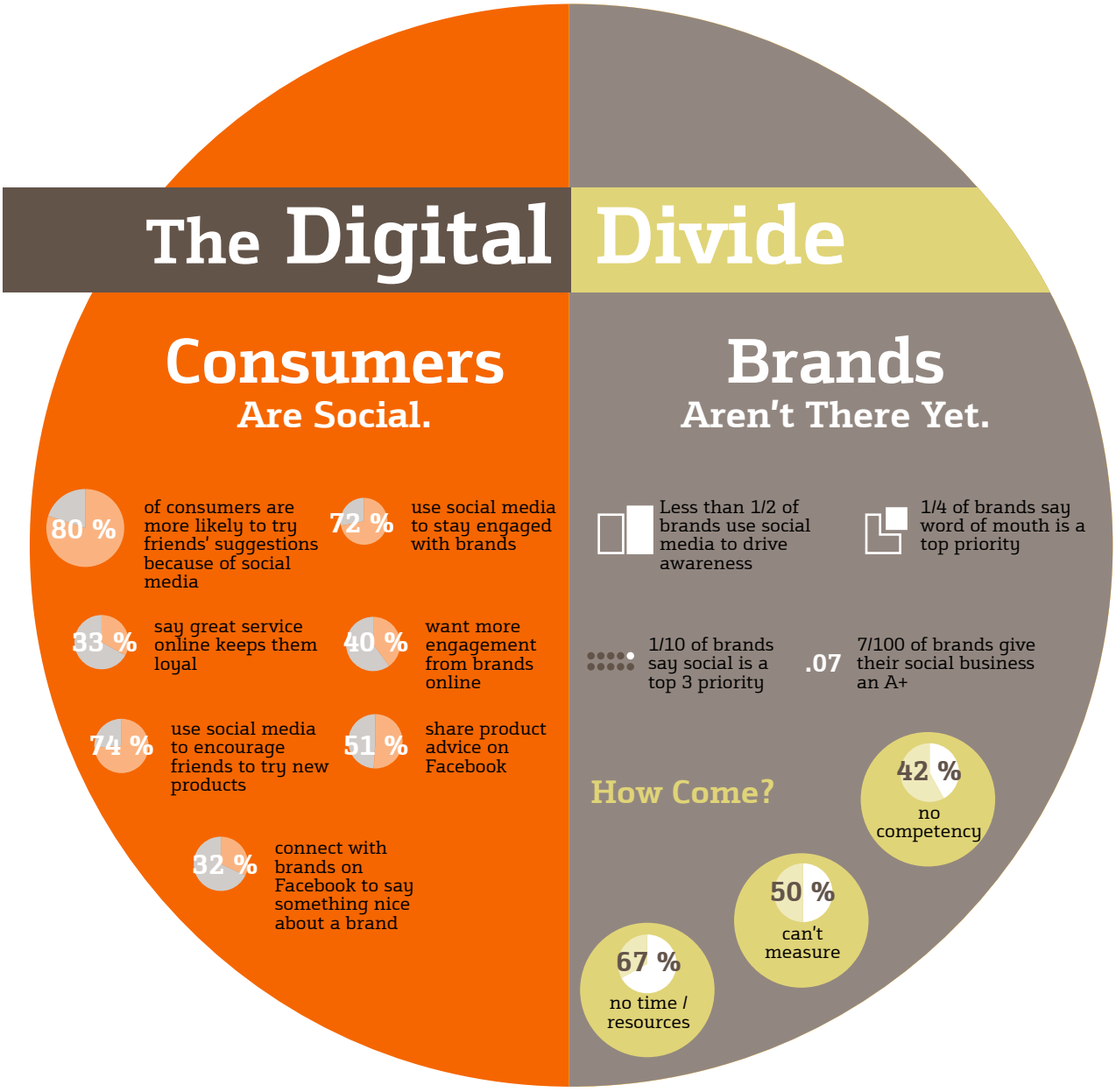


Illustration 19. The digital divide.
Source: Lithium and CMO Council.

Although tech companies are currently making most out of social technologies[53], the Future Trends Forum experts all agree that they won't be the only ones to be affected. They believe that between now and 2015, consumer-based forms will see the largest impact, alongside education and the entertainment industry (see Illustration 20).

[53] ColumnFive and GetSatisfacction.

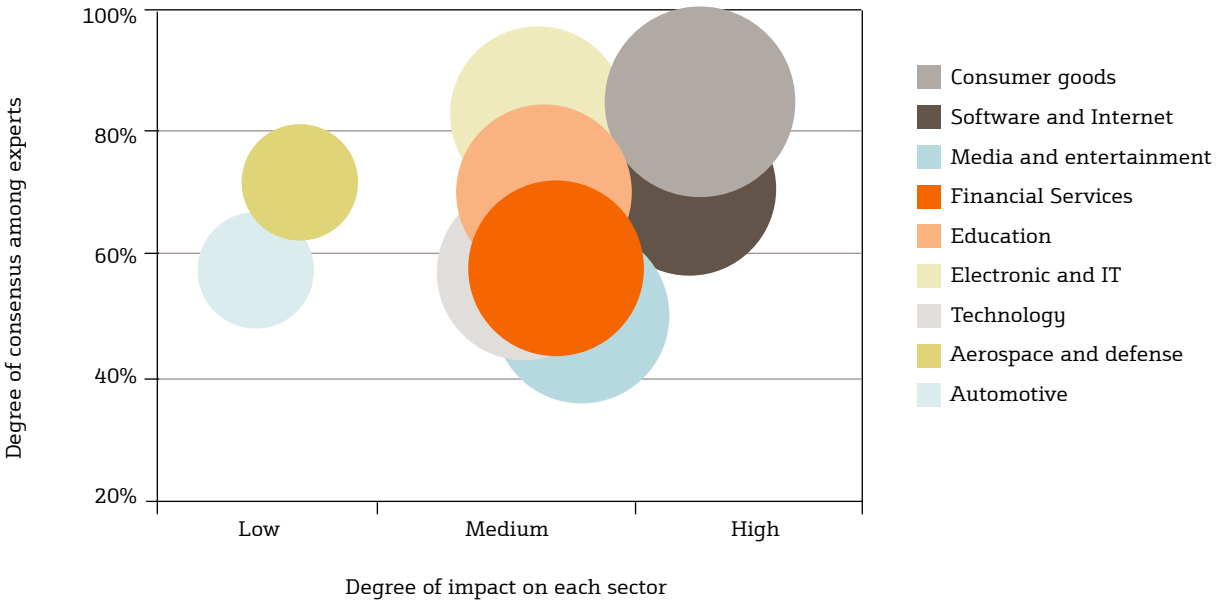


Illustration 20. Sectors impacted by social technologies.
Source: authors[54].

Although only a small percentage of companies are currently incorporating social technologies in their day-to-day work, the number is growing fast. The technologies most frequently used are social networks, now incorporated by 50% of firms, followed by blogs, videos and microblogging networks (see Illustration 21).

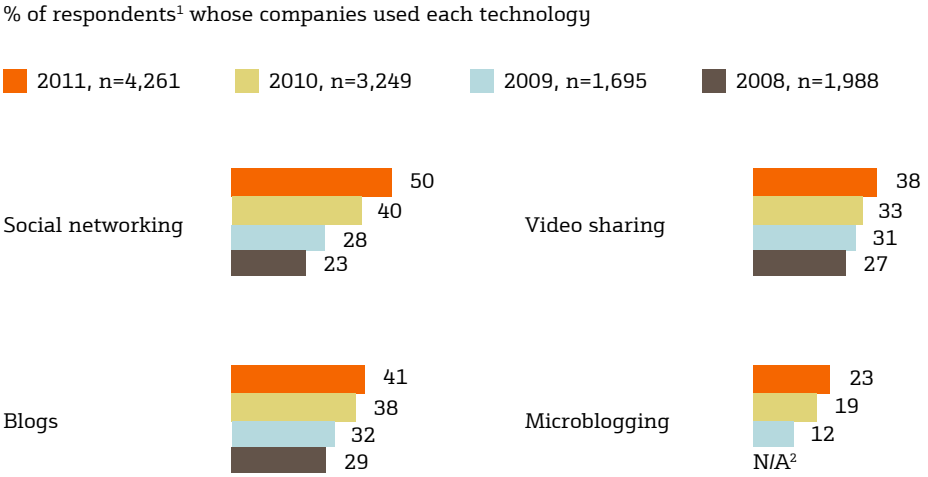


Illustration 21. Increase in adoption ratio of social technologies.
[1] Respondents who answered "don't know" are not shown.
[2] Microblogging was not offered as a technology in the 2008 survey.
Source: "How social technologies are extending the organization", *The McKinsey Quarterly,* November, 2012.

[54] Industries about which there was less than 50% agreement have not been included.

However difficult it might seem, online corporate reputation can be built, maintained over time and even reconstructed

The Future Trends Forum experts believe that social transparency has acted as the germ of a scenario in which brands are increasingly being forced to move from traditional communication channels to social technologies, in order to speak the same language as their customers and find out what they're saying about them. Because, as long as traditional companies don't get fully involved in the online conversation, their customers will go on avoiding official trouble-shooting systems and will try to find the answer to their questions among their acquaintances, with the consequent impact for the firm's reputation. In a fully-connected world, organisations, products and services have become a common theme of conversation and consumer value has changed. Consumer information used to be confined to limited circles; consumers were just a number. Now, however, social technology has extended consumers' capacity to share information; comments fly across the globe and consumers have become yet another market agent rallying around an idea in a matter of seconds, with all the (positive or negative) impact this can have on corporate reputation. Social technology's effectiveness in uncovering corporate bad practice has been widely documented. Famous examples include "United breaks guitars", a video posted on YouTube in which the singer tells the story of how United Airlines refused to pay him for a guitar that was broken while being stowed in the aeroplane's hold, and McDonald's Twitter campaign #mcdstories, which was inundated by tweets from former customers describing negative experience with the chain.

However, managing online reputation is not simple. A high-speed environment requires high-speed answers in terms of problem-solving. And while Trackur or search.Twitter.com make it possible to locate comments made on the Net or in Twitter, it's not enough just to know about them –you also need to define a strategy, a brand image.

However difficult it might seem, online corporate reputation can be built, maintained over time and even reconstructed. It should come as no surprise then, that professional sportsperson, politicians, companies and big fortunes hire out services such as Reputation Changer, an online reputation management firm that enables its customers to take control of their net presence and avoid the bad press that can be generated by malicious remarks.

For Accenture, the world of social technologies holds out more opportunities than threats. Companies have an opportunity to access social technology in order to understand its potential and get up to speed on the process of social listening. According to the consultancy firm, an effective social platform must contain the following six basic nuclei:

- Community services (blogs, forums, TripAdvisor, etc.).
- Integration with external social channels (such as Twitter, Facebook and YouTube).
- Optimisers of the social network communication flow.
- Semantic analysis.
- Measurement of the impact of social activities.
- Integration with existing CRM tools[55].

Marriot is considered to have one of the most innovating social strategies, with a multi-language and multicultural social platform integrating blogs, Twitter, LinkedIn, Facebook, YouTube, Flickr, MySpace, RenRen, TripAdvisor, internal and external blogs, and online games.

[55] *The Social Media Handbook*, Accenture.

At the same time, all companies must be aware that, like it or not, social technology has come to the workplace, whether it be through access to social networks or the use of personal devices (complementing those provided by the company) for work purposes. This has different implications for the corporate area in charge of people and their skills. On the one hand, they need to anticipate the possible risks of their employees' using social technology, given that employees can become company representatives with just a single tweet. It is surprising, then, that just 43% of companies have developed policies on social network usage and privacy or the use of personal devices in their everyday work[56].

Evolving towards the socially adapted company

The use of social technologies in the business environment offers companies the possibility of evolving into social brands that listen to and inspire loyalty among customers, and into a social business, whose organisational model, culture, vision and values are also oriented towards getting closer to the social customer[57].

Social technology promotes internal dialogue and collaboration among different business areas, employees, territories, regions and divisions. There are multiple benefits of incorporating it into the company and they directly translate into intangible assets such as engagement and loyalty to the firm, job satisfaction, proactivity and collaboration among colleagues. The benefits can also be manifested in speed of decision making, reduction in transport costs, time-to-market, etc.[58]. Technology is available that can be adapted to any company, such as Smartsheet, a project management tool that allows users to set milestones, create reports, share documents and also provides spaces for debate. Tools such as Yammer allow employees to share knowledge and documents, create work forums and publish relevant news without saturating their colleagues' inboxes. Cemex has introduced a tool called Shift, in which employees share knowledge and experience through blogs, forums, wikis, discussions, etc. This tool is challenging traditional management practise and has opened a space for creativity, innovation and the development of new business and management strategies at all levels of the company[59].

In this area, Future Trends Forum experts consider that we are gradually moving towards what some call "adhocracy", in which connectivity will allow us to create temporary task forces to perform common activities.

Despite the clear benefits that social technologies offer companies, its leaders are not at the forefront of this social transition. The Future Trends Forum experts say that many of them are reluctant to incorporate social technology into their organisations and give their employees a voice because they lack a strategy for steering the conversation. Accenture, for its part, feels that social technology is the catalyst that is changing the behaviour of employees, clients and partners, and recommends that managers and CEOs accept social technology as an opportunity that goes beyond social networks. The technological philosophy should focus on customers and how they would like to interact with the services on offer. This approach will not only give businesses a face-to-face conversation with their customers, greater influence in the social conversation and new forms of interaction; it will also bring new customers, and new customer-centred products, services and solutions[60]. However, companies cannot have an effective conversation with external customers over the social technologies unless they have an internally effective conversation (see Illustration 22).

[56] http://www.personneltoday.com/articles/2011/10/13/58033/employers-leaving-themselves-exposed-to-social-media-risks.html.

[57] http://www.britopian.com/2012/02/17/the-social-customer-the-social-brand-the-social-business/.

[58] http://www.managementexchange.com/.

[59] http://www.managementexchange.com/story/shift-changes-way-cemex-works.

[60] *Accenture Technology Vision 2012*.

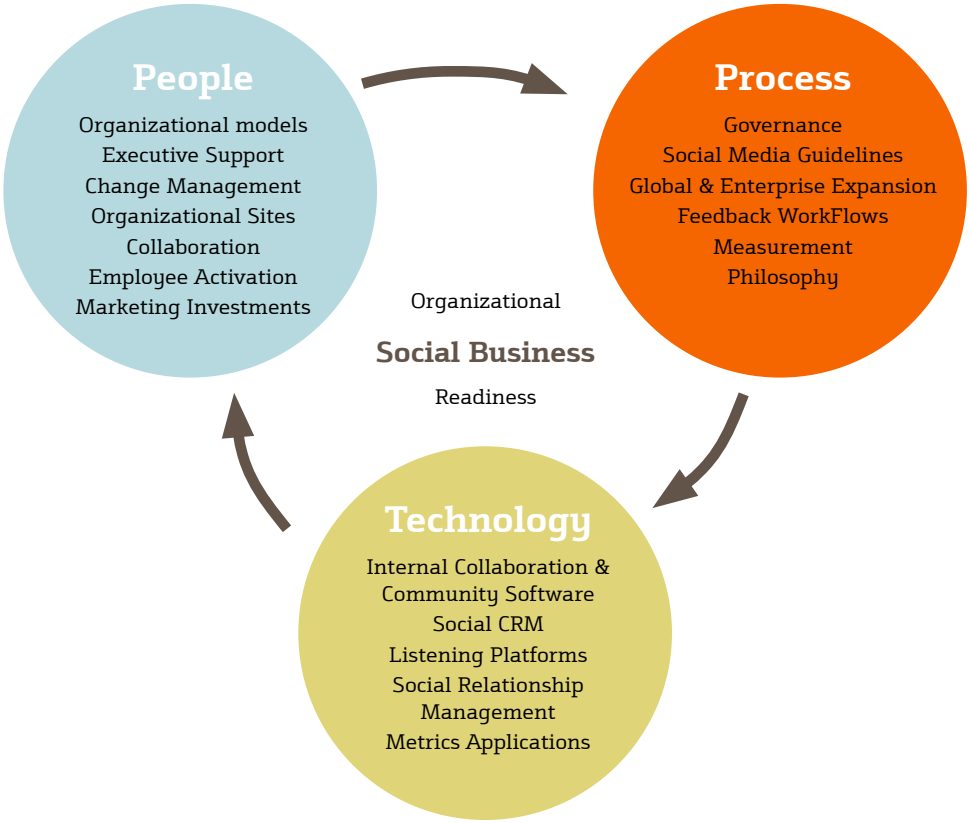


Illustration 22. The declaration of social business.
Source: *Thesocialbusinessbook.com* and @britopian.

In order to achieve full socialisation, Accenture recommends that companies place their systems area at the centre of a conversation with the other business units, creating an alliance that will reinvent internal and external interactions. They must reinforce their capacities, incorporating talent that understands and is on top of the new models of social interaction, and studying the market to determine best practice in this area. In the same way, the systems area must abandon the philosophy of separate silos and work the technologies from a cross-unit perspective, taking them beyond the confines of the marketing department. In a sea of quantitative, qualitative, structured and semantic data, the IT department faces the challenge of turning itself into the bloodstream that provides operational efficiency, data, processes and tools to the other departments, so that they can make decisions based on relevant customer information. The budgets and philosophies of the systems adopted must be based on their capacity to provide information of value to each of the areas in the business.

The IT department will be one of those most affected by the development towards social companies, but not the only one. The extent to which each department will be affected will depend on its closeness to customers (external or internal) and employees. So the finance area and legal department will be less affected by social media, whereas the impact on sales, marketing and human resources will be greater (see Illustration 23).

There is much to be said for adopting social technology when it comes to providing solutions and spaces that promote innovation and development of new products

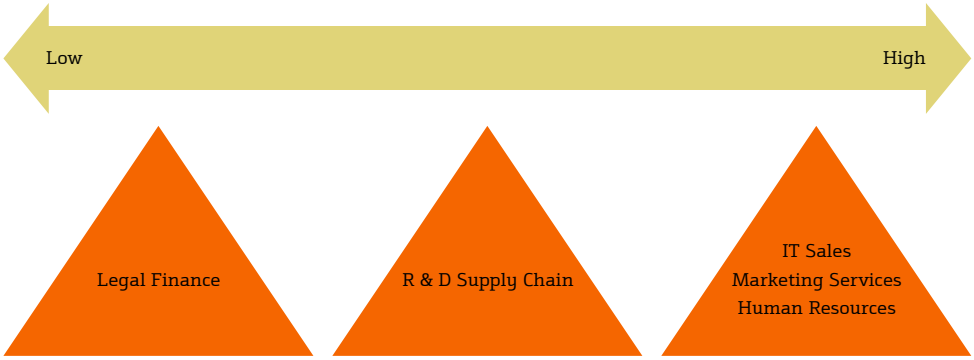


Illustration 23. The impact of social media.
Source: *The Social Media Management Handbook,* Accenture.

The benefits of incorporating social technologies into business life

According to Forrester, this is the age of the customer, in which social technology provides companies with tools that allow them to extract, store and analyse consumer habits, as well as encouraging loyalty. Social technology is gradually changing the way we do business: platforms and applications are getting smarter and smarter and now incorporate contextual information including location, preferences and attitudes, facilitating real-time decision-making on the everyday activities of customers, employees and trading partners[61].

There is much to be said for adopting social technology when it comes to providing solutions and spaces that promote innovation and development of new products. Bankinter gets collaboration from its clients on the Bankinter Lab platform. Clients can try out applications in real time and take part in the decision-making process, allowing Bankinter to design products that satisfy the real needs of users and anticipate possible problems. Employees of Cemex around the world can collaborate in real time using Shift, a tool that has allowed the cement producer to cut time-to-market in developing new products and reduce its spending on travel, testing and research. Rite-Solutions, a software and systems engineering firm, has Rite-Solutions Stock Market, an exchange for ideas which promotes collaboration among employees in areas ranging from cost reduction and assessing efficiency to the development of new products and technological solutions. One of the ideas promoted by an employee using the tool today accounts for 30% of the company's profits[62].

Half of the companies in the *Fortune 100* go one step further in terms of recruitment and selection, incorporating Taleo, a tool whose selection management ERP includes a search module for "passive candidates" in platforms such as LinkedIn, Google and ZoomInfo. Gilt Groupe, an online sales firm, benefits from the dynamic of collaboration and mutual recognition it has created amongst its work team using Rypple[63]. This talent assessment and development tool, similar in format to Facebook, includes continuous assessment milestones such as target-setting, linking these to corporate targets, continuous feedback, public recognition and workflow applications that allow an employee to be assessed by their colleagues or superiors. Nokia's human resources department has introduced the figure of the Community and Social Media HR Manager, who has one foot in the people function and another in technology. This figure manages the SocialCast

[61] http://blogs.forrester.com/julie_ask/11-07-11-the_future_of_mobile_is_context.

[62] http://www.managementexchange.com/m-prize/mgmt2.

[63] http://www.managementexchange.com/story/blowing-performance-management-10-inside-how-manager-gilt-groupe-transformed-his-companys-appr.

platform which also comes in a Facebook-like format. It tries to encourage organisational dialogue and promote global improvement initiatives[64]. Essilor International, a world leader in contact lenses, has cut learning time by 50% thanks to its training platform LOFT, which includes continuous innovation groups, a community of trainers and coaches, public and private social networks, and a collaborative, online sharing space where e-learning tools are updated and improved[65].

As we will see, there are other ways companies can get information on their customers apart from the social networks. Best Buy, the international technology and entertainment chain, has introduced a platform called My Customer to transmit customers' opinions from store employees to central decision-making teams. This platform allows information to be channelled to the right teams; it promotes transparency and employee commitment and is accompanied by a recognition programme[66]. The results? For example, a 10% increase in profits in a district in which customers came to the shop in search of a product that was not on sale. And when it comes to extreme product personalization, Swarosvski has developed software to enable customers to design and create their own jewels, allowing the company to learn more about their tastes[67].

If there is one corporate function that has been affected more than any other by social technology, it is marketing. From the moment online marketing first emerges into business life, the strategy to be followed may involve several stages depending on the company's level of adoption. These range from a turf war between online and physical marketing, through peaceful coexistence and constructive interaction, to a state of customer-focused maturity in which they offer a consistent experience through different channels and points of contact. The result of this physical-digital convergence is that traditional advertising increases web traffic by between 10% and 80%[68]. From this perspective, the audience becomes the customer thanks to the convergence of marketing, sales and CRM. The area of customer relationship management (CRM) has much to offer in this process when it comes to enabling companies to comprehensively monitor the purchase process: from customer comments to monitoring the consumption experience, including shopping record and channels used. To do this, CRM and call-centre applications, web and mobile presence, and other customer relationship channels need to be integrated and socially habilitated[69]. Social platforms form a mix in which advertising becomes a direct access, allowing users who consume information to also consume the products sold by the companies. FirstRetail, for example, is working on a technology that will allow suppliers to find, understand and respond to the needs expressed by users on social networks. From online sales to the physical location of stores and adaptation of social platforms to facilitate direct sales as much as possible, the line between marketing and sales is becoming more and more blurred[70].

The new reality of marketing is that social technology has taken the "P" in "people" in the golden rule of the 4 "P"s (product, price, place and promotion) and added the 5 "R"s, reputation, responsibility, relationship, reward and relevance[71]. The marketing function is being forced to cut the distance between the consumer's physical and virtual experience and to manifest a new social activity that encourages the conversation in the online universe. This means it will have a chance to present services and products to customers, create viral marketing campaigns and use "adhocracy" and a sense of urgency to offer discounts and offers.

[64] http://www.personneltoday.com/articles/2011/12/08/58212/how-nokia-achieved-organisational-dialogue-via-social.html.

[65] http://www.managementexchange.com/story/entangled-talents-surprising-behaviors-shop-floor-level.

[66] "Social technologies on the front line: The Management 2.0 M-Prize winners", *The McKinsey Quarterly,* September, 2012.

[67] "Harnessing the power of social media", *Outlook,* Accenture, 2011.

[68] Accenture, *El futuro del comercio electrónico, salvando la brecha digital.*

[69] *Accenture Technology Vision 2012.*

[70] "Harnessing the power of social media", *Outlook,* Accenture, 2011.

[71] *Accenture Value from Digital Consumer 2011,* November 2011.

It is difficult to isolate the benefits of adopting social technologies from other initiatives being implemented in the company

Because users can consume whatever information they want whenever they want thanks to social technology and the Internet, companies should offer creative and enriching contents, oriented towards their target audiences, with information that generates trust in the product. The possibility of obtaining information from the data will make it possible to aim the marketing at circles of influence and very specific niche groups. This is the essence of *hypertargeting*, an approach that consists of identifying a relevant audience from the data obtained from their physical and online activities[72]. This innovating marketing strategy makes it possible to prepare special contents oriented towards the specific interests of a given niche[73]. In this approach it is recommended that between 20 and 30 small target groups be identified[72]. Here, Accenture sees a contextual future that will enrich the customer's experience[74] with an offering of ad-hoc services that take into account their real situation –location, time of day, etc.–, their preferences –identified from the record of decisions– and their attitudes – as defined in their acts or behaviour[75].

Measuring the return on investment in social technologies

There are different approaches to adopting this disruptive technology. On the one hand, some managers are waiting to see hard figures showing the return on investment in social technologies before adopting them. Other executives have incorporated them without waiting for the data and are now beginning to reap the benefits. In the present crisis conditions, when every potential investment goes under the microscope, monetization and return on investment are key issues.

As in other areas, measuring the book impact of social technologies is a complex issue. It is difficult to isolate the benefits of adopting social technologies from other initiatives being implemented in the company. This exercise, applied to the adoption of social networks in the company can lead us to measure their impact in very diverse areas, from employee productivity to an increase in sales (see Illustration 24).

Leading companies that do measure the benefits of using social technologies believe there are two sides to interconnectivity: internal and external. The management of internally-connected companies report consistent benefits arising out of the interaction between employees. They include improved access to knowledge and a reduction in communication costs. Management from externally-connected companies also report constant improvements in the effectiveness of the marketing, as well as a reduction in their costs, an improvement in client satisfaction and access to knowledge and reduction in the costs of external communication[76].

It is also possible to find specific examples of companies that say they have obtained benefits from investing in social technology. One example is TechSmith, a technological company which says that thanks to GetSatisfacction and *crowdsourcing*, it saved 500,000 dollars (around €375,000) on market research[77]. London University expects to save 300,000 pounds a year (around €360,000) in administration costs and material. By introducing an internal network, T-Mobile has cut selling times from an hour and a half to fifteen minutes and TomTom saved $150,000 (around €115,000) thanks to the cases resolved by its social community[78].

[72] http://www.stumbleupon.com/su/2C6HBY/justinflitter.co.nz/hyper-targeting-predictions-2012-trends-sm.

[73] http://www.slideshare.net/davidwesson/15-social-media-trends-to-watch-out-for-in-australian-marketing-in-2012-11363879.

[74] *Accenture Technology Vision 2012.*

[75] http://blogs.forrester.com/julie_ask/11-07-11-the_future_of_mobile_is_context.

[76] "How social technologies are extending the organization", *The McKinsey Quarterly,* November, 2011.

[77] http://www.techsmith.com/press-get-satisfaction-1011.html.

[78] https://community.jivesoftware.com/groups/jiveworld11/blog/2011/10/06/and-the-winners-are.

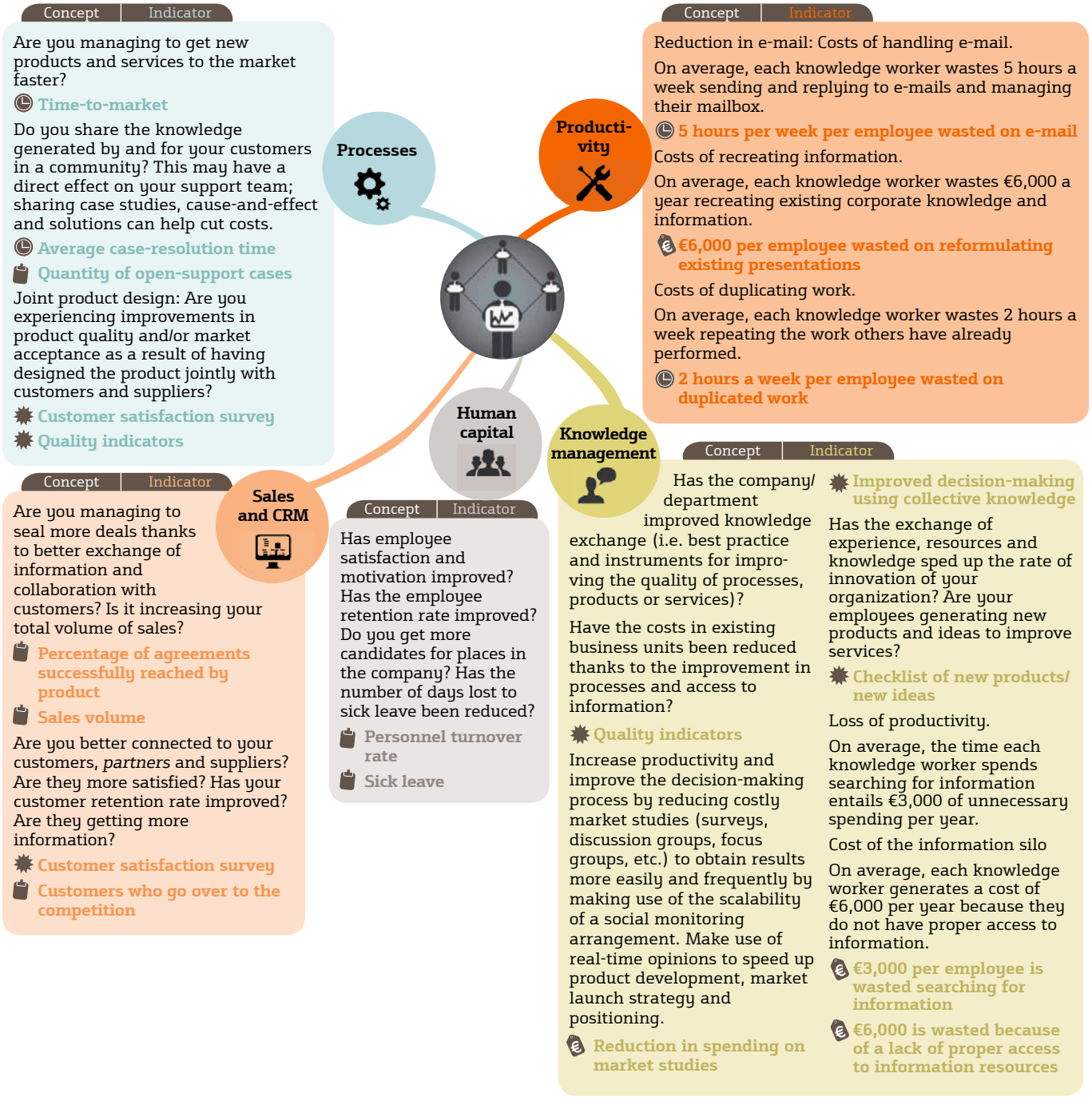


Illustration 24. The ROI of Corporate Social Networks.
Source: my.zyncro.com.

However, cases like these of fully connected companies harnessing social technology are isolated. As Accenture states, the adoption of social technology by companies is still at an embryonic state, but it promises to transform relations with customers across the entire value chain and the business organisation[79].

[79] "Harnessing the power of social media", *Outlook*, Accenture.

Companies in a number of the specific industries have been organically affected and forced to change their business model to survive this new social scenario

How should companies tap into the boom in social technologies in coming months?

It is very important to be among the first to engage with social technologies, thus gaining an edge on the competition. Accenture recommends the following actions for the coming months[80]:

- Become an active user of several different social media sites to properly understand the customer experience.
- Start preparing for the social listening process. Begin to figure out what conversations consumers are already having about the company and where those conversations are taking place.
- Look for best practices in social media in other industries that are "early adopters" in order to understand what is possible.
- Place IT at the centre of conversations.
- Appoint a tech-savvy social champion who can easily demonstrate mastery of the new social interaction models.
- Draft a survey of how business functions within the organization already use social and how their use compares with best practice across industries.
- Begin discussions with the business about which other business units are interacting via social media; work across business units rather than just with marketing.

As you can see, the next hundred days can be the first.

5.2. The disruptive impact of social technologies on the business models of traditional companies

As we have seen, most companies have a chance to adopt social technology and benefit from it internally and externally. In contrast to this majority in which social technologies are, for the time being, still optional, companies in a number of the specific industries have been organically affected and forced to change their business model to survive this new social scenario. These are the traditional media, companies in the audio-visual industry, tourism and the retail sector.

Traditional media, such as the press, are suffering first-hand the impact of communication platforms with the emergence of a technology that has led them from being the owners and distributors of information to being just another resource. The outlook is uncertain for the industry. Some papers are already folding due to a lack of resources; at the same time, new online communication media are succeeding precisely because they form part of the social jigsaw puzzle. *The Huffington Post*, for example, is a controversial example of online journalism which owes its success to the variety of contents it offers. With 1.2 billion pageviews in December 2011 and 36 million unique visitors[81], some of its contents are provided by non-professional bloggers whose only reward is the recognition and pride of seeing their blog published. As explained in one of the presentations at the Future Trends Forum, Al Jazeera too has learned to bring social techies on

[80] *Accenture Technology Vision 2012.*

[81] http://www.johnseed.com/2012_03_01_archive.html.

The challenge facing the media today is to monetize social technology and combine volume of news with quality and expertise

board. During the Arab spring in Egypt and Syria, it understood the potential of social technology and learning from its mistakes it designed a successful strategy that allowed it to cover the disturbances across the Arab world. The approach, initially forced on it by the authorities' media blackout, later became a conscious decision, backed by a strategy of training local reporters, verifying sources and screening information[82].

The challenge facing the media today is to monetize social technology and combine volume of news with quality and expertise. This same dilemma is faced by studies such as Miramax and Warner Bros. Like many other cinema and television producers, they are affected by the crisis in the industry arising out of the proliferation of sites as Megaupload, where users can share their movies free. However, they are experimenting with the possibility of offering video rental on social platforms and are now offering some films over Facebook[83].

While organisations have initially integrated social technology as another function of marketing, advertising agencies are now being forced to offer these disruptive technologies as part of their services. Successful advertising campaigns are now being run in which the impact on physical and digital world audiences converge. They currently include Publicis' "Liberad al pato Willix" (Free Willix the Duck) campaign, in which Mixta beer encouraged Internet surfers to view their videos one million times on YouTube in order to release the duck. The campaign became a social phenomenon, mobilising audiences and even the Society for the Protection of Animals. Ogilvy has created a global network of experts in social technology who offer marketing and communication services, CRM, *shoppermarketing*, etc.[84] However, not all agencies have been as quick to include the social phenomenon in their strategy and know-how. Some have been forced to call in support from outside agencies to help them offer the service to their customers.

Tourism and travel, by virtue of their personal and recreational nature, have been among the first areas to be affected by the technological maelstrom. Transparency has shrunk the world we live in. You don't need to travel any more to get to know new places; you can learn all about them from first-hand information posted by acquaintances on the virtual networks. Travellers are using social technology to enrich their travel experience. They can find travelling companions on Ajungo; they can get the best deals at @traveldeals or @triptwitnews (on Twitter) or on sites like Best Travel Deals; they can connect with the local population through TripTrotting, sit beside people they might know with KLM's Meet&Seat; they can go to Spotted by Locals to find out details about their destinations from local people; and they can create interactive travel maps using Tripline. Like they say, "if you can't beat' em, join' em": digital operator Amadeus[85] says that the collaboration between travellers and agencies is going to shape the way we travel. Semantic labelling of other people's experiences will increasingly guide us in our decision making. Travel operators will have to be able to manage this interaction, becoming moderators and experts and offering customers services co-created by travellers. We will have more profound and more social experiences, thanks to the merging of travel and extended reality, mechanisms for transforming our experiences into games and smart mobile devices. Using applications like Layar you can now "rebuild" the Berlin Wall and get a chance to admire the view of the Brandenburg Gate from the old East Berlin. Our travel will involve faster and more efficient automatic systems. The form of payment we have used will act as a memory for travellers, groups and operators with all the data generated. As a

[82] Presentation at the Future Trends Forum.

[83] *Accenture Technology Vision 2012.*

84 "El Social Media reinventa estratégicamente el perfil de las agencias", February 24, 2012.

[85] *From Chaos To Collaboration,* Amadeus, 2012.

result, they will be able to build up a profile of travellers, who in turn will no longer need to hold on to tickets and receipts. In general, travel will become an enriching experience. And while the travel industry has encountered a challenge in social technology, the people who have suffered most are the publishers who bring out travel guides on paper. Unless they digitise their content, they will find it difficult to survive.

Another sector that is being affected by consumers' online life is retail. New tech-savvy consumers have the option of finding information on products, comparing prices and making judgements in real time. They know what things cost and they're not prepared to pay a penny more for them. We've already seen how online users search for product information before buying. During the Christmas shopping period, 25% of american mobile phone users used their cell phones to compare prices and approximately 20% of these ultimately bought online[86]. E-consumers look for information on the Net, buy from domestic and foreign platforms and, if they don't find information on a brand, they turn to the direct competition. This is a converging retail world, in which physical companies are working hard to have a more collaborative and dynamic online social life with examples like the Sears stores, which allow users to review the product they've bought, hotels that advertise the fact that they're recommended by TripAdvisor and shops and other establishments that offer discounts through the social application FourSquare. The retail industry is being revolutionised by applications such as MicrosoftTag, which the cosmetics firm Grassland Essences uses to offer its buyers recommendations[87]. Establishments like GAP and Kmart are now saving paper by e-mailing receipts to customers[88].

5.3. A new generation of entrepreneurs thanks to social technologies

Social technology is revolutionising the way traditional companies do business, but entrepreneurs have also found a new world in which creating start-ups and obtaining profits is easier than ever. From publicising themselves to launching online market tests, this new virtual social reality provides innovators with platforms from which to launch their businesses. Rock the Post, for example, brings entrepreneurs into contact with professionals and financiers and provides the support, resources and connections needed to launch the project. Targeting platforms like MarketMeSuite offer resources to start up and monitor activity on social media, such as identifying key search terms associated with the business activity or monitoring social relevance. Mashable advises entrepreneurs who want to design an online brand image that the company website should have a short URL which is easy to insert in microblogging networks; to design virtual business cards and to use and combine physical and virtual publicity from press and influencers[89]. Gam Dias, Future Trends Forum expert and founder of FirstRetail, dedicated to business inteligence, advise entrepreneurs who want to venture into social technology to consider their business in terms of the following premises: Understand what the basic transaction that you perform for your users is and the precise value of that transaction; identify all possible data that gets created during the end-to-end process of that transaction; work out who may find that data useful, determine a motenization model for these customers and enhance the transaction to ensure, increase and enrich the data obtained[90].

As well as offering tools to entrepreneurs, social technology is a platform in itself in which it is possible to set up business using crowd connectivity. Intermediary-free financial platforms, such as The Crowd Angel are proving successful:

[86] http://pewinternet.org/~/media//Files/Reports/2012/In_Store_Mobile_Commerce.pdf.

[87] http://tag.microsoft.com/tag-in-action/success-story/t/herbal_essences_tags_product_displays.aspx.

[88] http://www.nytimes.com/2011/08/08/technology/digital-receipts-at-stores-gain-in-popularity.html?_r=1.

[89] http://mashable.com/2011/05/25/entrepreneur-brand-building/.

[90] http://www.realtea.net/data_alchemy.

individuals and organisations looking for financing are put in contact with financiers over social platforms[91]. Sites such as Qlubb are taking off, connecting 75,000 members including parent-teacher associations, trainers, schools and volunteers from communities who can plan and publicise their activities among association members[92]; platforms such as InnoCentive offer generous sums to people or teams who compete to come up with a solution to an apparently unsolvable situation or problem. There are sites like BzzAgent, a social marketing agency that makes products of leading brands available to users of social networks for review; CrowdFlower, which divides processes into specific tasks to be resolved by cloud-crowds, and Quora, which groups people into axes of interest where they can share and access relevant information (see Illustration 25). Although the success factors of these crowd platforms depend on the type of business, the number of contributors and buyers and the capacity for project management are of key importance in most of them (see Illustration 26).

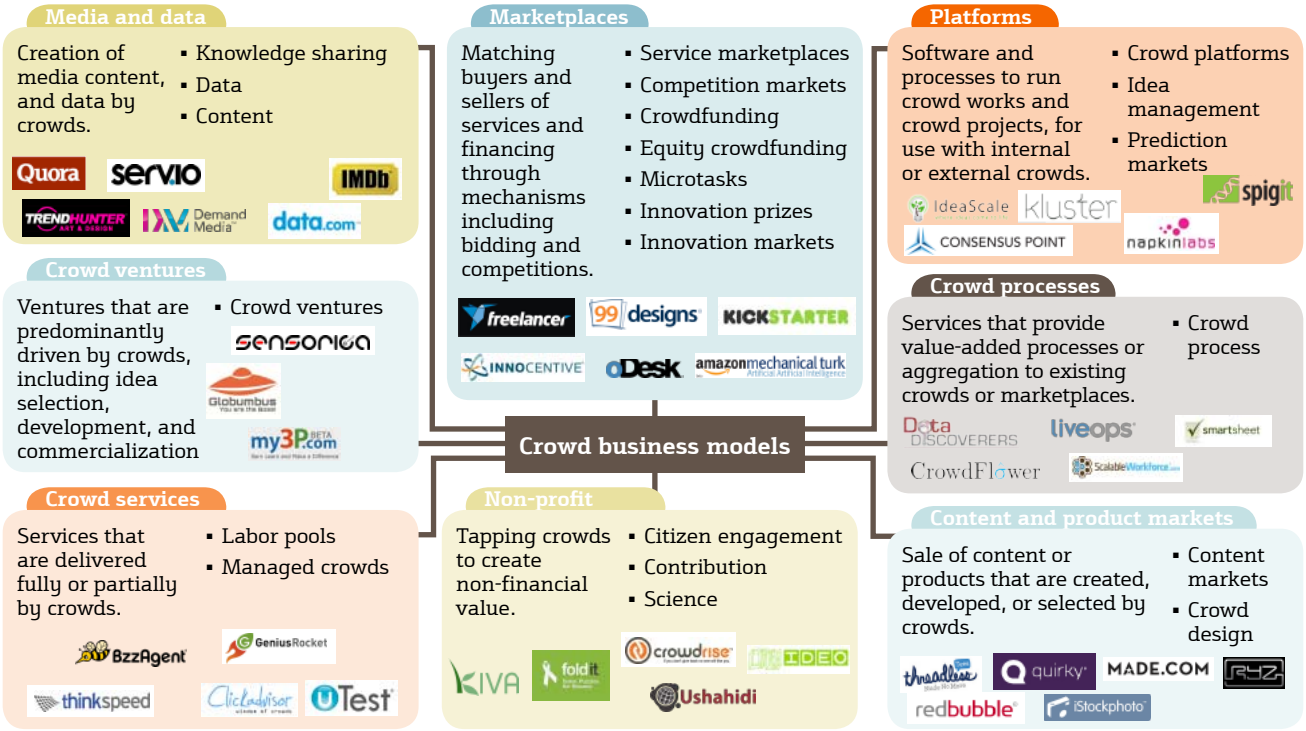


Illustration 25. Crowd technology business models.
Source: Results from crowds.

How do platforms survive without charging their users any fees? Where does the money come from to pay for the technology, workers and 24/7 storage capacity? If you've ever asked these questions, talk to Bruce Schneier, Internet guru. He says: "Facebook's users are not its customers; they are the product, which it sells its customers. Facebook makes money out of what people say on its network. And the more users it has and the more things they say about their lives, the better, because that means more income for the company"[93]. Indeed, in 2012, the social network could make over five billion dollars in advertising revenue[94]. However, the model is not as simple as just including an advertisement. Mashable help explain

[91] http://www.springwise.com/financial_services/in-uk-crowdsourced-bank-offers-peer-to-peer-financial-services/.

[92] http://newsroom.cisco.com/feature-content?type=webcontent&articleId=499096.

[93] http://blogs.lainformacion.com/legal-e-digital/2011/05/30/%C2%BFporque-facebook-es-gratis/.

[94] http://www.puromarketing.com/16/12274/facebook-twitter-fueran-pago-seria-gran-negocio.html.

the origins of social platforms' profits with different classifications of business model: *freemium* (a combination of free and premium), affiliate, subscription, virtual goods and advertising revenue.

- **Freemium model:** examples include UserVoice (a platform putting consumers and companies in contact), Flickr (photo-sharing site), Vimeo (video-sharing community), LinkedIn (professional social network) and PollDaddy (survey platform). Users pay nothing for the basic service but can pay up to become members and access an improved or advertising-free service.

- **Affiliate model:** e.g. Illuminated Mind (personal growth community), ShoeMoney (marketing e-learning platform), DIY Themes (software platform), in which tools, platforms and blogs profit from directing traffic or sales towards the website of another affiliate company. Naturally, the platforms with the most users gain the most in this model.

- **Subscription model:** e.g. Label 2.0 (music creation community), Scrooge Strategy (community offering money-saving tips), Netflix (online video club) and WhatsApp (instant messaging platform), in which users who want to access the service have to pay a subscription, generally monthly or yearly.

- **Virtual-goods model:** e.g. Acclaim Games (online games site), Meez and Weeworld (virtual worlds for teenagers). The companies profit when their users pay for virtual goods, such as weapons, points or gifts. The goods can be paid for with money or information, for example, by filling in surveys or providing feedback.

- **Advertising revenue model:** e.g. MySpace (social interaction site) and Facebook, which sells advertising space that is charged by traffic and market share.

- There is also the **transaction model**, used in the social platforms that act as intermediaries between customers and suppliers, such as CrowdFlower (see Illustration 26).

The success companies have enjoyed from social technology has not been a flash in the pan: employers and entrepreneurs have overcome their prejudices, experimented and found the key to motivating their customers. The more companies embark on the social technology adventure, the more scaleable it will be. Just as social technology itself is dynamic and changing, their business model is neither static nor exclusive; it evolves at the same time as its users; it has all the potential that technology and the imagination can provide. Start-ups evolve and their founders have to find new ways of intriguing customers and users.

Monetization	Marketplaces	Platforms	Crowd processes	Content and product markets	Media and data	Crowd services	Crowd ventures
Transaction fees	■		●	■			
Membership fees	●	●	●	●		●	■
Test fees	●					●	
Licensing		■			●		
Pay per task	●	●	■		●	■	
Product sales				■			
Advertising/Search					■		
Subscription		■	●		■	●	●
Content sales				■	■	●	
Packaged services			■			■	■
Custom services	●		■			■	■

Success factors	Marketplaces	Platforms	Crowd processes	Content and product markets	Media and data	Crowd services	Crowd ventures
Contribution breadth	■		●	■	●	■	●
Contributor quality	■			■	■	■	■
Buyer breadth	■	●	■	■	●	■	●
Buyer quality	■		●			■	●
Public reputation measures	■			■	●		
Internal reputation measures			■		■	■	■
Project management capabilities		■	■	●	■	■	■
Project management tools	■	■	■				
Content monetization models					■		
Quality control			■	●	■	■	●
Fulfilment				■			

■ High relevance ● Medium relevance

Illustration 26. Monetization and success factors of crowd business models.
Source: Results from crowds.

5.4. Separating the wheat from the chaff: transforming data from social technologies into relevant information

In the previous sections we have seen how companies are playing a game in which the data generated by and among consumers will be decisive. The business world has gone from trying to forecast the behaviour of its target customers with costly market studies to a position in which it receives vast quantities of feedback and information twenty-four hours a day. Using social technology, consumers and customers not only say what they like and dislike, but also how they would like things to be. In the game of social technologies, big data has become a player that

There are myriads of data all around us, but we don't need to measure them all; each company must devise its equation, its business target

can offer companies the possibility of accessing a potential market expressing their needs, tastes and preferences. There is no more reliable information today than our online activity in the various channels social technology has to offer. Sources such as online or mobile financial transactions, social media traffic, and GPS coordinates now generate over 2.5 quintillion bytes of so-called "big data" every day. And the growth of mobile data traffic from subscribers in emerging markets is expected to exceed 100% annually through 2015[95]. We are heading for a data-packed future, and in 2013 there will be over one trillion devices connected to the Internet.

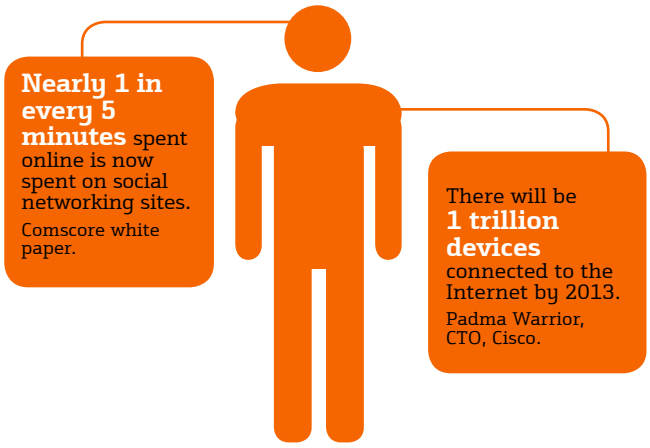


Illustration 27. A hypercommunicated future.
Source: Socialmedia-max.

However, when we speak of big data, there is one question everyone asks. How can we make sense of the mountains of information and knowledge floating around the Net? At the Future Trends Forum, the experts agreed that the important thing is not only to open a window to access the data; it's not just a matter of analysing it; the goal of company leaders should be to make sense of that data for the organization they run. There are myriads of data all around us; we don't need to measure them all. Each company must devise its equation, its business target. Tim Hayden, director of marketing at 44Doors, a leading supplier of mobile marketing platforms, thinks that in the future CRM platforms will be able to offer a clear profile of the audience's behaviour and activity through measurements and key return indicators, which will be obtained from information taken from language and an online analysis of feelings and conduct patterns through banners, e-mails or links to Internet sites, sales indicators and space-time data. But that is the future. Brian Solis considers that organisations are not yet ready to manage all the information provided by big data with an integrated approach including processes, collaboration and an innovating perspective. In his opinion, information constitutes the business intelligence of any organisation and should be at its heart[96]. Forrester corroborates this; despite the fact that customers, trading partners, employees and products are more interconnected than ever before and have tools available to them that allow them to make decisions supported by real-time data (see Illustration 28), he notes that at the end of 2011 less than 15% of companies were using knowledge in a strategic approach. Most forward-looking companies consider their knowledge of the customer to be a critical asset and are innovating in customer acquisition, retention, satisfaction, profitability, benefits and value[97].

[95] http://sanfrancisco.resiliencesystem.org/big-data-big-impact-possibilities-development.

[96] Awareness, *2012 Social Marketing & New Media Predictions.*

[97] *It's Time For Business Leaders To Embrace Customer Intelligence,* Forrester, October 2011.

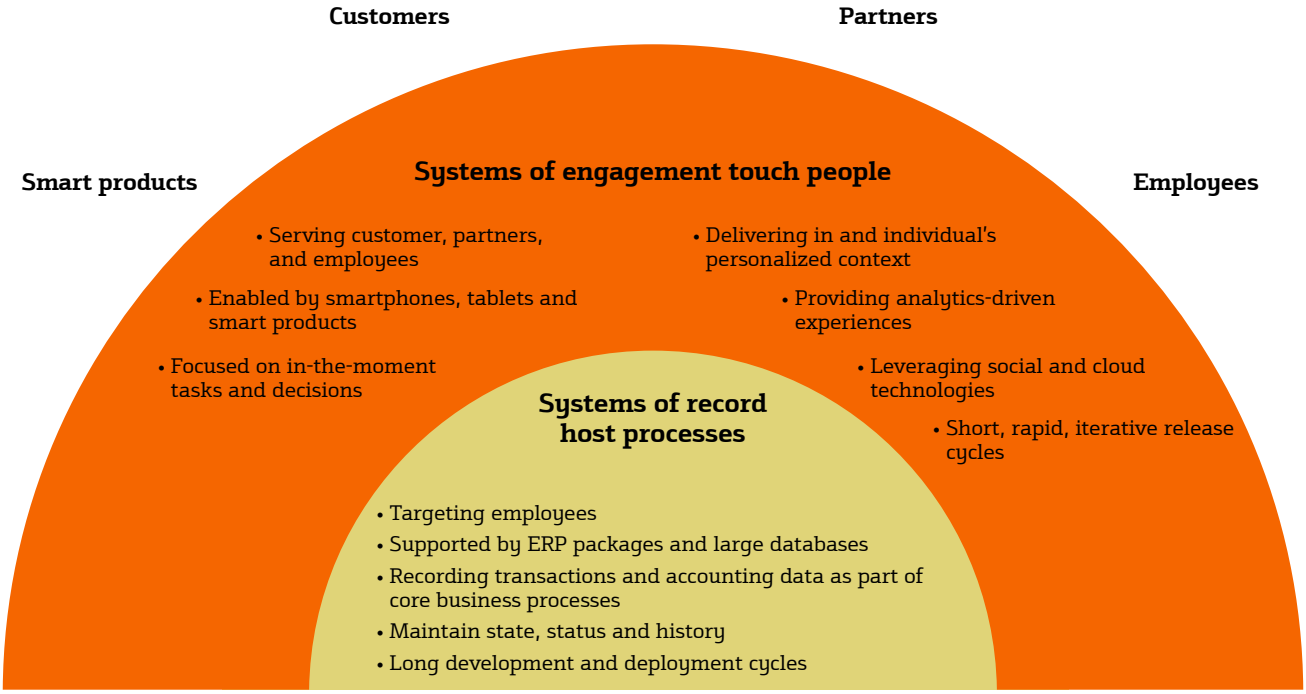


Illustration 28. Interconnection between products, customers, trading partners and employees.
Source: Forrester.

Along these lines, McKinsey says that the potential of big data lies primarily in the creation of a radically different decision-making system. Using controlled experiments, companies can check hypotheses and analyse results in order to guide investment decisions and operational changes. For example, by segmenting customer data, insurance companies can identify and act on the type of high-risk behaviour customers assume in their lives. In other areas, retailers, for example, will be able to monitor in real time the behaviour of their customers in online shopping. They can then influence their potential behaviour in real time by offering them discounts, offers or simply by showing them products in which they have shown an interest before. Internally, too, HR departments could offer specific incentives or benefits that better suit their employees' lifestyles[98].

John Battelle, who was appointed Global Leader for Tomorrow by the World Economic Forum, identifies seven groups of big data which will be able to predict consumers' conduct[99]:

- **Purchase Data:** information about who buys (or nearly buys), what and in what context: when, where, etc. This data also includes information from credit cards.
- **Search data:** considered as the original database of intentions. Consists of the data searched for, search patterns, records, etc.
- **Social data:** includes social graph and identity data, as well as how people interact within their graphs, social circles, etc.
- **Interest data:** this is data that describes what is generally called "the interest graph" –declarations of what people are interested in. It's related to content,

[98] McKinsey.

[99] http://battellemedia.com/archives/2011/06/web_2_map_the_data_layer_-_visualizing_the_big_players_in_the_internet_economy.php.

The profusion of data and the underlying demand for meaning is leading to the creation of new businesses that offer information generation as a service

but it's not just content consumption. It includes active production of interest datapoints –such as tweets, status updates, checkins in specific sites, recommendations, links, etc.

- **Location data:** this is data about where people are, how often they go there, and other correlated data –i.e. what apps they use in that place; who else goes there and when, check-ins, etc.
- **Content data:** this is about the contents consumed, i.e., who reads/watches/consumes what, when, and in what patterns.
- **Wildcard data:** uncategorized, but could have huge implications. For example, information on language such as phonemes, data from logistics related to carriers, etc.

The profusion of data and the underlying demand for meaning is leading to the creation of new businesses that offer information generation as a service. For example, SAS Social Media Analytics helps identify the connections between online consumers, the amount of conversation flowing between them and their network of contacts, and the impact online conversations have on consumers' behaviour.

As Accenture says in its study *Accenture Technology Vision 2012,* the explosion of data, the trend to create business models consisting of aggregating data, will make it simpler and cheaper to store, process, manage, share and integrate the data in the companies to facilitate decision making. Much of this data has been stored on platforms and social networks, financial companies and others, which are now beginning to dominate the online data management scene (see Illustration 29)[99].

Illustration 29. Data framework: viewing the large players in the Internet economy.
Source: Web2summit.com.

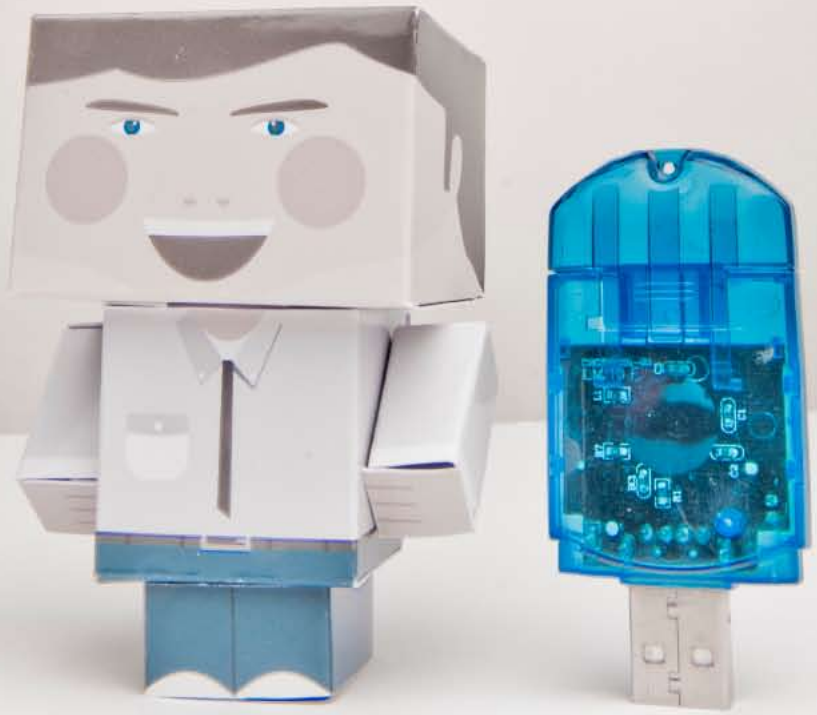
[100] http://map.web2summit.com/#t.

This question of access to data and to information is beginning to lead to the creation of a kind of data stock market that will set its price. Accenture offers a foretaste of the parameters that will determine the value of the data consumed: companies buying and selling the data will have to look at criteria such as usage –freshness, quality, veracity, etc.–, exclusivity or uniqueness, ease of production, constraints on use, usability and integration with corporate data, reliability –and legality– of the source, continuity in the provision of data and business impact.

The main social networks and platforms, such as Facebook and Netflix, need to open the Pandora's box of data and companies are now timidly getting involved. However, the potential is so formidable that in the near future companies that fail to base their business strategy on a knowledge of the (internal or external) customer will probably be left out of the game. This is the time to begin the conversation on big data and learn what they don't yet know about their customers.

6 The thorns of social technology: barriers and threats

- The risks of being in the social media
- The importance of privacy



In previous chapters, we have looked at some of the benefits and challenges social technology holds out for individuals, governments, companies, etc. It is a flourishing phenomenon, but like all the finest rosebushes, it has its thorns too. This chapter is intended to offer a pause for reflection. Is everything really that rosy in the garden?

The Future Trends Forum experts believe that the main barriers to the expansion of social technology lie in excessive government control –intended to protect user privacy– and users' prejudices and fears concerning privacy and security issues.

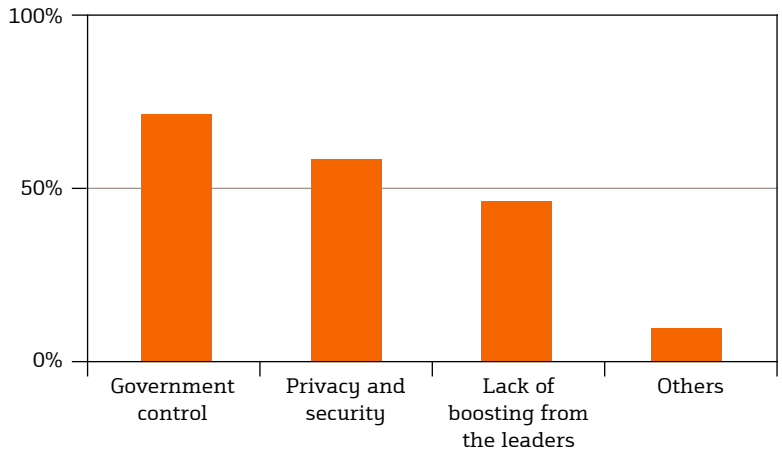


Illustration 30. Main barriers to the expansion of social technology.
Source: authors.

Examples of this attempt at government control can be found in the European Commission's proposal to require social networks and platforms to erase the data of any user so requesting immediately. The EC wants to promote a coalition of tech firms and social platforms to develop systems for improving parental control, privacy configurations and co-operation with law enforcement agencies[101]. The president of the German Constitutional Court has warned of the lack of legal protection suffered by users of social technologies: we have no way of knowing whether our details are really being erased, or what national legislation will govern any given platform. The data protection agency in Hamburg reported that Facebook installed cookies on users' computers that remained in place up to two years after the user cancelled his or her account on the social network[102]. With governments pushing to protect the most vulnerable sector of social technology, the Future Trends Forum experts lament the absence of legislation adapted to new times, in which social technology has no frontiers. Will legislation come in time? Does social technology make us freer or more vulnerable? Will it be possible to legislate this global technology at a local level?

Social platforms, too, are working hard to protect their members' privacy. Yet despite their best efforts, experienced users –not to mention hackers–, have still managed to steal their peers' identities[103]. Privacy is a thorny issue. We share our profiles and our identity; we offer them up online. We publicly expose ourselves to

[101] http://www.elmundo.es/elmundo/2011/12/02/navegante/1322819743.html.

[102] http://www.elmundo.es/elmundo/2011/11/07/navegante/1320661219.html.

[103] http://www.elmundo.es/elmundo/2011/11/28/leon/1322472223.html.

criminals who harvest the sort of personal information commonly used to create passwords, such as the names of family and pets and dates of birth. The malware Ramnit, first detected in April 2010, may have "stolen" up to 45,000 user names and passwords from Facebook in January 2012, most of them in France and the UK. This information could be used for a range of purposes, from hacking into other user accounts to spreading viruses –and other malware– over the social network[104]. Malware is proliferating at an alarming rate. In an eighteen-month period between 2010 and 2011, 70 million malware applications were identified – as many as in the twenty previous years[105]. Given that malicious software can cause the loss of sensitive information and aid industrial espionage, more than 50% of companies restrict or prohibit access to networks and social platforms, as well as investing an average of between €100 and €300 per employee on IT security.

Companies that use social technology not only face a greater threat of industrial espionage. When surveyed, senior management ranked the risks of being in social media in order of importance: disclosure of proprietary information; negative comments about the company; exposure of personally identifiable information; fraud and out-of-date information[106]. When it comes to incorporating social technology in companies, the main concern of leaders is the lack of control and the possibility that their employees may share too much information, especially sensitive information on systems security; personal information on customers and employees; intellectual property; and offensive and inappropriate content[107] (see Illustration 31).

If you're afraid your employees might be sharing inappropriate information, remember this: if the risk lies in social technology, so too does its solution.

[104] http://www.computerweekly.com/news/2240113383/Ramnit-worm-steals-45000-Facebook-passwords?asrc=SS_CLA_2240036655&psrc=CLT_222.

[105] http://www.computerweekly.com/feature/The-security-threats-of-technology-ubiquity.

[106] http://www.grantthornton.com/staticfiles/GTCom/Advisory/GRC/Social%20media%20and%20risk/social%20media_whitepaper%20-%20FINAL.PDF.

[107] http://www.cisco.com/en/US/prod/collateral/ps10680/ps10683/ps10668/soc_nw_en_tlp.pdf.

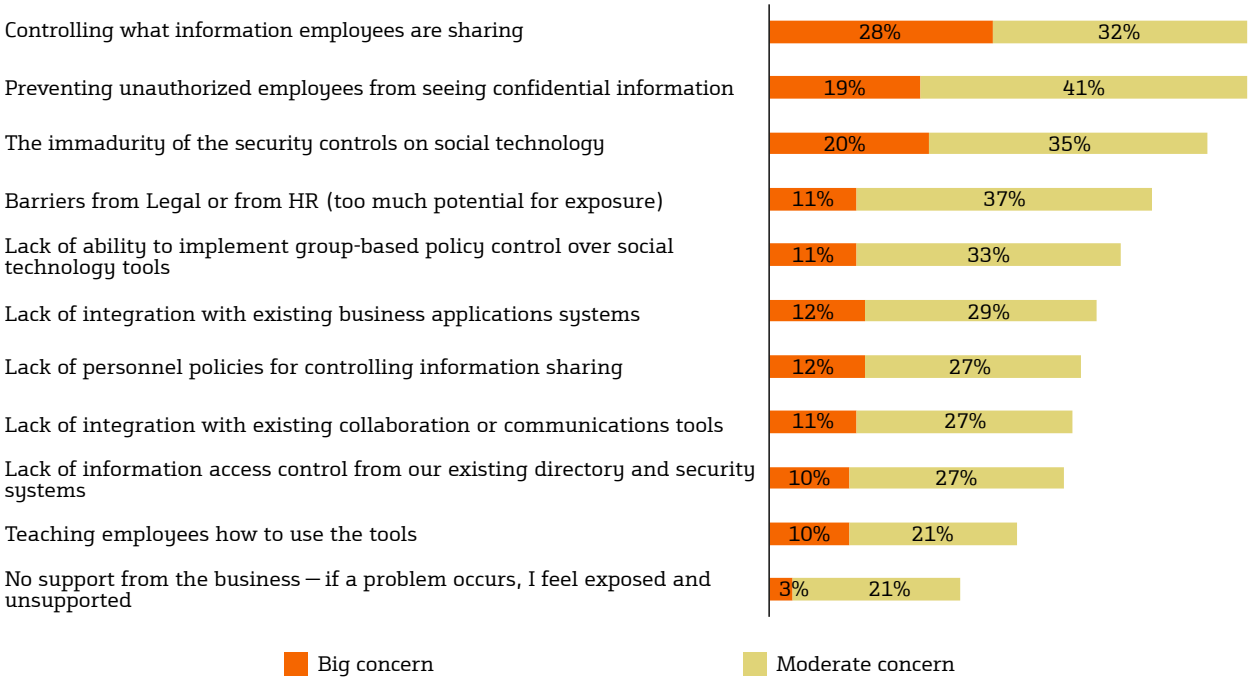


Illustration 31. Main concerns regarding social technology in business.
Source: Forrester Consulting.

Establishing role-based access and implementing a semantic and qualitative analysis of the information being shared will alert you of risky practices and prevent future risks[108].

Not being in the social media is not the solution: it gives your competitors an opportunity to fill the gap you leave with an enriching experience that will draw in consumers. And to be realistic, whether or not your company uses social technology, your employees are already spending part of their working day accessing networks and other social platforms, either from their work computer or from their mobile telephone, and that can lead to a drop in productivity (see Illustration 32).

[108] http://www.cisco.com/en/US/prod/collateral/ps10680/ps10683/ps10668/soc_nw_en_tlp.pdf.

So, if we've managed to persuade you and you're ready to make the most of social technologies, the first thing you should know is that to get the most from big data,

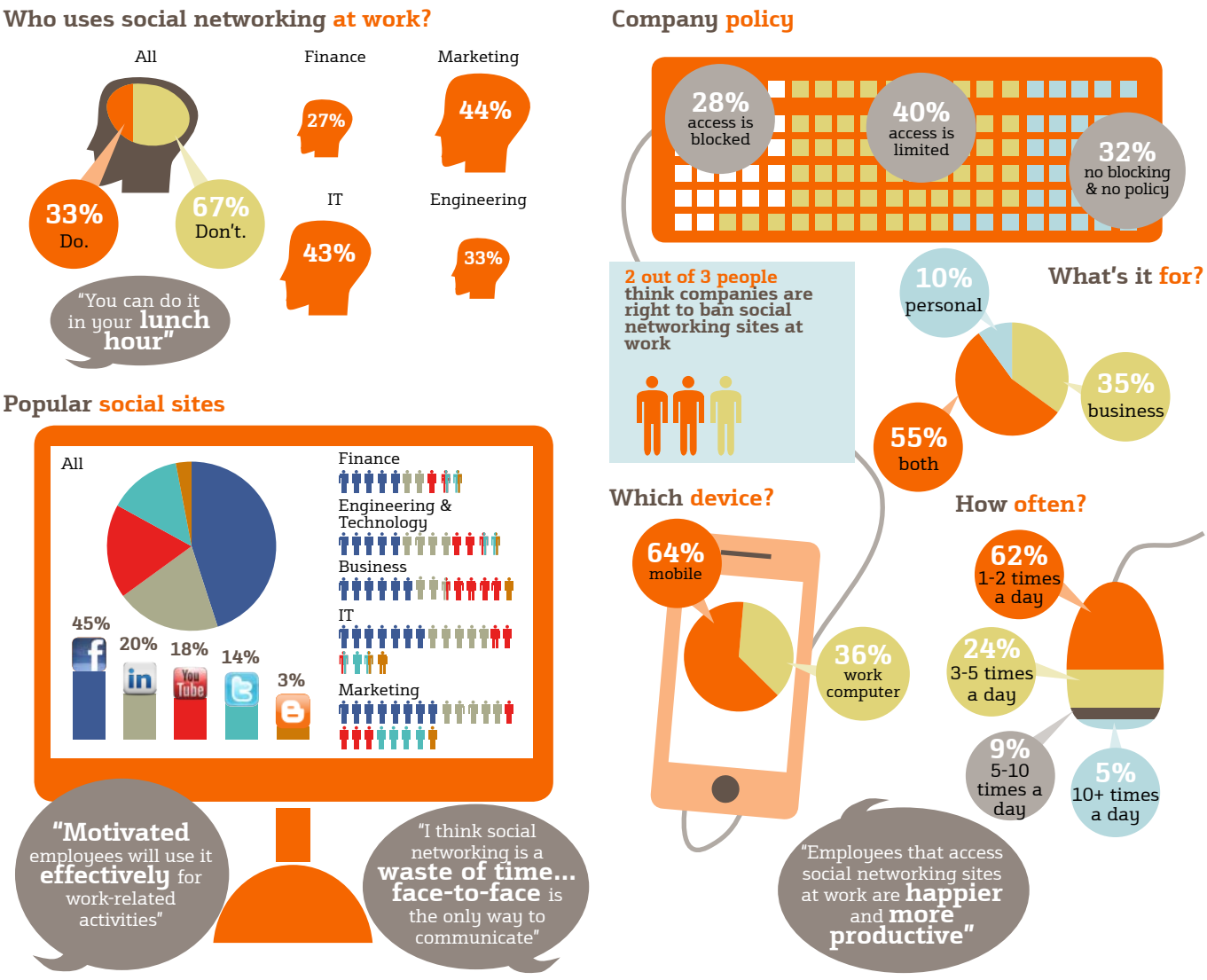


Illustration 32. Devices used by employees to connect to social networks.
Source: Reed.co.uk.

Will we live in a world that is both transparent and biased? Will privacy and intimacy disappear? Are we voluntarily losing the right to be anonymous?

you'll have to tackle the issue of the veracity of online data. Social technology is not always as human or as sociable as it might seem. There are robot-accounts out there whose sole mission is to promote certain accounts or sites, for example by retweeting news or comments. Then there are agencies like Antares Marketing, which sell Twitter followers in packages of between 1,000 and 200,000, for a price ranging between 4 and 300 euro, depending on the loan time and market segment. There are Facebook profiles, too, which act as a space where votes can be bought and exchanged. And between 5% and 6% of Facebook users —i.e. over 50 million— have a false profile[109]. Some of the more sceptical Future Trends Forum experts wonder just how much online information is reliable. Is all the information we share authentic and genuine? Is social technology not just a showcase where we show off our best side?

The Future Trends Forum experts argue that because we receive most of our information from our "friends", the variety of contents we receive will be biased and limited. And they say in the future there will be no secrets: thanks to social technology, our children will be capable of having two hundred times more friendships, and will lead to the maximum possible transparency. Our reputation will depend not only on what we do, but on the information shared by our acquaintances. Will we live in a world that is both transparent and biased? Will privacy and intimacy disappear? Will a law be required that promotes self-determination and protects our right to modify the information published online by our acquaintances? Are we voluntarily losing the right to be anonymous?

Another thorn in the rose-garden of social technology relates to dependency, abuse and saturation of social connectivity. As Alberto Knapp, Future Trends Forum expert, says, approximately 70% of adults and 65% of teenagers surveyed by the marketing and communication agency JWT, say they have suffered from FOMO[110]. We are overexposed to the social, cultural and consumer life of our acquaintances. As a result, we feel anxious that we might be failing to experience something being enjoyed by our peers[111]. One third of people surveyed by British Telecom feel overwhelmed by the use of social networking and occasionally feel the need to escape from it[112]. Is social technology generating a dependency to be permanently online? Are we isolating ourselves from real life? Are we addicted to social media? Will we be capable of filtering out the social noise and building real relations?

It would appear that the mere fact of accessing social networks makes us more liable to undervalue our privacy (see Illustration 33). The concept and importance of privacy are not the same for everyone. For those who say they have nothing to hide, privacy is a secondary issue. Defenders of online privacy, on the other hand, oppose the incursion of technology into their lives; even the fact that search engines autocomplete the entry based on past searches they consider to be a violation of their privacy[113].

And at the same time as we argue about online privacy, we sign privacy clauses giving the technology providers permission to store and distribute information on our contacts, how often we interact with them, our conversations, activities, purchases, opinions, the contents we share, etc. The fact is that millions of users believe social technology is worthwhile even if it involves assuming certain risks, such as revealing their private lives to anyone with the power or the possibility of accessing it. On the grounds that they protecting citizens' freedom and fighting terror to monitor, bodies such as the CIA store and analyse the online data of

[109] http://www.fanaticosdelsocialmedia.com/mas-del-5-de-perfiles-de-facebook-son-falsos.

[110] FOMO: Fear Of Missing Out.

[111] http://blogs.elpais.com/consumidos/2012/03/fomo-el-miedo-a-perderse-algo-fear-of-missing-out.html.

[112] http://www-edc.eng.cam.ac.uk/projects/comms/.

[113] http://www.elmundo.es/elmundo/2012/03/26/navegante/1332744902.html.

The sad state of social media privacy

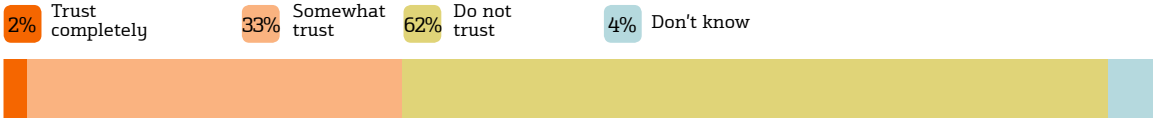
Privacy in the social media era: it can seem like an oxymoron. For years, consumers, media and government regulators have grappled with the problem of online privacy in an increasingly social world. But has anything gotten any better? It appears not.

Distrust online

Trust no one (well, almost no one)

Nearly 2/3 of consumers don't trust online companies like Facebook, even though we all interact with them and share our personal information with them.

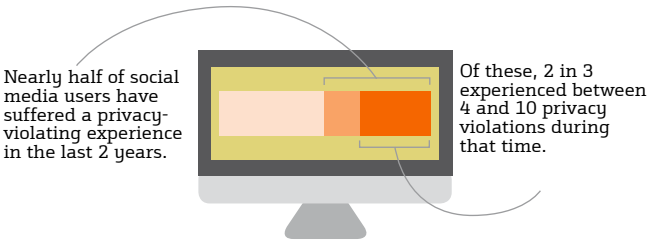
Extent to Which Consumers Trust Online Companies With Their Personal Information



* Due to rounding, figures exceed 100%

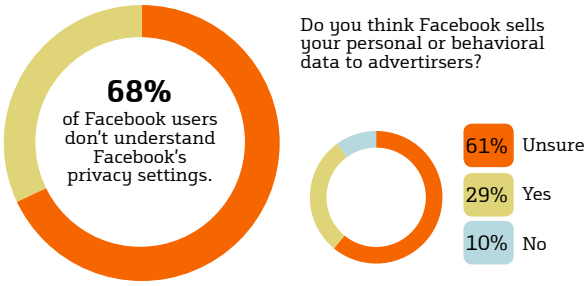
Getting burned

One reason consumers don't trust online companies could be that they've been burned before. As many as 1 in 2 consumers reported they have suffered an online breach of privacy in recent years.



Ignorance is bliss

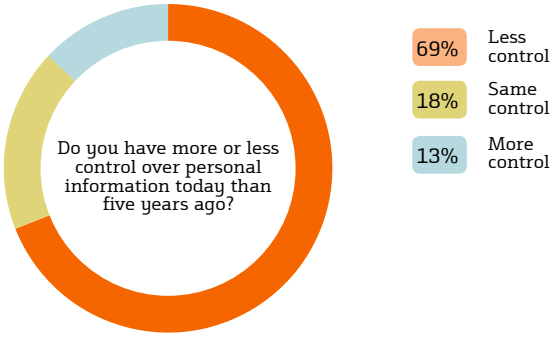
Though millions of Americans use Facebook regularly, many don't know what information they're offering up by doing so — or what Facebook does with that information.



Getting better or worse?

We have less control today than before?

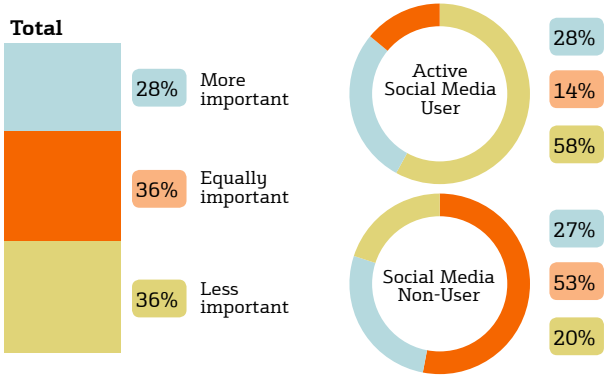
A 2011 report by MSNBC and The Pokemon Institute examined how Internet users feel about their privacy today compared to five years ago. By a wide margin, people feel they have less control over their personal info today than they did five years earlier.



But privacy isn't any more important

Though most say they have less control over their privacy, only 28 percent of people consider privacy more important now. However, the importance of privacy is a polarizing issue between those who do and don't use social media. Avid social media users are less concerned with their privacy.

Is privacy more or less important to you than it was five years ago?

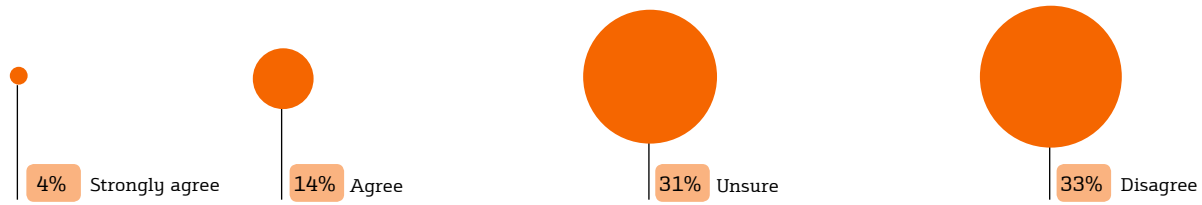


(continued on next page)

The sad state of social media privacy

Few can protect themselves today

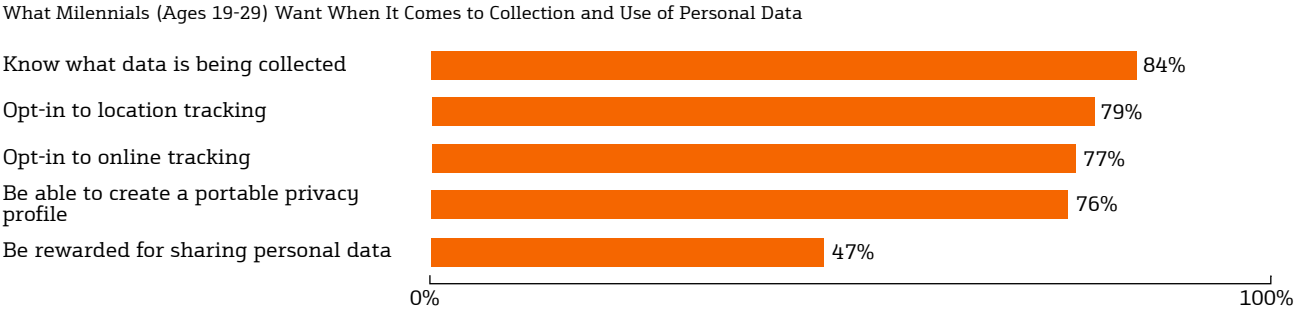
Few social media users believe they can protect their information online. A slim 4 percent of respondents are very confident they can do so.



What consumers want

Collecting and using personal data

Social media users are hungry for more control over their personal information and how it's used online. Most of all, they want to know what's being collected.



The desire to share even more

Studies have shown that consumers have been concerned about their online privacy for years. Social networks should take note: giving users transparent, easy-to-use privacy controls could enable more activity.

61% of social network users would share more if they could control who sees what they share.

Illustration 33. Importance of privacy in social media.
Source: MDG Advertising.

millions of people around the globe[114]. George Orwell would be rolling in his grave! His *1984* was meant as a critique of the totalitarian systems of the past, but it is also very close to the Big Brother we are building all the time and which we seem to be incapable of doing without. Who has access to the information we share on the Internet? Will control of information make it possible to control people in the future? Is there any turning back?

Social technology may have been behind the movements of the Arab spring, but it must be said that a series of circumstances had already built up that in time would

[114] http://www.larepublica.pe/05-11-2011/cia-el-gran-hermano-de-las-redes-sociales.

probably have led the people involved to rise up anyway. Social technology gives us a forum for protest, but as the Future Trends Forum heard, it also helps national secret services to identify those who protest and rise up against the established power and it can be used as a tool of repression[115]. The Future Trends Forum experts wonder if we are not overrating the role of social technology in this type of movement. Will any more "spring revolutions" be possible? Or, on the contrary, will government control and local constraints put out the fuse? Will social networks encourage a sort of static activism, in which we seek to change the world with a click? And if we are pricked... can digital thorns make us bleed?

We have looked at both the pros and cons of social technology. Millions of users believe that they have something to offer, even if that means accepting certain risks. And now that all the cards are on the table... What do you think?

[115] http://www.elmundo.es/elmundo/2011/11/28/navegante/1322474939.html.

7 The panorama of social technologies: is Spain different?

- The most active social networkers in Europe
- The future for Spanish online consumers
- The long road ahead for Spanish business

Generador de ideas
bankinter.

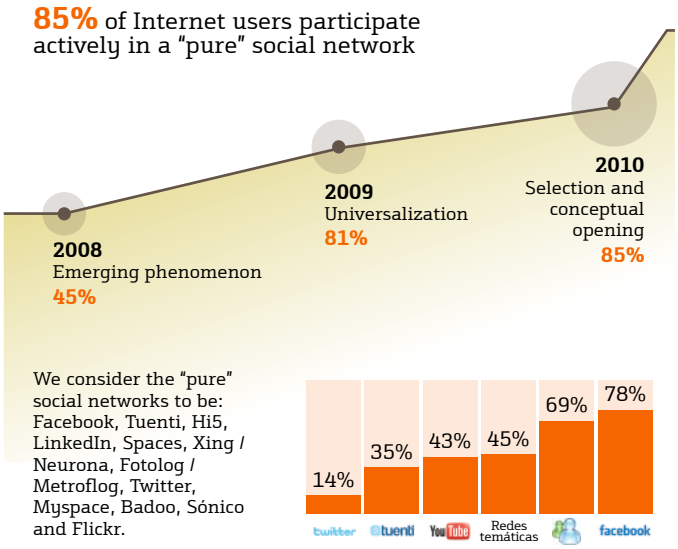
Spain is different! According to the stereotype, Spaniards are quintessentially Latin: extrovert and sociable. But does the cliché still apply when it comes to social technologies? That's one of the questions we'll try to answer in this chapter.

Social networks are the most popular of social technologies in Spain. Spaniards are the fifth-largest users in the world (third among 18-29 year olds)[116] with a growth rate of 17% per year[117]. Spaniards use social networks more than any other Europeans[118] –and they are the most active, too: they talk more, create more contents, collate information most often and update their profiles most often. 85% of Internet users participate actively in a pure social network (see Illustration 34).

[116] http://www.pewglobal.org/2011/12/20/global-digital-communication-texting-social-networking-popular-worldwide/1/.

[117] http://www.fundacion.telefonica.com/es/prensa/noticias/detalle/25_01_2012_esp_1976.

[118] http://www.rrhhdigital.com/ampliada.php?sec=45&id=83179.



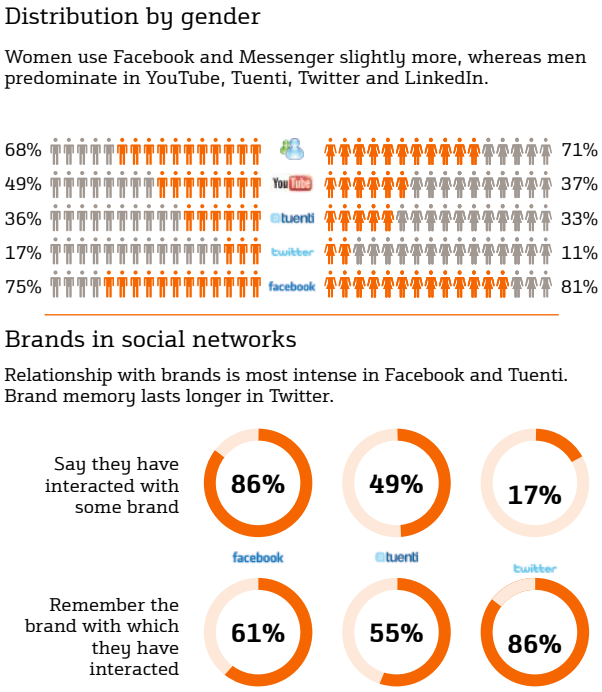


Illustration 34. The third wave of social networks.
Source: report published in 2011 by The Cocktail Analysis.

All the indications are that the use of social networks as a means of communication will become more common among the rest of Spanish society over coming years

Our favourite networks are Facebook and Tuenti[119], although we also visit specialist platforms devoted to motor sports and hunting[120].

After social networking, our favourite activities via social technologies are e-mailing and viewing and sharing videos on social networks, which takes up quarter of our online time. Our online social life is growing rapidly and yet, comparing this data with the frequency of use of other social technologies (blogs, shopping sites, etc.), there's still a long way to go (see Illustration 35).

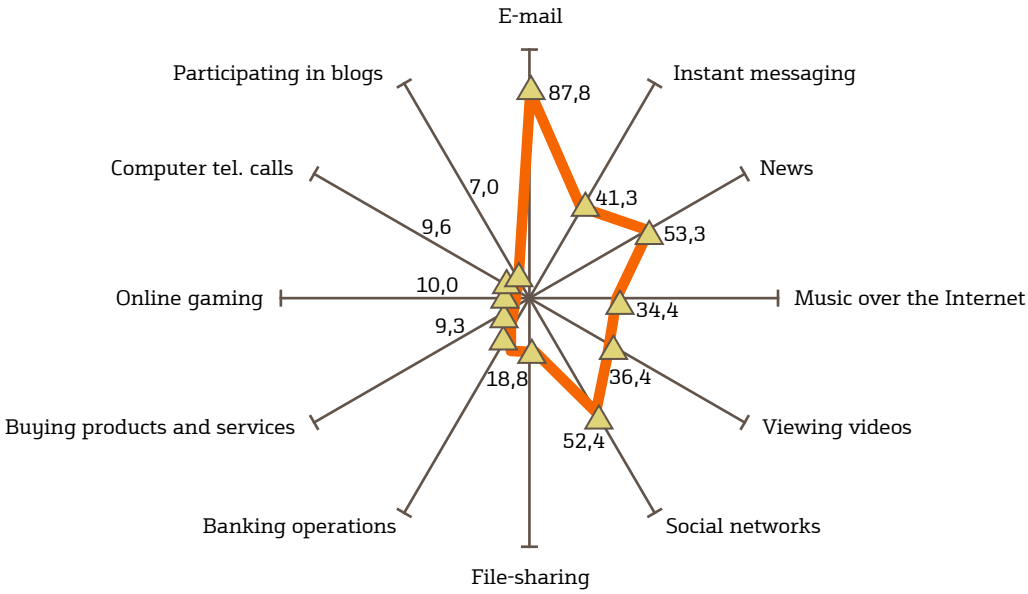


Illustration 35. Services used by Spanish Internet users.
Source: EGM (AIMC).

Although the Internet and social technologies are being adopted as common tools for our day-to-day activities, the process is not happening at an even pace throughout society. The pioneers to date have unquestionably been younger people, nearly 90% of whom use digital formats for watching videos, listening to music and so on. As a result, the room of growth is often smaller in this segment and usage needs to spread to older segments of society in order to drive growth[121].

All the indications are that the use of social networks as a means of communication will become more common among the rest of Spanish society over coming years. If so, there will be plenty of new business opportunities for companies capable of targeting more mature groups via social technologies. Indeed, surprisingly, senior Spanish Internet users are more inclined to use mobile Internet. Mobile Internet users in the 45-55 age group go online more often and for a longer time than the average[122].

It is particularly important to introduce older Spaniards to social technologies. They make up an ever-larger section of the demographic pyramid and have higher-than-average purchasing power[123] and could help the Spanish social technology market take off in coming years.

[119] *The social media view from Spain*, Nielsen, September 2011.

[120] http://www.iredes.es/acerca-de/mapa/.

[121] *La sociedad de la información en España 2010*, Fundación Telefónica.

[122] *La sociedad de la información en España 2010*, Fundación Telefónica.

[123] *La sociedad de la información en España 2010*, Fundación Telefónica.

[124] http://www.baquia.com/posts/espana-lidera-el-acceso-a-redes-sociales-desde-el-movil-en-europa

Individual activity in social technologies has backed the opening up of public administrations to the citizen

Spain leads Europe in mobile access to social networks. Generally speaking, we are very attached to our mobile phones and use advanced technological functions. 40% of Spaniards use their phones to go online every week and practically the same percentage send and receive e-mails from their phones[124]. Mobile access to social networks is also growing steadily; in 2011, 55% of mobile Internet users connected to them on a daily basis. Companies capable of tapping the potential of combining mobile Internet and social networks will find an emerging market. Accenture considers that ad hoc services that use the customer's real situation (location, time of day, etc.); preferences (identified from past decisions); and attitudes (defined by actions or behaviour) will enrich consumers' experience and generate income for those who can offer them products and services.

The influence of social technologies in political life

Online sociability is also having a clear impact on Spanish political and social life. In 2011, the anti-system "indignados" and 15-M movements used Facebook and Twitter as a spring-board to give them an international impact and inspire people across the globe. The movement was born and spread thanks to the social networks and other forums such as Tasa Robin Hood, Indignaos, etc. Another event in September 2011 led to the coining of a new term in Spanish political life, "twitocracia" (twittocracy). The trigger was the decision by the Board of Governors of the Spanish state broadcaster RTVE to allow board members to exercise prior control over news programmes. It unleashed a storm of protests on the social media, especially Twitter. Such was the outrage that just a few hours after the measure was approved, the political parties had to come out publicly and change their stance. Some saw the events as marking the beginning of a new stage in political life, in which Spaniards would participate ever more actively thanks to social technologies[125].

Similarly, individual activity in social technologies has backed the opening up of public administrations to the citizen. Spain now comes third and ninth in the UN's eParticipation and eGovernment Survey rankings respectively[126]. And while the Future Trends Forum experts were forecasting that government would develop applications to legitimise e-identities, the Spanish government was already taking the first steps in this direction, incorporating the electronic identity card. This is a good starting point that could in the future be helpful for backing our e-identity[127].

Already in Spain, there are public bodies with a large online presence. They include the Autonomous Community of Madrid, which is on Facebook, Twitter, YouTube, Flickr and Picotea.com[128]. The best practice is to be found at a regional level. The Galician government, for example, has made its public employment service more accessible to the public with a platform that helps companies offering jobs to get in touch with job applicants and includes RSS services. The Basque Government has created Irekia, a platform to encourage public participation in government initiatives.

The future for Spanish online consumers

As consumers, Spaniards are increasingly rubbing shoulders with online brands. And we're increasingly inclined to trust and be influenced by them[129]. The social networks in which we relate most often with brands are Facebook and Tuenti (86% and 49% of users respectively have interacted with one).

[125] http://www.radiocable.com/twitter-supervisar-rtve652.html.

[126] http://www.ogov.eu/comparativa-sobre-servicios-publicos-entre-ccaa-y-ayuntamientos-eespana2011/.

[127] http://www.planavanza.es/InformacionGeneral/Estrategia2011/Documents/Anexos%20Estrategia_2011-2015_PA2.pdf.

[128] www.madrid.org.

[129] http://www.rrhhdigital.com/ampliada.php?sec=45&id=83179.

But, to what extent do these networks influence Spaniards' purchasing decisions? According to a recent study by PwC, apart from purely economic criteria (discounts, etc.), 53% of such decisions are steered by the community (strangers as well as friends), nearly twice as many as those (30%) who were influenced by experts (journalists, bloggers, forum administrators, etc.), while only 17% were influenced by brands[130]. According to The Cocktail Analysis, opinions on social networks were responsible for one third of users buying technological products, a quarter buying fashion and a fifth buying mobile technology products. This means that brands no longer control their image or what is being said about them. Learning to manage online reputation will be a decisive factor for Spanish companies in the future.

Social networks not only have a growing influence on our purchasing decisions; they can also lead us to make more of our purchases online. To get some idea of the importance social networks are having in Internet shopping, 39% of Spaniards who currently do not shop on the Internet would be prepared to do so if their online community were to persuade them[131]. This influence of the social networks, combined with an increasingly positive attitude to online purchasing among the Spanish, may help contribute to the long-awaited take-off of e-commerce. The trend is increasingly positive: while online purchases have increased by 38.71% in the Euro zone over the last five years, Spain has seen a 50% rise. However, despite this accelerated growth in recent years, e-commerce has a penetration of just 17% in Spain, well below the EU-27 average of 31%[132]. "E-shopping" still meets with strong resistance. In Spain, climate and culture combine to make shopping a social activity; there is a lingering mistrust over the security of online transactions and room for improvement in product distribution. Lack of flexibility in distribution times, for example, is one of the impediments to the emergence of electronic shopping, and there is a particular problem with difficulty in changing products. Up to 79% of consumers who prefer personal shopping give this as a reason for turning down the online alternative. The economic crisis, too, has had a negative impact on the emergence of e-commerce.

Despite this resistance, online shopping grew by 23% in 2011[133], with the travel sector seeing the most sales. A number of companies in the tourism industry have seen the potential of social networks to support this growth in e-commerce. Companies such as Barceló and Riu now include booking engines in their corporate profiles on Facebook[134].

The long road ahead for Spanish business

Are Spanish companies aware of this movement in social networks? Are they making the most of it to increase their sales volume? Unfortunately, Spanish companies are proving reluctant to get involved in online social life. The IBEX 35 companies have scarcely begun to include social media in their communication and marketing strategies in order to increase net visibility and reach out to today's multimedia consumers. Significantly, the top executives of Spain's largest companies hardly use social media at all. One might say that the online presence of Spanish companies is merely informative. They do little or nothing to encourage dialogue with their public.

At last, the Spanish business sector is very tentatively adapting its systems to try to remedy this situation. 80% of companies selling products online say that marketing strategies have no real chance of success if they do not include

[130] http://www.pwc.es/es/sala-prensa/notas-prensa/2012/assets/resumen-ejecutivo-informe-enredados.pdf.

[131] http://www.pwc.es/es/sala-prensa/notas-prensa/2012/assets/resumen-ejecutivo-informe-enredados.pdf.

[132] http://www.expansion.com/2012/03/01/directivos/1330621140.html.

[133] http://noticias.lainformacion.com/arte-cultura-y-espectaculos/internet/mas-de-un-millon-de-espanoles-estan-siempre-conectados-a-redes-sociales_dEoAqwWsAITrOFw7so8kv3/.

[134] http://www.marketingcomunidad.com/s-commerce-convirtiendo-likes-en-buys.html?utm_source=twitterfeed&utm_medium=twitter.

Exploiting the potential of social technologies in a company means defining a clear strategy and involving all tiers of the organisation

interactive social media (somewhat above the average of 74%). When it comes to choosing a social platform for promoting their products, Spanish companies reflect individuals' preferences; Facebook is the network most commonly used (by 95% of companies), followed by Twitter, the blogs and YouTube (82%, 53% and 44%, respectively)[135]. Taking Facebook, the social network with the most followers in Spain, as an example, we can see that the companies with the largest presence are those in the large consumer industries, especially Coca-Cola in the food and beverages industry, Movistar in telecommunications and Gillette and Nike in hygiene and fashion respectively. In general, there is a strong dispersion in brand presence and the links between brands and competitions and offers[136].

Now should one forget that 98% of all Spanish companies are SMEs (small and medium-sized enterprises) so the adoption of social technologies in this sector is vital. According to the Fundación Banesto's *Observatorio sobre el uso de las redes sociales en las pymes españolas*, SMEs are increasingly getting involved in social technology. There is a big difference between sectors, though. Top of the list comes the hospitality and tourism industry, alongside finance and insurance; bringing up the rear are transport and logistics, construction and property, farming and fishing. Approximately half of Spanish SMEs are active on the social networks. There are major geographical differences, with a certain correlation between online presence and location in more densely populated provinces[137].

Despite this growing presence of Spanish companies in social networks, many of them still have no defined strategy. They have not fully appreciated their importance and still operate by trial and error. Exploiting the potential of social technologies in a company means defining a clear strategy and involving all tiers of the organisation. The first step is to define a strategy plan that will include and clearly establish the targets to be achieved, the applications needed to do so and the roles and responsibilities of all those involved. Getting the whole organization involved in social technology means having a communication plan that shows commitment at all levels, starting with management. It is essential to provide employees with the support they need to get the most out of social technologies, simultaneously developing their skills and knowledge to successfully cope in the new environment.

Going from the dry land of business-as-usual to the rough waters of the Net requires effort and daring on the part of companies, which are often reluctant to leave their comfort zone and change their way of doing things. Adopting this new philosophy with its innovating, participative, open and transparent attitude will allow them to tap into the power of social technologies and translate it into business results[138].

[135] http://www.territoriocreativo.es/wp-content/uploads/2011/10/informe_oct_2011_resume115.pdf.

[136] The cocktail analysis.

[137] *Observatorio sobre el uso de las redes sociales en las pymes españolas*, Fundación Banesto, October 2011.

[138] Accenture, *Lecciones de surf para surcar la Red*.

8 Conclusion

Social technology is reinforcing our capacity for interaction, galvanising relations between individuals, organisations, companies and governments. It has emerged out of the democratisation of the Internet and its potential lies in its ability to incorporate the different capacities revolving around the Net: Wi-Fi, mobile telephony, search engines, social networks, augmented reality, the Internet of Things, cloud computing, etc.

Social technology offers us the capacity to communicate through different theme channels and formats: we can create and exchange videos, music, messages and micromessages on health, economics, politics, science, decoration, travel, consumption, etc. Feedback is continuous, generating an exponentially-increasing volume of data. Social technology users now account for more than 50% of the world's two billion Internet users (80% in Europe and USA) and the number is set to multiply with the expansion in Internet access from mobile phones, smartphones, tablets, etc.

Social technology has impacted the way individuals live their everyday lives in all spheres of society. This expansion translates into greater transparency among people. The plus is greater knowledge and improved decision making; the minus us a loss of privacy. People have different characters online. Between a quarter and a third of people who connect to social technology participate proactively in creating contents. The majority simply go online to watch what other people are doing. Social technology is a place for companies to showcase their activities and comments from consumers, prosumers and influencers, active individuals whose voice gets heard more than others.

The physical world and the online world are gradually merging. Individuals' activity is manifested in social graphs. With the integration of the data flowing through social technology, people are likely to be predictable; a combination of behavioural science and algorithms will make it possible to identify likely patterns of behaviour in the physical and virtual world. Our virtual life is already having consequences for our physical life, with social applications and platforms that help improve the quality of life of the most needy and areas such as health and education. NGOs are beginning to tap into the potential of social technology to enhance awareness among governments, organisations and individuals on issues where their collaboration can make a difference (although less than 1% of them have raised more than $100,000 on the most popular social networks). Many of them devise a multi-channel donation-raising strategy which combines traditional resources with social technology. Some, like the Spanish Anti-Cancer Association, use this form of communication to connect patients, volunteers and family members, creating a closely-knit network of participants. They have also become more transparent. Beyond our borders, social technology has proved its potential to sort through the vast quantities of data that typically emerge from humanitarian crises. Work is now being carried out to design a strategy that will involve social technology, volunteers, organisations and victims. Social technology helps people facing physical-world barriers to integrate. And we've only just scratched the surface. In the future, a combination of social technology and the Internet of Things, sensors and different indicators will turn us into super-humans. Already, we have a second memory thanks to all the information we store on our mobile phones. In the future, it seems likely that our mobiles will provide us with an on-line identity. This remains to be seen, as does the issue of

Companies that have integrated social technology into their capacities, and make use of them to create a compact network say they have obtained both tangible and intangible benefits

how it will be possible to combine an on-line identity with the privacy of personal details and who will own the database in which our most private information is held –state governments or independent third-party organisations.

Social technology is going from being an individual to a political issue. A range of demonstrations and uprisings around the world in favour of freedom, equality, peace and against apathy –grouped under the umbrella term "springs"– have been strengthened and consolidated by the use of social technology to rally participants. Today social technology offers individuals the chance to organise, overcome news restrictions and call demonstrations. But it also foments state protectionism and blocking and can be used as a means of monitoring, screening comments and identifying leaders. Aware of the power of social technology, governments are working hard to play a role in its governance. Increasingly, they are getting involved in the conversation, both to monitor the online activity of individuals and to guarantee their security, and to serve citizens by creating public administrations that speak the same language as the citizenry. Much ground still remains to be covered, but we can already see examples of governments that have understood that the relationship between state and individual is changing.

And the relationship between the individual and the company has also changed. Previously brand image and corporate reputation were generated by the company; now they flow among individuals. This trend is evidenced by the fact that nearly 15 million searches were run in 2011 on services, business and products and by the 80% of Internet users who say they would try a product if their acquaintances recommended it. But brands seem to be turning a blind eye to this situation. Less than a quarter of companies are using social technology to listen and respond to their consumers' concerns, and less than 15% treat information on customers as the central axis of their corporate strategies.

There are already sectors, such as the audio-visual industry, the media and the travel industry, that have been organically affected by individuals' use of social technology and have been forced to find new ways of making their business profitable. However, in the medium term, it will be companies devoted to consumer goods, technology, computer science and financial services that are most affected by these disruptive social technologies. Virtual life is already influencing people's shopping decisions: we go online to check prices before buying things; we trust the decisions of our online acquaintances and we know about their consumption and after-sales experiences.

Companies that have integrated social technology into their capacities, and make use of them to create a compact network –whether internally among their employees or externally among their customers (current or potential)– say they have obtained both tangible and intangible benefits. The tangible benefits include a reduction in administration and travelling costs, a reduction in time-to-market, the creation of innovative products that satisfy the real needs of customers and an increase in sales. Intangible benefits include greater satisfaction among internal and external customers and better knowledge of their real needs, together with greater cohesion and motivation, commitment and loyalty of employees to the company.

Today, most companies that have entered the world of social technology have limited themselves to the most popular social networks, blogs and microblogging, treating them as just another function of marketing. Accenture says that the heart

Going from the dry land of business-as-usual to the rough waters of the Net requires effort and daring on the part of companies

of social technology lies in the information systems department. Today more than ever, big data promises an exponential growth in customer knowledge: their preferences, their purchase decisions (historical and current), the channels they use to shop and to gain information, etc. At present, most companies receive large quantities of information unsorted from the different points of contact: the customer-relations area, sales, networks and social platforms, etc. The systems area will be in charge of storing, sorting, classifying and redistributing the information, acting as the core of a nerve system in which customer information flows and conditions the decisions made by all departments. In the future, quality data will be a valuable commodity. Already, some of the bigger players, including Google and Facebook, are taking positions.

Entrepreneurs who have dipped their toe in the world of social technology are benefitting from the different business models they offer. Typically, the main product of such companies is their users: platforms on which groups provide a service, offer knowledge and sell and purchase products. In social technology, users are highly monetizable as niche targets to which third-parties can direct their advertising. For a given fee they can be redirected to third-party websites or sites that sell higher-quality personalised services. Social technology is growing and reinventing itself as a service and a business.

Spain still has a long way to go when it comes to the use of social technology. Spaniards are among the top users of social technology in Europe and the world both in number of users and time of use. However, at a political and business level, much ground remains to be covered. Although there are governments that are already incorporating different social platforms among their services, they are isolated and confined to regional administrations. SMEs, which make up the majority of the Spanish business structure, are incorporating social technology to different degrees. At the forefront are companies in the tourism and hospitality sectors. However, large gaps still remain in the adoption of social technology between different industries and regions. As in the rest of the world, large Spanish companies (those listed on the IBEX 35 stock index), make little use of social technology. They are missing out on a chance to connect to a society that is especially inclined to follow the consumer advice of its online peers.

Going from the dry land of business-as-usual to the rough waters of the Net requires effort and daring on the part of companies, which are often reluctant to leave their comfort zone and change their way of doing things. Adopting this new philosophy with its innovating, participative, open and transparent attitude will allow them to tap into the power of social technologies and translate it into business results.

Appendix

- Glossary
- Miembros del Future Trends Forum

Glossary

A

Algorithm
A prescribed set of well-defined, ordered and finite instructions or rules that allow an activity to be performed by means of successive steps leaving no doubt as to how it is to be conducted.

Augmented reality
Set of devices that add virtual information to the existing physical information. This is the main difference with virtual reality; AR does not replace physical reality, but superimposes the computer data on the real world. AR devices normally consist of an apparatus (headphones, glasses or a screen) incorporating GPS systems, which are needed to determine precisely the user's location. They also include inertial and optical systems capable of measuring characteristics such as acceleration, orientation and angle of inclination. Thus, they use virtual images which are displayed to the user in combination with reality.

B

'Big data'
A catch-all term used to refer to massive quantities of data that exceed the processing capacity of conventional database systems. The data comes from social networks, applications, databases, ERPs, networked objects and machines, the Internet, commercial transactions, etc., whose accumulation over time needs to be captured, stored, processed and analysed to make sense.

Blog
A regularly updated site with a chronological set of texts or articles by one or more authors, starting with the most recent. The author always has the choice whether or not to publish whatever material he or she considers relevant.

C

Cloud computing
A new paradigm, based on the idea that anything that can be done on a computer can be transferred to the cloud –in other words, to the Internet. This model involves using computer resources like any other supply, such as electricity or telephony. These resources are offered by cloud providers, which manage them in large remote data centres, providing a service to large numbers of customers who can access them over any Internet-connected device. In the context of cloud computing, the term "cloud" has several different meanings. It is generally used to describe a provider's applications, services and data centres. In other words, it includes both the infrastructures and the services a provider offers. However it is also used to refer to the sum total of all the services and infrastructures of all the existing providers.

'Crowdsourcing'
A term coined by Jeff How and Mark Robinson. Crowdsourcing is the act of transferring a job traditionally performed by one agent (habitually an employee) and outsourcing it to an undefined group of people, generally through an open call for participants.

D

Digital natives
Term coined by Marc Prensky. It encompasses people born from the mid-1990s on, in the digital era, who are consummate users of these technologies. It contrasts with *digital immigrants*, which refers to generations born before the digital natives.

E

ERP
Computer systems for enterprise resource planning.

F

FOMO
Fear of Missing Out. This is the complicated and on occasions consuming sensation that one is missing out on what one's acquaintances are doing, knowing, experiencing and possessing. Symptoms include: procrastination, indecision, anxiety, shortness of breath, accelerated heart-rate, nail-biting and hair-twisting.

G

Geolocation (location awareness)
Location awareness or geo-location is the means by which the spatial location of an object is defined (represented by

point, vector, area, volume) in a given system of coordinates and data. This process is frequently used in Geographical Information Systems.

H

'Hypertargeting'
The ability to deliver advertising content to specific interest-based segments in a social network.

I

'Influencer'
Person or institution whose reputation, credibility, relevance or the outreach of their message, leads them to be considered as agents of change.

International Mobile Telecommunications (IMT)
Requirements coordinating government and public and private sector development of an international multimedia broadband system in mobile telecommunications.

International Telecommunication Union (ITU)
The specialized agency of the United Nations responsible for information and communication technologies.

Internet of Things
The IoT comprises a network of everyday objects interconnected over the Internet. The concept develops on advances in communications and IT by applying them to objects, enabling improved interaction with them.

Interoperability
Property of using an application in different architectures, allowing information exchange.

L

Linux
Unix-type operating system that offers an alternative to the Microsoft operating system. It is one of the clearest examples of free software and market openness, since the code may be modified and used to meet each user's requirements. Linux is used essentially in servers and is installed on a wide variety of computers and hardware.

O

OECD
Organisation for Economic Cooperation and Development.

Open source
Software production and development practices that promote access to the source material of the final product. The term was first widely used with the coming of the Internet and involves a pragmatic distribution methodology that enables access to the source code of the programs distributed.

P

Prosumer
Contraction of the terms *producer* and *consumer*.

Port
The connection by means of which a device can transmit data to another by serial transmission (definition paraphrased from Answers.com).

Q

QR Code
Two-dimensional bar code which can be read by smartphones. QR stands for quick response.

S

Semantic Web
Web of data, extended and made more significant, based on universal languages, that will enable users to find answers to their questions faster and more simply thanks to better-defined information. With this Web, users will be able to delegate tasks to the software, which will be capable of processing the contents of the information, reasoning with it, combining and making logical deductions to automatically resolve everyday issues.

Sensor
A device capable of detecting physical or chemical values and instrument readings and turning them into electrical variables.

Smartphone
Mobile phones that can run applications, have an operating system, have the capacity to transmit data and/or e-mails and are capable of storing information and connecting to the Internet. The secret of their success lies in the fact that they combine communication and information technology.

SMEs (Small and Medium Enterprises)
There is no universal definition of Small and Medium Enterprises and the term is interpreted differently in each country. In its 2003 recommendations, the European Commission gives the following guidelines:

- **Medium-sized enterprise:** An enterprise which employs fewer than 250 persons, whose annual

turnover does not exceed 50 million euro and whose balance sheet total does not exceed 43 million euro.

- **Small enterprise:** An enterprise which employs fewer than 50 persons, whose annual turnover does not exceed 10 million euro and whose balance sheet total does not exceed 10 million euro.

- **Micro enterprise:** An enterprise which employs fewer than 10 persons, whose annual turnover does not exceed 5 million euro and whose balance sheet total does not exceed 2 million euro.

Needless to say, if a company meets more than one of these classifications, it is the most restrictive one that applies. Under the Commission's recommendation, any company that meets one of these three classifications should be classed as an SME.

Social gaming
Motivating and recruiting people by applying mechanisms and techniques taken from games design to non-game situations.

Social graph
Mark Zuckerberg coined the term, describing it as "the digital map of personal identity, your primary Facebook friends and everything you share with them".

Social media
Although the term has many definitions, in this publication we use the following: online media in which individuals flexibly and smoothly exchange the roles of audience and author.

Start-up
A company in the initial stages of development, generally before it has any established flow of revenue.

T

Telemedicine
Provision of clinical health care at a distance, normally using information and communication technology.

Time-to-market
The period of time from the moment a product is conceived as an idea until it becomes available for sale to customers.

Trivergence
The interoperability of three basic elements: devices, applications and management of the two in a single shared network environment.

U

Ubiquity
Quality or capacity of being in several different places at the same time.

W

Web 2.0
Term coined by Tim O'Reilly to define a trend in the Internet. There is no agreed definition, but some of the premises of Web 2.0 may help provide a clearer understanding of the concept: Internet as a means, not an end; a flexible profitable platform that allows users to interact, that feeds of collective intelligence, in which information and data constitute the core business; technology viewed as a service that need to be constantly improved upon.

Wi-Fi
System for sending data over computer networks using radio waves instead of cables.

Wiki
Website whose pages can be edited by multiple volunteers via their browsers. Users can create, edit or erase a single text, which they share. Wiki texts or pages have unique titles. When the title of a wiki page is entered anywhere in the wiki, this word becomes a link to somewhere else on the page.

Members of the Future Trends Forum

Speakers

Mr Wadah Khanfar
President, Sharq Forum and former Director General, Al Jazeera Network.
Country: USA.

Mr Andreas Weigend
Founder, Social Data Lab.
Country: USA-Germany.

Mr Robert Thomas
Executive Director, Accenture Institute for High Performance.
Country: USA.

Mr Michael Schrage
Senior Researcher, MIT Center for Digital Business.
Country: USA.

Ms Emily Green
Chairman Emeritus, Yankee Group Research Inc.
Country: USA.

Mr David Moore
CEO, 24/7 Media.
Country: USA.

Mr Ilya Ponomarev
Director, Institute of Strategic Development and Director, International Business Development, Technology Transfer and Commercialization, Skolkovo Foundation.
Country: Rusia.

Mr Alberto Knapp
CEO, The Cocktail.
Country: Spain.

Ms Simone Brummelhuis
Vice-President for Europe, Astia, and founder, The NextWomen.
Country: Netherlands.

Mr Maarten Lens-FitzGerald
Director General, Layar.
Country: Netherlands.

Mr Walter de Brower
CEO, Scanadu.
Country: Netherlands.

Mr Richard Kivel
Senior Manager, Bridgewater Associates, Former President, MIT Enterprise Forum.
Country: USA.

Ms Emily Green
President and CEO, Yankee Group.
Country: USA.

Ms Yan Tinglan
Project Director, The National Research Foundation, Prime Minister's Office of Singapore.
Country: Singapur.

Mr Eden Shochat
Director General, Genesis Partners.
Country: Israel.

Mr Carlos Bhola
Partner, Celsius Capital, and co-Founder, Kikin.
Country: USA.

Mr Adrian Wooldridge
Senior Editor and columnist, *The Economist*.
Country: United Kingdom.

Participants

Mr Fernando Alfaro
Trustee, Fundación de la Innovación Bankinter.
Country: Spain.

Mr Iñigo Amoribieta
Co-CEO for Spain and Portugal, Groupon.
Country: Spain.

Mr José Cerdán
CEO, Acens technologies.
Country: Spain.

Mr Gam Dias
Director, First Retail Inc.
Country: United Kingdom.

Mr Ángel Cabrera
President, Thunderbird School of Global Management.
Country: USA.

Mr Jacobo Díaz
Assistant Director and Manager of Innovation, Product Development and Quality, Bankinter.
Country: Spain.

Mr José Luis Díaz
Director, Nuez.
Country: Spain.

Mr Juan José González
Director of International Strategy, Indra.
Country: Spain.

Mr Wolfang Grulke
President emeritus, Future World International Limited.
Country: South Africa.

Ms Elisa Martín Garijo
Chief Technology Officer, IBM España.
Country: Spain.

Ms Mónica Martínez
Former Director of Innovation, ONO.
Country: Spain.

Mr Emilio Méndez
Trustee, Fundación de la Innovación Bankinter.
Country: Spain.

Mr Rubén Muñoz
Director General, Gneis (Group Bankinter).
Country: Spain.

Mr Jens Schulte-Bockum
Trustee, Fundación de la Innovación Bankinter.
Country: Germany.

Ms Stephen Trachtenberg
Trustee, Fundación de la Innovación Bankinter.
Country: USA.

Mr Menno Van Dicjk
Founder and Director General, The Amsterdam School of Creative Leadership (THNK).
Country: Netherlands.

Ms Karen Wilson
Senior Researcher, Kauffman Foundation.
Country: Netherlands.

Foundation

Mr Juan Rosas
CEO.
Country: Spain.

Ms María Teresa Jiménez
Executive.
Country: Spain.

Ms Irene Ibarra
Executive.
Country: Spain.

Dorsey Lockhart
Executive.
Country: Spain.

Jaime Guillot
Intership student.
Country: Spain.

Bankinter

Ms Marce Cancho
Controller, Fundación de la Innovación Bankinter.
Country: Spain.

Principal contributors to the publication

Ms Eva López Suárez
Manager, Talent & Organization,
Accenture España.

Ms Vivian Molledo
Consultant, Talent & Organization,
Accenture España.

Fundación
de la Innovación
Bankinter

www.fundacionbankinter.org

Main Partner

accenture